

Enabling teachers through action research: A case study of building social and emotional skills for the Kenya Competency- Based Curriculum

Thesis submitted for Doctor in Education

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Final submission after corrections, 28 June 2021

I, Alison Joyner, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Word count: 48,239

28 June 2021

Abstract

This exploratory case study was conducted in Grades 1-3 of one government primary school in Kwale county, Kenya, between June and October 2019. It used mixed methods within a transformative paradigm, informed by action research approaches. The research aimed to understand better how best to support teachers in their teaching and assessment of the Kenya Competency-Based Curriculum (KCBC).

The Basic Education Curriculum Framework (BECF), launched in 2017, promotes inclusive, holistic, quality education. It reflects the Kenyan government's recognition of the importance of social and emotional competencies, or 'life skills', for coming generations in Kenya, and its commitment to working towards Sustainable Development Goal (SDG) 4.

The research process and its findings provide a space for the voices of teachers: their commitment, discoveries, and relationships with learners and their families. Teachers experienced that a deeper understanding of the competencies of the KCBC positively influenced their practice, noting the inter-connectedness of competencies as they supported their pupils to acquire them. Changes in teaching practice were observed, including increased teacher sensitivity and self-reflection. Teachers were found to be role models for strong relationship skills throughout the school day, facilitating awareness of the new curriculum in the community.

A teacher-led social and emotional competency rating scale was adapted and tested. The updated tool provides five questions per competency, for four of the seven KCBC competencies. Use of the tool at two timepoints showed significant progress in Grade 1-3 learners' demonstration of behaviours that build the competencies. Significant correlations were found between results for individual competencies, and for Grade 3 pupils, between reading and mathematics scores and the competencies of Self-efficacy, Communication and collaboration and Critical thinking and problem solving.

The study offers important insights for teacher support and professional development nationally in Kenya, which are relevant to the growing number of competency-based curricula worldwide.

Impact statement

The research had a substantial impact at several levels.

Firstly, it has already made an important impact on the lives of the teachers who participated in the action research. By their own account, they learnt from and felt 'empowered' by the process. Concretely they will receive two tools, to support respectively action research-oriented teacher self-reflection, and the assessment of learners' social and emotional competencies, that can be integrated into their practice. This impact on the three key teacher participants in the research, will potentially impact teachers in surrounding schools, and the local education authorities, through meetings planned as an outcome of the research process. The potential to facilitate distance support to teachers via WhatsApp groups or similar, to overcome challenges of transport and/or physical school closures, is a further finding of the research that could inspire positive change.

The Aga Khan Foundation (AKF) has already integrated into its Values Based Education project teacher trainings, more explicit exploration by participants of the meaning and implications of the competencies of the KCBC, to support the infusion of competencies and values into teaching (AKF01, 18 October 2019). Given the ambition of the VBE project to influence policy nationally in Kenya, there is scope for AKF to propose and facilitate the adoption of this training approach beyond the immediate vicinity of the case study school, along with the findings and outputs of the research. Critical to this will be the involvement of the local education official involved in the study, who has already voiced his support of wider application, and with whom AKF has a strong working relationship.

Through my current professional role with Plan International, the research will impact the organisation's programming that covers 'life skills', social and emotional learning (SEL) and psychosocial support (PSS). It will support my argument that the organisation make more explicit the integral connections between SEL and PSS, that cut across emergency and development contexts. This can be amplified through Plan International's representation on the PSS-SEL

Collaborative of the Inter-Agency Network for Education in Emergencies (INEE). This group is co-leading an inter-agency collaboration with Harvard University [EASEL lab](#) on SEL measurement, and joining forces with the INEE Teacher Wellbeing group, to ensure complementarity between these two closely inter-related areas of work. By sharing my research findings in inter-agency fora, which include donor and UN representation, there is the potential for ideas and approaches to be adopted as relevant within existing programming, and to garner funding to make it happen.

Finally, the study fills a gap in existing research, in its focus on teachers' experience of teaching and assessment approaches within competency-based curricula. This is relevant to the growing number of competency-based curricula worldwide. The findings will be presented at the 2021 Comparative International Education Society conference, with the potential to influence a combined academic and practitioner audience. This could lead to further piloting and use of the teacher-led social and emotional competency assessment tool, and its integration into competency-based assessment rubrics in Kenya and beyond.

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Acknowledgements

Very sincere thanks are due to many people and their institutions:

I thank first and foremost the teachers of the case study school for their commitment and energy to the research process over 18 months. Without them the thesis would not exist. I extend huge thanks in particular to the teachers of Grades 1, 2 and 3 for their generous, perceptive and intelligent participation in the action research process. It has been a great pleasure, and I have learned hugely from their reflections and practice.

The Curriculum Support Officer responsible for the case study school has provided unfailing and essential support throughout the process, always finding time despite numerous competing pressures.

The affiliation with Aga Khan Foundation East Africa was invaluable in facilitating connections with relevant authorities, providing a sounding board for research approaches and critical logistical support including the use of Tangerine software and loan of tablets. Very particular thanks is reserved for the Research Advisor, whose energy, intimate knowledge of the context, exemplary teaching and support skills, intelligent reflections and unfailing good humour have sustained me throughout.

Aga Khan Foundation Geneva graciously engaged me in the contextualisation of the Classroom Guide, and maintained interest in the evolution of the research. The flexibility of Plan International Norway in accommodating leave for study visits and to advance writing up, was indispensable to making possible the combination of the thesis with work. Plan International Global Hub has provided similar support in the final stages.

My thesis supervisors, Dr Amy North and Dr Caine Rolleston, have provided excellent guidance, constant encouragement and flexibility in accommodating shifting timelines.

Many family members, friends and colleagues have given much-needed moral support along the way, providing perspective and encouragement at critical points. I make special mention of my parents, who by their example have always demonstrated to me the value of quality education, and whose unfailing support for ever, including throughout the thesis journey, is a shining example of the positive impact of 'parental engagement'. And to my husband and children, huge gratitude for their sustenance, tolerance, and patience in making it to the end with me.

Reflective statement

The reflective statement has provided a valuable opportunity to exercise the professional self-reflection integral to action research, that is at the heart of my thesis.

Finding focus

I came to the EdD with a commitment to deepen my professional practice in international education, in order to enhance my ability to support colleagues and programmes in countries where I work. Already well into the second half of my career when I started the doctorate, it only made sense to me as a process that would inform directly my ways of working with, in particular, teachers and those who support them. In other words, those who grapple on a daily basis with how to provide quality learning experiences for children in poorly-resourced contexts.

The initial written assignments provided the opportunity to explore what this would mean in practice. In the first, 'Foundations of professionalism', I found myself faced with the question of in what sense I could consider myself a 'professional'. Unlike most of my co-students, I had worked as a Teacher of English as a Foreign Language, rather than as a qualified teacher in a state education system, and did not belong to a professional teaching body. In Lunt's discussion of 'modern ethical professionalism', I found theoretical underpinning for

my 'innate' sense of the need to value more the expertise of colleagues, particularly teachers, from the countries where I have worked. I returned to readings of Chambers and his successors, which were central to my masters dissertation reporting participatory action research (Joyner, 2017, p. 2).

Lunt's call for 'ethical literacy' - the ability to read the ethical complexities of individual professional situations, to ensure that practice is characterised by 'wise judgement under conditions of considerable uncertainty' (citing Eraut, 1994, Lunt in Cunningham, 2008, Chapter 5, page 88) - has always been my professional aspiration. The principle guided me throughout my EdD, particularly the thesis research with teachers, and supports the integral connection between my studies and professional life.

Through Methods of Enquiry 1 (MoE1), an initial research proposal, and a mini-research in Methods of Enquiry 2 (MoE2), I began the exploration of my research area of social and emotional

learning. This choice had partly been inspired by work I was leading in this area for the Aga Khan Foundation (AKF), which as my employer at the time was willing to support my pursuit of the EdD. It coincided with experience throughout my career of the centrality of a holistic approach to support quality teaching and learning.

The interviews I conducted with teachers at our local village primary school in France for MoE2, validated the relevance of this focus, across contexts. The importance and challenges of supporting children's social and emotional learning alongside academic objectives, resonated with these well qualified teachers in a well-resourced context. This reinforced my confidence in my choice of research area. It also connected my studies with the education experience of my own children, and the school community where I had chaired the Parents Teachers Association for several years. This personal-professional coherence has been central to my experience of the EdD, sustaining my belief in it despite the sacrifices it has demanded of my family.

Zooming in: Institution Focused Study¹

The Institution Focused Study was a prelude to the thesis research, preparing the ground for it with teachers in the same case study school. Embarking on this stage was complicated by unexpectedly losing my position with AKF just beforehand; fortunately I was allowed to continue an affiliation arrangement with the organisation for the purposes of my research. The experience of redundancy was inevitably challenging, but only galvanised my commitment to completing the EdD, as part of a new direction in my professional development independent of my focus institution. The support and encouragement of East Africa-based colleagues, particularly the Research Advisor, reinforced this, and tempered a certain loneliness I felt at having otherwise less institutional support than anticipated.

The IFS research itself provided a strong foundation for the thesis, and strengthened my belief in my choice of focus. During the process I gained confidence in my status of student researcher, although still hesitated to assume the 'doctoral' level; I referred to my 'studies' rather than my 'thesis' in describing what I was doing.

¹ The Institution Focused Study is a preparatory piece of research for the thesis, examined in a 20,000 word report.

Clarifying: data collection and writing up

Data collection for the thesis research during 2019 coincided with starting a new position with Plan International Norway, as Education in Emergencies specialist. This allowed me to draw on experience throughout my career of working with education in emergency contexts, and particularly the integration of psychosocial support (PSS). It helped me develop a growing realisation of the underlying connection between social and emotional learning (SEL) and PSS. A key moment was a training that I led in Ouagadougou in March 2019, for colleagues working on a regional accelerated education programme in Mali, Burkina Faso and Niger. In all three countries, levels of conflict, displacement and insecurity-related school closures are high and increasing. The need identified by participants was to adapt their existing education work to 'Education in emergencies', and specifically their capacity to provide psychosocial support for teachers, learners and their families. In discussing guidance on Psychological First Aid, its foundations in strong social and emotional skills – already present in the learner-centred curriculum the accelerated education programme uses – were clarified both for myself and colleagues.

This helped inspire my reflections, explored in the thesis, on the importance of making and reinforcing these connections across education programming – which otherwise tends to classify SEL with 'development' programming and PSS with 'emergency'. It highlights the place of social and emotional, or 'life skills', at the heart of the so-called humanitarian-development-peacebuilding 'nexus' (Slim, 2019). This role within the nexus illustrates the inherent unity between 'education' and 'education in emergencies', which have the common goal of continued access quality education, founded on psychosocial wellbeing. The modalities of delivery need to be adapted to different contexts but there is no fundamental difference. This stimulated a very fruitful interaction between my research and professional thinking.

It was complemented by personal exploration of mindfulness and meditation techniques that I started around the time of starting the IFS, building on years of yoga practice. I completed two online courses on the use of mindfulness in education settings². Using 'mindfulness' as a way to

² 'Mindfulness Fundamentals' and 'Mindful Educator Essentials', provided by [Mindful Schools](#).

explore self-awareness and self-management, including stress and difficult emotions, I discovered the resonance with my research. I integrated an introduction to the approach into workshop time with teachers, presenting them as activities that could support concentration and attention. I avoided the term 'mindfulness', which felt obscure and culturally specific. The teachers' positive responses in relation to the calming and/or energising effect of exercises, and the appreciation of the activities they saw in children, demonstrated a certain universality in our human-ness, underpinned by the neuroscience which unites us (Nummenmaa et al., 2014). On the other hand, there is clearly a need to adapt further to context. Teachers said they would need further support to feel sufficiently prepared to do that. Nevertheless, my exploration of this area added a further dimension to the coherence between my personal and professional life, nourished by the research.

This has been dramatically reinforced by COVID-19. In the early days I supported webinars with colleagues on stress management and psychosocial support, and shared relevant materials with the teachers in the case study school. As the crisis continues with no clear end in sight, 'wellbeing' and 'mental health' have been pushed up the agenda, in line with increasingly worrying indications of the long term impact it will have on education and livelihoods for years to come. Even after this crisis, there will be other similar ones. The critical importance of teachers everywhere helping children and young people to build competencies that can support their resilience, ability to solve problems and live with uncertainty, becomes ever clearer. Education systems globally need to find ways to support teachers to continue to do this at a distance during physical school closures, especially where technological solutions are not feasible. Good examples exist from the COVID-19 response so far, and these need to be shared. There is an urgent need to minimise levels of long term school dropout as a result of the pandemic, and to find ways to provide opportunities for learning, incorporating those skills, for those not in formal education.

These points combined, contribute to a sense that the thesis research was worthwhile, and has the potential to make a small contribution to addressing the many issues. My current professional role, still with Plan International but now global technical lead for Education in Emergencies, should help me to realise this, as highlighted in the impact statement.

Writing up the research has taken place mostly against the backdrop of COVID-19 – ironically facilitated by the travel ban that it imposed. I had not anticipated the extent to which the act of writing would help evolve and clarify my ideas and thinking. Articulating my research process and findings, has helped illuminate both. The action research focus enhanced the self-reflective aspect of this. I am struck by the metaphors of light and vision that have emerged spontaneously in preparing this reflection – focus, zoom, clarity, reflecting back. A progressive, internal process of uncovering and synthesis – of ‘shedding light’ – has contributed to a new way of seeing, that I now want to share more widely. This reflects a certain ‘thinking differently’, evoked at the outset of the EdD, that I have indeed experienced by this end of it. It is evidence of some level of personal transformation through and as a result of it (Joyner, 2017, p. 1).

Reviewing my research journal, I am reminded of the high levels of stress and doubt involved. Juggling fulltime work with the degree, combined with the multi-tasking involved in family life and the alone-ness of being a student researcher, demanded immense amounts of energy. The support of supervisors, colleagues – both in East Africa and at work – family and friends helped me through. Most importantly, I was inspired and sustained by the commitment and encouragement of the action researching teachers. I was constantly reminded of the far greater challenges they have in their lives, and troubled by the idea that I was simply adding to their workload for their insufficient gain. From the perspective of almost the end of the process, I feel reassured by their positive reflections during the closing visit, that together we learned a great deal. Much of their learning is already being applied in their teaching, and should continue to support their practice.

Reflecting back

The next step is to feed back the findings fully to the teachers, education authorities and AKF. I have been frustrated not to have felt able to share ‘initial findings’ with them earlier, as I had anticipated. It is only having completed the analysis and reflection, over a year after the end of data collection, that I feel ready to do this to my satisfaction. I have nevertheless maintained contact with teachers in the meantime, and most of that time schools have been closed. With the added perspective of ongoing challenges related to COVID-19, I am hopeful that my findings

and proposed tools³ may contribute to efforts to support teachers delivering competency-based curricula, in Kenya and potentially beyond.

³ Action research-oriented teacher self-reflection integrated into lesson planning, and a teacher-led social and emotional competency assessment.

List of abbreviations

| | |
|----------|--|
| AKF | Aga Khan Foundation |
| AKFEA | Aga Khan Foundation East Africa |
| AKDN | Aga Khan Development Network |
| BECF | Basic Education Curriculum Framework |
| COVID-19 | Corona Virus Disease of 2019 |
| CPD | Continuing Professional Development |
| CSO | Curriculum Support Officer |
| IASC | Inter-Agency Steering Committee |
| IFRC | International Federation of Red Cross and Red Crescent Societies |
| IFS | Institution Focused Study |
| INEE | Inter-agency Network for Education in Emergencies |
| INGO | International Non-Governmental Organisation |
| INSET | IN-Service Training |
| IPA | Interpretative Phenomenological Analysis |
| KCBC | Kenya Competency Based Curriculum |
| KICD | Kenya Institute for Curriculum Development |
| MHPSS | Mental Health and Psychosocial Support |
| MOEST | Ministry of Education, Science and Technology |
| MOOC | Massive Open Online Course |
| NGO | Non-Governmental Organisation |
| OER | Online Education Resources |
| PSS | Psychosocial Support |
| SEL | Social and Emotional Learning |
| SRHR | Sexual and Reproductive Health and Rights |
| TPD | Teacher Professional Development |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UNICEF | United Nations Children's Fund |
| VBE | Values Based Education |

1. Introduction

This exploratory mixed methods study tells a story about relationships. About building relationships with teachers; and facilitating them, through an action research approach, to understand and build further their relationships with the learners in their classrooms. Such strong connections are central to our psychosocial wellbeing. They provide the foundation for social and emotional learning, and thus support acquisition of the competencies of the Kenya Competency-Based Curriculum (KCBC). The research aimed to address the wider problem of the place of teaching, and teachers, in the process of large-scale education reform: how to provide sufficient, appropriate training and support to enable teachers to be the vehicles of the changes that the reform aims to effect.

In seeking solutions to this problem, the study pursued several lines of enquiry. Qualitative findings from action research, interviews and classroom observation were by complemented the quantitative results. The research successfully piloted and validated a teacher-led social and emotional competency assessment tool for four of the seven competencies of the KCBC. Learners' assessment results using the tool at two time points, three months apart, showed significant improvements for all competencies assessed. These encouraging outcomes were compared with reading and mathematics assessment scores, to find significant associations between academic skills, and the competencies of Self-efficacy, Critical thinking and problem solving, and Communication and collaboration.

The combination of results led to the conclusion that individualised support to an action research approach by teachers on the nature of KCBC competencies, and ways to build and measure their acquisition, can have tangible results on students' holistic learning outcomes. The process was appreciated by teachers as a way to improve their practice, and was shown to enhance their confidence and sense of 'empowerment'. The approach should be feasible within the existing teacher support structure. The case study reinforces the claim made about sub-Saharan Africa, but applicable globally, that 'the provision of adequate and appropriate continuous professional

development across the region is critical to enhancing the quality of teaching, and thus the learning experience for children' (Howell & Sayed, 2018, p. 17).

The study provides an opportunity to listen to the voices of teachers: their discoveries, commitment, and their understanding of the importance of their relationships with learners and their families. Reflecting existing literature in this area, it also highlights significant contextual challenges that need to be addressed if the curriculum reform is to realise its potential.

1.1. Background

The Kenyan Basic Education Curriculum Framework (BECF), launched in 2017, seeks 'to enable every Kenyan to become an engaged, empowered and ethical citizen'. This is part of the vision for Kenya's reformed national curriculum of 'Nurturing every learner's potential' (KICD, 2017, p. 10). 'Engaged', 'empowered' and 'ethical' are not explicitly defined in the framework, but are implicit in its content. The vehicle for achieving the goal is a competency-based curriculum, which aims for 'world class standards' in content and resources, so that 'every Kenyan learner is equipped with the skills and knowledge they deserve and which they need in order to thrive in the 21st century'. The development of competencies implies active, 'engaged' learning, both inside and outside the classroom, through community service learning. Specific reference is made to the empowerment that comes from critical thinking – the ability to reason and reach conclusions based on evidence, a higher order skill resulting from a competency-based approach (KICD, 2017, p. 23). This resonates with definitions of 'empowered action', as the capacity to use knowledge, skills and attitudes to 'pursue choices previously denied' in the context of a transformative approach (Braga, 2017, p. 9). 'Ethical' citizens should be nurtured through the explicitly inclusive framing of the curriculum, nurturing every learner. This is based in values drawn from the Constitution of Kenya promulgated in 2010: 'Responsibility, respect, excellence, care and compassion, understanding and tolerance, honesty and trustworthiness, trust and being ethical' (KICD, 2017, pp. 10, 14).

In practice, these 'intended learning experiences' of the official curricula, depend on the 'actual conditions of implementation...that ultimately shape learning experiences and define learning outcomes'. In this 'hidden curriculum... meanings are conveyed indirectly by the way language is

used, the behaviour and attitudes of teachers, the interactions that occur in the classroom and the assessment methods practised' (Tawil & Harley, 2004, p. 18). In the poorly-resourced primary school in coastal Kenya where the study was conducted, teachers are expected to teach a new competency-based curriculum with limited training and other support. Their concerns can be summarised in three key questions: What are the new competencies? How to 'infuse' them into unchanged subject content? and How to assess whether learners are acquiring the competencies, with the overall goal of 'nurturing every learner's potential'? This study offers insights into the interaction between the official KCBC and its delivery by teachers. In the process, it offers some possible answers to the question of how effectively to provide ongoing professional development to teachers, that supports their use of a pedagogical approach that is central to making a reality of the ambition of the curriculum reform.

The KCBC illustrates a growing recognition of the importance of social and emotional skills for learning and for life. Kenya is amongst the 86% of nations in a survey of 116, which are reforming teaching and learning with a view to achieving Sustainable Development Goal 4 (Care et al., 2017): 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations, 2016)'. There is a specific focus on target 4.7:

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development (Sustainable Development Goal 4.7 United Nations, 2016).

Social and emotional skills, encompassed in the competencies of the KCBC, are fundamental to achieving this target, and are central to evolving the scope of quality education to meet the challenges of the 21st century and beyond. This is illustrated by the crisis generated by the COVID-19 pandemic, which has highlighted how critical these skills are in responding to 'emergency' contexts. School closures as part of efforts to contain the spread of the virus created a 'Global Education Emergency' (Srivastava, 2020). At the peak in early April 2020, over 1.5 billion learners,

more than 90% of the world's school-enrolled population, were unable to go to school (UNESCO, 2020). Silvia Giannini, Assistant Director-General for Education for UNESCO, declared on 20 March 2020:

The challenge goes well beyond that of devices, platforms, contents and connectivity – it is one about the resilience of the human fabric, emotional support and care for the most vulnerable and fragile.

(Giannini, 2020)

This explicit recognition of the importance of social and emotional awareness and skills, anticipated both the need for psychosocial support in the face of fear and uncertainty, and specific risks for learners removed from the protective environment of school. In Kenya, where schools closed on 16 March 2020 (The East African, 2020), it was claimed in late April that a third of crimes reported since the beginning of the crisis were related to sexual violence (Mutavati et al., 2020). Teenage pregnancies and female genital mutilation have increased (Plan International, 2020b, p. 4). This points to the integral connection between psychosocial support in response to such traumas, and social and emotional skills which are at its heart, explored in [chapter 2](#). The heightened risk of school drop-out for girls as a result of pregnancy, for all children as a result of their families' economic hardship, and reduced learning outcomes for learners who do return to school, combine in a powerful mix working against the achievement of Kenya's education goals (see [3.4](#)). Teachers can play a central role in trying to address and mitigate these impacts.

This was recognised in Kenya when teachers were called back to school on 28 September 2020, in anticipation of the return of learners. The second point on a list of preparatory arrangements, is developing 'innovative strategies to offer psychosocial support to Learners, Parents and other Stakeholders' (Teachers Service Commission, 2020). For teachers at the case study school, workshop time focusing on the competencies of the new curriculum, combined with their action research efforts, helped prepare them for this. In a school context, Psychological First Aid (PFA, see [2.2.3](#)) means paying attention to children who are in need, listening to their needs, and linking them to relevant services. These are skills, founded on the building of strong relationships,

that teachers were already using with their pupils and their families, and which were reinforced through the research (see [chapter 6](#)).

The immediate professional context for this research is the Aga Khan Foundation (AKF), where I worked as Education Monitoring Evaluation Research and Learning global lead from 2012-17. During this time I led AKF's initial work on the measurement of social and emotional learning outcomes, through a pilot study in Tajikistan (Gulshaeva & Bub, Forthcoming). This inspired my choice of research focus for both the preparatory Institution Focused Study (IFS) and thesis. Although I left AKF before conducting the IFS, I maintained an affiliation with the organisation in East Africa, crucial to my ability to complete the research. The affiliation facilitated access to education authorities and the case study school, which was one of ten pilot schools in AKF's Values Based Education (VBE) project, launched in 2018 to support implementation of the KCBC (Joyner, 2019, p. 10). It also allowed me to continue to work with former colleagues who provided precious advice and support. In particular, a senior education officer acted as Research Advisor throughout the Institution Focused Study and thesis research (see [4.7.1](#)).

An unanticipated advantage of losing AKF institutional obligations and becoming simply a 'student researcher', was a subtle change in the power dynamic. Although I remained a 'rich outsider' in relation to teachers and education authorities, my student status appeared to have a levelling effect. I was explicitly in the role of a learner with them, and known to be covering costs myself. This seemed to contribute to openness and trust in interactions (see also [4.7.1](#)).

My current professional role is Education in Emergencies global lead for Plan International, a leading international non-governmental organization (INGO) focusing on girls' rights (Plan International, 2020d). Much of Plan's work towards 'gender transformation' is based on the development of 'life skills' in the context of Inclusive Quality Education, and other so-called 'development' sectors including Sexual and Reproductive Health and Rights (SRHR), 'Girls and Boys as leaders of Change' and Protection from Violence. The COVID-19 crisis has contributed to blurring further the already tentative divide between education in 'emergency' and

‘development’ contexts. It has provided opportunities to demonstrate how life skills underpin all Plan’s work, in whatever context. The same social and emotional skills are fundamental to Psychosocial Support (PSS), until now considered primarily the domain of Education in Emergencies and Child Protection in Emergencies. This illustrates how integral connections between ‘development’ and ‘crisis’ contexts have been highlighted in the response to the pandemic (see [2.2](#)).

As emphasised in the Institution Focused Study (IFS) report, focusing on social, emotional and academic development can contribute to a shift towards ‘a society where all children and youth can learn and succeed’ (Jones & Kahn, 2017, p. 12; Joyner, 2019, p. 23). The thesis research confirms that strong social and emotional competencies are at the heart of quality education in the broadest sense, and can support evolution towards more equal societies. This is the case in any context, including ‘emergency’, and teachers are central to supporting the development of these skills. A focus on finding more effective ways to support teachers to use pedagogical approaches to this end, is therefore appropriate.

My current role allows me to build the connections between relatively stable, so-called ‘development’ settings such as that of the case study school, and the applicability of much of the learning in ‘crisis’ situations. In the COVID response the two became one, as the entire organisation was on ‘red alert’ between March and October 2020 (Plan International, 2020c). The process of writing up my thesis during a year dominated by COVID-19, has been strongly influenced by reflection on these issues in my professional life. Conversely, thinking and writing about my research has greatly enhanced my ability to engage with these questions at work. This productive symbiosis between profession and studies will continue, supporting my ongoing efforts to develop my professional role, and Plan International’s position as a leading actor in education across contexts.

Finally, the wider professional context for my research spans my whole career. Starting out as an English teacher in Sudan, I subsequently held various education project management positions

with INGOs in southern Sudan, Tibet and Sierra Leone, with a particular focus on teacher training. My Masters dissertation was an action research project looking at child-to-child approaches in a primary school hosting many displaced children in immediately post-conflict Sierra Leone. I then spent several years at the policy level, as [Sphere Project](#) Manager (Sphere Project, 2018) and with the Inter-Agency Network for Education in Emergencies ([INEE](#)). Contributing to and using the INEE Minimum Standards as a framework for quality education, was strongly influenced by my experience working with teachers in a range of settings. It has infused my perception of the nature of education provision, and particularly work with teachers, ever since. The thesis research has deepened my understanding by providing the opportunity to explore the centrality of psychosocial wellbeing in quality education, and teachers' role in making it happen. It feels like a culmination of efforts that have informed my career to date, and will continue to guide me beyond the thesis.

1.2. Rationale

The baseline study for AKF East Africa's Values Based Education project called for the engagement of teachers in teacher training to support the introduction of the new curriculum 'through participatory methods in discovery of the benefits of values integration'. Critically, the need to emphasise in training that the teaching of values 'is integral to quality teaching' was highlighted (Wamahiu, 2017, p. 126). The study responds to this recommendation by working with teachers directly, through action research, to explore how their pedagogical approach can be developed to support the building of the desired competencies and values. Specifically, it examines the impact on teachers of explicit exploration of the nature of the KCBC competencies, and how to build them through their classroom practice and connections with parents, as they teach the new curriculum. As discussed in the literature review (see [chapter 2](#)), insufficient research to date has examined teachers' perspectives on teaching competency-based curricula, and none so far in Kenya.

The choice of focus had its roots in learning from the Institution Focused Study (IFS). Conducted in 2018 in the same school and curriculum reform context, the IFS explored teachers' perceptions

and practice in relation to social and emotional learning and skills among pupils. It included consultation with parents, community members, pupils and education officials. The IFS recommended that at the heart of successful implementation of the new curriculum, is further training and support to teachers to fulfil their central role of modelling and supporting social and emotional skills through strong relationships with their pupils. This should be complemented by strong partnerships between the school, parents and other community members. Teachers are key to facilitating and nurturing these relationships (Joyner, 2019, p. 89).

The current study aimed to implement these recommendations. It looks at challenges to the implementation of the curriculum reform from a pedagogical perspective, through the eyes of teachers, as they explored and evaluated different ways of supporting their pupils' acquisition of the competencies of the KCBC. In this way it responds to the need identified in a recent study in Tanzania (see [2.4](#)):

... to investigate further the social and emotional competencies that help children succeed in school in subsistence-agricultural communities, particularly in sub-Saharan Africa.

(RTI International, 2018, p. 7)

It also builds on a recent review of the implementation of competency-based curricula, including in Kenya, which focused on:

how the interdependent functions of curriculum, assessment, and pedagogy are drawn on to promote breadth of skills. Each function needs to act in a complementary way to provide children with the opportunity to learn.

(Care et al., 2017, p. 3)

The study looks at exactly that interconnection between curriculum, pedagogy and assessment. A key objective was to support teachers to identify ways in which they can make a reality of the ideals of the KCBC, through conscious adjustments to their teaching practice, and evaluation of the results. It was essential that the approach be coherent with and develop their existing knowledge, and the expectations of the system in which they are operating. The findings are

addressed to teachers and those who support them: particularly education authorities, but also local communities and non-governmental organisations.

1.3. Overview of methodology and research questions

The research is situated in and draws upon conceptual, empirical, methodological and professional literature cutting across several disciplines: education, psychology, neuroscience. It uses a transformative paradigm, suited to an approach which through action research principles, puts teachers at the centre of the process as experts in their context. The ultimate goal is to facilitate change towards greater social justice. Qualitative and quantitative methods were used to investigate teachers' infusion of competencies into their teaching, and the results of that in terms of social and emotional and academic learning outcomes.

In preparation for the research, the competencies were explicitly explored with the teachers, placing them in the context of a social and emotional learning framework. This enhanced teachers' understanding of the role played by the competencies in psychosocial wellbeing, relating them to their own lives and to those of their pupils. On this basis, they identified how the competencies relate to the assessment tools used: a social and emotional competency rating scale and a classroom guide to support observation of their teaching practice. Their enhanced understanding helped teachers each select one competency on which to focus in an action research process. Action research strategies provided a structure within which they tried out teaching approaches that would help children to build the competencies. Reflective diaries and discussions with the teachers (on WhatsApp and during study visits) further enhanced teachers' understanding, and supported their sense of empowerment through the process.

The research questions reflect this close focus on teachers and their practice. The overall research question is:

'What is needed better to enable teachers to support and assess their pupils' acquisition of the competencies of Kenya's Competency Based Curriculum?' Three sub-questions build towards the response, each exploring one aspect of pupils' development of competencies:

1. Which teaching strategies do teachers find most helpful in supporting learners' social and emotional skills?
2. How can teachers engage parents to support the implementation of the KCBC?
3. What association, if any, is found between learners' social emotional skills and their reading and mathematics achievement?

1.4. The flow of the thesis

Following this introduction, [chapter 2](#) provides an overview of relevant literature in the field of psychosocial wellbeing, and how it informs the research questions. [Chapter 3](#) presents a political analysis of the Kenya Competency Based Curriculum. [Chapter 4](#) describes the research methodology, which prioritises qualitative methods within a mixed-methods approach, rooted in a transformative paradigm.

The report of findings is divided into three chapters, emphasising teacher perspectives:

[Chapter 5](#): *How did teachers 'live' the action research process?* and [chapter 6](#): *Learning from our action research process*, explore results from qualitative methods: interviews, WhatsApp exchanges, action research reflective diaries and classroom observation. Research sub-questions 1 and 2 are the focus of these chapters.

[Chapter 7](#): *Assessment of learning outcomes*, discusses complementary, quantitative findings from the assessment of social and emotional, and reading and mathematics learning outcomes. Research sub-question 3 is at the heart of this chapter.

The overall research question is addressed as relevant in the discussion of findings, and informs the conclusions and recommendations in [chapter 8](#).

Throughout, the objective is to present the results in ways that would be most useful to key users – teachers, head teachers, Curriculum Support Officers and other government officials (Ministry of Education, Kenya Institute for Curriculum Development, Teachers Service Commission). Building from the overall research question, the guiding theme is 'How might these findings affect the way you manage your school/s and your teaching?'

2. Literature review

This study is situated in, and draws upon, conceptual, empirical, methodological and professional literature which cuts across several disciplines: education, psychology, neuroscience. Within these fields, this chapter reviews literature that relates to: the nature of social and emotional skills and learning, and their importance for overall wellbeing; how those competencies are built within education settings; and measuring the results of that process. These three areas sit against the backdrop of debates on the transformative potential of education. While the range of literature from which the study draws is wide, the connecting thread, as for the study itself, is the role played by relationships. This is drawn out in the review and provides some coherence.

‘Professional’ literature is understood as that designed to support practice within schools, and education programming led by governments and non-governmental organisations. Some of this is found in academic articles and texts. Given the relatively new and rapidly evolving state of the areas of interest, much so-called ‘grey’ literature is also referenced. This is appropriate for an emergent research field⁴.

The chapter starts with a brief review of conceptual and methodological literature that provides the backdrop of the transformative potential of education. This includes the closely-related notions that underpin a transformative paradigm, and the place of action research within that. The application of these ideas for the thesis are explored in [chapter 4](#), Methodology.

Literature relevant to the three areas of focus outlined above is then explored in turn. Firstly, conceptual and empirical literature relating to psychosocial wellbeing and the nature of social and emotional competencies. This draws heavily on psychological research applied in educational contexts, informed by recent developments in neuroscience. Much research in this area has been conducted in well-resourced contexts, complemented by a relatively small body of literature

⁴ Grey literature is published informally or non-commercially, or remains unpublished. It can appear in many forms, including government reports, statistics, conference papers. It will often be more current than traditionally published sources, with a better coverage of emergent research areas. <https://guides.lib.monash.edu/grey-literature/whatisgreyliterature>

based on poorly-resourced contexts, including those affected by crises. This literature underpins the overall research question. A thorough understanding of the nature of the competencies of the KCBC, is essential to exploring how better to support teachers to help children acquire them.

Secondly, empirical literature looking at existing research on how these skills can best be built in education settings is covered. This section is particularly relevant to research sub-question 1 on teaching strategies, and sub-question 2 on the engagement of parents in the development of social and emotional competencies. Given the focus of the research on ways to support the continuous professional development of teachers, there is a particular focus on existing literature in this area in sub-Saharan Africa. Finally, an overview of empirical and conceptual studies looking at the measurement of social and emotional skills and the relationship with academic learning outcomes, is given. This is particularly relevant to research sub-question 3. Much of this research has been conducted in well-resourced contexts. A more detailed review is made of one study looking specifically at social and emotional competencies in a comparable African context, which is the most relevant to the current research.

The literature review highlights a gap in the extant literature, which includes few studies in poorly-resourced settings that focus on the experience of teachers, as they support the development of social and emotional competencies through learner-centred pedagogy in the context of competency-based curricula. This research provides a detailed exploration of the teaching and measurement by teachers of these skills, looking at the relationship with academic learning outcomes. No studies were found that explored this in Kenya.

2.1. The transformative potential of education

The potential for education to transform people and society was powerfully articulated in the 1970s by Paulo Freire. He described the ‘banking’ model of education, in which memorisation and repetition blocks learners’ ability to develop the critical consciousness necessary to challenge prevailing conditions of injustice. He called for ‘conscientisation’, whereby people, and particularly learners in classrooms, become more critically aware of their surroundings, and able to take action to change and improve them (Freire, 1972, p. 54). Fifty years later, this ‘pedagogy of hope’ remains ever more necessary. A lack of critical thinking in teaching in Kenyan classrooms

is cited as one of the reasons behind the new curriculum (see [3.2](#)). Picking up Freire's ideas, bell hooks has elaborated how a classroom context and curriculum, when used creatively, can generate hope and action. Teachers and students can develop greater awareness of themselves and their possibility for action if relationships in the classroom support dialogue and criticality between students and teachers, and among learners. This helps the younger generation to become thoughtful citizens, capable of bringing about change in themselves and their communities (hooks, 2003; Carolissen et al., 2011, p. 158).

The potential of teachers as agents of change in the development of more equitable and just educational systems, has been recognised in the context of efforts to achieve the Sustainable Development Goals. Through 'transformative pedagogical practices', teachers are expected to contribute to a social justice agenda, addressing inequalities in their classrooms through an inclusive approach (Howell et al., 2016, p. 161). 'Transformative pedagogy' is said to empower both teachers and learners, encouraging learners to be 'reflective and critical thinkers who are able to contribute meaningfully as members of local and global communities' (UNESCO, 2017, p. II). This recalls the notion of 'empowered action' (see [1.1](#)), and chimes with the KCBC's vision of 'engaged, empowered and ethical citizens'.

A further fundamental element, identified during the IFS, is the role played by the local community. A 'whole school' approach highlights the importance of involving those in the learning environment beyond the school – families and the wider community – to address the needs of learners, staff and the wider community, see [2.3.4](#). This 'implies collective and collaborative action in and by a school community to improve student learning, behaviour and wellbeing, and the conditions that support these' (UNESCO International Bureau of Education, 2016). Teachers are critical in making the necessary connections. They can lead a process of uncovering motivations and understanding amongst the local community, in order to engage them in discussions and action with a view to the best interests of their children. Their 'situatedness' in their communities guides teachers' work with the community to try to find solutions to the issues, and potential inequities, uncovered (Unterhalter, 2017, pp. 26, 32).

The premise that critical thinking leads to action, underpins the choice of an action research approach for this study. This is in the context of the explicitly transformative vision of the KCBC ‘to enable every Kenyan to become an engaged, empowered and ethical citizen’ and to ‘nurture every learners’ potential’ (see [1.1](#)). Participatory action research has the potential to become a ‘*social practice*—a special kind of social practice that aims at transforming other social practices’. It can contribute not only to knowledge, but also to history, ‘to changing, for the better, the world we live and practise in’ (Kemmis et al., 2014, p. 27). There is a critical link here with psychosocial wellbeing. The question connecting a disparate range of action research traditions is arguably ‘how to go about generating knowledge that is both valid and vital to the wellbeing of individuals, communities, and for the promotion of larger-scale democratic social change’. Action research recognises the social construction of knowledge, and that research is ‘embedded within a system of values and promotes some model of human interaction’. This echoes the foundations of Kenya’s Basic Education Curriculum Framework (see [3.4](#)), and implies ‘research which challenges unjust and undemocratic economic, social and political systems and practices’ (Brydon-Miller et al., 2003, p. 11).

This takes us back to Freire. Popularising the idea of a ‘participatory’ approach through conscientisation, Freire highlighted the link between ‘the process of knowing [and]... the process of learning...through an ongoing cycle of action and reflection... [leading] to the development of a critical awareness about the world in which people live’. The main principle of ‘participatory action-reflection research’ is that positive change – action – should be the result of people becoming more critically aware of their surroundings (de Koning, 1995, p. 34). A recent call for Action Research for Transformation (ART), brings together such an action research approach with the recognition, in a competency-based approach to learning, of the individual’s sense of self, and their relationship to others: ‘Action research builds in potential for transformative action because of the unusual emphasis on the relational and emotional nature of the learners and a willingness to practise a more mutually transformative power’ (Bradbury et al., 2019, p. 5). This argument is rooted in the neuroscience that now underpins our understanding of social and emotional skills. Relationships are fundamental: humans are ‘wired’ to connect to, resonate with

and learn from others. This is in turn central to teaching and learning, as positive interactions create neural pathways and literally ‘build brains’ (Cozolino, 2013b, pp. 14–15).

Critically, the learning process applies to both teachers and learners, illustrated by Kenya’s new curriculum framework. The theory of the social construction of knowledge assumes that knowledge is built in social contexts. It involves student-student and expert-student collaboration on problems or tasks, building on each individual’s language, skills, and experience, which in turn are shaped by culture (Vygotskiĭ & Cole, 1978, p. 91). This is fundamental to the competency-based approach of the KCBC, supporting children’s learning inside and outside the classroom, helping them become ‘engaged’ citizens ready to take action for change. According to this theory, teachers’ application of an action research approach helps them learn as they teach the new curriculum, informing adjustments in their teaching, and arguably empowering and ‘transforming’ them in the process. The centrality of strong relationships in understanding and supporting the development of strong social and emotional competencies cannot be understated, with teachers as the key vehicle. This is further explored in [2.2.1](#)

2.2. Psychosocial well-being and social and emotional competencies

This section provides an overview of conceptual, professional and empirical literature relating to psychosocial wellbeing and the nature of social and emotional competencies. It starts with an overview of the connecting thread of relationships, before looking in detail at how psychosocial wellbeing has been conceptualised, drawing on the disciplines of education, psychology and neuroscience.

2.2.1. The centrality of relationships

A wide range of terms is used to describe social and emotional competencies (see [2.2.2-2.2.8](#)), but the dynamic on which they are based can be simply stated. Social and emotional wellbeing depends on the interaction between self and other: a strong sense of self, the ability to manage one’s self and their emotions, and on that basis to build strong relationships with all sorts of ‘others’ (see [2.2.2](#)). The Aga Khan Foundation, with whom the research was affiliated, sums this up in its definition of pluralism: Identity, Encounter, Engage (Rasenberg, 2017, p. 13). Put even more simply, it is all about relationships.

Relationships have been described as ‘the soil in which children’s SEL skills grow’ (Jones, Brush, et al., 2017, p. 14). Cozolino, writing from a neuroscience perspective, powerfully demonstrates how this can be traced to our human origins. The survival instinct evolved according to the fact that our primary environment was other people. If we were successful in relationships, we would get what we needed to survive: ‘those who are nurtured best survive best...our emotional resilience and our ability to learn are inextricably interwoven’ (Cozolino, 2013a, p. 14). The ‘soil’ of relationships starts with ‘responsive care giving’ by a child’s earliest carers. Cuddles, eye contact, smiles, vocalisations and gestures create emotional bonds, helping young children to understand the world around them, to learn about people, relationships and language, and stimulating connections in the brain (World Health Organization, 2018, p. 14; Murray, 2000).

Building social and emotional competencies in education settings is arguably an extension of nurturing care into children’s older years, and beyond throughout life. Reading and reacting to other people’s behaviours, emotions and attitudes is fundamental to our way of being. ‘We are wired to connect, attune to, resonate with and learn from others – and to need others to treat us with care and compassion’ (Cozolino, 2013a, p. 13). Critically, the opposite is also true. A lack of nurturing is ‘inconsistent with well-being, enthusiasm or curiosity’. In a classroom context, a teacher who is critical, harsh or dismissive will demoralise their students, who ‘come to embody these antilearning states of brain and mind’ (Cozolino, 2013a, pp. 14–15).

Of the four constructs identified that affect teacher wellbeing, explored further in [2.3.3](#), social-emotional competence is foundational. It fundamentally affects the others, which are: teacher self-efficacy (belief in their ability to do tasks); stress related to work; and job satisfaction. This points to the importance of starting with teachers in supporting the social and emotional learning of students, highlighting again the fundamental importance of relationships: ‘The science makes a strong case for placing the humanity of teachers and students and the quality of attachment relationships at the centre of the wheel of education’ (Cozolino, 2013b, p. xxvii). The following sections look in more detail at how this is articulated in terms of social and emotional competencies in the conceptual, empirical and professional literature.

2.2.2. Defining Social and Emotional Learning

A much-cited definition of social and emotional competence is ‘the ability to understand, manage, and express the social emotional aspects of one’s life in ways that enable the successful management of life tasks’. Those tasks include learning, forming relationships, solving problems, and adapting ‘to the complex demands of growth and development’. They are at the heart of ‘how to promote knowledgeable, responsible and caring children and adults’ (Elias et al., 1997, pp. 2, 12).

One framework developed to support making a reality of these notions, is that of the Cooperative for Academic Social and Emotional Learning (CASEL, 2017). Building on Elias et al, CASEL describes social and emotional learning as the process of ‘integrating thinking, feeling, and behaving in order to become aware of the self and of others, make responsible decisions, and manage one’s own behaviour and that of others’ (CASEL, 2017). The five domains of self-awareness, self-management, social awareness, relationship skills and responsible decision-making are represented in the ‘CASEL wheel’ (CASEL, 2017), see Figure 2.1. The connection between the self and other, built through strong relationships, is clearly reflected in this representation. Individual social and emotional competencies are set within the outer circles of curriculum, school, family and community, highlighting the importance of context.



Figure 2.1: The CASEL 'wheel' (CASEL, 2017)

The CASEL wheel is widely used and adapted, including in poorly resourced and post-conflict contexts (RTI International, 2018, pp. 18–19; Jeong et al., 2018, p. 6). This informed the choice of the CASEL framework as the point of reference for this study. It was also used as the starting point for the RTI study that developed the social and emotional competency rating tool (see [2.4](#)). The crucial importance of discussion and adaptation of externally developed frameworks in the specific cultural context has been highlighted (Jukes, M, in Smart et al., 2019, pp. 192–193). [Chapter 4](#) describes how this was done for the thesis research.

Underpinned by frameworks such as CASEL, Social and Emotional Learning (SEL) has been described as an ‘umbrella term’, covering many concepts and approaches including bullying prevention, civic and character education and development, conflict resolution, social skills training, life skills, “soft” or “non-cognitive” skills, 21st century skills (Harvard University, 2019). These skills and competencies develop from birth throughout life, in dynamic interaction with attitudes, beliefs, and mindsets as well as character and values. They are essential to success and wellbeing, and are critically dependent on context (Weissberg & O’Brien, 2004).

The term ‘life skills’ is often used to describe programmes with a specific thematic focus, such as sexual and reproductive health and HIV/AIDS prevention, and violence prevention or peace building (James et al., 2006; Forde, 2014; Jeong et al., 2018, pp. 13-15, figure 7). Developing skills in these areas depends on social and emotional competencies such as communication, critical thinking and decision-making skills (Pick et al., 2007; UNICEF Evaluation Office, 2012, p. 10; Braga, 2017, p. 5). The content of such ‘life skills’ programmes is therefore fundamentally ‘social and emotional learning’, but it may not be understood in these terms.

An example comes from my current professional context is the ‘Champions of Change for Girls’ Rights and Gender Equality’ programme. It is one of Plan International’s strategies for promoting gender equality and social norm change, on the basis that:

Lack of power is one of the main barriers that prevent girls and young women from realising their rights and escaping cycles of poverty. Therefore, working to support girls’ empowerment is a core strategy to achieving Plan International’s vision of change.

(Champions of Change Coordinating Office, 2017, p. 2)

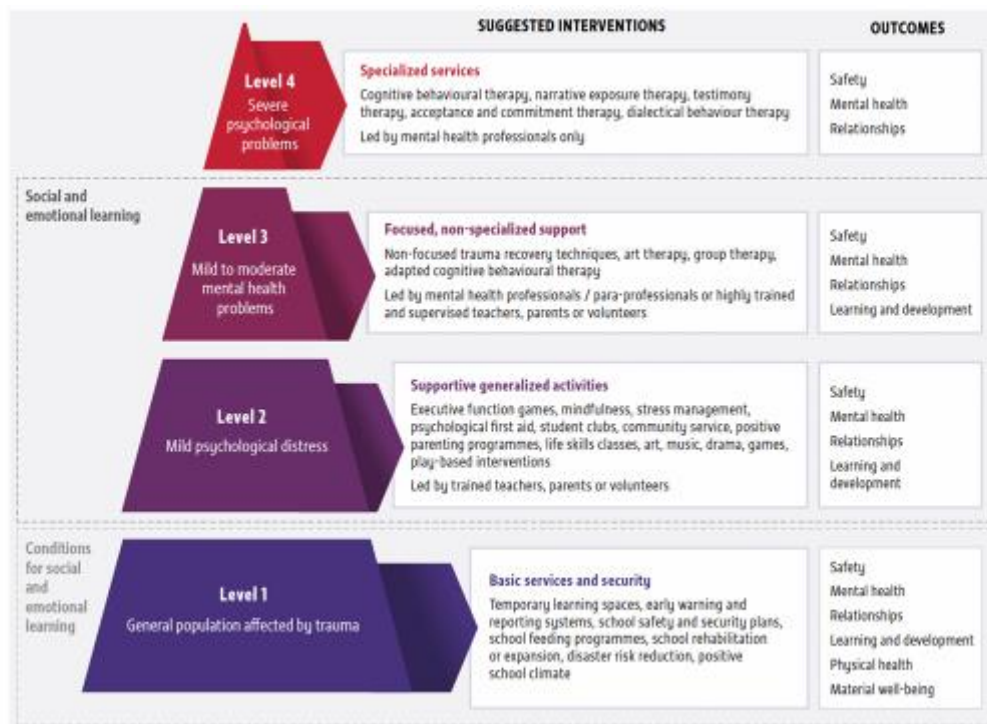
Through youth engagement and peer-to-peer mobilisation the programme falls explicitly within a transformative paradigm, aiming to challenge social norms and gain society-wide support for gender equality and girls' rights. Facilitators use adolescent-friendly, contextualised activities with girls and boys separately and together. The girls' curriculum illustrates how social and emotional skills are built within a specific thematic context, including for example: Being Assertive; Being Gender Aware; Being Informed about rights. The foundational component of the approach is teaching and learning, working with teachers to build 'capacities and commitment for gender-responsive teaching and inclusive learner-centred methodologies, social and emotional learning / psychosocial support' (Donville, 2020, pp. 7, 10, 28). The programme is described as building 'life skills', but the centrality of social and emotional learning facilitated by teachers, as the vehicle for a specific gender focus, is clear.

2.2.3. Social Emotional Learning and Psychosocial Support

Social and emotional skills are core elements of psychosocial wellbeing. 'Psychosocial' refers to 'the dynamic relationship between the psychological and social dimension of a person, where the one influences the other' (Terlonge, 2014, p. 11). The psychological dimension includes internal, emotional and thought processes, feelings and reactions, overlapping with the self-awareness and self-management of Social and Emotional Learning (SEL). The social dimension embraces relationships, family and community networks, social values and cultural practices, so reflecting the 'social' aspects of SEL. Psychosocial wellbeing is fundamental to health and quality of life for everyone. Psychosocial support (PSS) is needed when the bases for wellbeing are disrupted. PSS helps individuals recover after a crisis 'facilitating resilience within individuals, families and communities...promot[ing] the restoration of social cohesion and infrastructure' (IRFC, 2009, p. 25). The composite term 'mental health and psychosocial support' (MHPSS) is used to describe interventions that support psychosocial wellbeing provided by health, education and other actors in an emergency context, underscoring 'the need for diverse, complementary approaches in providing appropriate supports' (IASC, 2008, p. 2). In education contexts, 'psychosocial support' (PSS) alone is generally used.

The MHPSS 'intervention pyramid' (see Figure 2.9) demonstrates the integral connection between PSS and SEL, and the place of teachers and other educators in supporting psychosocial

wellbeing. It represents a layered system of complementary supports, showing how the provision of social and emotional learning depends on first meeting basic physical needs and security, at the base level. Specialist mental health provision is at the top of the pyramid, where people who need it can be referred by those providing support via social and emotional learning (IASC, 2008, pp. 11–12).



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Figure 2.2: Psychosocial Support Intervention Pyramid, based on the intervention pyramid for mental health and psychosocial support in emergencies (INEE, 2019, p. 26; IASC, 2008, p. 12)

The middle levels 2 and 3 of the pyramid can be provided through school and other learning spaces. The outcomes targeted (far right of Figure 2.2) – safety, mental health, relationships and learning and development – overlap very closely with the objectives of social and emotional learning ‘although they are not identical’. SEL is geared towards other aspects of life than PSS – beyond a crisis context – while PSS is provided through several channels, one of which is social and emotional learning (Global Education Monitoring Report, 2019, p. 4).

An example is the 'Children's Resilience Programme' of IFRC⁵ and Save the Children. It focuses on offering support at levels 2 and 3 of the pyramid, providing a social and emotional programme adapted to an emergency context. It covers skills and knowledge (conflict resolution, peer communication, making good choices), emotional wellbeing (hope for the future, sense of control, self-worth) and social wellbeing (ability to interact, problem-solving, sense of belonging to a community) (Terlonge et al., 2012, p. 9). The focus on relational skills in PSS, through social and emotional learning activities, is confirmed by a review of almost half a century of research on resilience, including much in schools. It concludes that:

Resilience rests, fundamentally, on relationships. The desire to belong is a basic human need, and positive connections with others lie at the very core of psychological development; strong, supportive relationships are critical for achieving and sustaining resilient adaptation.

(Luthar, 2015, p. 780)

On the basis that 'schools are social places and learning is a social process' (Zins et al., 2007, p. 191), school environments are critical areas of focus for the development of relationships, and resilience. In an outcome framework for building resilience, the school community is cited as 'an important source of relationships', amongst four other principles for interventions. The other principles highlight the interconnection of elements in a whole school approach, reflected in the KCBC: all children can learn with appropriate support; taking into account multiple sources of influence on children (home, community, school); improving material conditions; ensuring support from different sectors and actors (Fischer et al., 2017, pp. 14–15). These points illustrate that although the PSS pyramid and the Guidelines in which it is found were designed primarily for use in emergency contexts, they present a structure which is transferable and adaptable to stable environments.

Training materials developed by INEE for education programme staff and teachers, demonstrate clearly the overlap and interconnection between psychosocial support and social and emotional

⁵ International Federation of Red Cross and Red Crescent Societies

learning. In the left-hand slide of Figure 2.4, psychosocial wellbeing depends on needs being met in relation to the individual and their relationships with others. On the right-hand slide, we see that these match closely with the five CASEL domains, chosen to represent social and emotional learning and skills:

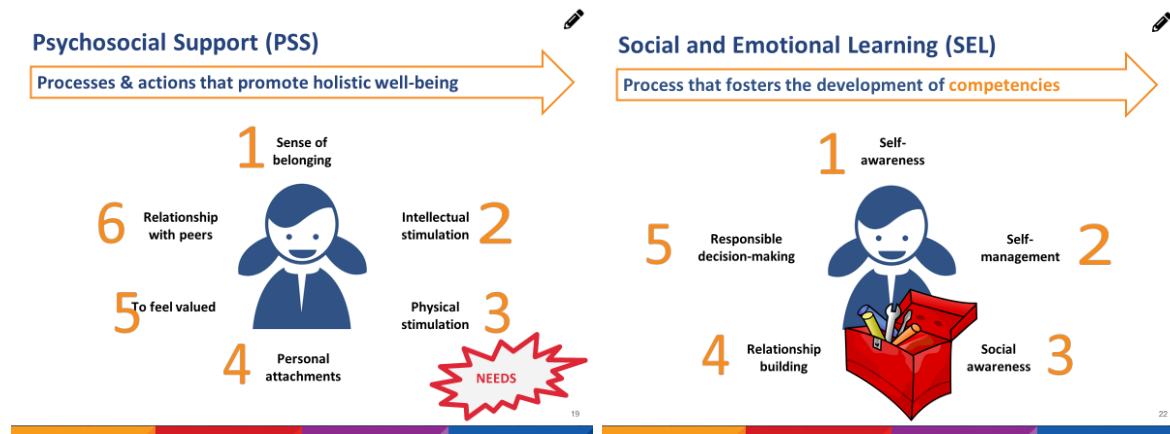


Figure 2.3: The common roots of Psychosocial Support and Social and Emotional Learning (INEE, 2019, pp. 19, 22)

One vehicle for making the connection between PSS and SEL in an emergency context is Psychological First Aid. Five empirically supported intervention principles have been established to guide and inform efforts to support people affected by a crisis, from the early to mid-term: promoting 1) a sense of safety 2) calming 3) a sense of self- and community efficacy 4) connectedness and 5) hope (Hobfoll et al., 2007, pp. 285–286). Teachers are amongst those who can be trained in the principles, which have been distilled into Look, Listen and Link: LOOK for who needs help, for safety, security and emotional risks (sense of safety), LISTEN actively to the person, calm them and help them solve immediate problems (calming and self-efficacy) and LINK them to information, services, to their loved ones and/or social support (community efficacy, connectedness and hope)(Hansen, 2018, p. 14). We see here clearly reflected the social and emotional skills of managing oneself, and strong relationships with others.

The COVID-19 pandemic has demonstrated the integral connection between SEL and PSS, and the importance of building them much more strongly in all contexts as we live with the realities the pandemic imposes. For example, as noted in [1.1](#), in Kenya psychosocial support was

prioritised in government instructions regarding preparation for the return to school (Teachers Service Commission, 2020). Plan International adapted materials designed for promoting social and emotional learning at home for children affected by the Venezuelan migrant crisis, to help parents transform homes into safe learning spaces as learning centres closed. The continued focus on SEL helped parents to manage the stress associated with the pandemic, and to support their children with the same (Donville, 2020, pp. 24–25). Girl participants in Champions of Change from across the world reported that the skills they had gained from their activities encouraged them to be proactive during the lockdown, particularly in relation to pursuing their studies at home and with friends ('Champions of Change News Letter', 2020, pp. 1–4).

This section has provided an overview of the scope of concepts and practice covered by psychosocial support and social and emotional learning, drawn substantially from professional and grey literature. The final sections of the review of conceptual literature look in more detail at the nature of the competencies themselves, and how they are described and defined.

2.2.4. Understanding SEL competencies

This section describes work to enhance clarity on terms used in SEL, before reviewing the interconnected nature of social and emotional competencies with specific reference to those of the KCBC.

2.2.4.1. Exploring SEL

The core components of social and emotional learning, as reflected in the CASEL wheel, were found to be common in a review of meta-analyses of mainly US-based school-based SEL programmes. It was noted however, that approaches may use different language to describe these components (Greenberg, 2003, p. 468). This can lead to confusion about actual meanings. It is further complicated by the extension of SEL programming to poorly resourced and crisis settings, meaning that the frameworks used are mostly developed in contexts far from them in context and culture.

One effort to address this is Harvard University's EASEL Lab's [Explore SEL](#) website. It hosts a database of over 60 SEL and life skills frameworks used in over 40 countries, including in conflict and poorly resourced settings. The frameworks are coded according to six domains, and further

by subskills. Importantly, each is also coded according to the extent to which it takes into account contextual factors, including ecology, equity, health, safety and adult support. Coding helps clarify the components and structures of individual frameworks, and a mapping software allows comparisons between them. Similarities across terms and frameworks are thus identified based on how they are defined (coded), rather than how they are labelled or categorised. The aim is to enhance precision and transparency, and facilitate more effective translation between research and practice (Harvard University, 2019).

A current project in collaboration with the Inter-Agency Network for Education in Emergencies (INEE), aims to produce a ‘tool box’ of approaches to support the effective adaptation of frameworks to a wider range of contexts, languages and cultures (INEE-EASEL, 2020). This work is an important example of mainly grey literature being used within an academic institution, to bring together the experience of practitioners in a range of contexts with the rigour of academic research. The objective is to validate and enhance practice, and in the process further understanding of how theory applies, and can be adapted, in contexts different from where it was conceived. The thesis research makes a contribution to this effort, by examining the reality for teachers of applying the Kenyan curriculum framework, strongly informed by external models, in a specific Kenyan context. A comparison of the KCBC with the CASEL framework, including coding by Explore SEL, is presented in [3.5](#).

The remaining subsections draw on conceptual and empirical literature to explore the interconnections between social and emotional competencies, the building blocks for their acquisition, and the specific concept of agency. As Communication and collaboration and Critical thinking and problem-solving were selected by teachers from the seven competencies of the KCBC, as the focus of their action research, they are given particular attention.

2.2.4.2. Connections between competencies

Communication is described as ‘integral to the acquisition, practice and development of all other core life skills’ (UNICEF MENA Regional Office, 2017b, p. 1). It includes the ability to listen actively, and is thus essential to collaboration, which underpins the ability to work in a group or team. Enhancing the use of language and understanding, communication supports the development of higher order skills such as reasoning and inference (Ramadi et al., 2016, p. 50). These are skills

which underpin critical thinking, itself fundamental to problem-solving. Collaboration is considered essential to a problem-based learning approach (Savery, 2006, p. 13). Indeed, the 2015 PISA included an assessment of 'collaborative problem-solving' defined as the 'capacity of an individual to engage effectively in a process whereby two or more agents attempt to solve a problem by sharing the understanding and effort required to come to a solution' (UNESCO, 2016, p. 248).

Thus all elements of the two competencies chosen as a focus by teachers are intertwined. Arguably, problem-solving depends on the other three other elements: communication, collaboration and critical thinking. The skill of problem-solving is said to foster positive social transformation, to contribute to community-based solutions to problems, and enhance social engagement in community work (Weitzman, E and Weitzman, P, in Deutsch, 2006, pp. 185–209). This connection reinforces the relevance of a transformative paradigm for action research focused on supporting teachers to develop these skills, for themselves and their learners, in their classrooms and school.

The two competencies of focus are also integrally connected to the other competencies of the KCBC. The ability to communicate and collaborate, to think critically and solve problems, all contribute to enhanced self-efficacy (Webster, 2006). They also all contribute to citizenship, for example through the reduced risk of violence and discrimination stemming from good communication (Faour & Muasher, 2011), and enhanced social engagement supported by cooperation skills (Tyler, 2011). Critical thinking and problem solving are integral to Creativity and imagination, creativity being closely connected to cognitive abilities, including analytic and evaluative skills (Sternberg, 1988). Along with strong communication and collaboration, they are also critical to learning to learn – the skills required to benefit from the opportunities education provides throughout life (Delors, 1998, p. 37). Finally, digital literacy is an extension of other communication skills (Webster, 2006). More generally, all of these skills have been shown to contribute to better wellbeing. For example, problem-solving skills help avoid the mental stress and its physical implications associated with unsolved problems (World Health Organisation, 1999, p. 1). Cooperative learning is correlated with stronger psychological health, including the ability to form relationships (Lavasani et al., 2011, p. 1805).

This overview is particularly relevant to research sub-question 1, dealing with teaching strategies most useful to teachers in supporting SEL, and to the findings presented in chapters [6](#) and [7](#). It demonstrates the interconnection between social and emotional competencies described in the existing literature, which is almost exclusively from ‘western’ contexts. The current study contributes to filling a gap, by exploring how teachers experienced the connections between competencies in a poorly-resourced context.

[2.2.4.3. Building blocks for competencies: Executive function and effortful control](#)

Key ‘building blocks’ of social and emotional learning are executive function and the closely associated executive control. An examination of the relationship between these attributes, and levels of their acquisition from simple to complex, is similarly relevant to research sub-question 1, and the acquisition of competencies.

Executive function comprises working memory (the ability to remember one thing while doing something else), response inhibition (resisting temptation and impulsive reaction), cognitive flexibility (the ability to adapt flexibly and think creatively), and attention control (the ability to focus or concentrate) (Diamond, 2013, pp. 1–2). These skills are closely related to those of ‘effortful control’, which is defined as the ability intentionally to manage thoughts, attention, emotions, and behaviour. While the measurement of executive function generally focuses on the inhibition of response and can be considered principally cognitive, effortful control involves also the management of strong emotions and social interactions (Jones et al., 2016, p. 9). These skills have been shown to play a central role in the development of both academic and social skills in school settings (Rueda et al., 2010, p. 758).

‘Simple skills’ are the basic skills required in order to develop the ‘proximal’ and ‘distal’ skills that are described as ‘higher’ level skills. These ‘complex’ or ‘higher’ skills appear below the simple skills in the graphics in Figures 2.9 and 2.10 (Jones et al., 2016, p. 19):

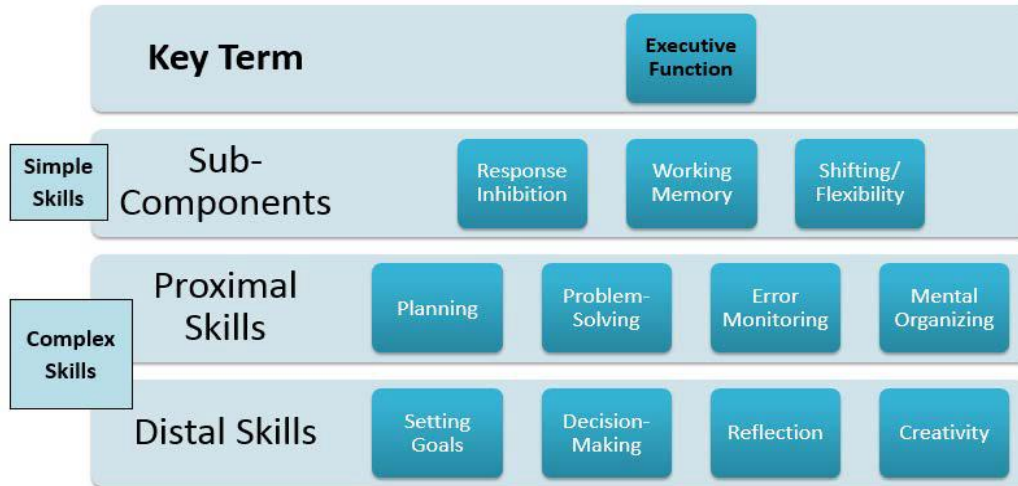


Figure 2.4: Organising Executive Function terms (Jones et al., 2016, p. 9)

To illustrate, in order to be able to plan work and solve problems (proximal skills), a child first needs to be able to remember instructions and act on them later (working memory, a simple skill). The proximal skills of planning and problem-solving are in turn necessary to the distal skills of setting goals and making decisions. Equivalent steps towards effortful control are shown in Figure 2.5. To achieve complex skills, a learner needs initially, for example, to be able to focus attention using the simple skill of attention control. This will enable them to persevere at a task (persistence, a proximal skill) which in turn supports the ability to overcome difficulties (resilience, a distal skill).

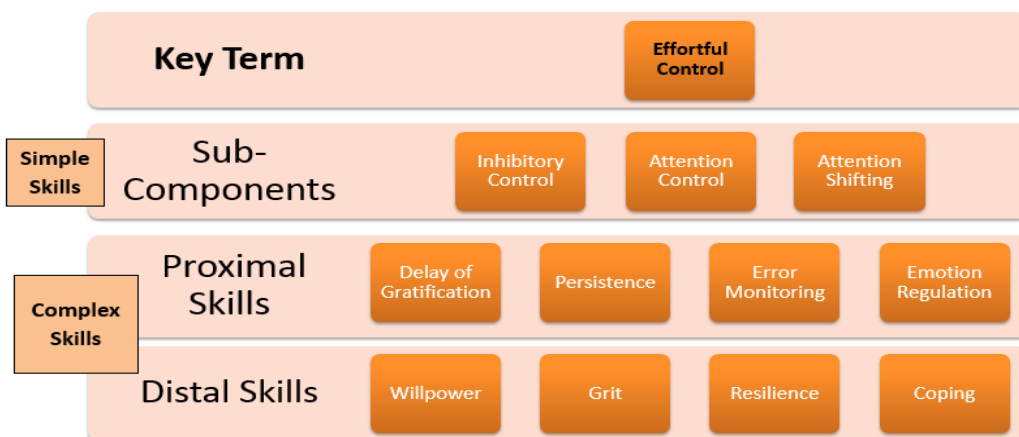


Figure 2.5: Organising Effortful Control terms (Jones et al., 2016, p. 10)

The overlapping 'simple' skills of executive function and effortful control are thus described as 'building blocks' for the more complex skills, that integrate and combine them. This illustrates the important concept in developmental theory, that basic skills are coordinated and refined over time to allow the mastery of more complex skills (Jones et al., 2016, p. 15). The following summary of the relationship between the two sets of skills helps demonstrate the relevance to the thesis research, as several elements of the KCBC competencies are found amongst the complex skills: problem-solving, creativity, and coping/motivating, which is closely connected to self-efficacy.

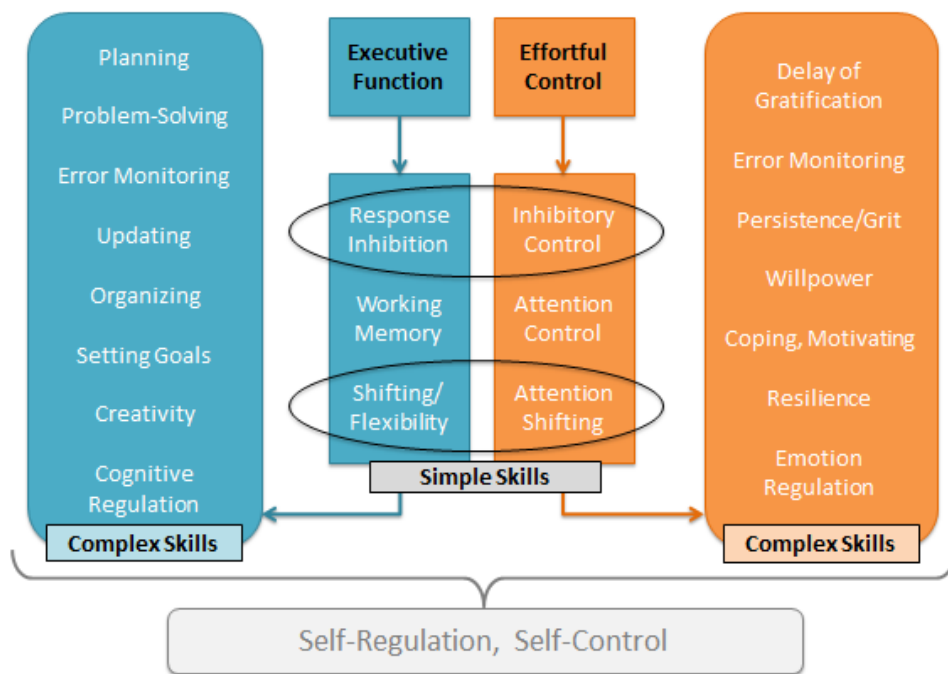


Figure 2.6: The Parallel Structures of EF and EC (Jones et al., 2016, p. 11)

Basing their research largely on US-based SEL programmes, Jones et al caution that targeting one 'simple' element of executive function or effortful control cannot be assumed to build the higher order, more complex skills (Jones et al., 2016, p. 15). The relevance for the current thesis research is rather the reverse of this point. Section 7.2.3 demonstrates how the competencies of the KCBC target 'higher order' executive function and effortful control skills. This means that teacher training and support need to include guidance on building the 'simple' skills that underpin them, for children to acquire the competencies. This points to the importance of teacher professional

development in the effective delivery of a competency-based curriculum, central to the discussion in section [2.3](#).

2.3. Building social and emotional skills in education settings

This section draws on empirical literature demonstrating the role of teachers and the community around the school, in building children’s social and emotional competencies. There is a specific focus on the critical importance of teacher professional development to facilitate this process, along with the impact of contextual issues that can pose challenges to it. This draws mainly on literature from research in Sub-Saharan Africa, placing the current study in its regional context, and highlighting where it complements existing research. This section is particularly relevant to research sub-questions 1 and 2.

2.3.1. SEL as a pedagogical approach

Social and emotional learning (SEL) can be considered a ‘pedagogical practice and process’. It is fundamental to quality teaching, whether in school or non-formal settings (INEE, 2018, pp. 14–15). A recent overview of SEL research focused on the United States and Europe, maintains that this has now been accepted in education practice (Oberle et al., 2016, p. 277). In the context of curriculum reform, SEL may be described as ‘learner centred pedagogy’, which represents a shift from a lecture style, ‘learning by rote’ method of teaching to one that seeks to promote creativity, critical thinking, and problem solving skills in students. The cognitive/psychological benefits derived from building social and emotional competencies through the social construction of learning in a supportive learning environment, combined with the political benefits of building ethical citizens, and economic ones in terms of skills for employment, are recognisable as SEL as explored in [2.2.2](#) (Vavrus et al., 2011, pp. 6, 45–54).

Four principles of effective school-based SEL distilled from research and theory place teaching practice at the centre, through: continuity and consistency; the interdependence of skills; the development of SEL skills in social contexts; and classrooms and schools as systems (Jones & Bouffard, 2012, p. 8). The ‘continuous and consistent’ development of social and emotional skills means ensuring learners are helped to acquire them through appropriate teaching approaches, complemented by support in social contexts. This has been described as a ‘whole school’, or school-wide approach, aiming to integrate SEL into daily interactions and practice beyond the

school to involve parents and the wider community, see [2.3.4](#) (Meyers et al., 2019, p. 53). This social construction of learning and knowledge (see [2.1](#)) within a learner-centred approach relies fundamentally on strong relationships, and is central to the pedagogy promoted by Kenya's new curriculum.

The Basic Education Curriculum Framework for Kenya cites theorists including Vygotsky, Piaget, Bruner, Hattie and Dewey as underpinning its development (KICD, 2017, pp. 15–19). Closely related is the idea of the classroom and school as a 'system', wherein the school culture interweaves positive modelling of social and emotional skills throughout the school experience (see [2.3.2](#)). Research in poorly resourced schools in Malawi and Uganda illustrated the effectiveness of this approach for building SEL (Smart et al., 2019, p. 210). The interdependence of the social and emotional competencies of the KCBC was discussed in [2.2.4.2](#).

John Hattie's Visible Learning approach is particularly relevant to the notion of SEL as a pedagogical approach. Based on extensive meta-analyses of research into effective teaching and learning, Hattie highlights the importance of learners understanding what they are aiming for through dialogue rather than monologue in the classroom, and relationships of trust that mean learning takes place in a safe space. He captivantly describes the 'magic' of a smile, that facilitates relationship-building, based on our human origins, as explored in [2.2.1](#) (Hattie & Yates, 2013, p. 259). The 'buffer' role that a positive school experience can play for children who are deprived or exposed to other adverse experiences has also been recognised (Hattie & Yates, 2013, p. 20; Aber et al., 2003, p. 344). All of these examples illustrate the role that SEL plays in building resilience (see [2.2.3](#)), and in particular the importance of strong relationships in that process.

Most research focusing on the social and emotional learning aspect of these approaches has taken place in well-resourced countries. The current study fills a gap in examining this aspect in a poorly resourced setting. It also provides evidence for the way in which supporting the development of learners' social and emotional skills is underpinned by, and complements, learner-centred teaching. This two-way dynamic is relevant to existing research and practice on the nature of teacher professional development to support curriculum reform, explored in [2.3.2](#).

2.3.2. Teacher professional development and curriculum reform

Section 2.2 highlighted that the implementation of competency-based curricula demands a pedagogical approach that puts learners at the centre of the learning process. ‘Pedagogical renewal and teacher development are two sides of the same coin’ in order to shift from teacher-led to learner-centred pedagogy in sub-Saharan Africa, and make a reality of equitable and quality education in Sub-Saharan Africa (Dembélé & Lefoka, 2007, p. 532). This sub-section explores empirical literature addressing the challenges to providing sufficient and appropriate teacher professional development to effect this change, which have contributed to many failed attempts to improve teachers’ classroom practice and children’s learning. It explores potential ways to address the issues, pointing to gaps in the literature that the study helps to fill.

2.3.2.1. Contextual challenges

The push for universal primary education over the last three decades, combined with a growing school-age population, has led to serious shortfalls in the number of teachers, especially those who are appropriately qualified (Moon and Wolfenden, chapter 2, in Griffin, 2012, p. 39). Sub-Saharan Africa is particularly severely affected. While 85% of primary teachers globally were trained in 2018, the proportion was 64% in sub-Saharan Africa in 2018-17, the lowest of all regions globally. This compared to 71% in 2005. Teacher:pupil ratios are quoted as on average 1:38 at primary level (UNESCO Institute for Statistics, 2019). As seen in the current study, this masks much higher rates in many contexts (see [6.2.2](#)).

Teachers however are ‘the most important and effective resource national governments have for achieving equitable and quality education for all’ (Sayed, Mogliacci, et al., 2018, p. 221). The literature points to teachers as the strongest school-level variable in children’s social, emotional and academic learning (Dembélé & Lefoka, 2007, p. 532; Kanjee Anil et al., 2010). By extension, in relation to large scale education reform, teachers are the central players in its success, or not: ‘The meanings that a teacher attaches to the new curriculum reforms act as his or her map on the curriculum implementation journey, and these usually determine the success of the education reforms’. It is argued that attention to contextual issues – including adequate tools, space and opportunities to construct knowledge - that otherwise challenge the realization of reforms, should be combined with teachers’ involvement in the conceptualisation and design of

reform, and continuous support to understand its implications in practice (Bantwini, 2010, pp. 89–90).

In practice, however, particularly in poorly resourced contexts there is insufficient support for them to fulfil this critical role (Falk et al., 2019, pp. 2, 17). Limited budgets and competing priorities mean that teacher professional development (TPD) often receives less investment than is required for it to be effective, as discussed in 2.3.2.2. Where it is supported, it is often sporadic, funded by external donors, and insufficiently institutionalised to be sustainable (Christie et al in Day & Sachs, 2004, p. 170).

Scarce resources and overpopulated schools have major effects on working conditions for teachers. Low salaries, insufficient materials and poor classroom conditions combine with the poor socio-economic conditions of the families of the children they teach (Howell & Sayed, 2018, p. 29). Earlier studies have pointed to the impact that this has on teachers' ability to engage with teacher training, and to put into practice what they may learn from teacher training (Akalu, 2016, p. 190). Teachers' working conditions can have a profound influence on their identity as teachers and professionals, on their confidence to discharge their responsibilities and on their openness to change (Burns & Lawrie, 2015, p. 25). The 'Teachers' Lives' research project of the Teacher Education for sub-Saharan Africa initiative, has thrown a spotlight on this, through ethnographic research allowing teachers to speak for themselves. It highlights that the 'complexities of the teacher issue... bring numbers to life', through 'teachers' voices [which] provide a lens through which to see the real heart of an issue' (Buckler, 2011, p. 249). The thesis research provides a contribution to the limited literature in this area, providing insights from teachers' perspectives of the reality of implementing competency-based reform, in the context of their complicated lives and working conditions, and those of their pupils.

Beyond the physical conditions of the diverse sub-Saharan African context, Tabulawa has argued that the promotion of learner-centred pedagogy (see 2.3.1) by international aid agencies, is 'part of a wider design...to facilitate the penetration of a liberal capitalist ideology in periphery states...under the guise of democratisation'. He maintains it has been presented as a 'universal pedagogy' that should work anywhere regardless of context, ignoring its roots in transformative,

popular democratic theories including those of Freire, as explored in [2.1](#) (Tabulawa, 2013, pp. 22–23). Related to this is a so-called ‘deficit discourse’ which focuses on the ‘gaps’ in teachers’ knowledge and practice, and their failure to implement learning from professional development opportunities. This casts teachers as the objects rather than the subject of learning opportunities, failing to put them at the centre of their own development, or to allow them to draw on their own perspectives. This undermines teachers’ agency in programmes designed to support improvements in their practice, setting them up for failure (Howell & Sayed, 2018, pp. 28–29).

By listening to teachers, the current research highlights the specific issues they are facing (see [6.2](#)), and the importance of paying attention to these if the curriculum reform is to reach its goals. It demonstrates the impact of working with teachers challenged by the contextual issues typical of a sub-Saharan context, unpacking the nature of learner-centred pedagogy for their context using a transformative interpretation, putting them in the driving seat of their learning through action research. As such it responds in a small way to Tabulawa’s call for a socio-cultural approach that supports the development of culturally responsive pedagogies (Tabulawa, 2013). It illustrates, and reinforces the argument that teacher professional development needs to be ‘sensitive to context at all levels’ (Sayed, Mogliacci, et al., 2018, p. 221). This is explored further in the next section.

2.3.2.2. Making a reality of learner-centred pedagogy

Contextual challenges outlined above, combined with the pedagogical shift demanded by curricula reform and the limitations of teacher professional development, mean that teachers in sub-Saharan Africa, are often ill-equipped to make a reality of learner-centred teaching approaches, and the social construction of knowledge for themselves and their pupils (Howell & Sayed, 2018, pp. 29–30). The ‘pedagogical renewal’ implied in curriculum reform demands that teachers, as learners, need to benefit from strong learning experiences, which in turn means that those supporting teacher training and support need to be well prepared. Reviews in sub-Saharan Africa show a mixed record in this respect (Dembélé & Lefoka, 2007, p. 547). Teacher training institutions responsible for pre-service training are relatively conservative parts of education systems, making systemic change slow (Moon et al in Griffin, 2012, p. 38). Pre-service training often replicates the didactic teaching methods that teachers experienced themselves as

students, which they then reproduce these in their classrooms. There is little opportunity for trainees' knowledge and understanding to be constructed through teacher education with practice, simulating the social construction of learning that teachers can then facilitate in learners (Akyeampong et al., 2013, p. 281).

Inadequate pre-service training, combined with the huge unmet demand for qualified teachers (see [2.3.2.1](#)), means that pre-service training needs to be combined with continuing professional development (CPD). CPD is understood to mean ongoing training and support for teachers that provides both personal learning and the development of the teaching profession itself. It builds the professional competence of teachers, helping them adapt to the changing nature of their role. In the process it can renew teachers' commitment to their profession, and change their attitudes, views and beliefs about what is required of them. CPD is contrasted with the term in-service training (INSET), which refers to limited workshops or short-term courses that provide new information on a particular aspect of teachers', but do not provide the ongoing, longer term vision needed to ensure strong learning and practice (Sayed & Badroodien, 2018, p. 10). This is an important distinction for the current study, which aimed to take a 'continuing professional development' approach. It offered teachers the chance to explore and learn about new expectations of their role in the context of the curriculum reform, with the potential to provide ongoing support from within the existing system. As such it responds to Sayed et al's call for 'more effective, ongoing, onsite, contextually specific CPD for teachers in sub-Saharan Africa which is tied to systemic education reform efforts' (Sayed & Badroodien, 2018, p. 12).

Analysis drawing on reviews since the start of the COVID pandemic has reinforced evidence that for teacher professional development to be transformational, it needs to counteract the prevalence of 'conventional pedagogy' - teacher-led, and offering little scope for teacher-learner interaction (Hassler et al in McNaught & Gravett, 2020). In contrast, learner-centred teaching needs to incorporate a specific focus on learning outcomes supported by regular formative assessment, and be used as a vehicle for exploring the rights and duties of citizens. It is argued that this can be realised through holistic school-based models of teacher support, incorporating

‘wise use of educational technology’ (ibid). The thesis research explored such a model, by supporting teachers through ‘transformative’ action research facilitated by Whatsapp, to understand social and emotional learning as a pedagogical approach that puts learners at the centre (see [2.3.1](#)). It provides a small-scale model for continuing professional development that could contribute to responding to the need identified in the literature.

2.3.2.3. Action research in poorly resourced contexts

Confirming Timperley’s earlier work, Cordingley et al identified key components of effective professional development as: time, content, sensitivity to teachers’ diverse learning needs, participation in a community of practice and supportive leadership. Active participation of teachers, including within an action research approach, has been found to be particularly valuable (Timperley, 2007; Cordingley et al., 2015, cited in ; Mogliacci et al., 2016, p. 164). Continuing professional development assumes that teachers are supported to become active agents in their classrooms, positioned as ‘active learners’ and ‘reflexive practitioners’ when they actively engage in their own professional development. As explored in [2.1](#) and chapter [3](#), this is particularly important in the context of competency-based curricula reform, and in Kenya specifically, where teachers are expected to serve as activists for social justice, promoting inclusive education, social cohesion, global citizenship and education provision geared towards sustainable development (Sayed & Badroodien, 2018, p. 10).

Research using action research in sub-Saharan Africa have have highlighted the importance of building teachers’ technical knowledge and understanding, in order for them to have the confidence to try out approaches to it. A study of school leader support to the integration of ICT in teachers’ lessons in Kenya, for example, found that school leaders’ needed input on ICT themselves before they included this in their action research questions (Gioko, 2013, p. 157). This is comparable in the current study, to the need to support teachers in unpacking the competencies of the new curriculum, before they were able to conduct action research. There are also examples of action research supporting teacher empowerment, and their ability to change to a more learner-centred teaching approach. Previous studies have however relied largely on self-reporting by teachers as evidence of their ‘empowerment’ and changed teaching

practice (Juma et al., 2017b, p. 730). The thesis research was able to complement similar self-report through interviews, with an element of assessment of learners' social and emotional and academic learning outcomes, combined with a small amount of teacher observation providing evidence of changes in classroom practice associated with improvements in social and emotional skills as measured by the piloted tool.

2.3.2.4. Use of digital platforms to support teacher professional development

Digital technology is being increasingly used to support teacher professional development, including within action research, in poorly resourced contexts. WhatsApp is considered a particularly useful tool, given its accessibility in terms of cost, and multi-purpose applications. It has been shown in a range of settings effectively to support professional development and action research processes, through interpersonal interactions, the provision of content and its interpretation, and for organisational purposes (Juma et al., 2017b, p. 732; Motteram et al., 2020, p. 5731). In one example, teachers collaborated internationally via WhatsApp, including from countries in West Africa, building trust and experience through the sharing of experience and learning, and creating the starting point for a community of practice (Motteram & Dawson, 2019, pp. 16–17). Challenges related to the cost of data transfer and unstable network connections are common to each of these examples. A project during the COVID lockdown in South Africa managed to continue the encouragement of meaningful and relevant teaching and learning in times of crisis, through distance support to teaching practicums for student teachers (Marais, 2020, p. 639). WhatsApp use in this case included the transfer of relatively large data files, and no challenges of connection were mentioned. A small reminder of the importance of context.

Online platforms and teacher training can also play an important role in teacher professional development beyond action research, as exemplified by the Teacher Education for sub-Saharan Africa Massive Online Open Course (TESSA MOOC). At least 4,000 teachers have benefited from the courses, which offer practically focused, outcomes-based, school-focused teacher support, that can complement other forms of teacher professional development (Moon et al in Griffin, 2012, pp. 42–43). Courses are complemented by a library of Online Education Resources (OER) in four languages, designed for competency-based curricula teaching. They include

contextualised materials for ten sub-Saharan countries (Open University, 2021). The resources were developed in collaboration with local institutions, and take into account challenges specific to sub-Saharan Africa, such as class sizes of 60-80 learners (Moon et al in Griffin, 2012, pp. 47–48). Millions of teachers, and those supporting teacher professional development, have accessed the resources. Contextual issues impact here also however, with shortcomings including access hampered by a lack of internet access, and lack of teacher time to participate in the courses (Wambugu, 2018, p. 1156).

The use of WhatsApp during the thesis research contributes to this growing body of literature on the use of technology to support teacher education and ongoing support, which has become even more pertinent in the context of the COVID-19. The use of applications such as WhatsApp is particularly important as a relatively accessible low-tech solution, given the continued inequality of access to digital solutions in sub-Saharan Africa.

2.3.2.5. [Teacher wellbeing](#)

Pursuing the idea that teachers' lived experience is the starting point for enhancing their practice, the best way for children to learn social and emotional skills is to see them modelled by others (Hattie & Yates, 2013, p. 80; Howell et al., 2016, p. 161; Wamahiu, 2019, p. 13). Teachers can do this if they themselves have strong self and social awareness, understanding and managing the impact of their emotions on others, and the personal, cultural and social context of individual learners (Jennings, 2016, p. 37). Teacher competencies are expressed in supportive relationships with their students, and the facilitation of a learning environment that encourages strong peer cooperation, respectful communication and appropriate expressions of emotion (Jennings & Greenberg, 2009, p. 492). Such a classroom climate has been shown to be optimal for learning and wellbeing (Mashburn & Pianta, 2006, p. 170), informing the Classroom Assessment Scoring System (Pianta et al., 2008) that underpins the Classroom Guide used in the study, see 4.6.4.

Teachers need the means to take care of their own wellbeing if they are to be good models for their pupils. Bronfenbrenner's socio-ecological model of child development is used to demonstrate how teachers – as learners – are 'nested' within different levels of their

environment (Bronfenbrenner, 1979). Each of these impact their lives and work, as presented in Figure 2.7:

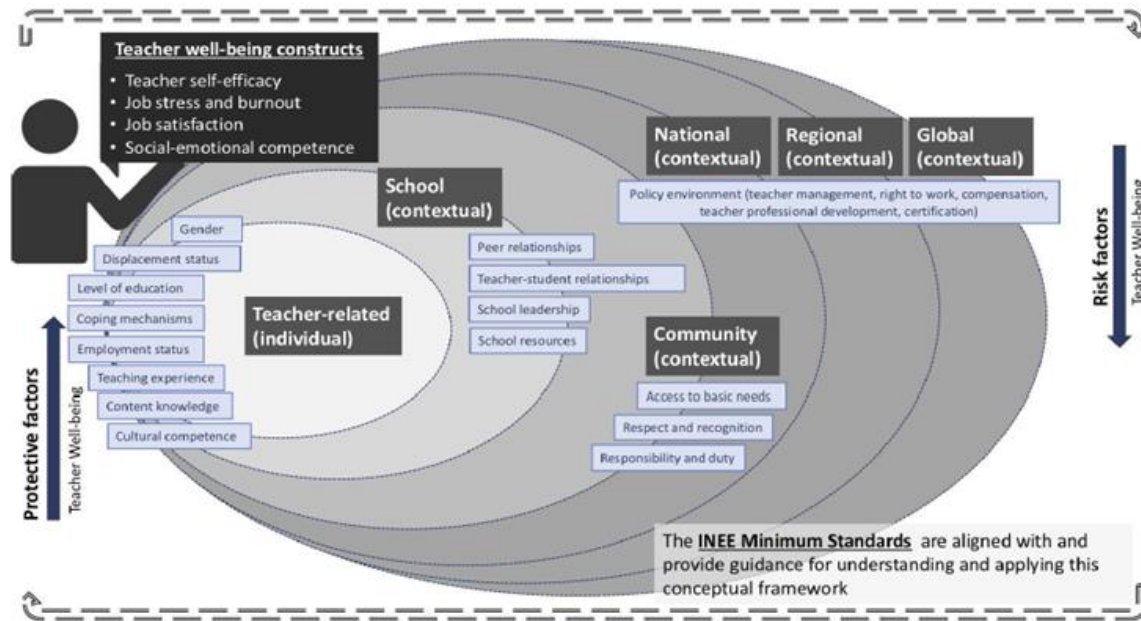


Figure 2.7: Conceptual Framework for teacher well-being in Low resource, crisis and conflict-affected contexts (Falk et al., 2019, p. 10)

Meditation techniques such as mindfulness⁶ have been shown by neuroscientific research to help stress management and support the acquisition of social and emotional skills such as attention, emotion regulation, adaptability and resilience (Tang et al., 2015, pp. 4–7). Such techniques are increasingly recognised as appropriate techniques for teachers to use for themselves, and with learners in their classrooms ('Mindful Schools', 2019). Most work in this area has been done in 'western' countries, although some examples exist in crisis and poorly resourced contexts, led mainly by non-governmental actors. For example, a small Plan International programme for refugees in early childhood settings in Tanzania, showed positive results for both children and teachers (Dalrymple, 2019, p. 146). The International Rescue Committee's Safe Healing and Learning Spaces Social-emotional Learning toolkit also incorporates such activities (International Rescue Committee, 2019). The appropriateness of such techniques in a specific context, including

⁶ Mindfulness is a moment-by-moment awareness of our thoughts, emotions, sensations and surrounding environment (Siegel, D J, in Jennings & Greenberg, 2009, p. xi)

use of the term ‘mindfulness’, needs however to be carefully considered. This research found that teachers needed more support than there was time to provide during the study period, for them to be useful (see [6.1.7](#)).

Previous studies have looked at teachers’ experience and wellbeing in low income contexts (for example Tao, 2016), while others have pointed to the importance in such settings of teacher support and ongoing professional development (Sayed, Howell, et al., 2018). However, no research to date has looked specifically at teachers’ social and emotional competencies as a core function of their wellbeing. Correspondingly, teacher engagement with the notions underlying SEL has not been explored in work on teacher training and support. The current study contributes to filling these gaps.

2.3.3. Parents and caregivers

The Kenyan Ministry of Education defines ‘parent’ as ‘a person who brings up and cares for another, for example, biological parents, guardians or care-givers who oversee the growth and development of a child’ (KICD, 2019, p. iv). This inclusive definition is understood throughout the thesis.

The socio-ecological model presented in Figure 2.7 is focused on teachers, but illustrates also the multiple influences on children’s learning, including the families and communities that surround their school. These are similarly represented in the external circles of the CASEL wheel (Figure 2.1). Research has highlighted the importance of considering the range of factors, including school leadership, parent-community ties and a student-centred learning environment, that impact student outcomes (Jones & Bouffard, 2012, p. 8; Meyers et al., 2019). One study claims that schools strong in these areas are 10 times more likely to improve reading and mathematics compared to schools weak in these supports (Anderson, 2002, p. 6). The relationship between the school, and parents and other community members, then, is critical to learning, including social and emotional skills. Where education goals are shared across the wider school community, support for learning is found at home, in the community and at school.

In this sense learners include teachers, school managers, parents and communities, as well as students, working together in ‘co-agency’, see [2.2.2](#) (Schoon, 2018, p. 7). Learning should be

mutual, as in the concept of ‘double power’, articulated by participants in ‘aboriginalisation’ programmes in Australia’s Northern Territory. In one example, a ‘western’ educated teacher from the Yolngu people, acts as a translator across western and his own culture, in a collective school reform process. On the basis of equal respect, management was shared, aboriginal and ‘western’ teachers worked in partnership for equal pay, and Yolngu language and culture were elevated in learning content (Yunupingo, M, in Wignell & National Languages & Literacy Institute of Australia, 1999, pp. 10–11). While very different in context, this example of co-agency illustrates how strong relationships with parents and other community members could help make a reality of ‘nurturing every learner’s potential’ in the implementation of the KCBC.

This section has provided an overview of literature exploring the role of teachers and the wider community in supporting the acquisition of children’s social and emotional competencies in education settings. It has highlighted the lack of literature based on research and practice in poorly resourced settings, particularly studies illuminating teachers’ experience of supporting SEL. These are gaps which the current thesis contributes to filling.

2.4. Measuring social and emotional skills

This final section offers a brief overview of empirical literature presenting the results of the measurement of social and emotional skills, focusing on assessment at the individual rather than the classroom level. It includes one study in Africa of particular relevance to the thesis, but highlights the otherwise limited number of measurement tools adapted to ‘non-western’ contexts.

A review of four large scale meta-analyses of school-based SEL programmes, encompassing 356 research reports of work conducted in the United States and Europe, concluded that they lead to benefits for participating students on a range of behavioural, attitudinal, emotional, and academic outcomes. Positive outcomes are evident both immediately after the intervention and during various follow-up periods (Mahoney et al., 2018, p. 22). This review included Durlak et al’s seminal meta-analysis, that found an 11 percentage point difference in academic scores for participants in an SEL programme, compared with control groups (Durlak et al., 2011, p. 9). Education programmes incorporating SEL have been shown to play a crucial role in mitigating the

negative effects of exposure to conflict, by building intrapersonal and interpersonal skills that are necessary for managing emotions and building healthy relationships (Gould et al., 2013, p. 2). Taking a longer term perspective, Heckman and Kautz demonstrated the role that ‘soft skills’ – defined as ‘personality traits, goals, motivations, and preferences’ – play in positive life outcomes such as greater work productivity and earnings, and general wellbeing (Heckman & Kautz, 2012, p. 451).

Almost all published literature on the assessment of social and emotional learning comes from well-resourced contexts. There is a small body of largely grey literature produced by international NGOs, mainly from programmes designed to provide psychosocial support in crisis settings. For example, the Norwegian Refugee Council’s Better Learning Programme in Palestine employs a whole school approach, integrating coping techniques into daily teaching and learning for learners affected by conflict. A mixed methods evaluation found positive results, including on children’s learning and in their home environment (Shah, 2017, pp. 4–5). However, the case for more and better evidence about the academic, social and emotional learning needs and outcomes of the most vulnerable children, and the success of programme delivery, has been clearly stated (Johnstone & Costa, 2020, p. 3). INEE’s Measurement Library provides a collection of measurement tools to assess children’s learning and holistic development and service provider quality in crisis contexts (INEE, 2020b). One illustration is the International Social and Emotional Learning Assessment (ISELA), a scenario- and performance-based measure designed to assess self-concept, stress management, perseverance, empathy, relationship management, and conflict resolution in 6 - 12 year olds (INEE, 2020a). Intended for programme monitoring and evaluation purposes, it has been used in around 14 countries affected by crisis, and found to be a feasible, adaptable tool (Tubbs Dolan and Caires in Cefai et al., 2020, pp. 159–165).

All tools currently available depend on administration by external enumerators. In contrast, the importance of formative, teacher-led assessment, has been highlighted. The World Bank recommends that ‘if assessment systems are nascent, priority should be given to fostering classroom assessment’, from which countries can develop relatively quick, sample-based, low-cost national assessments (World Bank Group, 2018, p. 95). One classroom-based, teacher-administered tool of particular relevance to the current study, is the Social and Emotional

Competency Parent and Teacher Rating Scale developed by RTI International in Mtwara Region, southern Tanzania. The process was part of a research programme to develop assessments of social and emotional competencies, acknowledged as under-represented in existing testing batteries (RTI International, 2018, p. 7).

The teacher rating scale was selected for adaptation during the thesis research, given its applicability for the competencies of the KCBC, and the similarity in contexts between Mtwara and Kwale county. Both are rural, coastal regions, poorly serviced, with relatively low levels of formal education and school performance. The research report notes that Mtwara was rated 15th out of 25 regions in primary school leaving examination results in Tanzania in 2013, and presents high rates of family separation and divorce (RTI International, 2018, pp. 8, 15). EMIS data is not publicly available for Kwale county. However, Kenya Certificate of Primary Education results for 2018 were given at the school as 186.42 (personal communication, Teachers Service Commission), compared with a median score nationally of over 250 out of 500 for the same year (Pulse Live Kenya, 2021). High levels of domestic violence and family separation in the case study school community were reported in interviews for both the IFS and thesis.

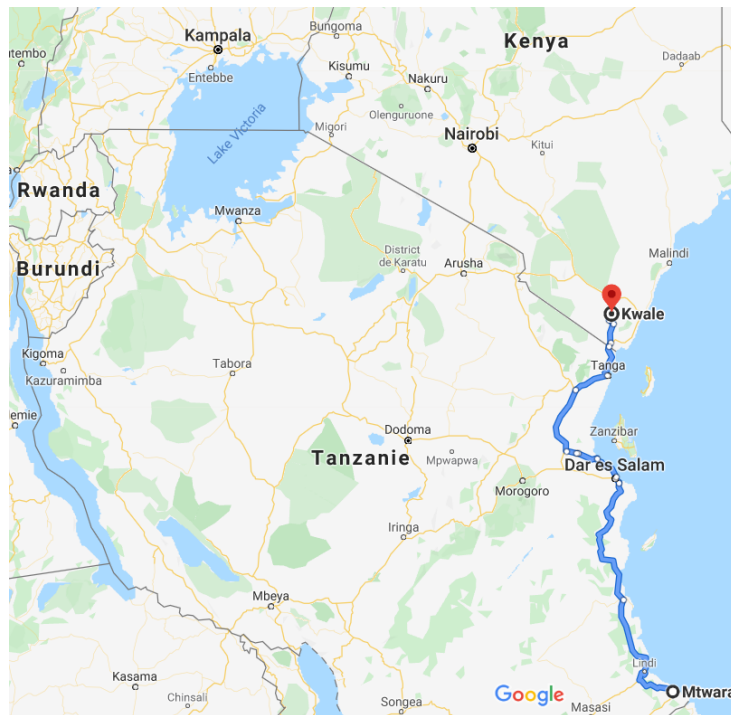


Figure 2.8: Geographical location of the case study school in relation to Mtwara

The RTI tool was developed in two parts. Firstly, a qualitative study identified competencies considered important for children’s school success, and 5-10 contextually relevant behaviours exemplifying each competency, through focus group discussions and interviews with early grade students (grades 2 and 3), parents and teachers. These results were used to generate questions reflecting each of 13 competencies identified. The second phase involved using the questionnaire, after initial piloting, with the parents and teachers of 513 randomly selected grade 1 and 2 pupils (49% girls) from 25 primary schools. Exploratory factor analysis was used to streamline the questionnaire, resulting in a final tool consisting of 23 questions arranged according to the traits of social awareness, curiosity, obedience and sociability. The Mtwara study research report (henceforth referred to as the ‘Mtwara study’) recommended that the assessment tool could be used by teachers to track children’s social and emotional learning skills in the classroom (RTI International, 2018, p. 4). The thesis research provided an opportunity to adapt the scale for a different but comparable context, and pilot its use by early grade primary teachers.

Such measurement of social and emotional learning is useful both for tracking progress, and to inform policy and practice to improve learning (Johnstone & Costa, 2020, p. 12). This perspective on assessment is particularly relevant to curricula that promote active learning and a reflective approach by teachers. Hattie, basing his writing on extensive meta-analyses of empirical studies, emphasises that teachers should continually evaluate their impact on students’ learning, based on formative evaluation and the belief that all children can change (Hattie & Zierer, 2018, p. xv). This focus on teacher reflexivity makes the connection with action research. A call for collaborative action on the basis of action research, states that ‘What is needed is help—technically referred to by educators as scaffolding—to develop learners’ capacity for linking experience with sense making, and reflection to action’, where ‘learners’ are teachers as well as students. Given that people are embodied, emotional and relational creatures, social and emotional skills play an essential role in new ways of creating knowledge, that can be potentially ‘transformative’ (Bradbury et al., 2019, p. 6). It is important that investment in the measurement

of these skills remains focused on learners – teachers and their pupils – and that the assessment process does not become bureaucratised, or an unreasonable burden or cause of stress.

The thesis contributes to these debates by providing evidence of teacher perspectives on measuring social and emotional learning, and a tested tool that offers scope for teacher-led, formative assessment of skills that can feasibly be built into the teaching day.

3. The context: Kenya and its new curriculum

This chapter provides a brief overview and analysis of the Kenya Competency Based Curriculum, in light of the review of literature in chapter 2.

3.1. Evolution of education in Kenya 1965-2000

Kenya inherited from government under colonial rule, a formal education system segregated between 'native' African and white colonial students. The system had been established in the early 20th century, following the opening of the first schools by missionaries in the 1800s. Since independence in 1965, education reform in Kenya has had the dual goals of supporting economic growth and social cohesion. Until the mid-1980s, the main education priority was to contribute to the chief goal of economic growth by quickly enhancing skilled human resources. It was also perceived as a socialisation tool against racial stratification (Care et al., 2017, p. 35).

Criticism of the remoteness of education from the labour market led to the 1985 education reform, based on recommendations of the Gachathi Commission in 1976. This created the 8-4-4 (primary-secondary-upper secondary) school structure, and made education content more practical (KICD, 2016, p. 4). The subject of Social Education and Ethics was introduced, to include education on values in children's learning. However the subject was not taken seriously as it was not examined, and the approach to teaching didactic rather than engaged (Wamahiu, 2019, p. 11). Nevertheless, the dual intention of improving the economic value of education, with its contribution to the national moral fabric, reflected in the latest curriculum reform, can already be identified.

The Total Integration of Quality Education and Training Needs Assessment of 1999 led to further streamlining of the primary education curriculum in 2002 (KICD, 2016, p. 4). In the following year, Free Primary Education was introduced for the third time (earlier attempts were made in 1974 and 1979), fulfilling President Kibaki's campaign promise in the election of 2002. This government response to popular demand resulted in an initial increase of 35% in grade 1, sustained at 20% two years later, along with re-enrolling learners in almost all primary grades. This important increase in access to basic education had however a predictably negative impact on quality, with larger class sizes and shortages of textbooks and other materials (Somerset, 2009, pp. 244, 249).

3.2. Moving towards competency-based curriculum reform

As from 2002, 'life skills' lessons were introduced in Kenyan schools, aiming to provide primary and secondary students with skills and information to protect themselves from HIV and AIDS. 'Life skills' were defined as 'psychosocial competences which enable an individual to develop adaptive and positive behaviour... to deal effectively with challenges and demands of everyday life'. Three skills categories were covered: knowing and living with oneself, including self-awareness, self-esteem, coping with emotions and stress; knowing and living with others, including empathy, communication, conflict resolution; and effective decision-making, including creative and critical thinking and problem solving. 'Core living values' included tolerance, respect, responsibility and integrity (KICD, 2008). The content is similar to the competencies of the KCBC (see [3.5](#)), echoing strongly the CASEL wheel (see [2.2.2](#)), and reflecting closely the categorisation of life skills used by UNICEF (UNICEF MENA Regional Office, 2017a). However the subject was not examinable, and although Technical Teachers Colleges set exams in life skills until 2011, only knowledge recall was tested (Wamahiu, 2019a, pp. 10–11). The importance of the effective measurement of social and emotional competencies if they are to be validated within the system, is again highlighted.

The national crisis occasioned by the elections of 2007 catalysed other movements for reform. Post-election violence in the Rift Valley in 2007-8, left more than 1,100 people dead and over 600,000 displaced (Daily Nation, 2017a). Ostensibly over the contested election results, the violence had roots in longstanding competition for land and power, feeding off underlying ethnic and economic tensions (Kanyinga, 2009). Often described as 'ethnic conflict', the term 'identity-based conflict' captures better the multi-faceted nature of the issues at stake (Tawil & Harley, 2004, p. 13). It emphasises the need to address root causes through building social and emotional skills, recognising particularly their foundation in relationships:

A certain form of identity — be it individual, social, cultural, professional, religious or political — constitutes the point of departure for any and all relation with others.

...belonging to a collectivity always concerns the delimitation of that collectivity and the application of a logic of conflict and contention (Oslo (PRIO), 2011).

The crisis was cast as symptomatic of a lack of positive values and ethical practices in Kenyan society (Wamahiu, 2017, p. 1). The 2010 constitution sought to address this, by for example outlawing ethnic discrimination, advocating for free basic education (9 years), and social justice values (National Council for Law Reporting, Kenya, 2010, article 27). More concretely, Kenya Vision 2030, launched in 2008, established a set of economic, social and political development goals for the country up to 2030, emphasising the link between education and the labour market, and the need to create entrepreneurial skills and competences (KICD, 2016, p. 5). The question arose as to how to transform a renewed notion of ‘citizenship’ into practice in line with the ideals. The need to support schools and educators deliberately to promote ‘an appreciation of ethnic and racial diversity and the constitutional ideals of human dignity, human rights and human equality’ was clear (Nderitu, 2015, p. 11). The competency-based curriculum (see [3.4](#)) is one means by which the Republic of Kenya seeks to achieve this for its coming generations (Joyner, 2019, p. 18).

3.3. A regional perspective

Providing context to developments in Kenya, the East Africa Curriculum Framework was launched in 2014. An agreement between the East African Community (EAC) states of Kenya, Uganda, Tanzania, Rwanda and Burundi, the framework sets out to prepare East Africa’s ‘rising generation to connect, compete and cooperate with their peers around the world’. The aim is to harmonise the Primary Education curriculum in the EAC region, fostering regional integration and involving all stakeholders, notably parents, schools, and the local community (Secretariat East African Community, 2014, pp. 10–11). The outline of the KCBC can be identified in the EAC philosophy of Education for ‘self-reliance, sustainable development and good governance’. Regional goals of education include fostering regional patriotism, unity and harmony, promoting good governance and respect for human rights, enhancing the acquisition of life skills, moral, religious and ethical values, and enhancing education for sustainable development. Curricula should be implemented through learner-centred teaching and learning; competence-based approaches to support 21st Century skills; and integrated teaching and learning, linking content to cross-cutting issues

(Secretariat East African Community, 2014, pp. 16–17). The foundations for the KCBC are reflected in the regional document, pointing to the global move towards competency-based curricula noted in [1.1](#).

3.4. Basic Education Curriculum Framework: Needs assessment and implementation
Implementation in Kenya began with a Needs Assessment in 2016. It aimed to establish objectively the general needs of a competency-based curriculum at the primary level, identifying appropriate resources, pedagogical approaches and assessment modes. Interviews and focus group discussions were conducted with 2,431 participants⁷ purposively selected from all 7 counties of Kenya (KICD, 2016, pp. 70–71). Recommendations included: learner-centred pedagogy, improved teacher training, assessment approaches covering the range of ‘cognitive and non-cognitive’ skills; and partnership with communities to address emerging issues through the new curriculum (KICD, 2016, pp. 141–144). On this basis, the Basic Education Curriculum Framework (BECF) was drafted, presented to a range of stakeholders and validated by the end of May 2017 (see [3.5](#)). This allowed barely six months for curriculum writing before piloting started at the beginning of the academic year in January 2018. Teachers from two pilot schools per county were prepared to start the pilot (Njeng’ere Kabita, & Lili, 2017, pp. 21–22).

The official curriculum planning and implementing cycle shown in Figure 3.1 was far from reality. The needs assessment exercise was criticised for being rushed, not sufficiently consultative and lacking in rigour (university lecturer, personal communication, April 2019). Neither the development of curriculum support materials (stage 5) nor the preparation of teachers (stage 6), were completed before piloting (stage 7). Teacher preparation in 2017 for piloting, and in 2018 for the rollout in 2019, was considered insufficient, and discontent was expressed by teachers and the academic community (university lecturer, personal communication, April 2019).

⁷ Participants represented primary, secondary and college level learners, parents, teachers, heads of school, education field officers, the informal sector and industry.

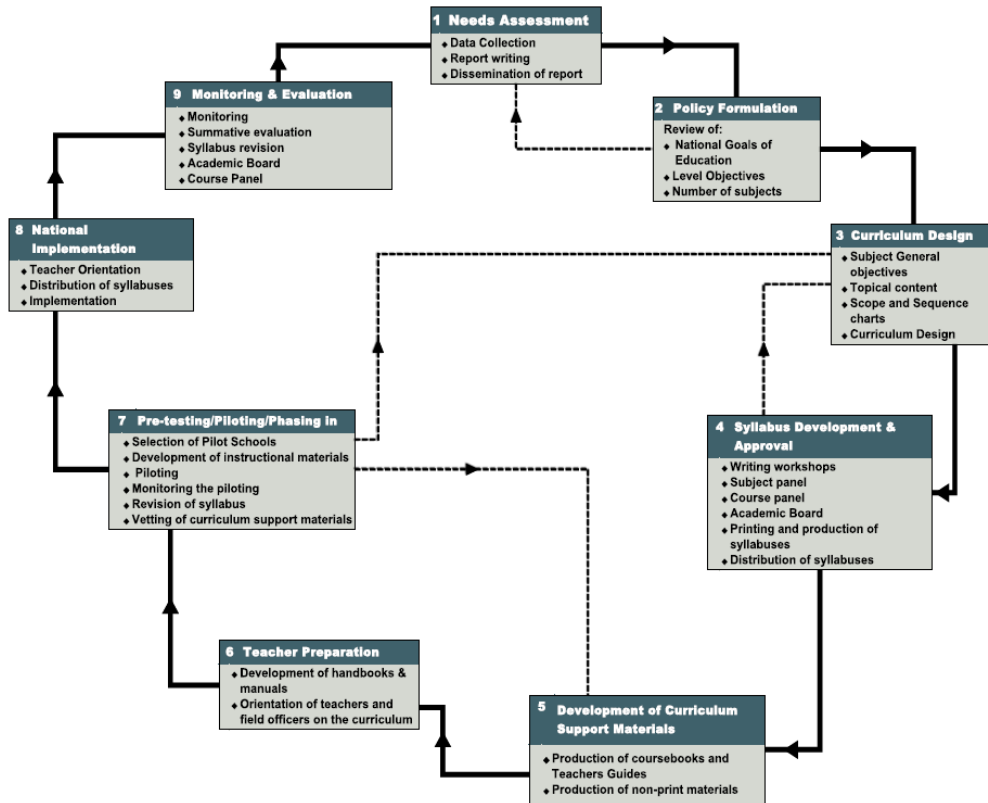


Figure 3.1: KCBC Curriculum Change Cycle (Njeng’ere Kabita, & Lili, 2017, p. 20)

In December 2018, the Cabinet Secretary for Education announced that piloting was stopping as the country was not ready, exposing tensions within the government over the new curriculum. A week later she retracted her statement, and was subsequently replaced (Daily Nation, 2017b). Teacher unrest continued during 2019. The Kenyan National Union of Teachers called a strike of teachers in April, in protest at the inadequacy of training and support: one-day trainings held lecture style in halls of over 100 participants; teachers feeling inadequately prepared to teach the new curriculum, without textbooks. In response, teachers were ordered by their Teachers Service Commission supervisors to attend trainings; those who did not comply, and a number of KNUT officials, were suspended without pay (university lecturer, personal communication, April 2019). Schools only received textbooks in October 2019, and in-service training of teachers was ongoing.

Despite the constraints, grade 3 students in pilot schools (including the case study school) were assessed for the first time in a KCBC assessment in October 2019, combined with the community

service learning assessment described in [6.1.5](#). COVID-19 has however created further disruption. Schools remained closed from March 2020 until the end of the academic year in October, learners returning to school in January 2021. The ongoing uncertainty around COVID-19 makes it impossible to predict at the time of writing how it will further affect national rollout of the new curriculum.

Debate, if not dispute, is often characteristic of education reform (Grindle, 2004). The Kenyan government has chosen to take a firm approach in overriding discontent and pushing through its timetable. Time will tell what implications this has for children's and teachers' wellbeing and learning.

3.5. Competencies of the Kenya Competency Based Curriculum

The Kenyan Basic Education Curriculum Framework (BECF) provides a graphic which demonstrates how the competencies of the KCBC relate to and interact with other elements of the Framework:

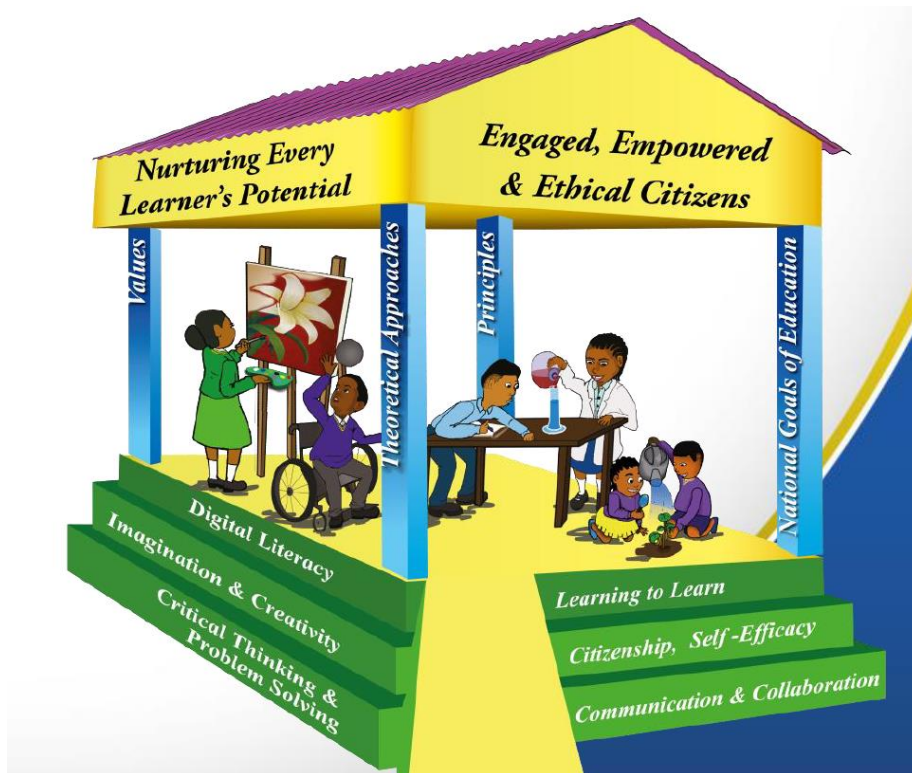


Figure 3.2: Graphic used to represent Basic Education Framework (KICD, 2017, p. 13)

As shown in Figure 3.2, the four pillars of values, principles, approaches and the national goals of education, rest on the foundation stones of competencies. Competencies then, provide the basis for the desired values of the curriculum. The foundations and pillars combined, support the desired outcome (roof) of Engaged, Empowered and Ethical citizens. A competency is understood as ‘the ability to apply appropriate knowledge and skills to successfully perform a function’ (KICD, 2017, p. 21). The seven competencies selected for the curriculum are Self-efficacy, Communication and collaboration, Critical thinking and problem solving, Learning to learn, Citizenship and Digital literacy. The BECF also refers to the need for ‘life skills’ and ‘Global Citizenship Education’ (both Pertinent and Contemporary Issues of the curriculum), and ‘21st Century skills’. As explored in chapter 2, these terms are different ways of expressing the skills acquired through social and emotional learning (Joyner, 2019, pp. 33–35).

A mapping of the KCBC competencies onto the domains of the CASEL wheel, conducted by case study school teachers during preparatory workshops (see Figure 3.3 and [4.6.4](#)), demonstrates how that structure (see [2.2.2](#)) helps provide a framework for understanding and ‘unpacking’ the competencies of the KCBC. The recurring theme of relationships is clear.

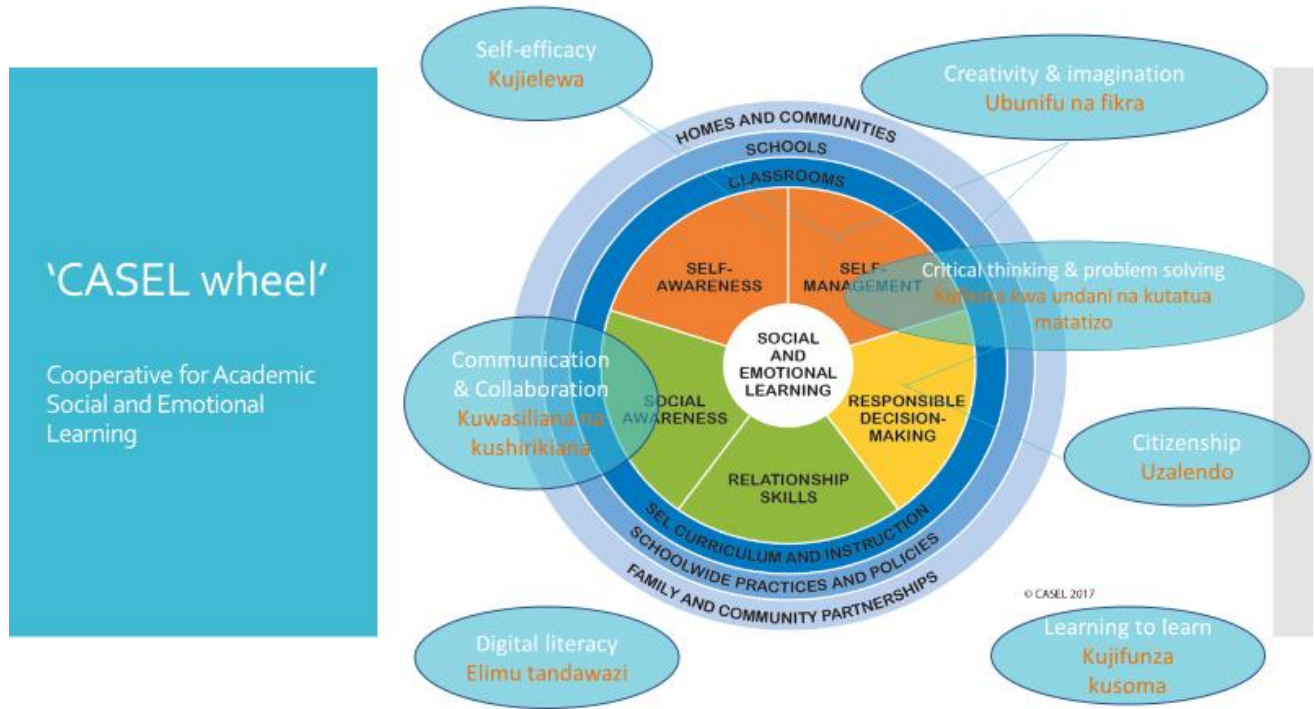


Figure 3.3: Competencies of the KCBC with translation into Kiswahili, 'mapped' onto SEL domains according to CASEL (CASEL, 2017)

Explore SEL (see [2.2.4.1](#)) has coded the Kenyan BECF and the CASEL framework. Figure 2.6 shows the coding of the Kenya BECF, as recorded in the report on the initial mapping project (Jones et al., 2020, p. 205). This is arguably somewhat misleading. At first sight, it looks as though the Kenya Competency Based Curriculum does not deal with Social and Emotional Learning, Life Skills or Executive function, as those terms were not explicitly used in the elements of the guidance reviewed:

Summary Table of Guidance Documents by Skills/Construct

The tables below summarize the terms used directly in the guidance documents and measurement/assessment tools, as well as the specific skills/constructs that were coded for our analysis.

| Guidance Document | Terms Used | | | | | | Skills/Constructs |
|---|---------------------------------|---|-------------|-------------|--------------------|-----------------------|---|
| | Social emotional learning (SEL) | PSS (psycho-social support or well-being) | Life skills | Citizenship | Executive function | Employ-ability skills | |
| Kenya Institute of Curriculum Development Basic Education | | | | ✓ | | | Communication and collaboration Self-efficacy Critical thinking and problem solving Creativity and imagination Citizenship Digital literacy Learning to learn |

Figure 3.4: Extract from Summary Table of Guidance Documents by Skills/Construct – Kenya Basic Education Curriculum Framework (Jones et al., 2020, p. 205)

The competencies of the KCBC (listed in the far right column of Table 2.2) nevertheless clearly fall into those categories, as explored in section 2.2.4. Similarly, the comparison between the CASEL framework and the BECF suggests that the latter does not address the ‘self’ part of the CASEL wheel:

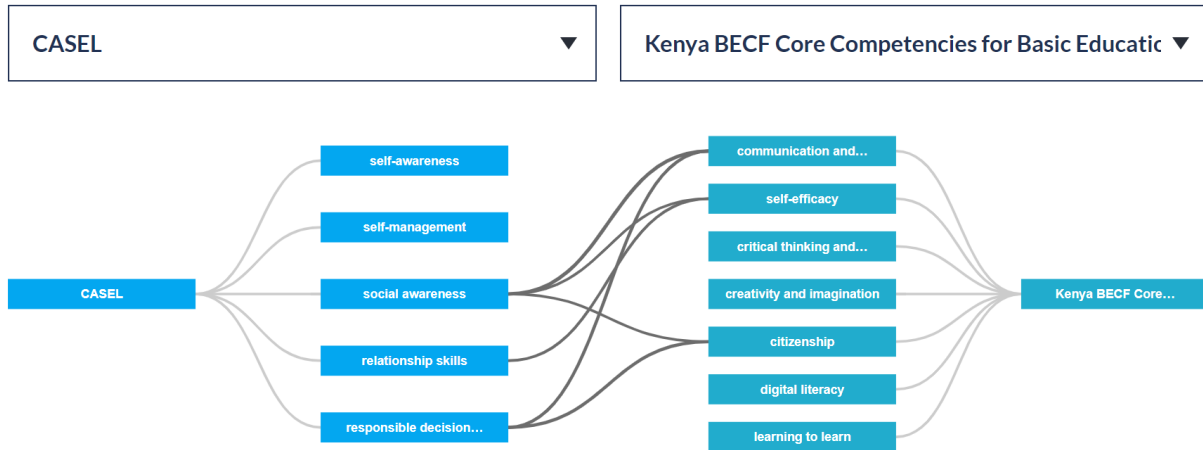


Figure 3.5: CASEL framework compared with the Basic Education Competency Framework on the Explore SEL website of Harvard University EASEL Lab (Harvard University, 2019)

Again, this does not reflect the analysis presented in 2.2.4. On the other hand, the overall framework was analysed by domains, and shown to cover all six, suggesting that the competencies were considered in this breakdown:

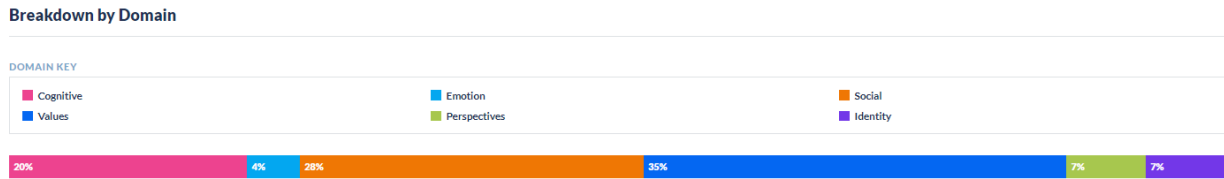


Figure 3.6: Breakdown of the domains covered by the Kenya Basic Education Competency Framework, Explore SEL website (Harvard University, 2019)

While these examples do not detract from the value of the collated information and analysis provided by the Explore SEL website, they suggest the need for caution in relying on the interpretation of the coding, compared with looking at the frameworks themselves in detail.

3.6. Parental engagement and empowerment

This chapter closes with a brief review of how the KCBC views parental engagement, of particular relevance to research sub-question 2.

The new curriculum recognises parents (understood to include all caregivers, see [2.3.4](#)) as the ‘first and continuing educators of their children’ (KICD, 2019, p. i). It includes Parental Engagement and Empowerment as one of the six principles of the Basic Education Curriculum Framework, with Community Service Learning as one of six ‘Pertinent and Contemporary Issues’ (KICD, 2017, pp. 20, 110). ‘Empowerment’ is defined as building the capacity of parents to this end, ‘by enhancing their knowledge, skills, attitudes and practices’. Strategies include training, advocacy and resource mobilisation for the school. ‘Engagement’ is defined as ‘active participation of parents in their children’s learning and holistic development in collaboration with teachers and other stakeholders’, supporting learning experiences at home that should reinforce those in school. Strategies include participation in decision-making, communication and collaboration, learning and development and volunteering/resource mobilisation. Teachers, as curriculum implementers, ‘require the right skills to enable them to create and strengthen partnerships with parents’ (KICD, 2019, pp. 7, 21, 3).

In theory then, the curriculum seeks to strengthen all elements of a whole school approach, which as explored in [2.3.4](#), underpins successful support to social and emotional learning. According to Guidelines on Parental Empowerment and Engagement published to accompany the Curriculum Framework, the principle underscores the ‘critical role that parents play towards

the success of their children’s education’. The Guidelines ‘provide mechanisms for enhancing the capacity, skills and drive for action...[and] avenues for parental involvement’ with a view to enhancing ‘the parent’s role in nurturing the learner’s potential’ (KICD, 2019, p. 1). Colourful slides are available on the KICD website, presenting key elements of the KCBC in pictures and infographics, illustrated in Figure 3.7:

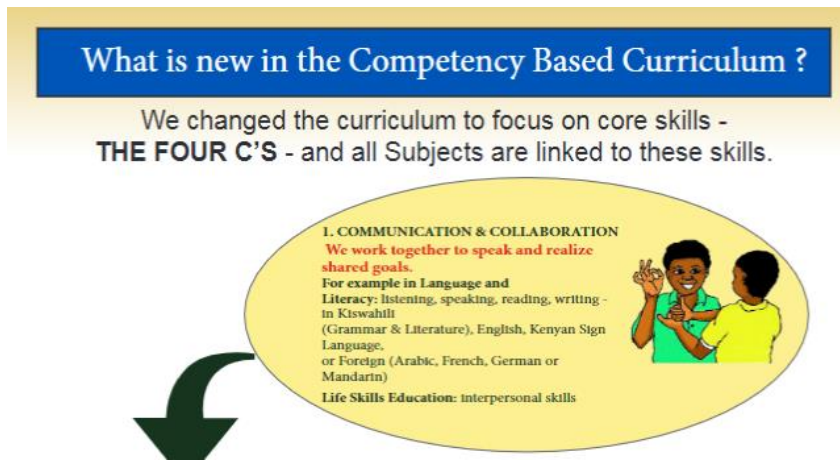


Figure 3.7: Extract from a slide presenting the Kenya Competency Based Curriculum to parents

In practice, the study uncovered substantial contestation around the new curriculum, alongside efforts by teachers and education authorities to engage parents (see 6.3). A small but perhaps significant point is the relatively low proportion of parents who have access to the internet, and therefore the possibility to view the slides in Figure 3.7. Ongoing negotiation and adaptation to different contexts and realities is required, to try to avoid imposing external ideas, and to reach agreement on shared goals (Jukes, M, in Smart & Sinclair, 2020, pp. 193–194). Wide variation in socio-economic status, cultural traditions and levels of education in Kenya, means that community understanding and willingness to participate in making a reality of a new curriculum is likely to be mixed. The study highlighted the scope for teachers to work in collaboration with parents, as well as substantial challenges.

This chapter has provided a contextual backdrop for the study, leading into the description of the methodology in the next chapter.

4. Methodology

The study used mixed methods informed by action research approaches within a transformative paradigm. This chapter explains the rationale behind these choices. The methods used are described, followed by critical reflection on how the process evolved in practice. Chapters 5-7 explore how teachers interacted with and experienced these methods.

4.1. A transformative paradigm

Acknowledging the work of Denzin and Lincoln (Denzin & Lincoln, 2005), Mertens describes a paradigm as an organising framework for exploring the belief system underlying the work of researchers (Mertens, 2010a, p. 470). The study is rooted in a transformative paradigm, consistent with Greene et al's conclusion that in 'complementarity' mixed-method designs, the different methods should be used within a single paradigmatic framework (Greene et al., 1989, p. 266).

A 'transformative paradigm' can be described as a 'framework of belief systems that directly engages members of culturally diverse groups with a focus on increased social justice'. Mertens describes four elements of a transformative paradigm: axiology, concerned with the ethics informing the research; ontology with its interpretation of the nature of reality; epistemology with knowledge, and the relationship between the knower and that which would be known; and methodology which describes an appropriate approach to systematic enquiry. The ethics – axiology – which underpin a transformative approach, differentiate it from others, and drive the other three elements. The axiology's three fundamental principles are the enhancement of social justice, the advancement of human rights and respect for cultural norms (Mertens, 2010b, p. 470).

A brief examination of the axiology's three fundamental principles helps illustrate why a transformative paradigm is appropriate for research conducted in affiliation with the Aga Khan Foundation, and in the context of my current position with Plan International. The first principle is the enhancement of social justice. AKF aims to fight social exclusion. The first objective of the organisation's Global Education Strategy is an explicit statement of intent to change the world in favour of better justice for more people: 'Increased access to education opportunities ensuring

that education provision reaches children marginalised by gender, poverty, remoteness, social mores and culture’ (Aga Khan Foundation, 2017, p. 15). Similarly, Plan International strives ‘for a just world’, specifically working ‘with vulnerable children and especially girls so that they can learn, lead, decide and thrive’ (Plan International, 2020a).

The second principle is the advancement of human rights. Both AKF and Plan International explicitly support efforts to make a reality of the Sustainable Development Goals. Plan takes this a step further, aiming to ‘work where violations of children’s rights and inequality for girls are the greatest’ and ‘transform attitudes and behaviours that deny girls their rights’. The organisation’s agenda is explicitly ‘transformative’ (Plan International, 2020a). Finally, respect for cultural norms is fundamental to AKF’s ways of working: pluralism seeks to go beyond respect, to engagement with the cultures of others (Rasenberg, 2017, p. 5). Plan International works ‘through local organisations and movements, building capacity and strengthening communities’ own influencing’, implying respect for people and cultures (Plan International, 2020a).

Taking this ethical belief system as the foundation for the research means that cultural norms, language and power differentials are central to the research design. There is a commitment to address transparently the issues that they raise through the research (Mertens, 2010a, p. 470). See [4.8.1](#) for further discussion of this aspect of ethics.

4.2. A mixed-methods design

Within a transformative paradigm, the overall research question – seeking to understand what is needed better to support teachers to implement the Kenya Competency Based Curriculum – lends itself to a mixed-methods approach. Yoshikawa et al argue that ‘integrating [qualitative and quantitative] approaches can bring us closer to understanding a *developmental process* than either set of methods can on its own’ (Yoshikawa et al., 2008, p. 345, quoted in Zuilkowski et al., 2016, p. 101, my italics). The introduction of the Kenya Competency Based Curriculum is such a ‘developmental process’ that the study seeks to support, working closely with teachers and prioritising their point of view. It was important to explore both qualitatively (discussion, teacher report, writing, and observation) and quantitatively (objective assessment of children’s skills) how teachers practise, and how they understand and experience their practice.

Qualitative methods – interviews, reflective diaries and participation in a WhatsApp group – were the primary methods, within an action research approach. Action research was facilitated through workshop time spent with teachers, providing technical inputs to support their teaching, and opportunities to discuss their experience and concerns. Feedback to teachers was provided on a small sample of classroom teaching, based on a classroom guide designed to support teacher professional development. These qualitative methods were complemented by quantitative assessments of learners’ reading, mathematics and social and emotional competencies. This complementarity of methods sought ‘elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method’. The objective was to improve the ‘interpretability, meaningfulness, and validity’ of the findings, ‘capitalising on inherent method strengths, and counteracting inherent biases in methods and other sources’ (Greene et al., 1989, p. 259). How this was done in the current study is presented in the discussion of methods in [4.6](#).

Where complementarity is the purpose, quantitative and qualitative methods ‘should be used to examine overlapping phenomena or different facets of a single phenomenon’. In this case the overlapping phenomena were teaching practice and children’s learning, the two integrally connected. Greene et al’s framework posits that ‘interpretability is best enhanced when the methods are implemented simultaneously and interactively within a single study’ (Greene et al., 1989, p. 266). An action research approach meant that teachers reflected on and adjusted their practice with the same children who were evaluated quantitatively at the beginning and end of the action research process. The main data collection using the range of methods alongside each other, took place between June and October 2019.

[4.3. Case study](#)

A case study approach was appropriate for this research, allowing a range of methods within a scope reasonable for a doctoral thesis. A case study can be summarised as an ‘in-depth and contextually located empirical investigation of a phenomenon of interest to the researcher’. Taking one context or institution as its focus – in this case a primary school – a case study provides

rich analysis and description, including exploration of the perceptions and feelings of participants, and the involvement of the researcher (Andrews, 2017, p. 456 citing Baxter & Jack, 2008; Stake, 1995; Yin, 2009).

Sampling of the study primary school was done purposively for the Institution Focused Study, on the advice of Aga Khan Foundation (AKF) colleagues and in agreement with local education authorities. The school was selected on the basis that it falls within the project area of the Values Based Education project (see [1.1](#)), and the commitment and dynamism demonstrated by the head teacher and other teachers during the school's participation in other AKF-supported projects. The school has one class per grade level, for the currently eight primary level grades. Focusing on one school and three key teachers plus the head teacher, created a privileged position for me as a researcher, working closely with the same few teachers over 18 months (including the IFS). It provided the opportunity to gain a relatively in-depth understanding of the situation in one school, in a way that is generally not possible as an international staff member working with large-scale interventions. The case study school is comparable to others in at least the county and probably further afield, so the findings from this study are more widely applicable (see [8.1](#)).

4.4. Learners who participated in the study

A total of 187 children (47% girls) participated in the social and emotional learning assessment aspect of the study (see [4.6.5](#)). Teachers used a social and emotional competency rating scale to assess the skills of 165 students in round 1 and 187 students in round 2, as shown in Table 4.1. Given the very large Grade 1 class of 115 learners, the Grade 1 teacher selected randomly, using the class register, about 75% of the children in his class for the assessment. This still gave the highest number of children for a class group, of 84 children, 45% girls. The grade 3 teacher randomly selected in a similar way, just over half his class, for round 1. All Grade 3 children were assessed in round 2. All Grade 3 children also participated in the Early Grade Reading and Mathematics Assessments (EGRA/EGMA, see [4.6.6](#)), apart from three (2 boys and a girl) who were absent on the assessment days.

Table 4.1: Pupil participants in teacher-led social and emotional competency assessment

| grade | Round 1 | | | | Round 2 | | | | | |
|--------------|-----------|------------|-----------|------------|------------|-----------|------------|------------|------------|------------|
| | Girls | % | Boys | % | Total | Girls | % | Boys | % | Total |
| 1 | 38 | 45% | 46 | 55% | 84 | 38 | 45% | 46 | 55% | 84 |
| 2 | 24 | 45% | 29 | 55% | 53 | 24 | 45% | 29 | 55% | 53 |
| 3 | 16 | 57% | 12 | 43% | 28 | 25 | 50% | 25 | 50% | 50 |
| Total | 78 | 47% | 87 | 53% | 165 | 87 | 47% | 100 | 53% | 187 |

4.5. Participatory Action Research

Drawing on literature from action research reviewed in chapter 2, action research for transformation underpinned the process of the research study, and informed each of the sub-research questions.

4.5.1. Overlapping layers of Participatory Action Research

The thesis study incorporated two levels of action research:

1. As the student researcher, I took an action research approach to my study
2. As part of this, I facilitated teachers in the case study primary school to adopt an action research approach to explore strategies for effectively teaching the Kenya Competency Based Curriculum. Teachers in turn were encouraged to see their reflective approach to teaching as simulating the way in which they would like to see their pupils learning in their classroom, in a curious, questioning way.

Figure 4.1 illustrates this graphically, presenting the relationship between action research and action learning in a model adapted from Ellstrom (2006), by the Center for Collaborative Action Research (Riel, 2019). Level 1 in my study as described above, is reflected in this model in the ‘action researcher’ of the top circle, and level 2 in the ‘active learners’ – the participating teachers – of the lower circle:

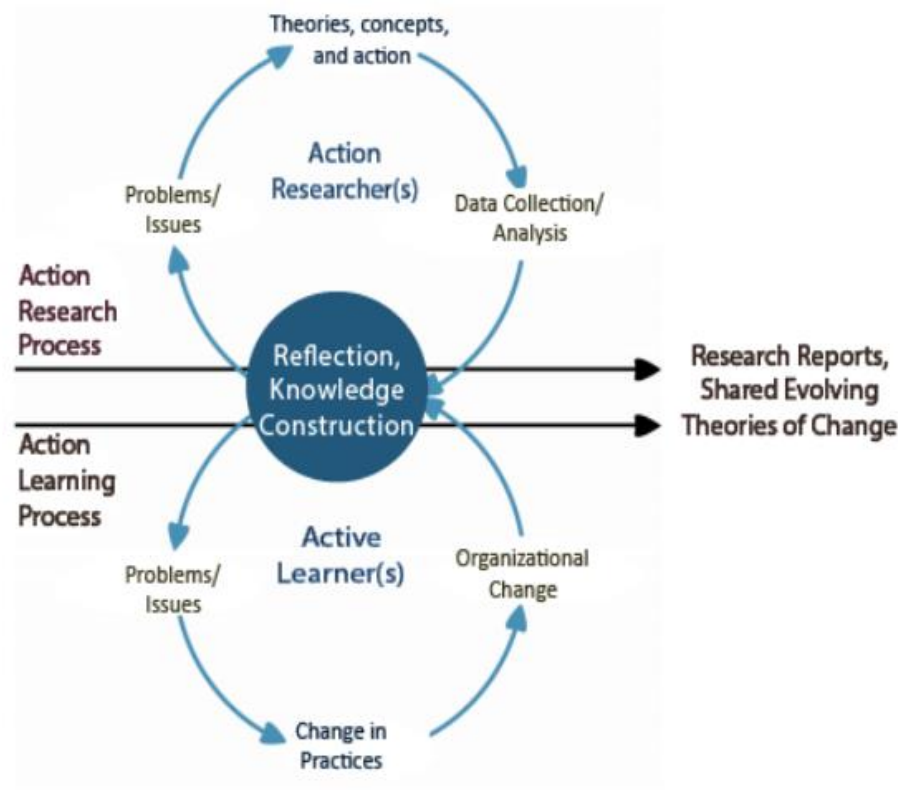


Figure 4.1: Relationship between action research and action learning process, adapted from Ellstrom's (2006) model (Riel, 2019)

In terms of the goals of action research we aimed to:

1. Improve professional practice – my own and that of the teachers – through ongoing learning and progressive problem solving
2. Achieve a deeper understanding of organisational change through collective actions – relevant to the school, the Kenyan education system, and with a view to learning for education practice internationally
3. Improve the community in which practice is embedded – that of the whole school community, potentially beyond in Kenya, and internationally (Riel, 2019)

The thesis research blurred the distinction between 'researcher' and 'learner'. As explored further below, the teachers became proudly and consciously researchers themselves in their practice. As the 'researcher', I learnt at least as much as the teachers about supporting the

development of children’s social and emotional competencies within a primary curriculum. Looking both ways from the centre of the central circle in Figure 4.1, the interaction – relationship – between researcher and learner led to shared reflection and contributed to the generation of knowledge. Teacher participants in the study increasingly understood the value of, and facilitated a critical, active learning approach for the learners in their classrooms as the study progressed. In this way they modelled, and experimented with, a teaching approach based in the social construction of knowledge, on which the Basic Education Curriculum Framework is founded. In their role as ‘active learners’, through their evolving practice, teachers started to initiate organisational change within their classrooms, with the potential to drive school-level change. Teachers’ connection with their supervisor, a Curriculum Support Officer (CSO) employed by the national Teachers Service Commission, complemented by my affiliation with AKF and ongoing contact with the Research Advisor and the CSO, create the potential for change more widely within the education system in Kenya.

While I describe the approach as ‘participatory’, it cannot be considered fully to demonstrate the term. That would have involved participation of the teachers throughout the research process, including in the development of the research questions and data collection tools, and in the analysis and identification of key findings (Milligan, 2016, p. 238). Had I been living nearby this would have been possible and preferable, and would probably have allowed us to develop further the action research process.

4.5.2. Facilitating an action research process

The action research process depended on building with teachers a shared understanding of the purpose and potential usefulness of action research for them, in teaching the competency-based curriculum. Influenced by my professional experience of developing projects using a collaborative approach, this involved a series of short workshops held as part of the activities during study visits, starting with the Institution Focused Study. [Annex 32](#) summarises the activities, including workshops, included in each research visit, illustrating the connecting thread of relationships. I adopted a role of researcher-facilitator, offering a form of professional development for the teachers to accompany their exploration of teaching the KCBC through action research.

Essential to this process was a relationship of trust established with the teachers during the IFS research, built and sustained through a supportive learning environment during workshops and intervening contact by [WhatsApp](#)⁸ over 18 months (see also [4.8.1](#)). The research thus benefited from a mutually supportive dynamic. It sought to take into account, and adapt to, the teachers' professional and personal context, including its various challenges and constraints. This was an essential aspect of the action research, and learning, process for me as researcher. For the teachers, the fruits of workshop discussions, and commentary on their reflective diaries and videoed classroom observations, were immediately available to them, and directly applicable to their teaching. The process simulated the strong relationships that teachers should be aiming to develop with their students and the wider school community.

4.5.3. Action research in tune with the KCBC

The notion of action research was briefly introduced to teachers during the IFS research. This was built upon during workshops in June and July 2019 (see [Annex 3](#) and [Annex 4](#) for workshop slides), which launched teachers' experimentation with an action research approach. Different aspects of action research were discussed alongside exploration of the competencies of the competency-based curriculum, and the role of a reflective approach in supporting the teaching of these competencies. As the slides indicate, elements of action research that chime particularly with the Kenya Competency Based Curriculum were emphasised. The values-based approach of action research, incorporating the objective of enhanced social justice and the possibility of transformation, reflect the KCBC's vision of nurturing every child's potential, and developing engaged, empowered and ethical citizens (see [1.1](#)). The importance for teachers of interactions based on critical awareness, supporting personal and professional development and the social construction of new knowledge within action research, is consistent with enabling KCBC learners to acquire competencies including critical thinking and problem solving. It reflects the pedagogical theory which underpins the BECF (see [2.1](#)), and the centrality of relationships. It is one aspect of teachers' modelling what they seek to develop in their pupils.

⁸ Smartphone-based secure messaging service, accessible to teachers through relatively inexpensive pay-as-you-go data transfer

Complementing this, the critical importance of paying attention to teacher wellbeing, in the context of stress for both teachers and learners, was central to the discussion of social and emotional skills, and how to support their development through the KCBC. Activities designed to support stress management, and attention and behaviour control for both adults and children, were demonstrated and discussed during the workshops. The approaches used were based on mindfulness techniques (see [2.3.3](#) and [Annex 6](#)) but the term ‘mindfulness’ was not used as it feels too obscure and difficult to translate.

4.5.4. Action research cycles and questions

This section describes how an action research approach was used with teachers during the research. It is followed by a description of methods and tools in [4.6](#). Chapters 5-7 explore how teachers responded to and interacted with the approaches used.

The action research model used was taken from the Center for Collaborative Action Research (Riel, 2010), shown in Figure 4.2:

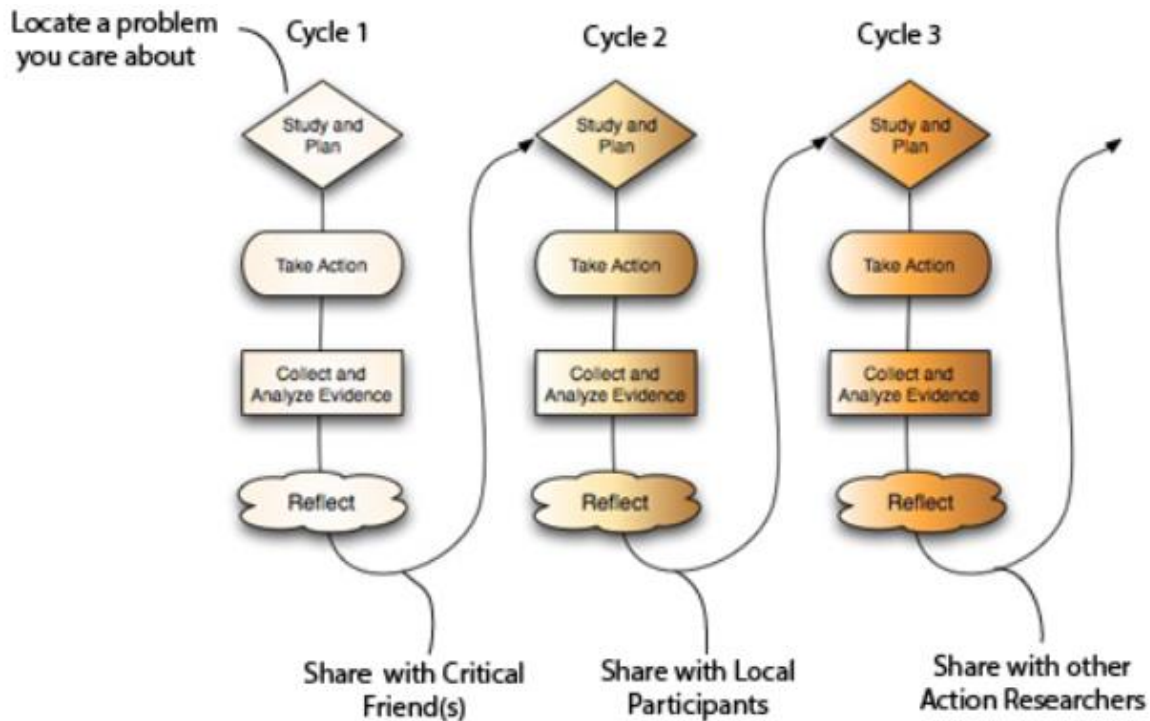


Figure 4.2: The iterative process of action research (Riel, 2019)

To support teachers in their understanding of action research and the development of action research questions, guidance including a series of handouts proposed by the Center for Collaborative Action Research (CCAR) was used. The annotated handout found in [Annex 5](#), based on CCAR material, summarises much of the key information conveyed in the slides and other handouts. It was reviewed in detail during the July 2019 research visit, and notes (in comments) based on the discussion typed up and shared with teachers by WhatsApp after the visit. Teachers were also encouraged to consult a set of [action research tutorials](#) offered by the CCAR.

Framing of action research questions was based on the formulation suggested by CCAR: ‘I wonder what would happen if...’. The overall research question for the study, ‘What is needed better to enable teachers to support and assess their pupils’ acquisition of the competencies of Kenya’s Competency Based Curriculum?’, can be cast in action research terms as ‘If I support teachers in an action research process to explore the competencies of the Kenya Competency Based Curriculum, what can we find out about teaching strategies and other factors that will support teachers in delivering the curriculum?’ During the June and July workshops, teachers selected competencies on which to focus, and created action research questions on which they worked during the weeks up to the October visit. The action research process of ‘provoking future learning’ through ‘relational, collaborative learning processes’ (Bradbury et al., 2019, p. 4) was thus supported initially through my interaction and good relationships with teachers. The teachers tried out and reflected on approaches to support their pupils’ learning through the development of the competencies prescribed in the KCBC, while learning themselves from that process.

4.6. Research methods

This section describes the methods and tools used according to the research sub-questions, summarised in [Annex 33](#). The first two sub-questions, concerning teaching strategies and parental involvement, were most closely related to the teachers’ action research, employing four tools using qualitative methods:

1. Participation in a WhatsApp group
2. Teachers’ self-reflection diaries
3. Semi-structured interviews

4. Videoed classroom observations, qualitatively reviewed

Research sub-question 3, which looks at the relationship between social emotional and academic learning, used three quantitative learning assessments of pupils in grades 1-3:

5. Social and Emotional Learning Assessment (grade 1-3 pupils)
6. Early Grade Reading Assessment (grade 3 pupils)
7. Early Grade Mathematics Assessment (grade 3 pupils)

Research sub-question 4 aims to pull together the analysis of the previous research questions, combined with field notes from research visits described in section [4.5.2](#), as the basis for overall conclusions.

The following sections provide a brief overview of each method used, highlighting the complementarity between the approaches, as noted in [4.2](#).

4.6.1. Participation in a WhatsApp group

The connecting thread throughout the process was the WhatsApp group, formed of all teachers in the school on 4 May 2018 after IFS data collection. As comparable processes have found, (Bounnik & Deshen, 2014, p. 217), WhatsApp was accessible to teachers as a service most of them used anyway. It proved a practical way to share feedback and resources, plan visits, and maintain more personal contact between visits. As a qualitative method, WhatsApp exchanges balanced the more formal qualitative data collected via self-reflection diaries and interviews. It was critical to facilitating the action research process, allowing teachers to share their self-reflection diaries and results of social emotional competency assessment (photographs of handwritten pages). For the three teachers participating in the thesis research, their personal WhatsApp accounts were used to share individual feedback and to request permission for sharing it on the group.

4.6.2. Teachers' self-reflection diaries

During the June workshop, teachers were given support to use handouts proposed by the Center for Collaborative Action Research (Riel, 2019), see [Annex 7](#) and [Annex 8](#): 'Framing the research question' and 'Writing in your reflective diary'. These templates guided teachers' documentation of their action research, that they shared by WhatsApp. Teachers' self-reflection provided their perspective on their teaching, and an indication of their capacity to reflect critically on their

practice. This was complemented by what they expressed during interviews. Both methods were balanced by brief video clips of lessons, giving snapshots of what was happening in their classes.

4.6.3. Semi-structured interviews

Semi-structured interviews are used to gain a detailed picture of a participants' views or perceptions of a particular issue. They provide more flexibility than a structured interview questionnaire, allowing the researcher to follow up in detail interesting lines of enquiry (Smith, Harré, & Van Langenhove, 1995, p. 9).

Brief semi-structured interviews were conducted with the three early grade teachers, the head teacher and the Curriculum Support Officer (teachers' supervisor), at the beginning and end of the action research process. An interview was conducted with the Research Advisor at the end of the process. Interviews gathered teachers' views on the action research – their expectations and concerns at the beginning, and impressions at the end – both for themselves and their pupils. This complemented the reflective diaries, providing a fuller account of teachers' experience of the action research process. In themselves the interview data were complementary: teacher perspectives on their practice were balanced by the more objective views of the head teacher, the CSO and the Research Advisor.

See [Annex 9](#) for the interview guide for teachers, which were slightly adjusted for the CSO and Research Advisor. See [Annex 10](#) for a sample teacher interview transcript.

4.6.4. Videoed classroom observations, qualitatively reviewed

Video clips of classroom observations complemented discussions with teachers of their theoretical understanding of the competencies of the KCBC. Limited internet connectivity made the transfer of the clips difficult, and only a small number were received. Nevertheless the evidence is useful to triangulate with other qualitative data.

To guide review of the classroom observations, a contextualised version of ‘Creating an Inclusive Learning Environment: Classroom Guide’ (Aga Khan Foundation, 2019) was used, see [Annex 11](#). I had supported the initial development of the Classroom Guide while employed with the Aga Khan Foundation, using as a starting point the Classroom Assessment Scoring System (CLASS, Pianta et al., 2008). The particularity of CLASS is its focus on the nature and importance of relationships in the classroom, for supporting the development of social and emotional skills. This remains central to AKF’s Classroom Guide, which ‘is intended as a professional development tool for building the capacity of teachers, school leaders, teacher mentors and school inspectors, *not a classroom observation tool to rank or scale teachers’ performance*’ (Aga Khan Foundation, 2019, p. 2, my italics). The italics highlight the contrast with CLASS, which has dual objectives of professional development and ranked assessment of teacher performance. The focus of the Classroom Guide on teacher professional development is appropriate in the context of action research, as the tool was used to ground formative, qualitative assessment of teachers, to facilitate their growth and empowerment. As explored in the discussion of qualitative findings in [6.1.1](#), the focus on relationships made this tool particularly pertinent for the current study. The remainder of this section describes work with teachers on the Classroom Guide that supported enhanced understanding of the KCBC, and preparation for their action research.

The process started during the Institution Focused Study (IFS) in 2018, with an exploration of the competencies of the Kenya Competency-Based Curriculum (KCBC). We discussed how social and emotional learning (SEL) as described for example in the CASEL wheel (see [2.2.2](#), Figure 2.1), underlies the competencies, values and National Education goals of the Kenyan Basic Education Curriculum Framework, see Figure 4.3:

| National goals for Education | Values | Competencies | Pertinent and Contemporary Issues |
|--|---|---|--|
| <ul style="list-style-type: none"> • National unity • Social, economic, technical industrial needs • Individual development and self-fulfilment • Moral/religious values • Social equity/responsibility • Respect for varied cultures • International consciousness • Positive attitudes | <ul style="list-style-type: none"> • Love (compassion) • Respect • Unity • Social justice • Integrity • Responsibility • Peace • Patriotism | <ul style="list-style-type: none"> • Communication and collaboration • Self-efficacy • Critical thinking and problem solving • Creativity and Imagination • Citizenship • Digital literacy • Learning to Learn | <ul style="list-style-type: none"> • Global citizenship • Health education • Life skills and values education • Education for Sustainable Development • Learner support programmes • Community service learning • Parental engagement |

Figure 4.3: Competencies of the KCBC compared with Values, Goals and Pertinent and Contemporary Issues

Strategies that support acquisition of social and emotional competencies therefore help make a reality of the new curriculum. The discussion highlighted a quotation from a Teachers Service Commission official at a recent training, who had emphasised that the KCBC ‘is all about quality education’. In this sense the KCBC is not new. Rather, it involves a new approach to achieving the same goal of quality education. The notion of social and emotional learning as a pedagogical approach (see [2.3.1](#)) had in this way been clearly established at the outset of the research. Competencies of the KCBC were translated into Kiswahili and mapped onto the CASEL wheel, helping teachers to see the progression of competencies from the individual to other, placing them within a structure (see [3.5](#) and Figure 3.3).

To develop further this exploration of the competencies, an earlier version of the Classroom Guide was reviewed to contextualise it for the case study school context. Teachers were asked to identify for each domain (for example positive climate, negative climate, teacher sensitivity, communication, confidence and leadership, curiosity and creativity), what they would like to see in the classroom, and what they would not like to see. This was done in groups on flipcharts as illustrated in Figure 4.4:

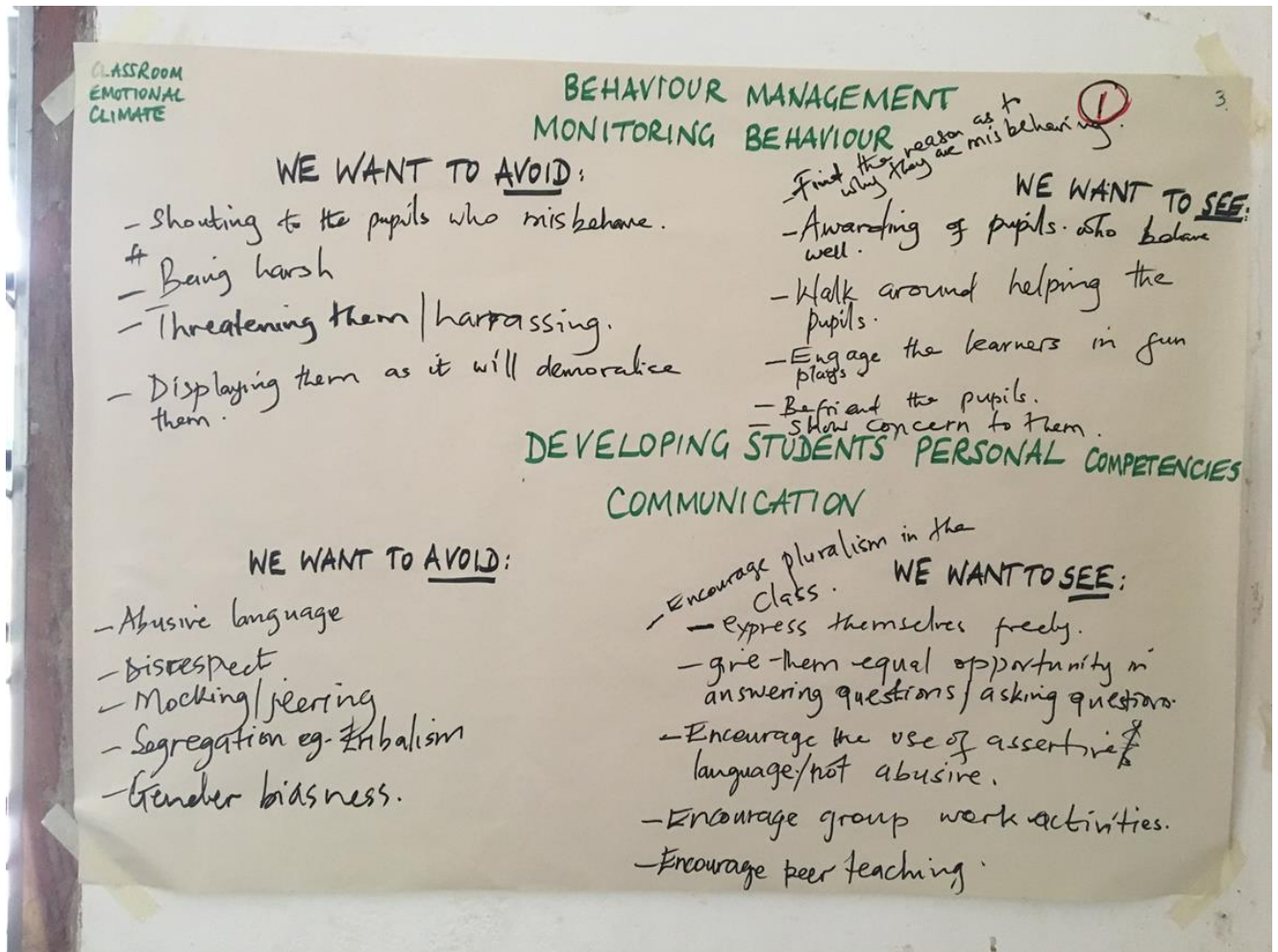


Figure 4.4: Example of flipchart prepared by teachers in review of Classroom Quality Observation Tool

This exercise contributed to teachers' understanding of how the classroom environment supports, or not, development of behaviours associated with the competencies. It provided the basis for later mapping of competencies onto the Social and Emotional Competencies rating scale during thesis preparation (see [4.6.5.1](#)). It was complemented by a workshop in April 2019 with teachers from ten schools including the case study school, that I co-facilitated as part of my affiliation with AKF to contextualise the finalised pilot version of the Classroom Guide (see [Annex 11](#)). The ten dimensions of the Guide were translated into Kiswahili for discussion, and explored through role play in groups. Competencies of the KCBC were 'mapped' onto the indicators of

each of the ten dimensions, and associated behaviours for each indicator were identified by groups working on flipcharts, see Figure 4.5:

| | | | |
|--|-----------------------|----------------------|--|
| <i>Dimension:</i> | | | |
| <i>Indicator: write out each one</i> | <i>1. Competency?</i> | <i>2. Adaptation</i> | <i>3. Behaviours – what do we want to SEE?</i> |
| ... | | | |

Figure 4.5: Template for contextualizing the Classroom Guide: Creating an Inclusive Learning Environment

To make use of the tool more manageable in the short time available for the thesis research, teachers in the case study school selected five of the ten domains that they considered most relevant to the competencies of Communication and collaboration and Critical thinking and problem solving, selected as the focus of their action research: A. Learning objectives and sequencing, B. Emotional Climate, C. Teacher sensitivity, E. Classroom agreement and G. Individual and collaborative learning (see section [5.1.1](#)). During the action research, qualitative feedback on video clips of teaching was shared with teachers on their personal WhatsApp account as soon as possible after the clips were received. Data collected in this way has been analysed in chapters [5](#) and [6](#).

4.6.5. Social and Emotional Learning Assessment (grade 1-3 pupils)

2.6.5.1. Adaptation of the Social and Emotional Competency Rating Scale

The tool used to assess learners' social and emotional competencies was based on the Social and Emotional Competency Parent and Teacher Rating Scale developed by RTI International in Mtwara Region in the south of Tanzania (see [2.4](#)). I worked with teachers in the case study school to adapt the tool over the course of three visits, with exchanges by WhatsApp in between. Teachers were first asked in pairs to review critically the 23 questions of the original tool (see [Annex 12](#)), according to the following questions:

- Which KCBC competency or competencies does it measure, if any?
- Is this a good question to use with Mabokoni pupils? Yes/No
- If yes, does it need to be changed in any way (in English/Kiswahili)?

In this way, the competencies of the KCBC were 'mapped' onto the tool, as they had been for the Classroom Guide. All questions were retained with almost no changes to wording. I

complemented this with my own review of the tool, adding a few additional competencies for some questions. During the June and July workshops, teachers discussed further the behaviours associated with the different competencies and we conducted a final review of the competencies, including the accuracy of the translation of the terms into Kiswahili. This led to the final version of the tool with associated competencies that was used for the two rounds of child assessments for grades 1-3, see [Annex 13](#).

Two changes were made to the scoring in the revised tool. Firstly, rather than asking each question twice for each child (a) whether the child displayed that behaviour (yes/no); b) whether the child on a 3-point scale, displayed that behaviour less, the same as, or more than other children), as in the RTI tool, one question was asked for each behaviour, integrating the three-point scale:

- 1 – yes, less than other children
- 2 – yes, about the same as other children
- 3 – yes, more than other children

Secondly, in the version of the tool used by the case study school teachers, there was also an option 0 – no, not at all. In practice, 0 was used very rarely in the teachers' ratings. There was a discussion during the closing workshop of whether a child would ever show *no* sign of a given behaviour. The conclusion was 'probably not', and that scoring a 0 would be discouraging for a child. For consistency in the analysis, all 0s were converted to 1, and a three-point scale was retained.

Two questions were negatively scored, adjusted for in statistical data analysis: question 2, 'Does (name) give up easily when tasks or work seem difficult?', and question 16, 'Is (name) slow and unhurried in deciding what to do next?' This is considered negative in the Kenyan context as teachers want to encourage students to move quickly.

2.6.5.2. Using the adapted Social and Emotional Competency Rating Scale

The tool was transferred to an excel spreadsheet to facilitate its use by teachers in assessing learners (see [Annex 13](#)). The spreadsheet could be filtered by competency, to facilitate the

identification of the behaviours assessed for a particular competency. However only the grade 3 teacher was comfortable using the one school laptop, and there is no evidence that the teachers used the tool in this way during the study period.

Screenshots of the tool filtered for the competency of focus were shared with teachers as part of individual feedback on their reflective diaries, to highlight behaviours they could support to help learners acquire that competency (see [5.2](#)). The tool was filtered by the two competencies selected by teachers as their areas of focus: Communication and collaboration and Critical thinking and problem solving (see [Annex 14](#)). This process showed that teachers considered all 23 questions in the tool reflected at least one if not both of these competencies. This is an important demonstration of the interconnectedness of competencies highlighted in [2.2.4.2](#). This was further illustrated in practice in teachers' reflections on their action research (see [6.1.4](#)).

2.6.5.3. Recording assessment results

Teachers of grades 1, 2 and 3 completed the tool for children in their class (see [4.4](#) for details of selected children in grades 1 and 3) in July 2019, following the visit that month (end of term 2), and in October 2019 (end of term 3). They reported in October that they made the assessment over a few days, focusing on a few children at a time. They entered the assessments by hand on the excel sheet printed for their class, then stuck the sheets onto a large sheet of manila paper in order to take a photograph of the results to send to me by WhatsApp, see Figure 4.6:

Figure 4.6 Example of Social and Emotional Competency Teacher Rating, entered by hand and sent by WhatsApp

Data received in the photos for the first round of the assessment was inputted to excel. The poor quality of the photographs meant that data had to be rechecked once the original input sheets for both rounds were received from teachers during the visit in October.

2.6.5.4. Reflecting on use of the Social and Emotional Competency Assessment

During discussions in October, teachers reviewed the questions one by one, removing those they considered repetitive, or unlikely to show variation. For example, all children greet their teachers nicely, so this question does not differentiate well. The results of this process are shown in [Annex 15](#). The reasons for removing questions are recorded in column C. Negative questions were also removed, and the updated tool shared with teachers.

This process addressed teachers' need for a smaller set of questions that would make easier the assessment of large numbers of learners per class. It also proved a helpful way to gather their reflections on the nature of the tool, and the feasibility of using it. However it was a qualitative process, not taking into account statistical analysis of learners' assessment results. Factor analysis was subsequently conducted to understand statistically how the questions of the tool measured the competencies of the KCBC (see [4.7.2](#)). This led to further revision of the tool, and the organization of the questions to reflect four of the seven competencies of the KCBC (see [7.2](#) and [Annex 22](#)).

4.6.6. Early Grade Reading Assessment and Early Grade Mathematics Assessment

An Early Grade Reading Assessment (EGRA) in Kiswahili and English (see [Annex 16](#)) and an Early Grade Mathematics Assessment (EGMA, see [Annex 17](#)) was conducted for Grade 3 learners, along with pupil context interviews (see [Annex 16](#)). This gave an indication of academic learning outcomes to compare with social and emotional competency assessment for this age group. EGRA and EGMA were chosen as assessments with which the Kenyan government and schools are familiar. The assessment was conducted with Grade 3 learners, as the grade by when they should be able to read fluently (Joddar & Cooper, 2017, p. 1). Assessing one class of children kept the scope manageable.

Assessments were conducted on tablets lent by the Aga Khan Foundation using Tangerine software⁹. The Aga Khan Foundation assisted with the recruitment of five EGRA/EGMA assessors (four women and one man), all experienced in doing EGRA and EGMA assessments using Tangerine. I co-facilitated with an AKFEA staff member a one-day assessor training just before the assessment, including a briefing on the study objectives and context, the KCBC, and action research. During the training, each assessor had a tablet. Every subtask for all three assessments was conducted together, reviewing in detail the protocols for each one. This led to agreements on procedures for specific scenarios, see [Annex 18](#). Inter-Rater Reliability was established

⁹ [Tangerine](#) is electronic data collection software designed for use on Android mobile devices to enable capture of students' responses in oral early grade reading and mathematics skills assessments, specifically EGRA, EGMA, and interview responses from students.

through these discussions; by the end of the training all assessors were achieving the same results in sub-tasks administered by the co-facilitators.

The purpose and nature of the EGRA and EGMA assessments were explained to the head teacher and all teachers participating in the research. The Grade 3 teacher explained the assessment to the children in his class, emphasising that the assessments were not an exam, and that no one would know the results. At the beginning of the first day of assessment, the assessors introduced themselves to the children, putting them at ease with songs and a friendly approach. They explained that the exercises that they would do together were 'like a game' and that they should not worry. The assessments were conducted with all grade 3 children in attendance during two consecutive school mornings, with debriefings after each. Assessors commented that the children were mainly relaxed, saying freely when they didn't know the answer to a question. They noted there were fewer 'no response' than in other assessments. To gather informal feedback from the children on this point, I visited the Grade 3 class and their teacher. After an interactive song, the teacher asked them about their experience of the assessment. They said they liked it, had felt relaxed, and that they had learnt maths and English with the assessors.

Data was uploaded to the passworded AKF Tangerine account to which only senior AKF former colleague has access, and transferred to me in excel format. See [4.8](#) for ethical considerations.

4.7. Data analysis framework

4.7.1. Analysis of qualitative data

Qualitative content analysis (QCA) was used to analyse qualitative data. QCA is a method for 'making replicable and valid inferences from data to their context, with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action' (Krippendorff 1980, quoted in (Elo & Kyngäs, 2008, p. 108)). It is rooted in the Interpretative Phenomenological Analysis (IPA) tradition, which considers research participants as 'experts on their own experience', focusing on the individual and seeking to generate theory, questioning existing research (Reid et al., 2005, p. 20). Both approaches fit well within a transformative paradigm, and the action research approach of the study. QCA can be used inductively, to generate theory, or

deductively, based on existing theory. An inductive approach was used for this study, given the lack of existing theory on which to base analysis (Elo & Kyngäs, 2008, p. 109).

The approach to QCA described by Elo and Kyngäs (Elo & Kyngäs, 2008, p. 110) was used to guide the process of data analysis. NVivo was used to organise data into themes or ideas, each labelled as a ‘code’. Connected codes are combined into categories. Results are the ‘described contents of the categories’, drawing out meaning and analysis. This has been done in chapters [5](#) and [6](#), where the connection between the results and the data has been established through the use of ‘numerous supporting excerpts’ to represent the richness of original data (Elo & Kyngäs, 2008, pp. 112–113). Inter-connections between the qualitative and quantitative results are reported in [chapter 7](#).

4.7.2. Social and Emotional Competency Rating Scale

Data collected by teachers using the Social and Emotional Competency Rating Scale (see [4.6.5](#)) was transferred to excel for initial cleaning, and imported to STATA. All statistical operations were completed in STATA 16. This section describes data analysis conducted to understand how the questions of the tool combined to measure competencies of the KCBC, and how associations between these results and reading and mathematics scores were evaluated.

4.7.2.1. *Creating scales to assess social and emotional competencies*

Each question in the tool had been associated by teachers with between one and six competencies of the KCBC (see [4.6.5.1](#)). To create scales, I selected one competency for each question, referring to teacher and parent definitions of the competencies gathered during workshops and the parents’ meeting, and definitions of competencies used in the Basic Education Curriculum Framework (KICD, 2017, pp. 21–26). These elements are summarised in [Annex 29](#). [Annex 30](#), shows which competency was selected for each question. Column D records the judgments made to select which competency should be associated with each question, informed by those sources.

Confirmatory factor analysis was conducted to confirm the extent to which, based on teacher and parent understanding of those competencies, a certain group of questions assessed a pre-defined latent trait, or competency of the KCBC (questions 21-3 were removed, as explained in [4.7.2.2](#)). This led to four scales, reflecting the competencies of Self-efficacy, Communication and

collaboration, Critical thinking and problem solving, and Learning to learn as shown in [Annex 22](#). Factor loadings in this table suggest that we can be reasonably confident that each set of questions works together well to measure the competency of focus. The implications of this for teachers and their teaching is discussed in [7.2.1. Annex 19](#) shows that the questions for self-efficacy worked together most strongly, but all four scales can be considered to display acceptable validity and reliability.

This section has demonstrated the value of a mixed methods approach, as statistical data analysis was used to complement teachers' qualitative understanding of how the tool functioned in their classrooms, parents' perceptions of the competencies, and the expectations of the Kenya BECF. The resulting updated tool, based on [Annex 22](#), will be proposed to the study teachers, and education authorities in Kenya, as a statistically validated and tested assessment tool for social and emotional learning, incorporating the experience and understanding of teachers and parents. The tool could be further piloted and adapted within the Kenyan Competency Based Curriculum.

4.7.2.2. *Fitting a model to the data*

An item response theory (IRT) model was used in STATA16, to explore further how each individual question of the scales relates to the competency being measured, and how the group of items relates to this latent trait. IRT models are often used in the study of cognitive and personality traits, making IRT an appropriate choice for this study (StataCorp LLC, 2019, p. 1). The social and emotional rating scale consists of ordinal variables, so a Rating Scale Model (RSM) was chosen.

An IRT model predicts the probability of a particular response on a given item (question), represented by an Item Characteristic Curve. The probability of a higher score on the scale is a function of the level of the latent trait (denoted by θ) – a child's level of self-efficacy, for example – and the properties of the item. The IRT model estimates the properties of 'difficulty' and discrimination for the items on a scale designed to measure a particular latent trait. The difficulty parameter describes the relationship between ability and the probability of a particular response. The discrimination parameter assesses how likely, for a given difficulty estimate, two students with distinct abilities would get different predicted probabilities of a higher score on that question (StataCorp LLC, 2019, pp. 3–5).

The purported advantage of using IRT RSM, and the reason for choosing this method, is that when the model fits the data (apart from measurement error), the parameter estimates are invariant. This means that the ability estimates for individual learners are not dependent on the specific questions of the assessment, and the item parameter estimates do not depend on the group of questions in which they are found (StataCorp LLC, 2019, p. 6). In other words, the ranking of children according to this scale should be the same if another were used. Accordingly, the scales are not relative to the specific context and could be used elsewhere. This claim needs to be treated with caution given the influence of context discussed in [2.4](#). Nevertheless, IRT scores provide greater confidence in the extent to which the assessment results reflect the levels of KCBC competencies in the learners assessed, than a simple comparison of the total scores for each child on the assessment.

To assess the fit of the data to the model, IRT RSM was used to predict the latent trait – theta – for the groups of questions associated with each competency, as described in [4.7.2.1](#). On questions 21-3, all children scored either 2 or 3. This lack of variability meant these questions could not be included in the IRT RSM model, so they were removed. During the closing workshop, teachers had noted that questions 21 and 22 were not useful as ‘all children do that’ – ie ‘love’ their teachers and greet them politely. Teachers selected question 23 as a ‘good’ question, as they saw the enjoyment of interacting with others as critical to the competencies of the curriculum. In the study assessment however, all children scored relatively highly on this behaviour, so the question did not discriminate well. All three of these questions fell within the ‘sociable’ domain of the RTI tool. This reflects the finding of that study that in rural contexts, cultural values contribute to a strong expectation of ‘sociable-ness’, apparently reinforcing learners’ display of it. The current research suggests that as a result, these questions do not differentiate effectively, and should be dropped from the tool.

IRT RSM was used on the four groups of questions shown in [Annex 22](#), to predict a score for each learner on each of the four competencies at two timepoints (July and October 2019). K-density charts were generated for each competency at each time point. Columns A and B of [Annex 20](#)

show normal distributions of the results, though with some skewing towards lower results for Self-efficacy and Communication and collaboration in round 1.

4.7.2.3. *Concurrent calibration to assess change over time*

Concurrent calibration was conducted in order to calculate the change in learners' scores from round 1 to round 2, based on a preset mean for round 1. This technique creates effectively a larger sample size, and is appropriate for use with IRT models (von Davier & von Davier, 2007). It means the two tests can be scaled together to put them on a common metric, allowing direct comparisons over time. The two rounds of social and emotional learning assessment were combined as though they were one round of assessment, by appending the scores for round 2, beneath those of round 1 (reshaping the data 'long'). This created a total of 350 scores (n=165 for round 1 and n=185 for round 2) for each item (question). IRT RSM was conducted on the n=350 dataset for each competency, to predict a score for each of the 'learners' (actually each result represented 'half' of a learner who was assessed in both rounds, ie one of their two scores). Column C of [Annex 20](#) shows the k-density charts for the larger dataset. The scores are seen to be more evenly distributed, reflecting the larger sample size.

Using this 'long' dataset, the mean for round 1 for each competency scale was mathematically set at 500, and new 'IRT' scores generated accordingly. The data was then reshaped back to 'wide', identifying the new IRT scores as round 1 and round 2. The mean for the new round 2 scores was calculated and compared with the mean of 500 for round 1, to show the change in the level of these competencies between round 1 and round 2 (see discussion in [7.2.2](#)).

4.7.3. Analysis of quantitative data: Early grade reading and mathematics

Total scores for each sub task on the Early Grade Reading Assessments for Kiswahili and English and the Early Grade Mathematics Assessment were calculated and converted into percentages. It was decided to weight each subtask equally; percentage totals for subtasks for each of English, Kiswahili and Mathematics were created. Descriptive statistics were generated for each subject area.

4.7.4. Analysis of quantitative data: Table of variables

All variables were collected at the pupil level, through the processes described above, the context interview of the EGRA/EGMA assessment, and the class register.

Table 4.2: Table of variables used

| Variable | Variable type | Description |
|--|---------------|--|
| Sex | Categorical | Girl or boy |
| Grade | Categorical | 1, 2 or 3 |
| Age | Continuous | Age in years was calculated from dates of birth of grade 3 pupils taken from the school admissions register |
| Attendance | Continuous | Attendance was calculated as a percentage based on the grade 3 class register for the school year to the date of the school visit, January to 14 October 2019 |
| Portable assets | Continuous | A portable asset index was created for grade 3 pupil households. The number of incidences that a child reported having in their household the following items: radio, telephone or mobile phone, television, refrigerator, bicycle, motorcycle, another type of vehicle, was summed, divided by the total of 7, and converted into a percentage. See Annex 21 for the rates of asset ownership. |
| Literacy index | Continuous | An index of literacy in the home was created by summing the number of reported primary care givers for each child (from a list of mother, father, sister, brother, grandmother, grandfather, another relative, a non relative), and dividing by the number of these people who were reported to be able to read and write. This gave a literacy at home index of between 0 and 1. See Annex 21 for literacy index scores for grade 3 pupil households. |
| Social and emotional competency assessment score | Scale | - IRT score calculated, as described in 4.7.2.2 - Round 1, round 2, and the difference between rounds 1 and round 2 calculated, using concurrent calibration as described in 4.7.2.3 |
| EGRA English score | Continuous | Percentage total of all subtasks, unweighted |
| EGRA Kiswahili score | Continuous | Percentage total of all subtasks, unweighted |
| EGMA score | Continuous | Percentage total of all subtasks, unweighted |
| Access the internet | Categorical | Yes or no Type of access: phone or internet cafe |
| Electricity at home | Categorical | Yes or no |
| Language used at home | Categorical | Kidogo or Kiswahili |

4.7.5. Exploring relationships between social emotional and reading and maths scores

To explore associations between scores on the social and emotional assessment, and reading and mathematics scores, regression analysis was conducted. The difference between round 1 and round 2 was calculated for learners' scores on each of the competency scales. The predictor variables were regressed with total scores on EGRA and EGMA. Background characteristics (see [4.7.4](#)), were controlled for in the regression.

4.8. Ethical considerations

The BERA Ethical Guidelines for Educational Research (British Educational Research Association, 2011) were followed in applying for and receiving ethics approval from University College London. A research permit was obtained from the appropriate authority in Kenya¹⁰.

Ethical considerations were handled as follows:

4.8.1. Power and language

As noted in [4.1](#), questions of cultural norms, language and power differentials are central to a transformative paradigm, and therefore to the research design. Amongst these issues for this study, was my position as an outsider to the research context, dependent on the former colonial language – English – to interact with research participants. This was mitigated, as for the IFS, by working closely with a Research Advisor from the context, a former colleague from the Aga Khan Foundation East Africa (AKFEA), where she is still employed. When we first met in 2013, she was teaching in a nearby primary school and acting as a teacher trainer on education programmes run by AKFEA, before joining the organisation. The Research Advisor is not from the coast area of Kenya, which combined with her status as both teacher and teacher-trainer/supporter, gives her a ‘semi-outsider’ perspective on the context. Continuing the role she played during the IFS, the Research Advisor acted as an invaluable interpreter of ideas and culture throughout the thesis research. She advised on cultural and process issues, as well as the content of workshops based on her knowledge of teachers’ work and context.

With the support of the AKF Research Advisor, a relationship of trust was established with the participating teachers (see [4.5.2.](#)), building on strong relationships created during and since the IFS research. Careful use of plain English in all communications, and translation/back translation of key terms into Kiswahili, aimed to minimise language issues. Repeatedly stating the truth that teachers and other research participants are experts in their context (see [4.7.1](#)), and the need to adapt external inputs in this light, helped to reduce the inevitable perceived power differential between myself as the ‘researcher’ and teachers. I emphasised that we – I with the teachers – would be learning together, and that I would be learning at least as much as them. I highlighted

¹⁰ NACOSTI (National Commission for Science Technology and Innovation) permit number: NACOSTI/P/19/59749/31106

the importance of sharing with trust and honesty, without judgment. Reflecting on the approach I adopted with the teachers, the Research Advisor said she had recently commented about me to one of the teachers:

...other than just getting to know your work, she wants to know more about you as a whole person ... which is very critical for a human being, because someone finds a lot of appreciation in that.

AKF01, 18 October 2019

This indication of the strong connection I had been able to establish with the teacher participants in the study, approaches the 'relationships built on trust and comradeship' described by Milligan. Her description of consciously becoming an 'inbetweener' in comparable research with teachers and learners in a school, with similar language and cultural differences to overcome, echoes my experience (Milligan, 2016, p. 248). The bond created by being an 'educator' like the teachers that I was working with, combined, over time, with personal contact by WhatsApp between visits, helped in this process.

4.8.2. Informed consent

An information sheet was created to describe the key information about the study for teachers (see [Annex 1](#)), slightly adjusted for the CSO and Research Advisor. As this was the second round of involvement for all participants, and they had been involved in preparation of the research, there was limited need for explanation.

UCL Data Protection guidelines for consent forms were taken as the basis for those created for each group of participants (see [Annex 2](#)). All consent forms were signed, photographed, and stored securely both digitally and in hard copy (see [4.8.6](#)).

4.8.3. Political challenges and sensitive topics

Analysis of the local and national political situation was included as part of preparation for the study. Close collaboration with the AKF research advisor ensured that any potential risks to research participations be avoided. The political situation was calm during the research visits.

4.8.4. Potentially vulnerable participants

Vulnerability for adults was associated with the political context, dealt with as above.

Children came into contact with assessors for the Early Grade Reading and Mathematics Assessments. Assessors were contractually bound to abide by the Teachers Service Commission Code of Conduct and Ethics. The code of conduct was attached in hard copy to assessors' contracts, and it was explored in detailed discussion of ethical issues during a the training for assessors immediately before the assessments. I was present throughout the EGRA EGMA assessments, conducted in one classroom of the case study school during school hours over two days. At no time was a single adult alone with children.

4.8.5. Anonymity and confidentiality

Participants were assured of anonymity in the recording of data, and confidentiality of any information provided in interviews. They were informed that they could withdraw at any time without negative consequences, and that their data would not be used if requested.

4.8.6. Data storage and management

Electronic data was initially stored in passworded files before being transferred to the N drive. It will be kept for 10 years before being destroyed.

5. Findings 1: How did teachers 'live' the action research process?

The qualitative findings presented in this chapter and in [chapter 6](#), aim to convey the voice of the teachers, and the ways in which they felt they had changed through the process of the research. They demonstrate an overall growth in what teachers themselves described as professional and personal 'empowerment', providing evidence from teachers themselves of this finding reported in comparable studies (Gioko, 2013, p. 157; Juma et al., 2017a, p. 730). Within the short time of the study, the teachers became more confident in their understanding and practice of the KCBC, taking a progressively more self-reflective approach to their teaching. They understood and worked with the inter-connectedness of the competencies of the curriculum, which enhanced their confidence and ability to support their pupils' acquisition of those skills. The success of this was confirmed in the results of the quantitative assessment, presented in [chapter 7](#).

The findings confirm the importance of teachers as role models for strong relationships, for both learners and their parents and caregivers. Teachers' increased awareness of this is perhaps the most important aspect of the arguably 'transformative' impact their participation in the action research achieved. It speaks directly to the guiding theme of how this research might change the practice of teachers and those responsible for supporting them (see [1.4](#)), reinforcing existing literature in this area (Sayed & Badroodien, 2018, p. 12; McNaught & Gravett, 2020).

The current chapter presents the findings from teachers' development of action research questions, and their reflective diaries as they tried out their intentions in their lessons. This is complemented by exchanges on WhatsApp, including the review of videoed lessons. The brief video clips gave a taste of classroom practice, using the Classroom Guide to structure feedback shared with teachers. The structure of the chapter loosely follows the action research cycle described in [4.5.4](#).

5.1. Developing action research questions

5.1.1. Selecting the competency of focus

Teachers' limited time meant that they each worked on one action research cycle, rather than the two or three cycles initially planned. Teachers of Grades 1 and 3 chose Communication and collaboration, while the Grade 2 teacher chose Critical thinking and problem solving. The Grade

1 teacher changed his research question after two reflections, to one focusing on Critical thinking and problem solving. This gave a total of four action research questions, which are discussed in [5.2](#). They are presented in [Annex 34](#), which demonstrates the scope of the lessons in which teachers explored their action research questions, summarising the content of their reflective diaries. It shows the competencies of focus, and detail of the lessons in which they tried out strategies for building the competencies, on which they reflected, and which were observed in video clips.

Teachers were asked during the second round of interviews what had inspired their choice of the competency of focus. In the words of the Grade 3 teacher, who selected Communication and collaboration:

I chose that competency because ... children need to be more eloquent, and they need to share ideas. They need to work together, they need to cooperate.... Not just in school, but outside school also ...I found that my children are lacking that part of discussing a question, and answering the question, together as a group.

Teacher 02, 16 October 2019

This extract demonstrates the teacher's understanding of the value of the competency-based approach to life beyond school: learning to do (Delors, 1998). The support of communication and collaboration to being 'more open-minded' points to critical thinking, highlighting the interconnection between these two competencies. By identifying children's ability to discuss and answer questions – problem-solve – in a group as a current lack, the teacher indicates his internalisation of an action research approach: choosing the area of focus based on an issue or problem that needs to be addressed.

In explaining his decision to change from Communication and Collaboration to Critical thinking and problem-solving, the Grade 1 teacher also implied the overlapping nature of the competencies – he had not finished working on the first, but felt he needed to prioritise the second:

So I found that when I talk of ...communication and collaboration, still have not exhausted, then I thought that I had to bring the idea of now how can I make my children think? ... to come up with a solution...

Teacher 03, 16 October 2019

In this teacher's reflection on the action research process in [5.2](#), we see progress that he made in thinking about how to do this. The context of teaching a class of 115 grade 1 children contributed to making it difficult to put into practice.

The Grade 2 teacher made clear the connection between learners' home and school lives in her selection of the competency of Critical thinking and problem solving:

... I chose this one because the children are having so many problems at hand ... how they can be able to think and solve their problems...

T01, October 2019 interview

She cited examples of difficulties at home such as children coming to school without eating breakfast, and girls sleeping with motorbike taxi drivers. In the latter case, she explicitly referred to the role that teachers can play in supporting learners:

'...before you get that action, think first... What consequences can I get from me doing that? ...when I tell maybe a teacher, maybe I can be able to tell me some ways how I can solve this problem'

T01, October 2019 interview

The two quotations highlight the importance of teachers' pastoral role, developing relationships with their students that go beyond that of teaching school subjects. This is explored further in [chapter 6](#). As highlighted in [1.1](#), the current relevance of the example given here has been thrown into high relief by the COVID crisis. This is combined with teachers' potential to help learners gain strategies to support them in dealing with complicated lives: the self-awareness and self-management to stop and think before acting, and the ability to think critically to make a

responsible decision. As for the Grade 3 teacher, the importance of this skill goes beyond the school environment, to the instrumental nature of the skill of critical thinking in 'learning to do'. Chapter 7, looks at the quantitative evidence showing the importance this has for learners' achievement in reading and mathematics.

5.1.2. Formulating the action research question

In commenting to teachers on their action research questions, the aim was to support their understanding of action research, and their ability to develop clear and feasible questions. For example, The Grade 1 teacher's second action research question, on critical thinking and problem solving, demonstrated progression in his ability to articulate more specifically his intention to explore ways to support learners 'to come up with constructive solutions' to problems. In addition to the action research question, he noted as the action he would take:

Build learners' confidence through leading questions; working learners in groups/pairs and teacher to avoid say the answer is wrong but encourage to give suggested possible solutions to their problems.

Grade 1 teacher, Cycle 1 Action Research Question

Comments highlighted the importance of preparing specific questions and activities for group/pair work, and to note examples during the lesson to help draw learning from the approach being tried.

In practice, the detail of the research questions was not always the focus of teachers' reflective writing. This was a function of providing feedback from a distance, making a two-way discussion difficult. The length of time between the formulation of the questions and teachers finding time to try out specific approaches also contributed.

5.2. Taking action and writing about it

Teachers' reflections in their diaries and interviews, and some of the class observations, showed that they responded positively to the notion of trying out ways to support their pupils' acquisition of the competencies. There is evidence of their learning and progressing through this process, and specifically of their enhanced understanding of the inter-dependence of different

competencies. This section illustrates how facilitation of the action research from a distance functioned during the study, discussing and drawing some conclusions from the experience. [Chapter 6](#) highlights further learning from the process, drawing out other themes that emerged from teachers' reflections in writing and interviews.

5.2.1. Communication and collaboration

5.2.1.1. *Communication and collaboration in Grade 3*

The Grade 3 teacher shared two experiences, through video clips and photos, of trying out strategies to support the development of Communication and collaboration.

The first lesson aimed to do this by having learners 'narrate a story fluently to their peers' (see [Annex 34](#), Grade 3). In the 2:28 minute video clip, students were standing to read, and the teacher asked questions from a distance. This looked uneasy. The teacher's voice was gentle, and students seemed not to be fearful, but they were not relaxed. I noted on the Emotional climate domain indicator in the Classroom Guide 'Students look happy and interested and actively participate by asking questions and engaging in discussion':

In the photos the children look interested and relaxed (see Figure 5.1). In the video they seemed awkward and had difficulty answering questions... probably partly because the teacher was filming.

Observations, Classroom Guide, Grade 3, 14 September 2019



Figure 5.1: Grade 3, Collaborative reading, 13 September 2019

I suggested pair and group work activities to encourage the children to discuss the stories together, and the possibility of acting or drawing the story to complement narration. Video and photos of a more dynamic lesson a couple of weeks later, suggested the teacher may have reflected on these comments. He introduced his reflections on this lesson on the WhatsApp group:

[here] is a maths lesson where learners are developing route maps to show position and directions of different places e.g. which direction the shop is?... which direction is the mosque from the church?

Communication and collaboration was my main intention.

Teacher 01, WhatsApp Group entry, 5 October 2019

In a series of photos and a 10-second video clip, the grade 3 learners are seen creating a 3D map of the village in the sand outside in the school yard. All appeared to be active and engaged, some in the construction, others writing in notebooks (see Figure 5.2). The model roads and buildings were carefully constructed, some labelled, with flowers creatively used to represent trees or signs.



Figure 5.2.: Grade 3 pupils create road maps to show position and direction (mathematics)

In further discussion on WhatsApp, the teacher enthusiastically highlighted that we see creativity underpinning and facilitating critical thinking and problem-solving, through an activity designed primarily with communication and collaboration in mind. The teacher's appreciation of this interdependence, and his reflection on the positive results of the approach he adopted, are a good example of action research in process.

This example illustrates particularly vividly the value of exchanges via WhatsApp. During the 18 months, May 2018 to October 2019, there were over 125 conversations, clustered around visits,

and during the period of action research, June to October 2019. They demonstrate the potential of social media for overcoming problems of distance, transport, and conditions imposed by pandemics such as COVID-19. These points are pursued further in [chapter 6](#).

5.2.1.2. Communication and collaboration in Grade 1

The Grade 1 teacher's efforts to support the building of Cooperation and collaboration in his class, illustrate the challenges to meeting the KCBC vision of 'nurturing each learner's potential' in the context of large classes and ability ranges. As the teacher explained in his second reflective writing that the lesson to 40 minutes longer than planned

... because [some] learners were totally green ie 40 pupils joined school early July who never passed PP1 and PP2The most critical part was the textbook shortfall ... ie 115 pupils handled by one teacher.

Teacher 03, Reflective writing 2, 29 July 2019

The teacher was dealing with a wide range of pre-primary school (PP1 = pre-primary year 1, PP2 = pre-primary year2) experience amongst the pupils, some of whom had joined six months after the beginning of the school year. He was managing the huge class alone, in a classroom with insufficient space, furniture and materials. The ability of the teacher to facilitate Communication and collaboration, and to pay attention to individual needs, was inevitably compromised. There was nevertheless evidence of some progression as he moved through the action research process. The teacher noted in his reflective description of 'what happened' in his first reflective writing:

Learners were active and could raise their hands to answer asked questions and demonstrate as instructed...It happened so because there was clarity instructions given from their teacher and the learning environment was friendly

Teacher 03, Reflective writing 1, 12 July 2019

Reviewing a 12-minute video clip of the same lesson, I commented on the Teacher sensitivity domain indicator, 'Teacher and student interactions are positive; teacher frequently moves

around listening to and talking with all students in a warm, positive, caring, empathetic and encouraging manner':

Good rapport in the class - warm, positive approach of the teacher. However all interactions were with the whole group, no individual questioning. Teacher did not walk around the class, talk to individual students, or give individuals the chance to answer questions.

Classroom observation, Grade 1, 12 July 2019

While acknowledging the challenging context in which the teacher was working, I suggested: asking open questions starting with 'what', 'where', 'why', 'when'; asking individuals to answer questions, not always the whole class; and walking around the classroom while teaching. There was evidence that the teacher had internalised this advice in subsequent reflective writing, when the teacher had changed competency to Critical thinking and problem solving. Greater awareness of the need to pay attention to individuals is indicated in this example:

Learners were [working at the blackboard], so that to develop confidence on their daily life as that exposed some of competencies like self-efficacy ...and communicate and collaborate as they were in pairs or groups while working their sums.

Teacher 03, Reflective writing 3, 12 September 2019

The 9-minute video clip for this lesson confirmed this. Despite the challenging teaching environment, the Grade 1 teacher demonstrated progress in his understanding of how to build competencies in his learners, and success in putting this into practice.

5.2.2. Critical thinking and problem solving

5.2.2.1. *Critical thinking and problem solving in Grade 2*

The Grade 2 teacher's first reflective diary entry was on a lesson in which she asked children questions to lead them to identify animals. She demonstrated critical reflection on her chosen approach to support learners to think critically, and on how she could improve her practice in this area:

I did well in children's participatory part and the ... need to care and love animals; the questioning techniques to make learners critically think was somehow not very clear but next time I will prepare enough earlier to ensure I meet the needs of the children individually.

Teacher 01, Reflective writing 1, 26 July 2019

The teacher acted on this during the next lesson, on which she reflected in her diary:

Last time, I gave minimal time for the learners to participate ...but now I only lead them to discussions that will probe them to critically think and come up with solutions to a problem. This will also build their confidence ...to discuss in their various groups. Every child will be forced to speak out his/her ideas as they are small in number.

Teacher 01, Reflective writing 2, 6 September 2019

This provides important evidence of the teacher's professional development, as she learns from previous experience, and improves in carrying out the implications of her reflection. The teacher's identification of the critical role played by children's confidence in developing the competency of Critical thinking and problem solving, highlights her understanding of the interconnection of her competency of focus, with self-efficacy, another competency of the KCBC.

The teacher developed this idea in her final critical reflection, on a Kiswahili lesson in which learners were asked to discuss a story about the roof being blown off a school, and how they could deal with such a situation:

The learners gained more confidence as they were naming people who can assist them.
Eg Parents, Governor, Well-wishers, Pupils as they can help in small chores.

Teacher 01, Reflective writing 4, 8 October 2019

She also illustrated refinement of her ability to support learners to find answers themselves:

A pupil asked a question and I asked if there's a pupil who can answer the question. Some pupils rose up their hands and were answering the question. And Alas! The boy got the answer to his question...

Teacher 01, Reflective writing 4, 8 October 2019

Lesson observation of a videoed mathematics lesson in October, confirmed the teacher's attention to supporting learners to find answers themselves. My feedback included:

The teacher several times asked children to show how to answer a question rather than giving the information first herself. This fosters critical thinking and problem solving, the focus of the current action research question, and children responded very well.

Classroom observation, Grade 2, 14 October 2019

Growth in the confidence of children in the same class was confirmed by the Research Advisor. Commenting in her interview in October on a visit to the school, she noted:

I see them more involved...I've seen them more confident... the kind of children I saw... in April, that were ... very quiet ... it's somehow improving.... I feel that those children are now in a more free environment.

AKF01, 18 October 2019

The teacher herself, in her second interview, commented on how the action research process had helped her evolve in her understanding of learners' needs and abilities:

...it was good, and we have learnt so many things about that, because for example if I want to build confidence...how they [the learners] can be able to talk to one another with confidence and express themselves ...that is very important....

Teacher 01, 16 October 2019

It appears that the teacher has integrated learning from the action research process, specifically the critical importance of confidence – part of self-efficacy – in building other competencies of the KCBC, and applied it in her practice.

5.2.2.2. Critical thinking and problem solving in Grade 1

The Grade 1 teacher also demonstrated progression in his understanding and practice as he moved from one lesson to the next. In reflecting in an early lesson on 'how this ties to past and future experiences', he noted:

Teacher to engage more tasks on number patterns using real objects and motivations to come up of variety of patterns to provoke their minds think to result to their solutions to the problems.

Teacher 03, Reflective writing 3, 12 September 2019

In the following reflective writing, also on a mathematics lesson, he described trying out the use of real objects:

There were critical thinking and problem solving where learners were given task and use realia in their pair or groups and give feedback to their teacher. Communication and collaboration was seen as each pair or group could talk or share their finding and give feedbacks.

Teacher 03, Reflective writing 4, 20 September 2019

The teacher identifies therefore the complementary nature of the competencies. Reflecting on 'why it happened', the teacher noted the impact this also had on learners' confidence:

Competencies observed was due to group or pair that each give feedbacks according to their critical thinking and ready to represent their feedback confidently as they interacted....Teacher songs were to refresh learners' past experiences and make their mind critically think...

Teacher 03, Reflective writing 4, 20 September 2019

In grade 1 lesson observation based on video taken at the end of the research, the level of group work and student interaction was less than that apparent in the reflective diary. The very large class size of 115 learners inevitably reduces the potential for group work and individual participation. The Grade 1 teacher was unhappy with that particular lesson, reinforcing the point highlighted in [4.5.4](#) that the video clips reviewed for this study are not necessarily representative of the teachers' practice.

In his interview at the end of the process, the Grade 1 teacher recognised the value of feedback, his efforts to apply it, and the ongoing process of development:

It was helpful, because ...when I do the try out I expected some criticism, positive criticism, so ... I found it is good, because I know the area that I have not exhausted well ...you have really commented me, so I was very much happy.

Teacher 03, 16 October 2019

Teachers' experience of the feedback process and the learning from that for the future, is further explored in section [5.3](#).

5.3. Supporting teachers in their action research

5.3.1. Teacher support from a distance

My feedback described in section [5.2](#), illustrates the interaction at a distance that I had with the teacher action researchers. Comments provided via WhatsApp would have been the basis for discussion had I been able to spend more time with the teachers at the school. Limited presence with the teachers was often frustrating: communication was frequently one-way, with little opportunity explicitly to discuss teachers' responses to questions posed in my feedback. The Grade 2 teacher described this from the teacher perspective:

you know when we are talking face to face, we get more information... so that we can ask you exactly what we want, but now when you are far, sometimes when I ask this question now, how will she take it ...

Teacher 01, 16 October 2019

The Grade 3 teacher minimised the fact that I was not living nearby, while highlighting the impact of limited time during research visits:

... because through WhatsApp...today the world is just like a village, so we can talk, we can send pictures, we can send videos.... [but] maybe you spend like a week... You have a lot of information you want to share with us, but after a while you say, ahh, I'm leaving....

Interview, Teacher 02, 17 October 2019

On the other hand, the Research Advisor commented:

I think that over the time you have not just created the learning environment with the teachers, but you have also been a mentor to them... so it can also be ... good ...to ... continue, ... in fact this one I was taught by Alison, let me go and try that today...that kind of momentum needs to be there.

Interview, AKF, 18 October 2019

Communication via WhatsApp has indeed continued since the end of the action research. It has allowed me to keep updated with the evolution of implementation of the KCBC, particularly during the COVID-19 crisis.

The study showed that from a distance, the use of even minimal video footage allows for constructive individualised reflection and feedback on teaching practice. Although physical presence by a classroom observer allows for immediate feedback and discussion, a video camera in the classroom is less intrusive than a person. If the challenges surrounding the transfer of data encountered in the research study could be overcome (by the provision of sufficient data through wifi for example), teacher development support based on review of videoed teaching, offers scope for more frequent, targeted interaction with teachers. In the case study school, and schools like it in Kenya, the teacher 'mentor' role would most likely be played by CSO, a supporting NGO representative, or the head or another teacher. Compared to myself, these people are relatively more accessible to the teacher, and closer to their immediate reality. They would be able to engage more easily in a dialogue by phone or WhatsApp.

The CSO described follow up school visits he makes to observe 'how the core competencies and values are taught':

... as Curriculum Support Officer ...I observe a full lesson, I take note, what went well, areas of improvement. Then we sit with the teacher, we compare notes, and then we share before I leave....

Interview, CSO, 16 October 2019

This fits closely with an action research approach. The CSO noted however that in practice he has time to visit each of the 40 schools for which he is responsible barely once a term; for those more remote than the case study school, it can be less than that because of transport challenges. He also pointed to the reality of head teacher and peer support to classroom observation. In theory teachers are supposed to observe each other, led by the head teacher who should 'observe a lesson at least for one every teacher' in advance of CSO visits. In practice '...the head teachers are pretending to be too busy, that they cannot do the observation' (Interview, CSO, 16 October 2019). In an ongoing and post-COVID19 world, opportunities for face to face contact will continue to be limited periodically. In response to this, the current system of school visits for teacher supervision and professional development, could be complemented by a schedule of more frequent videoed lessons by each teacher. These could be reviewed by the mentor out of school hours and discussed with the teacher via WhatsApp. Text exchanges could be supplemented with virtual 'meetings', complemented by face to face discussions when possible. Recording of these exchanges using existing documentation requirements, would allow the observations to be recognised incorporated into the current system.

The Research Advisor pointed to the positive aspects of such an approach:

I think, the ...WhatsApp... has already helped. Because ... where you leave a teacher, and when you come back, you will find them opening the book where you left. But I think that constant reminding them, ... reaffirming them...was the best process...there was follow up, even when you were not around.

Interview, AKF01, 18 October 2019

In addition to these advantages, the less formal medium of web-based communication suited the Grade 3 teacher, for example, for whom writing about the strategies he was trying proved challenging. He preferred to share his experience through videos, photographs and comments on WhatsApp. Although less structured, the teacher's reflection was at least as useful, and the exchanges simulated more closely face to face interaction. This also illustrates how the open platform was a safe place for teachers to share feedback. The Grade 2 teacher reported that in responding to feedback that I requested, the teachers would discuss together and one would reply on the group. This spontaneous collaboration was confirmed by the Grade 3 teacher at the end of the process:

as of now, I think we have been really cooperating, we have been really correcting each other positively, so we have been encouraging each other.

Interview, Teacher 02, 17 October 2019

Teachers' positive response and sense of empowerment as a result of the process overall (see [6.1.3](#)) further points to the potential for interactive support to teacher development even with limited face to face contact. This was summed up by the Grade 3 teacher:

...you have been encouraging...you see the mistakes and you talk about them positively, so I would say our work has been big but done in a very short period.

Interview, Teacher 02, 17 October 2019

The head teacher confirmed the high commitment of teachers to the process:

the teachers' participation is high, despite the fact that there have been these challenges in terms of staffing... teachers' willingness to do the research was positive...

Interview, Teacher 04, 17 October 2019

The research process complements existing research (Juma et al., 2017b, p. 732; Motteram et al., 2020, p. 5731), demonstrating that combining personalised support from a distance with physical school visits has the potential substantially to increase levels of teacher support and

development, and thus effective teaching of the Kenya Competency Based Curriculum. The option of providing resources and support to teachers via WhatsApp or similar platforms should be explored further.

5.3.2. Continuing action research: Integrating with existing lesson plans

As described in section [5.1.1](#) there was not time for teachers to complete and reflect on a complete action research cycle during the time of the research study. In interviews in October, teachers referred to the lack of time to focus on the reflective writing for the action research. The Grade 1 teacher summed this up:

... it was like we were doing two programmes [chuckles]...I found a big challenge because sometimes I would want to do my normal work.... some other duties in school ... I may not even get to the reflection...

Interview, Teacher 03, 16 October 2019

The study did therefore add extra work for the teachers. On the other hand, the same teacher was positive about the idea of action research. He commented:

...the reflection part, to see what you have achieved... what you can change for the future...so I think that's good...it may be a bit challenging, but later on it will become part and parcel of us...because this is something that we have been doing, though...we were doing it silently...

Teacher 03, 16 October 2019

Action research then builds on what teachers already do, if 'silently'. As explained by the CSO, reflection is already incorporated in the KCBC teaching approach:

Reflection is part of the lesson plan... we say reflection should be done at the end of the lesson. And according to our CBC, we say that this is where the teacher assesses him or herself. And we want the teacher to be honest, to write what went well, what went wrong...

CSO interview, 16 October 2019

Key elements of an action research approach are encapsulated in this description; the research study was an opportunity to make this process of critical reflection on planned action, a reality for the participating teachers. The learning from this experience can now be shared with others (see [5.3.3](#)). The solution to the 'two programmes' problem evoked by Teacher 03, could be found in a slightly extended lesson plan. [Annex 28](#) presents the existing KCBC lesson plan with brief additional sections based on materials used during the study: guidance on creating an action research question, and on reflection after a lesson. This would allow for a more explicit action research approach to be integrated into existing lesson planning requirements of the KCBC, in line with literature highlighting the importance of a systemic approach to continuing professional development (Sayed & Badroodien, 2018, p. 12). It would be essential to accompany this with appropriate professional development support. Content and approaches similar to those used in the research study could be incorporated into ongoing teacher training (pre- and in-service) and follow-up support by CSOs. Relevant approaches could include teacher support from a distance as described in [5.3.1](#).

5.3.3. Sharing with other teachers and schools

At the end of the study, teachers expressed their enthusiasm for the action research, believing it was important to share the experience with their peers:

...we need to inform others about this, because religious teachers, other teachers... that the feelings of a child, about how our feelings matter, we can be able to explain to them... about our action research... So if our neighbouring schools know about it... then after [the CSO] can also help us to make a workshop

Teacher 01, 16 October 2019

The reference to 'religious teachers' is important. It points to the potential for collaboration between overlapping school and religious communities in supporting social and emotional learning, and specifically the competencies of the KCBC. This could prove a constructive way to build parent and community support for the new curriculum (see [6.3.2](#)), and so enhance the strong relationships on which children's learning and well-being depend (see [6.1.1](#)).

A comment by the Grade 3 teacher indicates that this would build on existing teacher capacities in other schools:

... in the teachers groups that we have, I can say that ...there are some that are doing good, but here, because of you being around...I think we are much ahead.

Teacher 02, 17 October 2019

The CSO confirmed his support for the idea of a workshop. He explained that the head teacher of the case study school would need to take the idea to a cluster (group of 10 schools) head teacher meeting. Assuming agreement amongst the head teachers, the cluster would submit a proposal for a workshop to the CSO. He noted:

...in fact they are the ones implementing the ... I'm supporting, but where the rubber meets the road is at [the Case Study School] [laughs]...

CSO interview, 16 October 2019

This comment hinted at a caveat he later made explicit, regarding the resource challenges facing those responsible for effectively supporting the rollout of the KCBC:

when ... teachers ...meet at a certain school [they] will demand fare and possibly lunch. So these expenses should be met by the head teacher [through]...free primary education funds...

Interview, CSO, 16 October 2019

The hope is that relevant authorities will recognise, and fund, the need to enhance their already substantial efforts to equip teachers with the skills necessary to ensure learners acquire the competencies of the KCBC. To this end, the CSO committed to supporting sharing of the findings of this study with relevant stakeholders at the county and sub-county levels of Kwale government.

6. Findings 2: Learning from our action research process

Reinforcing the findings of [chapter 5](#), this chapter provides further evidence of the central importance of relationships in supporting learners to acquire the competencies of the KCBC. Teachers need to be models of this – for learners, their families and communities.

The ‘our’ of the chapter title refers to the two levels of the action research process described in [4.5.1](#): myself as the student researcher, and the teachers whom I supported to adopt an action research approach to explore strategies for teaching the Kenya Competency Based Curriculum. Teachers were encouraged to see their reflective approach to teaching as simulating the way in which they would like to see their pupils learning in their classroom, in a curious, questioning way. The results of strategies and approaches that teachers tried out are described and discussed, along with their reflections on future changes required for effective implementation of the KCBC.

Research sub-questions 1 and 2 are the focus of this chapter: ‘Which teaching strategies do teachers find most helpful in supporting learners’ social and emotional skills?’ and ‘How can teachers engage parents to support the implementation of the KCBC?’ The findings highlight that while the teaching approach and strategies are clearly central to learners’ acquisition of competencies, the context in which teachers work, including materials and the physical environment, also has a major influence. To reflect this, the scope of the research sub-question 1 has been expanded to look first at teaching strategies (section [6.1](#)), and then at the physical conditions of the teaching environment (section [6.2](#)). Research sub-question 2 has been broadened to include community members beyond parents (section [6.3](#)), reflecting both the literature and findings regarding the importance of an approach encompassing the whole community. The connections between research sub-questions 1 and 2 – between the school and the community that surround it – are drawn out in the discussion.

6.1. Teaching strategies

6.1.1. Relationships are central to supporting social and emotional learning

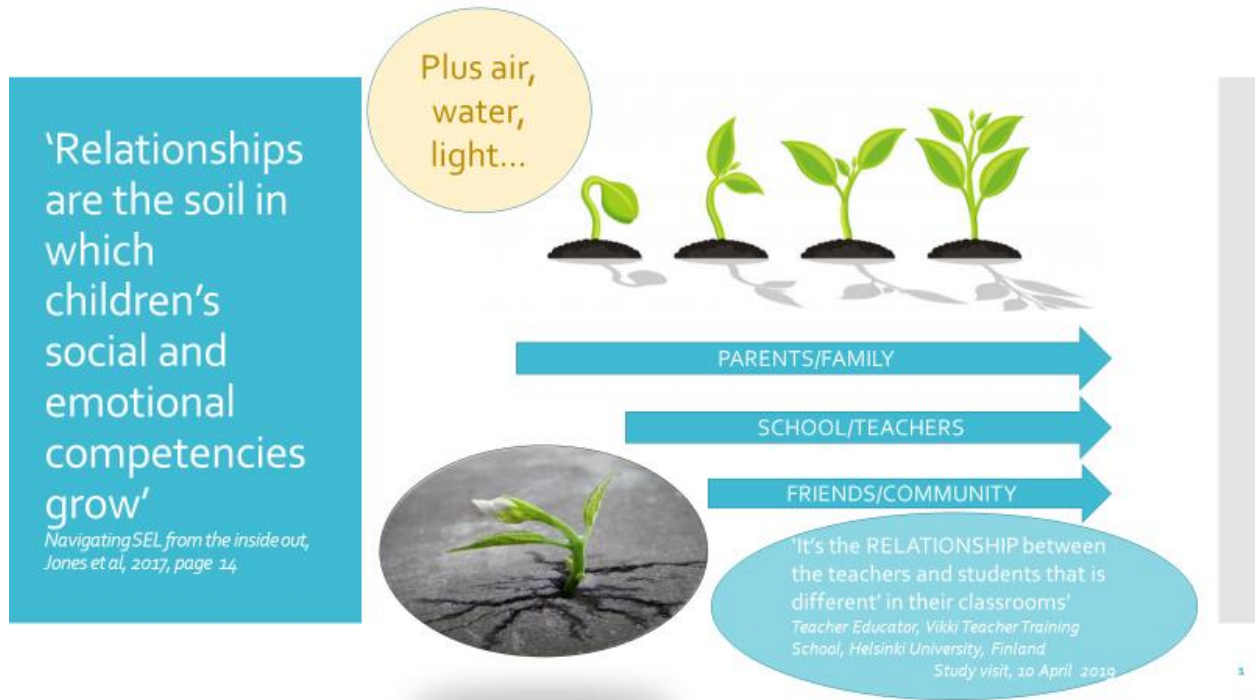


Figure 6.1: 'Relationships' slide used in presentations to teachers and parents

The centrality of 'relationships' to supporting social and emotional learning is presented in the slide in Figure 6.1. It was prepared initially for the Classroom Guide contextualisation workshop in April 2019, and later used in the presentations to both teachers and parents for the thesis research. It summarises key input and findings from the IFS, conveying the notion of relationships as the core of social and emotional learning. Strong relationships underpin the competencies of the KCBC, and are therefore fundamental to the questions explored in the thesis research.

Teachers responded very positively to the model, which became a point of reference for the action research process. The bubble 'Plus air, light, water...', was added based on one teacher's recommendation, the extension of the metaphor demonstrating their understanding of the message. It points to the impact – positive or negative – of the physical environment on relationships, and children's wellbeing. The quotation in the left-hand panel references a core text in the literature (Jones, Brush, et al., 2017, p. 14). Both elements capture the connection between research sub-questions 1 and 2, and the unity of this chapter. The reference to teacher education in Finland was the result of a study visit I had recently paid as part of a work-related

meeting, to Viikki Teacher Training School, Helsinki University. The quotation highlighted to teachers that their objectives and approaches – and the possibility to achieve them – are in common with what is considered best practice internationally (Morgan, 2014, pp. 453–454).

The essential nature of relationships finds its echo in the CASEL framework (see [2.2.2](#)). The value of the CASEL wheel (see Figure 2.1) was recognised by teachers as a simple structure for understanding the competencies of the KCBC:

With that competence wheel ... it was really good, and it had a lot of impact to us. Because if somebody comes here and talks of any competence...I think [any teacher] would discuss with ease.

Interview, Teacher 02, 17 October 2019

This was reinforced by the Research Advisor, who emphasised how demonstrating that SEL as a pedagogical approach (see [2.3.1](#)) underpins the KCBC, was helpful for teachers:

... when you look at the principles of the new competency-based curriculum, of collaboration, of excellence... without the social and emotional element, then these things will not come out...you actually supported the new competency based curriculum very well through that.

Interview, AKF, 18 October 2019

The Grade 2 teacher demonstrated her understanding of the relevance of social and emotional learning – ‘feelings’ – to developing the competencies – the ‘actions’ – of the KCBC:

... I think the feelings and the values and also the competencies we’re looking at, they’re somehow ... interrelated... when I see this friend like this ... so there will be that love, that care, so those actions will be developed somehow, inside...we ... have now learnt about the feelings, about the emotions.... when we are dealing with CBC...

Teacher 01, 16 October 2019

Building on this, teachers spoke about how they had changed their practice. The Grade 1 teacher described how his 'keenness' – sensitivity – to the learners in his class, and their participation, had grown as he tried out approaches as part of the action research:

I was not keen. But when now I started ... I was ... very keen to the children... I could say that there was a bit progress. ...Participation ... at first they were small number then as I was trying, trying...even those who were ... dormant, now they ... become active to the process...

Interview, Teacher 03, 16 October 2019

The connection between strong relationships and the enjoyment of learning – and by implication better learning (see [2.2](#)) and wellbeing for learners and teachers – was clearly expressed by the Grade 3 teacher:

... there is a good relationship between the teacher and the learners, so the learners enjoy learning, we have also known that learning is through fun... So it's becoming quite easy when you teach learners who are ... open-minded, free to express themselves, they are not feeling intimidated, they don't feel any fear.

Interview, Teacher 02, 17 October 2019

These teacher reports on their practice are supported by the CSO's comment on a recent visit to the case study school:

There was a good rapport between the teachers and the learners, and ... the learners ... were very free to the teachers... there is good relationship...

Interview, CSO, 16 October 2019

The emphasis on freedom of expression and good participation that comes through in these quotations, recalls the action research approach. As noted, teachers were encouraged to see their action research as simulating the way in which they would like to see their pupils learning in their classroom, in a curious, questioning way. The ability to try out new things without fearing failure – both for teachers and pupils – depends on being 'open-minded', in the words of the

Grade 3 teacher, and trust and confidence in the learning environment. As explored further in sections [6.1.4](#) and [6.1.5](#) this in turn supports the development of the competencies of the KCBC, in strongly inter-connected ways.

The connection between relationships and taking good decisions - the 'responsible decision-making' domain of the CASEL wheel – was also evoked by teachers. The Grade 2 teacher described the importance of being close to children, in order to 'guide and counsel' them, particularly in conflictual situations:

The child wants this thing to be done this way but the parents say no it should go this way... even [if] the idea is negative you should guide and counsel...you should be friendly to the child... because when you are not friendly, you cannot guide.

Interview, Teacher 01, 14 June 2019

The findings suggest that teachers participating in the action research have begun to bring about the positive change in the relationships in their classrooms, that is essential for teaching effectively the KCBC.

6.1.2. Teachers as models

Taking relationships as the central theme for supporting the acquisition of social and emotional competencies through the KCBC, reinforces the critical importance of teachers modelling strong social and emotional skills. This implies starting with teachers' own emotions and stress management (see [2.3.3](#)). This was a key finding of the IFS, which provided a strong foundation for teachers to integrate the idea into practice during the thesis research. Teachers demonstrated high awareness of their role and responsibility with regard to the children they teach, and the implications of their own behaviour. For example, the Grade 3 teacher expressed his feelings about the action research at the beginning of the process:

I am positive, because ...we are teaching to learn, learning to learn, at the same time we are trying to do it...it has an impact in you, in your family....

Interview, Teacher 02, 14 June 2019

The Grade 2 teacher illustrated her understanding of the same point:

when we are dealing with feelings, how can you love somebody if yourself don't love yourself? ... you may be stressed up, but you may pour your stress on another person...

Interview, Teacher 01, 16 October 2019

She illustrates here both the existence of teacher stress, and her awareness of the impact it has on others (Falk et al., 2019, p. 14). She described how she brought about a change in herself by practising stress management during the research:

there are some things that have changed in me, personally.... I saw that the way I'm relating to [these children] was not good, because sometimes ...[in] the morning, my face is not good... so I had to change first the facial expression...when I enter the class, good morning class... And also, ...when a child comes, 'you know teacher...' I had to ... learn to listen...you know you can just be listening and you are ticking your books, no...I just leave my books and I just listen to the child... so the child will say ...the teacher is someone concerned, even has left maybe marking the books, is now listening to me....

Interview, Teacher 01, 16 October 2019

The teacher here demonstrates her personal experience of the neuroscience that has shown the impact of facial expression, particularly smiles, and other teacher-learner attunement on the learning experience (Hattie & Yates, 2013, p. 259). Supporting strong relationships with individual children through positive role modelling is clearly illustrated in the second part of this quotation, along with her practice of the core element of Psychological First Aid, listening. The Research Advisor and the CSO pointed to the value of explicit discussions with teachers on the nature of the competencies of the KCBC, in supporting them to understand their critical position as role models for social and emotional skills:

when you look at the role modelling part of the teacher, I feel that training ... telling them what is expected of a teacher, and ... being very ... explicit...has really worked for them...makes them become conscious when they are working with the children.

Interview, AKF01,18 October 2019

...[the teachers] can now relate with the content of CBC. That's why I've said they're more empowered, they're more knowledgeable than the other teachers. Yes, they stand a better chance to model the learners...to train their children ...

Interview, CSO, 16 October 2019

These two quotations make the connection with training and support that helped teachers make these changes in their perspective and practice, explored in the next section.

6.1.3. Teacher training, empowerment and 'transformation'

Training provided by the Kenya Institute of Curriculum Development to support the introduction of the new curriculum, was raised in interviews. The head teacher observed that 'this new change is just coming in from above to the teacher...' (Interview, Teacher 04, 17 June 2019), while the Grade 2 teacher described the nature of the trainings:

the teachings they are done in large numbers so we have no time to concentrate, and ... you are left with some questions not well answered ... we are in a hall... some are at the back benches, they are not very serious.

Interview, Teacher 01, 14 June 2019

This contrasts with the positive feedback teachers gave on the action research process. Reflections at the end reflected both personal satisfaction and change in practice felt by teachers:

in fact it has really helped me with the new curriculum ...it makes me all the time updates. ... has made me to feel free....I can teach, even without ...any supervision... it has become as part and parcel of me.

Teacher 03, 16 October 2019

The Grade 2 teacher also referred to achieving the objective of gaining knowledge as a result of participating in the process:

what we need we have already gotten, that's the knowledge...So ... we can be able to go far... even if you are not there now, we can ... continue.

Teacher 01 interview, 16 October 2019

This sense of freedom and ability to progress fits with the definition of 'empowerment' presented to teachers during workshop time: a way to gain more control over choices, for good change, 'transformation'. Teachers' impressions were confirmed in comments by the head teacher and CSO:

...the VBE and your research has made the teachers, has empowered them, more than those others who are only undergoing the training for CBC alone.

Teacher 04, 17 October 2019

...the teachers at [the Case Study School]....you're empowering them...because they're more knowledgeable than the other teachers.

CSO interview, 16 October 2019

The transformation (see [2.1](#)) implied in 'empowerment' was explicitly referred to by each of the teachers. The Grade 3 teacher described experiencing through the action research process a similar learning process to that of his learners:

I've changed, because...as you are teaching you also learn... whatever you have learnt from the research, the workshops, you try to impose that to the learners. So in the process of imparting that knowledge, or imparting the skills that you have acquired, to the learners... you are in process of changing yourself.

Interview, Teacher 02, 17 October 2019

This provides evidence of the teacher simulating in his own experience the curious, questioning learning that teachers were encouraged to adopt and stimulate in learners, as described at the beginning of this chapter. The Grade 1 teacher highlighted the extension of role modelling beyond the classroom:

I've changed ... because to me now I can see that as I am trying to do it my lesson now, I have to apply that work. In daily life. I do it in my class, I do it even if I'm at home...

Interview, Teacher 03, 16 October 2019

The Grade 2 teacher recalled the critical importance of starting with teachers' own lives and stress, and the impact that can have on relationships (see [6.1.1](#)):

...When I'm stressed up ... everybody has to know that I'm stressed up...sometimes you have to just put it down ...so ... it has transformed me, and I thank God for that.

Teacher 01 interview, 16 October 2019

Explicit discussion of the competencies of the KCBC during workshop time, combined with ongoing and personalised support to action research, help explain teachers' positive responses to the action research process and training. They were able to try out the theory in immediate and practical ways, constructing learning in the process. The small scope of this study made this approach feasible. However as discussed in [5.3](#), a number of elements used in the research could be applied at scale within the existing system. Specifically WhatsApp groups allowing ongoing support from a distance, and building an action research structure into lesson planning and teacher review and support by CSOs.

The foregoing has relied on teacher report. Sections [6.1.4](#) to [6.1.7](#) present evidence drawn more substantially from teachers' practice and their reflection on it in reflective diaries and WhatsApp.

6.1.4. Interconnectedness of competencies

Chapter [5.2](#) highlighted teachers' observations that working on one competency often supports work on others. This is particularly the case in relation to the two competencies of focus, Communication and collaboration and Critical thinking and problem-solving. A few further examples reinforce the importance of demonstrating this interconnection in supporting teachers to teach the KCBC, and highlight changes teachers introduced to enable acquisition of these key competencies.

In her third critical reflection, focusing on Critical thinking and problem solving, the Grade 2 teacher emphasised the value of learners working together, simultaneously building communication and collaboration skills. Reflecting on 'why it happened', she highlighted that

activities were accompanied by songs, that learners participated well in group work to ensure that the group does the right thing, and that games and the use of real objects were both fun and helped learners understand the objective of the lesson (Teacher 01, Reflective writing 3, 19 September 2020). Enjoyment, then, is highlighted as an element in enhancing the learning process, while building several competencies at once. The game in this example, reflects the skills assessed in the four competencies of the reorganised social and emotional assessment tool (see [Annex 22](#)). Apart from Communication and collaboration (working together) and Critical thinking (sharing ideas and reacting quickly), Self-efficacy was reflected in hard work and perseverance, and Learning to learn in respecting instructions.

The cross-cutting nature of competency-building in this illustration, recalls points made in [6.1.1](#) about connecting the enjoyment of learning with strong relationships. Working together to achieve a goal was enjoyable for the learners, in the process supporting the development of relationships, central to the acquisition of all competencies. It also demonstrates the importance of ‘social’ competencies, alongside ‘individual’ ones, for success in school. This contrasts with the claim of RTI Mtwara study, that community and family emphasis on ‘social responsibility’ may disadvantage children in a school environment (see [2.4](#)).

Continuing the idea of the inter-connection of competencies, the Grade 2 teacher supported a skill assessed under Communication and collaboration – helping a learner who is struggling – while focusing on Critical thinking. Introducing group work to discuss a story in a KCBC textbook about the roof being blown off a school:

I also asked them if one will be willing to assist a friend or neighbour who finds himself in problems. Put them into groups to discuss problems that could lead somebody to look for assistance from others

Teacher 01, Reflective writing 4, 8 October 2020

Critical thinking and problem solving thus go hand in hand with communication and collaboration, in this clear example of ‘collaborative problem-solving’ (see [2.2.4.2](#)). In her reflections during the interview at the end of the process, this teacher demonstrated her understanding of what happens in this kind of example:

... during my lesson I can be doing communication and collaboration, that is the competency I want to see in the learners, but maybe...also critical thinking may be seen, and the problem solving in the teaching...

Teacher 01, 16 October 2019

A further activity in the same lesson, made the connection with citizenship:

What can you do to avert such situations of houses being blown away? They said that one has to plant trees around the buildings. They also said that they will sensitise the parents on the importance of planting trees to avert such conditions.

Teacher 01, Reflective writing 4, 8 October 2020

Supported therefore by material provided in KCBC textbooks, the teacher encouraged children's awareness of community action, and the role of working with their parents and community. Complementing this idea, in the lesson on food (reflective writing 2), the Grade 2 teacher took the opportunity to make the connection with children's home environment, as children discussed in groups about lifestyle diseases:

Most of the learners accepted that they have challenges in how food is apportioned in their families and that only 1 or 2 types of foods are provided. They further gave reasons ... eg: 1. Ignorance – parents don't care much about the nutritional value of foods 2. Lack of knowledge 3. Poverty 4. Separation of parents ... for example if the mother is not there, when the father goes out to look for work there is no one to cook lunch so the children don't eat lunch. 5. Culture

Teacher 01, Reflective writing 1, 6 September 2019

These issues point towards the discussion of engaging parents and the community in [6.3](#).

6.1.5. Assessment of inter-related competencies in the KCBC

The interconnection between the competencies, and the importance of applicability to the realities of life, is recognised in the National Examination Council (NEC)'s introduction of a 'universal assessment' at the end of grade 3, initiated in 2019. Assessments of mathematics and

English are complemented by an Integrated Learning Areas assessment, designed to assess other learning areas in the form of a community service learning project to clean a local market. The CSO described the various competencies that are assessed:

... the parents of the children are there, selling at the market. And ... the learners they have a responsibility to make the environment clean, at the school and also at the market... We have environmental activity...we had hygiene, before you go to clean the market you must equip yourself...Communication and collaboration – as they clean...they were communicating...There's teamwork, there's also enjoyment as they clean there, critical thinking – where do we dispose...there is also classification of the wastes...that is...critical thinking...

Interview, CS01, 16 October 2019

Sustainable development was touched upon in 'engaging the teachers and the learners to ... use locally available materials to improvise those cleaning materials', for example by creating overalls from sacks.

The CSO noted that 'at every step the teacher was assessing the learners', through preparation of the project, the market cleaning itself, and after cleaning when '...the learners were engaged into drawing the cleaning equipment'. This is a clear illustration of supporting the acquisition of transformative competencies (OECD, 2019, pp. 5–7). The teacher-led nature of the assessment, combined with the objective of evaluating a range of competencies in one process, highlight that the assessment skills teachers practised and built during this study, are relevant of to the tasks expected of them by the KCBC.

This was reinforced in earlier comments by the CSO on the place of assessment in the new curriculum:

Assessment is still a challenge to the majority of teachers... they were used to tests and the examinations, now we go as per the talents and the abilities of the learners. ... The teachers are supposed to record progress of each and every learner, on a separate page... ... that's a problem because our classes are big...

Interview, CSO, 17 June 2019

As described in section [4.6.5](#), teachers used and updated a tool for assessing social and emotional competencies as part of the study. Echoing the CSO's points above, teachers described using the tool as 'very tedious' because of the number of children assessed: between 50 and 83 depending on the class. Their descriptions also indicated the seriousness with which they approached the task. They reported focusing on a few questions a day, giving learners an activity that would allow them to assess the selected questions. The photograph of an original social and emotional competency assessment record shown in Figure 4.6 ([4.6.5.3](#)), illustrates the amount of work involved. Teachers filled in the paper forms neatly in pencil; rubbings out and rewriting suggest care and reflection invested in the process. This was confirmed during the closing workshop, when teachers indicated that the tool had been 'heavy' to use.

Nevertheless, despite the time and effort required, teachers considered the assessment a good process. They appreciated that it gave them the chance to work more closely with the learners – strengthening relationships – and would help them in writing reports at end of the year. Overall, they found it useful and relevant (Field notes, 19 October 2019), summed up by the Grade 3 teacher:

...we saw as a challenge ...that this is new thing... is going to be difficult to do. But at the moment, because we know what we are looking for in a child then it has become quite easy... Since we ... get the tools, for observation and recording...if you want to get this competency what you should do...So the understanding of CBC has now been made very simple...80%, we have achieved.

Teacher 02 interview, 17 October 2019

This confirmation of the coherence between the research activities and expectations of the system, is critical to teachers' application of their learning beyond the research period. The tool was further updated based on statistical analysis of results (see [Annex 22](#)). The revised tool provides a set of five questions per competency, for arguably the four most foundational competencies of the KCBC. This addresses the cumbersome nature of the initial tool, by allowing

teachers to focus their assessment on one competency at a time, through just five questions or behaviours.

6.1.6. Classroom environment supporting competency building

As highlighted in the literature, classroom emotional environment is fundamental to building the range of competencies (see [2.3.1](#)). As described in [4.6.4](#), a contextualised version of AKF's Classroom Guide was used to work with teachers on behaviours associated with specific competencies, and to structure qualitative feedback on their practice. As illustrated in [5.2](#), interactive pedagogy, and instructional strategies that create opportunities for communication and collaboration and critical thinking and problem-solving, were particularly important for meeting emotional climate indicators in the Classroom Guide. Research outputs [Annex 29](#) highlights teachers' awareness of the importance of free expression and participation through group work, in their descriptions of these focus competencies. This was further reflected in their reflective writing and practice.

For example, in her first reflective writing, the Grade 2 teacher pointed to the importance of the teaching environment – 'mood of the class' – in stimulating learners' participation in a Kiswahili lesson:

... learners actively participated in the answering of questions. The teacher set the mood of the class, that is why many were willing to answer questions.

Teacher 01, Reflective writing 1, 26 July 2019

The Grade 1 teacher referred several times to the value of a warm classroom environment supporting learners' enjoyment and their ability to learn. For example:

Before the lesson, the teacher set the mood of the learners high and free as they were to respect ones ideas. Every child should be free, and able to present their ideas without intimidation.

Teacher 03, Reflective writing 1, 6 September 2019

Although used to a limited extent during the study, the potential of the Classroom Guide to support teachers' professional development and in turn learners' acquisition of competencies in the context of the KCBC, was demonstrated.

6.1.7. Concentration and attention: 'mindfulness'

As mentioned in [2.3.3](#), breathing and other exercises to support teachers' and learners' stress management, attention and concentration were integrated into workshop sessions with teachers (see Workshop supports [Annex 6](#) for a summary of exercises used). Teachers always responded positively to these activities, saying they helped them relax. A couple of times I witnessed teachers using them with their classes. I had envisaged these approaches may have been the object of 'try outs' by teachers in their action research. In the closing workshop however, they expressed, understandably, that they had not received enough support in this area to feel confident to do so. They recommended sessions focusing specifically on such exercises if they are to be used. The stress and uncertainty caused by COVID-19 has highlighted the value of activities to support relaxation, concentration and attention in building the competencies of the KCBC, which are in turn integral to psychosocial wellbeing (see [2.3](#)). It is recommended that teacher support to use such activities, both for themselves and learners, would be a fruitful idea to pursue (see [chapter 8](#)).

6.2. Physical conditions of the teaching environment

Teaching materials and reduced class sizes were identified by interviewees as an essential complement to teaching approaches, for effective teaching of the KCBC. This confirms the argument that physical conditions impact teaching and wellbeing (Falk et al., 2019, p. 26). This section explores relevant findings from the study.

6.2.1. Text books and other materials

The VBE baseline study recommendations highlighted the importance of 'vivid and explicit materials' to help learners 'visualise and be able to relate to in their normal daily lives' (Wamahiu, 2017, p. 128). In contrast, the implications of managing without text books adapted to the new demands of the KCBC for 18 months, were highlighted by the Grade 1 teacher:

... by then... we did not have specific books, so we tried to collect information from there from there so we were....it was like beating on the bush [laughs]...

Interview, Teacher 03, 14 June 2019

The CSO summarised the situation of teaching materials at the launch of the action research process: 'Now the textbooks are available...what is not available now for the schools is play equipments' (Interview, CSO, 17 June 2019). The challenge posed by the ongoing gap in resources was described by the Grade 3 teacher:

When you talk of children who are talented in music, do you have the music class, with the proper instruments? The children who are good in ... painting, do you have the classroom full of paints?

Interview, Teacher 02, 17 October 2019

This reflects literature highlighting the impact of limited resources on teaching practice (Akalu, 2016, p. 190; Sayed & Badroodien, 2018, p. 12).

6.2.2. Class sizes

The head teacher vividly portrayed the impact of high teacher:pupil ratios:

The shortage of teaching staff is too rampant... Like class 1, they have 130 there, that is two streams. You go to class 2, you have 69... almost two streams... So it's maybe teachers feel tired at the end of the day.

Interview, Teacher 04, 17 October 2019

Teachers elaborated on the impact of this situation:

For example now, from here, I'm expected to go to teach in the upper class... when I could have the afternoon for the preparation of tomorrow's lesson it would be better... at home I am supposed to be with my family, but now it is the time I will have to prepare for the lessons ...

Interview, Teacher 01, 14 June 2019

Heightened teacher stress is evident in this context. The Grade 2 teacher highlighted the implications for the action research, and for additional effort required by the KCBC:

... in a school where the school is well staffed, I think it [the additional workload implied by the action research] is not a big...you know, for us, when we are teaching the lower, we're supposed to be free in the afternoon, but we were not free ... sometimes we had to do the work at home.

Interview, Teacher 01, 16 October 2019

While large class sizes and generally poor working conditions have been found to have a negative impact on teacher motivation in Sub Saharan Africa (Bennell & Akyeampong, 2007, pp. 42–43), this point again highlights the commitment of the three teachers to the action research process. Their willingness to dedicate extra time to it, despite work pressure, suggests that they genuinely found it useful.

6.3. Engaging parents and the community

As described in chapter [2.3.4](#), one of the Pertinent and Contemporary Issues of the KCBC is Parental Engagement. In line with this, the IFS recommendations included 'stronger involvement of parents, caregivers and community, in a mutually reinforcing alliance to support the social and emotional wellbeing of their children' (Joyner, 2019, p. 89). The study highlighted that this is an aspect of the new curriculum requiring substantially more attention. This section explores this area.

6.3.1. Home and community context

As described in [chapter 2](#), and reflected in the socio-economic data collected through the EGRA/EGMA assessment (see [7.1](#)) the context of the case study school is relatively poor and education levels low. Teachers spoke frequently about the impact of the home environment on their efforts to teach the KCBC. In the words of the Grade 3 teacher:

we are not staying with the child...24/7... We can, we will do our part, but the other part is for the outside world of the parents and the community, to also look at the child and develop the child better... the biggest challenge is the life after, outside school.

Interview, Teacher 02, 14 June 2019

This points to the impact of all aspects of a child's life on their development of competencies, recalling the 'air, water, light...' bubble added on the recommendation of teachers to Figure 6.1 in [6.1.1](#). The challenge was elaborated by the Grade 2 teacher, who lamented the lack of role models:

From home there are no role models... to help them acquire these things we are talking about, like respect, responsibility... For example, I told... there's no need for you to use abusive language, yet at home, the parents are using abusive languages...

She commented that religious leaders are not filling the gap:

...it has been left with the imams, which it is only a few imams which are ... imparting. Even few of them go to these teachings... the teachers are the only role models that they have.

Interview, Teacher 01, 14 June 2019

In this context, the role of teachers and education leaders becomes particularly important. The study demonstrated ways in which engagement with the community is being attempted by the school. This is a priority within the KCBC that has been integrated by teachers into their practice. The discussion in [6.3.2](#) provides illustrations.

6.3.2. Parents and the KCBC

6.3.2.1. *Sensitisation*

The CSO described the novelty, and reality, of an explicit effort to involve parents in the new curriculum:

we have a component known as parent engagement. But truly speaking ...we are still sensitizing the parents, and being a new curriculum it will take time to bring all parents on board. But the CBC says that parents have a role to play with their children at home and at school... We don't want a blame game between the teachers and the parents, that's why we have put them on board....

Interview, CSO, 16 October 2019

He described his own role in this process, with other CSOs:

I'm going round to all schools to meet parents. To tell them about the new curriculum, ...because we need them. They need to support the new curriculum, but you cannot support something which you are not aware of...

Interview, CSO, 17 June 2019

The head teacher shed a slightly different light on the issue. Pointing to the limited involvement of parents in the development and implementation of the KCBC, he suggested that this undermines sensitisation:

the new curriculum should address the gaps ... the local mwananchi [people] should be informed of these gaps and why this new change. But this new change is just coming in from above to the teacher. Parents who is also a very important stakeholder, has been left out, just like the teacher....that's why there is all this fears and worries.

Interview, Teacher 04, 17 June 2019

This reflects external analysis. A 2017 consultation with stakeholders including teachers, parents, teacher trainers, NGOs and education system representatives, highlighted three specific issues: 'lack of awareness of the new curriculum, lack of involvement of multiple key stakeholders in its development, and concerns with its implementation. The first two challenges go hand in hand' (Care et al., 2017, p. 42). The head teacher further supported this perspective, referring to the lack of effective communication about the reform, and its inherently political nature that has sparked controversy:

Ok, in the media it has been launched....but ...people who can normally respond to media are very few. So it needs to come down, it should be participation democracy... we want community participation to come in so we can look at those areas which need to be addressed.

Teacher 04, 17 October 2019

He noted however 'I can't go to that political part because our stand as administrators is to take the policies from the Ministry of Education'. He nevertheless expressed his priority for the action research process in terms of the school's place in the community:

That is one of my greatest hopes... that by the time we complete this research, my parents as being part of the research, being brought on board, they are going to be opened up. And they are going to learn more.

Interview, Teacher 04, 14 June 2019

This touches on the idea of the empowerment of parents promoted by the KCBC (see [3.6](#)), and possibly even their 'transformation' through involvement in the education of their children.

6.3.2.2. Meetings

The main vehicle for informing parents about the KCBC is meetings. Confirming his commitment to the importance of involving parents, the CSO explained:

We allow them [teachers] to call as many meetings as possible... And we have two types of meetings for the parents. We have parents for all school, and then we have meetings of classes, so we can call grade 1 parents, they meet and discuss their issues.

Interview, CSO, 16 October 2019

Teachers however pointed out that meetings do not always have the desired effect:

we do call meetings, but the parents don't come all of them ... some of them when they leave their children to come to school, now it is for the teacher to take from there ... They are not much versed in what is happening.

Interview, Teacher 01, 14 June 2019

The legitimate fear of the unknown, and the challenge to familiar education approaches that the KCBC represents, was highlighted by the head teacher:

...[they] cannot believe that these learners can learn from playing...those parents who excelled through book work, they [see] this as a system which is going to humiliate their

children. ...here is coming a system where there is no loser, everybody is a winner ... Now, that feeling is not embraced well in the society.

Interview, Teacher 04, 17 June 2019

This description is a helpful reminder of the radical nature of the reform from certain perspectives, and the importance of addressing the concerns contained in such views. It echoes the need for negotiation with communities described in [2.3.4](#) (Jukes, M in Smart et al., 2019, pp. 193–194). The evidence provided by this study of the complementary nature of ‘book work’ and ‘learning from playing’, particularly the quantitative results presented in [7.2.2](#) and [7.3.4](#), can contribute to arguments to convince the sceptics.

This would be supported by the range of views amongst parents, as the head teacher noted:

Some parents in fact have embraced that one very positively... they think the issue of exams is maybe what makes their learners run away from school... So with this new CBC, maybe, it will replace all that.

Interview, Teacher 04, 17 June 2019

The other teachers were generally positive about working with parents and other community members. The Grade 3 teacher focused on the best interests of the child, while acknowledging the constraints faced by their families:

you sit with the religious leaders, the community elders, the parents, you tell them... how the child should be handled ... there are many challenges of course, poverty ... but at the same time a child should be well handled.

Interview, Teacher 02, 14 June 2019

The Grade 2 teacher – the only woman teacher in the school – emphasised the particular attention she pays to female caregivers, highlighting issues specific to girls:

... most of them who were coming were female ... we say in Africa that ... the mother is like the pillar of the house... So if the children, how they grow... is the mother...you have never talked about anything to do with the monthly periods, and now, the child wants

maybe to tell you something, and will not telling because maybe in the morning ... you are harsh...

Interview, Teacher 01, 16 October 2019

This example returns the importance of strong relationships, illustrating the teacher applying her own learning about how to engage with children, to advise other women. It becomes even more relevant in the context of COVID-19 and its impact on the lives of girls in particular (see [1.1](#)).

6.3.2.3. Meeting with parents during the study

During the parents' meeting at which the IFS results were presented and KCBC competencies explored, one parent commented 'we have attended, been taught – we will go out and explain exactly what we have learnt' (Field notes, June 2019). This suggested a positive response to the sensitisation process. However at the end of the meeting, another parent asked 'Why did you bring this information here, what is her aim in coming to our school?' The Head of the Board of Management (the school's community management body) added that that the government is bringing the CBC, but no books, no training: 'it's not good; if you get support from government – we don't trust anyone'. I responded that I was a student with no external funding, there to explore the KCBC. I explained that we know from other contexts that supporting these competencies can help children learn better. Their school community was chosen for being particularly dynamic, and that we want to find out what helps here, to use the experience to help other schools, teachers and communities. (Field notes, June 2019).

This exchange provided first-hand experience for me of the political nature of the KCBC reform, and associated mistrust and resistance. It was a reminder of the critical importance of both transparency and contextual understanding in my position as an outsider – in this case as a researcher, but at least as important in my normal professional role of international NGO practitioner. While challenging, the views expressed by parents and community members were evidence of energy and critical appraisal that make them precious partners in a shared cause, of improving the quality of their children's education. Working with the community to this end

should be an essential element of follow up to the research, both at this school and more widely, to inform strategies for engaging with parents and communities as the KCBC evolves.

6.3.2.4. Assessment

As hinted at in 6.3.2.2, the nature of assessment in the KCBC marks a major change for parents to accommodate. The CSO related how he addressed this in a meeting with parents:

...I told them, that in CBC we should not be ranking children. Don't expect your child to give you a report, and you ask him or her what position are you in this term? There's no positioning...

Interview, CSO, 16 October 2019

The concerns of parents regarding the new forms of assessment were highlighted by the headteacher:

There are some parents who are not feeling happy with the new system, where they hear the teacher is ... going to assess and award marks and the marks will be taken to National Examination Council... [they] ...Maybe a teacher might be biased ...

Interview, Teacher 04, 17 June 2019

The CSO highlighted how parents' fears may be allayed:

...formative assessments will be very much useful, to the teacher and the parent... the parent will go to school and be told by the teacher now, your son or your daughter is very good in this and this and this, so we are advising the kid to go this pathway. The parent should be aware about the pathway undertaken by his or her daughter and son.

CSO 17 June 2019

An illustration from the case study school seemed to prove this point. The Grade 3 teacher reported the positive response from parents of children participating in the first grade 3 assessments under the new curriculum (see [6.1.5](#)):

... the parents were cooperative, ... they were asking....enquiring, they were curious to know...

Interview, Teacher 02, 17 October 2019

This encouraging illustration of parents' willingness to engage with the new curriculum and its implications for their children, lends weight to the CSO's argument that parents just need to be 'brought on board' to become active partners in the reform process. Teachers' openness in the case study school to work with parents is undoubtedly an essential contributing factor, explored further in [6.3.2.6](#).

6.3.2.5. Material contributions by parents

Levels of poverty, and the impact this can have on support for the reform, were noted by the Research Advisor:

some of the challenges that our parents are facing, for example ... lack of basic needs, sometimes they are not able to meet the needs of the children in school, because ... there are a lot of resources that are now required by the new curriculum, especially files...materials...

Interview, AKF, 18 October 2019

The socio-economic indicators available (see [7.1](#)) suggest that parental ability to provide paper and other materials are probably constrained. Nevertheless, the Grade 1 teacher highlighted that 'almost 80' parents of the 115 children in his class, responded positively to a request for support:

....when we call for a parents' meeting, ...some they came and then they provided some of the assessment books, some we sent the parents to bring some manila papers...

Teacher 03, 16 October 2019

This again highlights that efforts to engage parents bear fruit (see [6.3.2.4](#)), also illustrating the notion of co-agency (Schoon, 2018, p. 7). The nature of the attention paid to this by teachers is explored in the final section of this chapter ([6.3.2.6](#)).

6.3.2.6. *Teachers and parents*

In the discussion of the formulation of action research questions (see [5.1.2](#)), teachers demonstrated the connections they make between children's lives at school and at home. One highlighted the example of a girl in their class who was not eating at home, which they knew about from speaking to other children. The teacher emphasised the importance of such conversations to understanding parental challenges (Field notes, June 2019). That attention to the girls' personal situation is evidence of the school environment playing a 'buffer' role for children whose home situation is difficult (Hattie & Yates, 2013, p. 20). Reinforcing this, teachers commented that 'parents should know that they are not called by teachers to criticise them, teachers want to understand from parents the problems children may be having, and to share possible solutions'. They explained that when parents 'give out their feelings then they will feel they own it', reflecting their understanding of the point highlighted in the handout, that people involved in the problem, its owners, should be the ones involved in solving it (Workshop support [Annex 5](#), comment on p. 212, and p. 213). In this way, getting parents' views of children will both help teachers to understand the child's point of view, and support work together with parents to find solutions appropriate for the families concerned.

Although engaging with parents was not reflected directly in the action research questions formulated by the teachers during the study, the connection with parents was central to their thinking about children's acquisition of competencies, and general wellbeing. The grade 2 teacher illustrated her capacity to act as a mediator between parent and child, elaborating the theme of relationships. The following quotation has deliberately been kept long, better to convey the teacher's story – the process she went through to succeed, and her reflection on that:

... some parents were coming to me reporting to me that their children were misbehaved ...as I was going through the action research ...there were some boys, I was just calling them ... I can hear your mother is complaining... so they be frank, they tell me, ah no, you know, there is our team... sometimes when they are sent, they don't do it because of some other things they want to do. So the parent...I don't know what I am going to do, because the boy is small... I cane, he's not listening to me. So I say no, stop caning him, let

me talk to himbecause you may make him stubborn through caning. So I talk to the boy... [he] said ... no problem I'll change. So sometimes he forgets he goes back... [but]....this boy has really changed. So now when you are talking to them, continually, ...until the parent is open to you, to tell you that he or she has this problem, so you will be able to see how to handle it.

Interview, Teacher 01, 16 October 2019

This example provides encouraging evidence of the teacher's engagement with the action research process and a whole school approach involving parents, in the interest of child wellbeing and learning. The KCBC provides the specific framework for these illustrations. However from a broader perspective, the teachers are seen to understand and be contributing to the foundations for quality education, applicable in any context. The fundamentals of the KCBC then, are not new. The challenge is how to realise them, particularly in relatively difficult contexts exemplified by the case study school.

The evidence base for the response to research sub-question 2 is limited. A number of factors contributed to this. Teachers and other stakeholders identified the issue of parental support to children as a priority in the Institution Focused Study, and further exploration of this in the thesis was one of three recommendations of that preparatory research. Although teachers continued to highlight the importance of issues related to parental support, or lack of it, in the lives and learning of their pupils, they did not select this as a focus for action research questions as I had anticipated they might. Two reasons can be cited for this. Firstly, teachers' focus in selecting their questions was on the content of lessons and how they are taught, which is at the centre of their concerns in teaching the KCBC. Secondly, teachers have limited scope for engaging with parents as a group. Calling meetings requires permission from the head teacher, and teachers mentioned that many parents often do not attend meetings. On the other hand, as seen in chapters 5 and 6, teachers cited a number of examples of their engagement with parents at an individual level, to address specific issues with individual children. The significance of such examples as

illustrations of teachers' understanding of the importance of social and emotional wellbeing of learners has been drawn out in the findings as appropriate.

In addition, during the second term of the action research period, the final exam term, all meetings were forbidden by local authority order, to minimise risks of corruption around exams. This in itself indicates a certain tension between the school and parental involvement. It meant that I was unable to hold the parents' meeting planned for the final research visit, so limiting my data collection for this sub-research question to the meeting with parents held during the first research visit, and information gained from interviews. My engagement directly with parents is limited by language and cultural issues, which make me even more of an outsider to them, compared with the teachers. The question of how teachers can engage parents in the implementation of the KCBC will be highlighted in the recommendations as an area for further research. It is necessary that this be led by teachers or others familiar with the language and context of the school community.

Chapters [5](#) and [6](#), have provided some elements of response, which are built upon in the following chapter [7](#). These points are brought together to inform the conclusions and recommendations in chapter [8](#).

7. Findings 3: Assessment of learning outcomes

This chapter aims to present learning from the quantitative findings of the research, in particular learners' performance on social, emotional and academic skills, and the relationships between those results. It starts with a brief description of characteristics of learners who participated in the study, based on their answers to questions about their lives asked of Grade 3 learners as part of the Early Grade Reading and Mathematics Assessments. These children represent a sample of the total study population (see [4.4](#)). Their details may be considered representative of the overall lower primary school community, and of Kwale county in which it is situated. Findings from the assessment of grade 1-3 learners' social and emotional skills, and the reading (in Kiswahili and English) and mathematics skills of grade 3 students are then presented. Finally, the results of regression analysis to explore relationships between these elements are discussed, with a view to answering research sub-question 3: What association, if any, is found between learners' social emotional skills and their literacy and mathematics achievement?

The findings reinforce the evidence of chapters [5](#) and [6](#), of improvements in the social and emotional skills during the period in which teachers were trying out strategies to support the teaching of the KCBC through action research. Significant correlations found between assessment results of different competencies, confirm the interconnectedness of these skills identified by teachers. In addition, correlations between reading and mathematics results, and scores on the assessment of three out of four of the competencies, are found to be significant. This indicates the positive impact that supporting children's acquisition of the KCBC competencies can have on their academic learning.

7.1. Characteristics of Grade 3 children and their households

This section describes certain socio-economic characteristics of grade 3 learners and their families, with reference to summary tables presented in [Annex 21](#). Almost none of the variables were found to be significant predictors of social and emotional or academic learning outcomes in regression analysis, probably due to the small sample size (see [7.3.4](#)). They illustrate however the low income, poorly-resourced context of the case study school.

7.1.1. Age, attendance and assets

The age range of grade 3 learners was from almost 9 years to over 15 years. The median age was 10.8 years, two years older than the prescribed age for this year group. Learners under the KCBC start school at 6 years, so in Grade 3 should be between 8 and 9 years (KICD, 2017, p. 28). The average age for girls was 11.3 years and for boys was 11.6 years, indicating that overall learners in this class are behind in their progress through the education system, in relation to their age. The average attendance rate of grade 3 pupils for the school year 2019 was 92%, with a minimum of 35% and a maximum of 99%. The attendance rate for girls was on average higher, at 95%, compared with 88% for boys, as shown in Table 7.1.

Table 7.1: Summary of percentage attendance, Grade 3, academic year 2019

| n=50 | | | |
|--------------|------------|-------------|-----------|
| | Mean | Std. Dev. | Frequency |
| Girls | 95% | 0.04 | 25 |
| Boys | 88% | 0.15 | 25 |
| Total | 91% | 0.11 | 50 |

A connection to electricity – solar powered – was reported by 55% of children while 23% said they had an inside toilet. Low levels of connection to electricity can be expected to impact on children’s ability to study at home or read in the evenings. Amongst portable assets, 92% of homes were reported to have a phone (assumed to be mobile), 66% had a radio, 26% a television and 2% a refrigerator. In terms of transport, 43% of households had a bicycle, 30% a motorcycle, and 2% a larger vehicle (car, truck or tractor). A high level of phone ownership, 92%, compares with 36% of children reporting access to the internet by phone. This indicates a relatively low proportion of smart phone ownership, probably combined with limited access for a child to a smart phone if there is one in the household. The remainder of children said they could access the internet at a cybercafé, but this would have an additional cost. Learners can therefore be assumed to have little opportunity to supplement school activities with access to the internet, whether for educational or entertainment purposes.

7.1.2. Language and literacy at home

A large majority of children (80%, 38 of 47), spoke Kidigo at home, while the remainder spoke Kiswahili. On the other hand, 55% of children said they spoke English at school, and the remainder Kiswahili. Amongst friends, by comparison, only 22% said they spoke English, 62% Kiswahili and the remainder Kidigo. This indicates that most children are not learning to read in their mother tongue (Kidigo), making English their third language. This is relevant for the EGRA Kiswahili and English results reported below. Most children reported that their main caregiver was their mother and/or father (78% and 76% respectively). The majority of the remaining children reported a sibling or grandparent as primary caregiver. Regarding literacy levels at home, children reported that 51% of primary caregiving mothers, and 62% of fathers were able to read and write (see [Annex 21](#)). 17 children (36%) reported having books at home, and 14 (30%) said they had someone at home who read with them. These relatively low levels of literacy, and of access to reading at home, are also relevant to EGRA results.

7.1.3. Domestic work and gender differences

Grade 3 learners reported substantial work at home. Overall, working on the farm and fetching firewood were the most frequent at 79% and 77% respectively. Cooking was cited by 55% of children, working in the market by 53% and taking care of siblings by 49%. As shown in Table 6.4 and Figure 6.1, disaggregating by gender revealed a clear division of labour for some tasks. Taking care of siblings was almost equally distributed, mentioned by 50% of girls and 48% of boys, as was fetching firewood, at 79% and 74% respectively. Many more girls on the other hand reported cooking (81% compared with 22% of boys), while 91% of boys said they worked on the farm, compared with 67% of girls, see [Annex 21](#) and Figure 7.1.

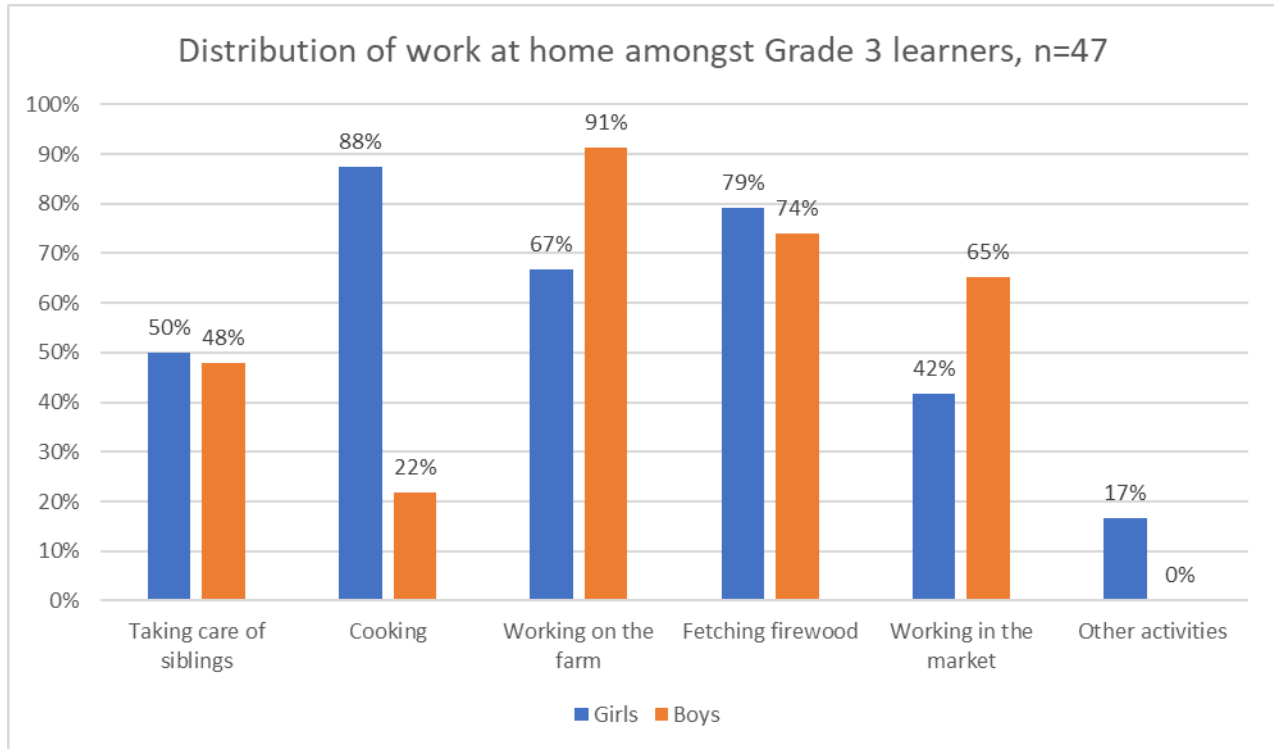


Figure 7.1 Distribution of work at home amongst Grade 3 learners, n=47

Despite the small sample of 47 children (24 girls and 23 boys), these figures provide some indication of the nature of children's involvement in household tasks. The gender distribution suggests that girls may be expected to spend more time on domestic work, given the relatively large amount of time required daily to cook, compared with working on the farm. The equal share of childcare between girls and boys is perhaps a counterbalance to this.

The gender breakdown is relevant to this study in the context of the values of equality and respect for all that the KCBC promotes. Working together effectively – communicating and collaborating, problem-solving in a group – depends on mutual respect between girls and boys, modelled by their teachers, at home and in the community. Teachers could explore this further with parents and caregivers, based on further discussion with children – ideally girls and boys separately – about how they experience the distribution and time implications of household work.

7.2. Social and emotional competency assessment

Taking into account the traits that the Mtwara study tool was designed to assess, this section discusses the findings of factor analysis¹¹, that identified the questions that appear best to assess the competencies according to this assessment (see [Annex 22](#) for full details of the analysis). The discussion responds to the recommendation made by the developers of the RTI Mtwara tool, for further investigation of the social and emotional competencies that help children succeed in school in subsistence-agricultural communities (see [1.2](#)).

Examined in detail in sections [7.2.1.1](#) – [7.2.1.4](#) below, many of the behaviours assessed by the tool, contribute to curiosity and self-confidence. One of the Mtwara study’s conclusions was that children from rural areas were less likely to be curious and self-confident, which could limit their active engagement in the classroom (RTI International, 2018, p. 4). The analysis of this study, including the quantitative findings explored in [7.2.2](#) and [7.3.4](#), suggests that the interconnectedness of competencies means that effective teaching of the KCBC can help overcome this. Strong modelling by the teacher of respect and encouragement, allowing learners time and space to ask and answer questions, and providing constructive feedback, were shown to be key factors in supporting learners to develop the competencies of the KCBC, including curiosity and self-confidence. In such a positive, stimulating learning environment, a teacher can also support planning skills, effective group work and the ability to focus on a task despite distractions. The evidence presented in chapters [5](#) and [6](#) shows that given the interconnectedness of competencies, a teaching approach in line with the Classroom Guide, and reflective, action research principles, enables teachers to facilitate progress on all competencies in a complementary way.

7.2.1. Which behaviours are most important for developing the competencies?

According to results of the use of the scale during the study, the most important behaviours for achieving the four assessed KCBC competencies are: hard work, the ability to organise work, and

¹¹ [Annex 22](#) shows the factor loadings for the questions in each scale of the tool, identifying which behaviours are the most important for developing the four competencies assessed. This is discussed in sections [7.2.1.1](#) to [7.2.1.5](#). By comparing the KCBC competencies associated with each question, with the traits in the RTI Mtwara tool (see [Annex 12](#)) with which they were identified, we can ‘translate’ the questions of the RTI tool for the competencies of the KCBC.

perseverance (grouped under Self-efficacy); the ability to ask and give original answers to questions, to respect and help others (under Communication and collaboration and Critical thinking and problem solving); and the capacity to stay calm and filter out distractions, respect rules and accept feedback (under Learning to learn). Each of these sets of behaviours is explored in more detail in this section, based on analysis of how the scales worked together in this assessment.

7.2.1.1. Self-efficacy

Self-efficacy was assessed in the updated tool by questions relating to the ability to plan and meet deadlines, perseverance, and hard work. This set of five questions worked together particularly well (see [Annex 22](#)), suggesting that the scale for measuring self-efficacy is stronger compared with the other scales. Keeping to deadlines (question 1) and working hard (question 4) were the strongest questions for explaining variability, closely followed by the other three questions in this set, covering planning work (question 3) – closely related to keeping to deadlines – and perseverance in the face of difficulty (questions 2 and 7). It is notable that four of the five questions in this scale were also prioritised by teachers during the review of the tool after the two assessments (see [Annex 15](#)); they did not prioritise question 2 as it was considered to repeat question 7. Teachers can therefore be said to ‘agree’ with factor analysis in their estimation of the importance of these attributes.

All the behaviours reflected in these questions are ‘complex’ skills of executive function and effortful control (see [2.2.4.3](#)), that teachers can model and help learners acquire through their classroom practice. A positive and stimulating learning environment encourages hard work (see [2.3](#)), and, as highlighted by teachers, the enjoyment of school activities (see [5.2](#) and [6.1](#)). Within this environment, teachers can guide pupils in the planning of tasks, which helps them to meet deadlines and supports also the competency of Learning to learn. Teacher sensitivity builds perseverance, closely related to confidence, which underpins other competencies (see [6.1.4](#)). The inter-connectedness of the process of building the competencies is thus demonstrated.

All five questions are found amongst nine in the ‘conscientiousness’ trait of the Mtwara tool. This suggests that self-efficacy as interpreted for the KCBC reflects a substantial element of ‘conscientiousness’ as understood by communities in northern Tanzania. In Mtwara the trait was

named by the researchers to describe a group of characteristics highlighted by study participants, which included self-directed, careful and persistent (RTI International, 2018, p. 2). All of these characteristics align closely with self-efficacy.

7.2.1.2. *Communication and collaboration*

In the Communication and collaboration scale, the ‘strongest’ questions in predicting this trait asked about learners being happy to be the first to answer a question in class (question 5), respecting others when they are talking (question 19) and helping a struggling student (question 9). This suggests that the most important skill for teachers to build in learners, in relation to building the competency of communication and collaboration is the ability and motivation to answer questions. This is strongly related to confidence, as observed by teachers in their qualitative feedback (see [6.1](#)). Encouraging pupils to help each other, and ensuring respect for those speaking, both support the development of self-confidence, along with a spirit of collaboration. All of these areas are supported in a supportive, respectful learning environment as described in the Classroom Guide (see [4.5.4](#); [5.3.2](#); [6.1.6](#)).

Questions about raising their hand before speaking (question 6) and responding politely to questions (question 17) were relatively less important in explaining this competency. Classroom observations were consistent with this, showing that these are behaviours well developed in most children, so do not distinguish well between them. Teachers prioritised these questions in their selection during the closing workshop, over being eager to answer first in class. The reason given for this, however, was that question 10, whether a learner likes to exchange ideas with others (grouped with critical thinking and problem-solving in factor analysis) was the best way to assess a learner’s eagerness to participate, compared with wanting to be the first to answer a question. It was not that they considered unimportant the concept of participation, which is reflected in both questions. The interconnectedness between competencies is illustrated here: the ability to exchange ideas – implying being eager to answer questions – supports both Communication and collaboration and Critical thinking and problem-solving. As teachers reported themselves (see [6.1.4](#)), if they can provide learners with opportunities to exchange ideas – in carefully constructed group work activities for example – and then support them to do so, they will enhance the development of both competencies.

The questions grouped under Communication and collaboration fell between Conscientiousness (being first to answer a question, raising hand before speaking and helping a struggling student), and Obedient (answering nicely and respecting others who are speaking) in the Mtwara tool. The ‘conscientiousness’ questions could be described as the participatory, ‘social’ aspects of this trait, compared with internal motivation and hard work, which in the KCBC are reflected in Self-efficacy (see [7.2.1.1](#)). Further, in the RTI analysis, these ‘Obedient’ questions were considered to reflect ‘social responsibility’, more valued by parents than by teachers in the Mtwara study (RTI International, 2018, p. 3). In the revised tool, however, they reflect attributes that facilitate the core competency of Communication and collaboration; they appear to explain less variability as they are already well developed in learners. This suggests that competency-based curricula have the potential to bridge the gap between ‘school’ and ‘community’ valued competencies. This fits well with the emphasis on parental and caregiver involvement in the KCBC, and should support ongoing efforts to bring the school and community closer together.

7.2.1.3. Critical thinking and problem solving

The strongest predictors of this competency according to the analysis were the ability to ask questions (question 11), give unique responses (question 12) and exchange ideas (question 10). Teachers had prioritised the questions about giving unique responses and exchanging ideas, demonstrating coincidence of teachers’ judgments with the results of factor analysis. For learners to display these behaviours, the classroom context needs to provide opportunity for, and encouragement of, free expression in different forms. One element of this is productive, collaborative group work, emphasising the connection with communication and collaboration. Teachers can also work on allowing learners more time and space in which to find answers and speak for themselves, as illustrated by one of the Grade 2 teacher’s reflections (see [6.1.4](#)).

The question in this scale about ‘avoiding bad company’ (question 15) had been prioritised by teachers, but was not consistently a strong predictor in the analysis. Teachers’ understanding of ‘avoiding bad company’ was not discussed during the workshop. This is a subjective and culturally specific concept, which needs further probing to confirm or otherwise its use in future. The question of whether a learner is slow and unhurried in deciding what to do next (question 16), was the least helpful in predicting this competency. This question was positive in the Mtwara

context, but teachers in the case study school were clear that in their context there is an expectation that someone performing well will act quickly. This cultural difference, combined with the low factor loading, suggests that this question may best be dropped in future.

The three questions in the ‘curious’ trait in the RTI tool – exchanging ideas, asking many questions and giving unique responses – overlap with the strongest questions in the Critical thinking and problem-solving questions. This reflects the critical role curiosity plays in the ability to think critically and find solutions, which seems to be common across the two contexts. The weaker questions, avoiding bad company and being slow and unhurried (positively) come under the ‘obedient’ trait in the Mtwara tool. The notion of ‘obedience’ was most highly rated by parents in Mtwara (RTI International, 2018, p. 40), but as noted above, both of these questions appear to be culturally specific and need further investigation for Kenya.

7.2.1.4. Learning to learn

The strongest questions for assessing the competency of Learning to learn, according to the scale used in the study, asked about learners’ ability to stay calm even when disturbed by others (question 13), and the ability to stay quiet when asked (question 14). Question 13 was also prioritised by teachers at the end of the action research, which they saw as covering the same ground as question 14. These are examples of ‘simple’ skills for effortful control (attention control as in question 13) and executive function (response inhibition as in question 14), see [2.2.4.3](#), indicating the importance of focusing on the ‘building blocks’ of higher order skills in supporting the development of competencies. Questions about complying with school rules (question 18) and willingness to hear and learn from feedback (question 8), were also strong questions in explaining variability, and coincided with teachers’ prioritisation. On the other hand, a complementary question about easily accepting correction of mistakes or behaviour (question 20) – seen by teachers as ‘covered’ in question 8 – was poorly predictive.

These findings again highlight the critical importance of a supportive learning environment for the cultivation of these behaviours. In particular, teacher sensitivity in conveying constructive criticism, is essential. This was witnessed in the case study school in some of the video clips (see [6.1.6](#)). It is an area on which teachers should continue to focus, complementing other competencies, specifically the confidence required for self-efficacy.

Four out of five of the questions in the Learning to learn competency questions fell into the Obedient trait in the Mtwara tool (the fifth, found under ‘conscientiousness’, is question 8, about learning from feedback, which pairs with question 20 about accepting correction). The report on the Mtwara study suggested that ‘obedience’ reflects the high value placed on ‘social responsibility’ as opposed to individualistic competencies such as curiosity, self-direction, and self-belief, which tend to favour learning at school (RTI International, 2018, p. 2). According to the analysis for this study, the ‘obedience’ questions grouped with Learning to learn – filtering out distractions, respecting instructions and school rules, and the willingness to accept feedback – strongly support the development of that competency, and therefore school learning within the KCBC. The other questions under the Obedient trait – avoiding bad company, being slow and unhurried, responding nicely and respecting when others are talking – are found under Communication and collaboration and Critical thinking and problem-solving (see [7.2.1.2](#) and [7.2.1.3](#)). They contribute relatively less to the assessment of those competencies, but this could be because as socially prioritised in the context, they are already well developed. As described under [7.2.1.2](#), this suggests that the notion of ‘social responsibility’ contains skills that support school learning in the context of the KCBC, again pointing to the potential this holds for bridging the gap between the community and the school.

7.2.2. Progression in social and emotional skills between round 1 and round 2

In reviewing the results of the social and emotional competency assessment, it should be noted that teachers were using the assessment tool for the first time, with little preparatory discussion of criteria for scoring. This implies a potential for subjectivity, probably explaining differences in the level of scores between the three grades, presented in this section. The Grade 1 and 2 teachers generally scored higher than the Grade 3 teacher. Teachers recommended at the end of the action research process that an updated tool would rate learners on a four-point scale, in line with other KCBC assessments: below, approaching, meeting and exceeding expectations. Discussion and consensus on the ‘expectations’ for each competency would be needed.

As described in [4.7.2.3](#), concurrent calibration was used to calculate the progression of learners on the social and emotional learning assessment between rounds 1 and 2 of data collection. Table 7.3 and Figure 7.3 shows the overall progress of the three grade groups combined on the four

competencies assessed. The greatest change was in Communication and collaboration and Learning to learn, which both showed a 25% increase in scores, with standard deviations of 1.27 and 1.23 respectively. Self-efficacy scores are seen to have increased by 19% overall, and Critical thinking and problem-solving by 14%. All differences were found to be significant at the 1% level.

Table 7.2 Social and emotional competency assessment: Progression between round 1 and round 2 according to normalised round 1 mean

n=187

| Competency | Mean all grades | | percentage change | Pr(T > t) |
|---------------------------------------|-----------------|---------|-------------------|-----------|
| | round 1 | round 2 | | |
| Self-efficacy | 500 | 594,99 | 19% | 0.0000 |
| Communication and Collaboration | 500 | 627,08 | 25% | 0.0000 |
| Critical thinking and problem solving | 500 | 572,02 | 14% | 0.0000 |
| Learning to Learn | 500 | 623,14 | 25% | 0.0000 |

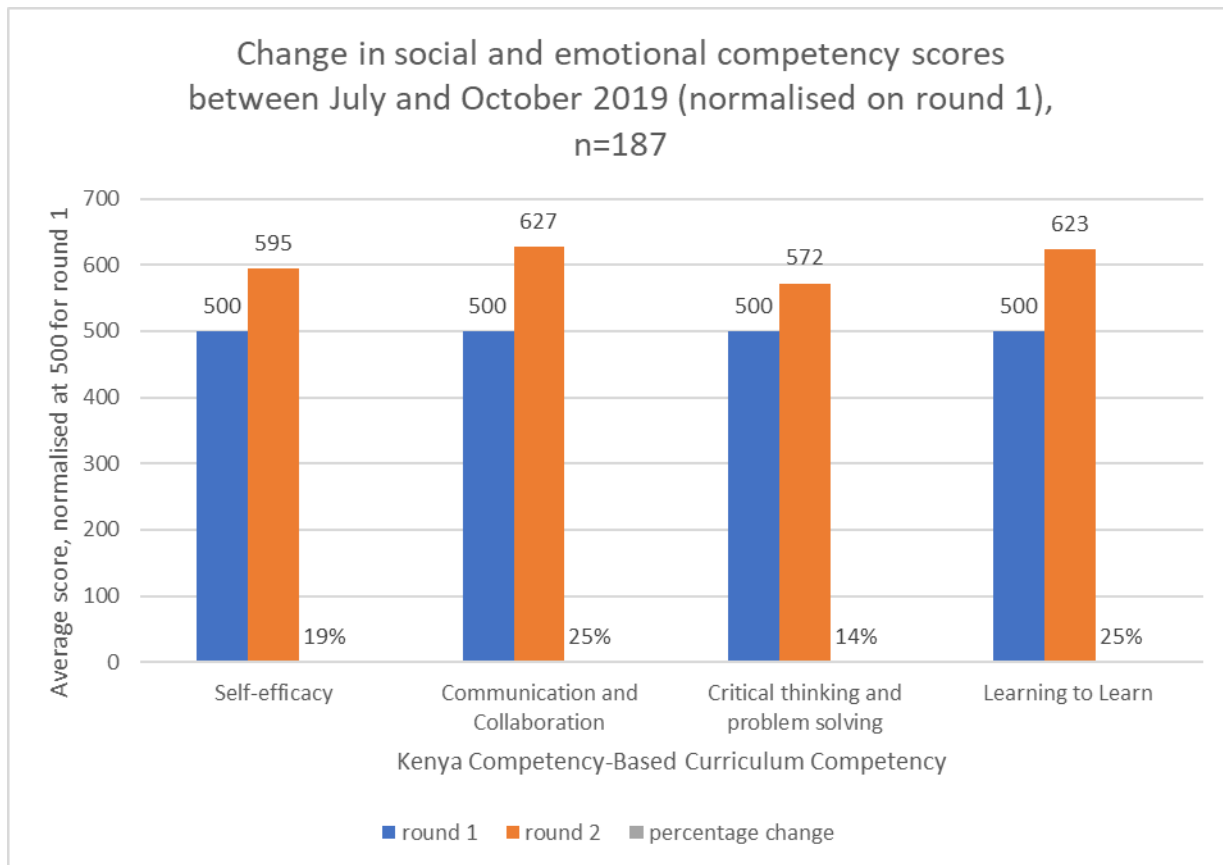


Figure 7.2 Social and emotional competency assessment: Progression between round 1 and round 2 according to normalised round 1 mean

These overall results show encouraging progress between rounds. The greatest increase in Communication and collaboration is particularly important, as one of competencies of focus.

When the results are broken down by grade, however, the picture is nuanced, illustrated in Figures 7.3, 7.4 and 7.5 and the corresponding Tables 7.4, 7.5 and 7.6. There is relatively less improvement in Grade 1 (see Figure 7.3, Table 7.4) than in Grade 2. Nevertheless, the difference between round 1 and round 2 is still significant at the 1% level across all competencies. There is a positive difference in Grade 1 of 28% for Communication and collaboration – a competency of focus for this teacher – and of 19% and 25% for Self-efficacy and Learning to learn respectively. For Critical thinking and problem solving there was an 8% improvement. The large class and young age of the learners, some of whom had only just started school in July, needs to be taken into account in comparing these results with Grade 2.

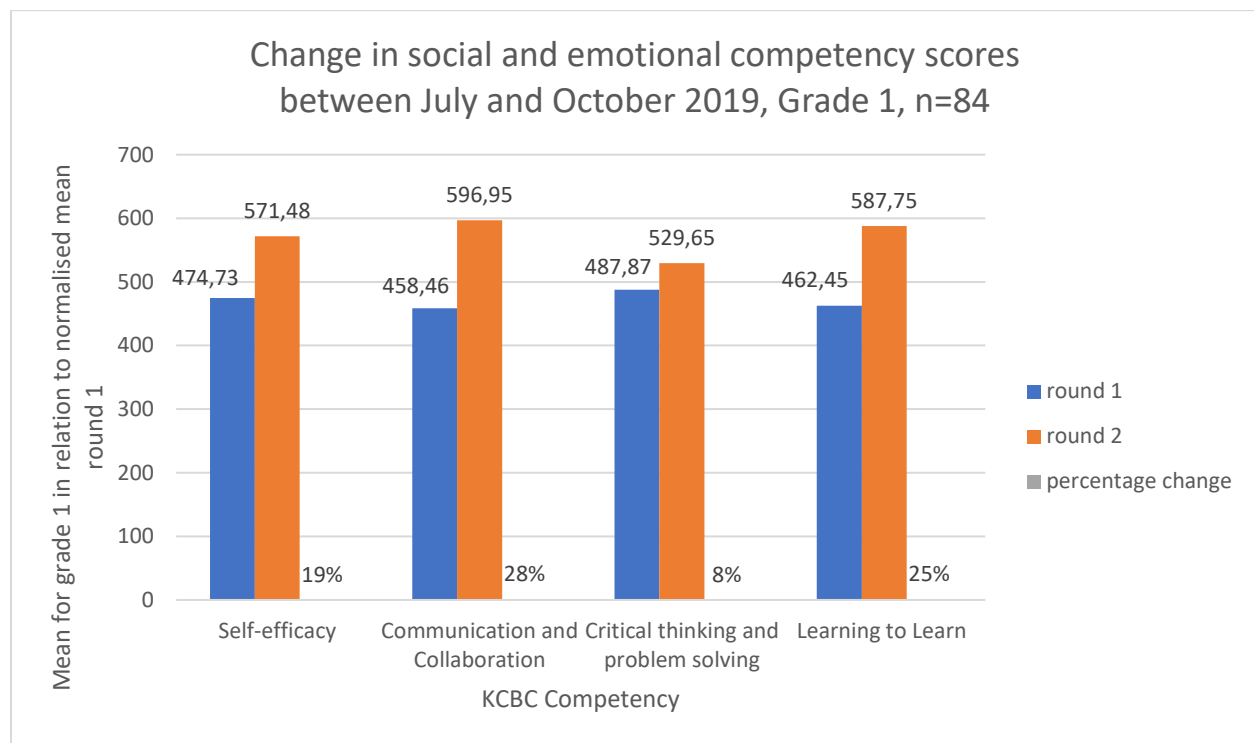


Figure 7.3: Change in social and emotional competency scores between round 1 and round 2, Grade 1

Table 7.3: Change in social and emotional competency scores between round 1 and round 2, Grade 1, n=84

| Grade 1, n=84 | mean score | | | |
|---------------------------------------|------------|---------|-------------------|-----------|
| Competency | round 1 | round 2 | percentage change | Pr(T > t) |
| Self-efficacy | 474,73 | 571,48 | 19% | 0.0000 |
| Communication and Collaboration | 458,46 | 596,95 | 28% | 0.0000 |
| Critical thinking and problem solving | 487,87 | 529,65 | 8% | 0.0000 |
| Learning to Learn | 462,45 | 587,75 | 25% | 0.0000 |

The overall improvement was greatest in Grade 2, with improvements in scores of between 35% and 39% across all competencies. All differences were found to be significant at the 1% level, as shown in Figure 7.4 and Table 7.5:

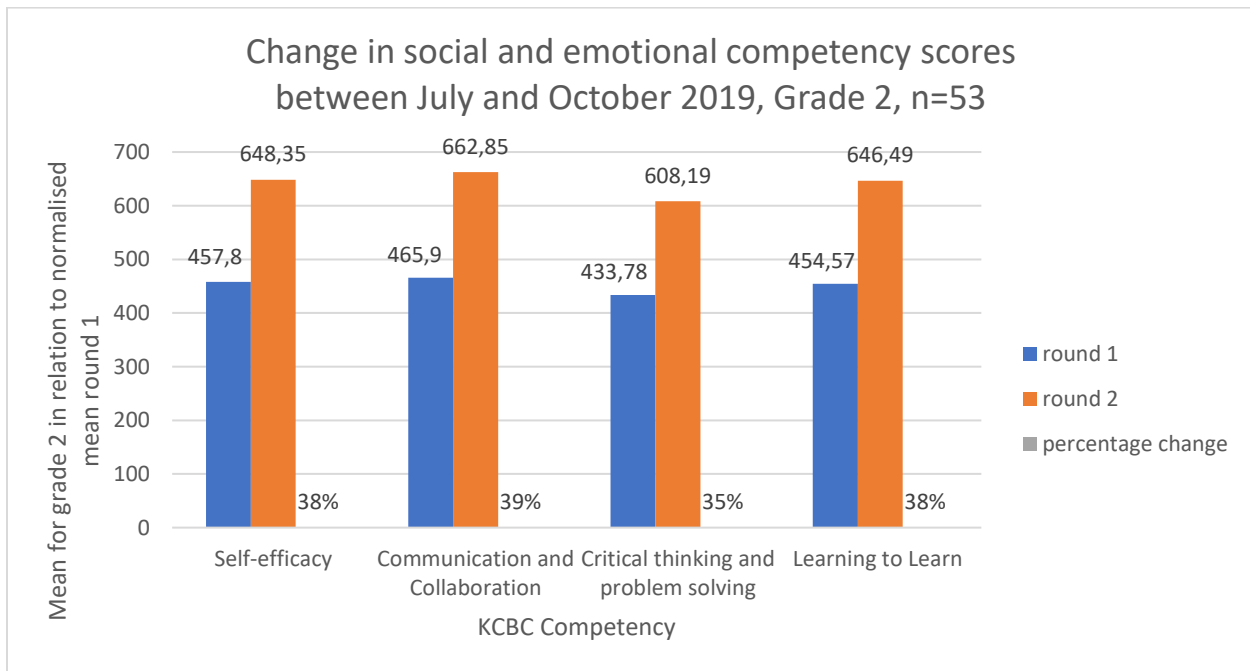


Figure 7.4: Change in social and emotional competency scores between round 1 and round 2, Grade 2

Table 7.4: Change in social and emotional competency scores between round 1 and round 2, Grade 2, n=53

| Grade 2, n=53 | mean score | | | |
|---------------------------------|------------|---------|-------------------|-----------|
| Competency | round 1 | round 2 | percentage change | Pr(T > t) |
| Self-efficacy | 457,8 | 648,35 | 38% | 0.0000 |
| Communication and Collaboration | 465,9 | 662,85 | 39% | 0.0000 |

| | | | | |
|---------------------------------------|--------|--------|-----|--------|
| Critical thinking and problem solving | 433,78 | 608,19 | 35% | 0.0000 |
| Learning to Learn | 454,57 | 646,49 | 38% | 0.0000 |

For Grade 3 (Figure 7.5, Table 7.6), we see relatively little progression, particularly for Critical thinking and problem solving (3%), and even a negative value for Self-efficacy (-2%). On the other hand the difference of 7% is significant for Communication and collaboration, the competency of focus for this teacher, and for Learning to learn (9%). The fact that children are older could help explain less progress for this class. The competencies can be expected to develop with age and progress through the education system, and the results show Grade 3 learners starting from between 87 and 111 points above the standardised mean of 500 according to the competency (see Table 7.6). The smaller sample size in round 1 for this group of children also affects levels of significance.

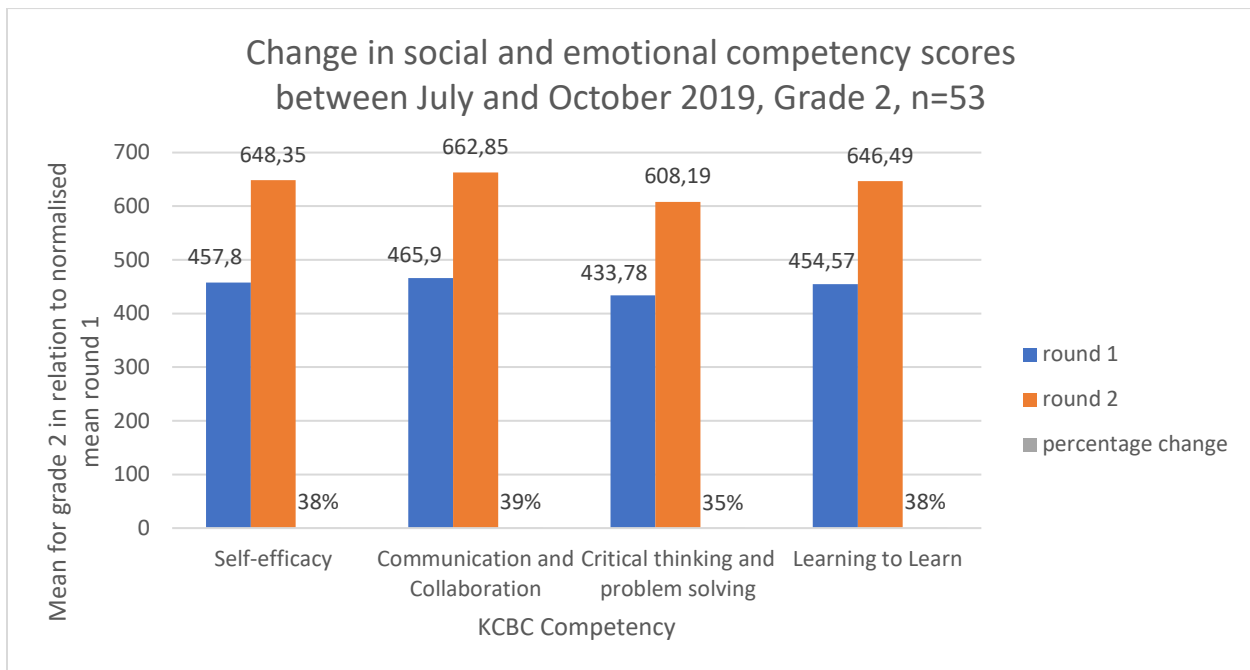


Figure 7.5: Change in social and emotional competency scores between round 1 and round 2, Grade 3

Table 7.5: Change in social and emotional competency scores between round 1 and round 2, Grade 3, n=28 round 1, n=50 round 2

| Grade 3, n=28 round 1, n=50 round 2 | mean score | | | |
|---------------------------------------|------------|---------|-------------------|-----------|
| Competency | round 1 | round 2 | percentage change | Pr(T > t) |
| Self-efficacy | 587,19 | 577,94 | -2% | 0.6692 |
| Communication and Collaboration | 605,93 | 639,78 | 7% | 0.0160 |
| Critical thinking and problem solving | 590,56 | 604,88 | 3% | 0.6938 |
| Learning to Learn | 611,23 | 657,83 | 9% | 0.0000 |

The big differences between grades can be attributed to the pilot use of the tool, and points to the need for further work to establish stronger criteria for scoring. On the other hand, the overall progression during the short period between rounds 1 and 2, suggests that all four competencies are malleable over a relatively short time. Teachers were focusing on developing learners' skills in two competencies in particular, but progression is seen in all four competencies, highlighting again the interconnection between them. It is not possible to estimate the extent to which the results would remain stable over time.

The calculated difference in the IRT between rounds 1 and 2 for each competency, was used to regress the competencies with each other and with gender (see [Annex 25](#)). Self-efficacy correlated significantly ($p < 0.001$) with Communication and collaboration and Critical thinking and problem solving. Communication and collaboration correlated significantly ($p < 0.001$) with Self-efficacy and Learning to learn. Learning to learn correlated significantly ($p < 0.001$) with Communication and collaboration and Critical thinking and problem solving. This demonstrates clearly the interconnectedness of the competencies, and reinforces the teachers' experience, as described in [6.1.4](#). Gender was not found to be significant in any of the regressions. This is important, as it suggests that in the estimation of their teachers, girls and boys are performing similarly across the competencies. The lack of a significant difference between girls' and boys' results in the more objectively assessed EGRA and EGMA results reinforces this result, given the correlations between the EGRA and EGMA results and the competencies, described in [7.3.4](#).

7.2.3. Presenting to teachers the results of the Social and Emotional Competency Rating Scale Assessment

In order to make the results of the social and emotional competency assessment described in [7.2.2](#) more accessible for teachers, the 'raw' scores out of 3 were summarised for the 20

questions of the social and emotional competency assessment. They were presented in charts and tables for teachers easily to visualise the results for their classes. The results by question were grouped according to the four competencies of the reorganised tool, disaggregated by grade and gender, for rounds 1 and 2 (see [Annex 23](#)). The scores were intentionally not converted to percentages, as the scale is designed to show where learners are in relation to each other, rather than an absolute score: teachers assessed whether the learner displayed each behaviour less than, about the same as, or more than other learners. The total 'raw' scores (out of 15 for each group of 5 questions per competency) disaggregated by grade and gender, were also summarised for presentation to teachers. These tables and charts show the overall progression between rounds 1 and 2, reflecting the results presented in [7.2.2](#) (see [Annex 24](#)).

The importance of presenting the data in this way is that teachers would be able to generate similar data and graphs themselves, by hand or in excel. In this way they could visualise the progression of learners on specific behaviours, and use that to inform their teaching (Hattie & Zierer, 2018, p. xv). Even though no statistically significant differences were found between girls and boys, the small differences seen in the results could lead teachers to reflect on and if necessary address relevant issues in the classroom.

7.3. Early Grade Reading and Mathematics Assessment

This section presents the results of EGRA Kiswahili, EGRA English and EGMA. All results were disaggregated by gender (see [Annex 26](#)), but no significant differences were found between the results of girls and boys. The EGRA and EGMA findings were used in this study as a point of comparison with social and emotional competency assessment. However ongoing work should aim, for this purpose, to use teacher-led assessments in academic subjects already established within the KCBC assessment battery.

7.3.1. Early Grade Reading Assessment Kiswahili

Overall EGRA Kiswahili results range from 11.8% to 92.8 %, with an average of 51.26%. Table 7.7 shows average scores for individual subtasks.

Table 7.6: Results of Early Grade Reading Assessment Kiswahili, Grade 3

| Sub-task | Average | Minimum | Maximum |
|-------------------------|---------|---------|---------|
| Letter sound knowledge | 45.3% | 15% | 75% |
| Invented work decoding | 38.21% | 0 | 90% |
| Oral passage reading | 54.1% | 0 | 100% |
| Reading comprehension | 43.83% | 0 | 100% |
| Listening comprehension | 74.89% | 20% | 100% |

The highest average score on listening comprehension brings up the average. The oral passage reading average of 54% is only a little above English, but reading comprehension at an average of 44% is substantially higher than that in English.

7.3.2. Early Grade Reading Assessment English

EGRA English results ranged from 0 to 69.7 %, with an average of 33.44 %. The results by sub-task are shown in Table 7.8.

Table 7.7: Results of Early Grade Reading Assessment English, Grade 3

| Sub-task | Average | Minimum | Maximum |
|------------------------|---------|---------|---------|
| Letter sound knowledge | 26.34% | 0 | 70% |
| Invented work decoding | 45.53% | 0 | 98% |
| Oral passage reading | 50.82% | 0 | 93% |
| Reading comprehension | 11.06% | 0 | 60% |

These results suggest that pupils know letter sounds less well than in Kiswahili, but are able to decode even nonsense words. However, comprehension of what they read is very limited (average 11%), suggesting that children are decoding without understanding. Listening comprehension in English was not included, on the basis of AKF's experience that the sub-task did not add significantly to differentiation.

7.3.3. Early Grade Mathematics Assessment

The average mathematics score was 50.76%, ranging from 16.88% to 75.63%. Table 7.9 shows the results by sub-task.

Table 7.8: Results of Early Grade Mathematics Assessment, Grade 3

| Sub-task | Average | Minimum | Maximum |
|-------------------------------|----------------|----------------|----------------|
| Number identification | 82.87% | 45% | 100% |
| Number discrimination | 81.7% | 24.7% | 100% |
| Missing number identification | 47.02% | 10% | 80% |
| First level addition | 56.06% | 10% | 85% |
| Second level addition | 34.47% | 0 | 100% |
| First level subtraction | 38.4%, | 0 | 65% |
| Second level subtraction | 17.87% | 0 | 80% |
| Word problem solving | 47.7% | 0 | 100% |

Learners performed best on number identification and discrimination (which number is bigger than another), showing that they have a strong grasp of the basic skills. However results dropped sharply for identifying a missing number from a series. Addition was stronger than subtraction,

whereas the average problem-solving score was higher than second level addition. The relatively high score on problem-solving could reflect critical thinking.

7.3.4. Relationship between EGRA and EGMA results and social and emotional competency assessment

Associations between academic and social and emotional skills assessments were examined, in order to explore research sub-question 3. To do this, each of the Early Grade assessments was regressed against the progress made in social and emotional competency assessment results between two time periods (see [7.2.2](#), and partial correlation tables in [Annex 27](#)).

There was a significant correlation at the 1% level between all three academic assessments and self-efficacy ($p < 0.001$). The correlation between both EGRA assessments and Critical thinking and problem solving ($p < 0.05$) was at the 5% level, but still significant. In addition, there was a significant correlation between EGRA Kiswahili and Communication and Collaboration ($p < 0.05$). Given the strong inter-connection between the competencies, explored in [7.2.2](#), [6.1.4](#) and [6.1.5](#), we can argue that in the context of a small sample, these correlations demonstrate an important association between a learner's social and emotional competencies, and their success academically.

One other significant association was found between EGRA English and attendance ($p < 0.05$). The relatively low scores on English overall (see [7.3.2](#)), indicate that learners find this the hardest of the three subjects. As noted in [7.1.2](#), for the large majority of learners it is their third language. This suggests why better attendance can make a bigger difference to this result.

The quantitative findings demonstrate an important overall progression in children's competencies. They confirm teachers' impressions of the interconnectedness of learners' acquisition of the competencies, so that support to one competency helps reinforce the others. This suggests that effective teaching of the KCBC can help to overcome differences between learners from rural and urban areas identified in the Mtwara study.

8. Conclusions and recommendations

This final chapter outlines conclusions and recommendations based on the findings. These have become particularly relevant in the context of the ongoing COVID-19 pandemic, which started shortly after the end of data collection.

8.1. Conclusions

In response to the overall research question, ‘What is needed better to enable teachers to support and assess their pupils’ acquisition of the competencies of Kenya’s Competency Based Curriculum?’, the study concludes that teacher ‘empowerment’ through an action research approach can be facilitated over a short time-period with appropriate guidance, partly from a distance, and with tangible results in terms of both teachers’ practice and pupils’ social, emotional and academic learning outcomes. The positive results were the fruits of the high investment in the research process by teachers. This demonstrated both teachers’ commitment to teaching the KCBC, and the critical importance of listening to their experience of it in determining the most appropriate support. This included paying close attention to the contextual issues with which they grapple on a daily basis, in terms of working conditions and community dynamics. The study contributes to the existing literature showing that continuing professional development that provides teachers with the means to reflect critically on a new curriculum and their practice within it, can bear encouraging results at least in the short term. For the longer term, the approach needs to be ‘part of systemic system-wide education reform for it to have a meaningful impact in schools and on student learning’ (Sayed, Mogliacci, et al., 2018, p. 220). Detailed conclusions presented in this section, are built from the findings of the three research sub-questions.

In relation to research sub-question 1, about which teaching strategies teachers find most helpful in supporting learners’ social and emotional skills, it can be concluded that explicit exploration of the KCBC competencies, starting with teachers’ own emotions and experience, resonates with what they already know. In this way, contextual issues that impact teachers’ classroom practice, including their own life experience and structural challenges such as large class sizes and poverty, are taken into account in teachers’ ‘infusion’ of the competencies into their subject teaching. The

combination of practice and support builds on teachers' existing understanding, highlighting the interconnectedness of social and emotional skills, and their development from simple to higher order. Communication and collaboration and Critical thinking and problem-solving, selected by teachers as competencies on which to focus, were shown to be particularly closely connected, and fundamental to the other competencies of the KCBC. These insights help teachers infuse the competencies of the curriculum into the subjects they are used to teaching. They also enhance their appreciation of the value of the new curriculum, and its focus on quality teaching and learning to support children's holistic development. Teachers see how the KCBC can positively influence their teaching practice, and children's learning and wellbeing.

The research confirmed existing literature demonstrating that an action research approach helps teachers explore different teaching strategies to support learner-centred pedagogy. In the specific context of the study, this built on their enhanced understanding of how to support learners' acquisition of the KCBC competencies. Taking account of this context, such an approach is compatible with existing KCBC lesson plans. It helps guide teachers' reflections on and improvement of their teaching, and allows for the provision of specific, personalised feedback that was appreciated by teachers. The research highlighted that such support can be provided partly from a distance, facilitated by technology such as WhatsApp and videoed classroom observation. This has important implications for enhancing teacher professional development provided by CSOs and non-governmental organisations, where transport and other challenges such as the COVID-19 pandemic, constrain physical school visits.

The study demonstrated that changes in teaching practice, if relatively small, can be achieved over a short time, through teacher 'empowerment' promoted by an action research approach. Specific strategies tried successfully by teachers, included enhancing opportunities for learners to ask and answer questions, to work collaboratively, to find solutions for themselves and to engage in creative activities. Reflections and classroom observation highlighted increased teacher sensitivity and ability to facilitate learning, pointing to the benefits of a reflective approach and personalised support. The limited timeframe meant it was not possible to assess

the sustainability of these changes, but the potential to build reflective practice into lesson plans allows for a system level input that could provide for longer term impact. Confirming existing literature on sub-Saharan Africa, the research demonstrated that the physical learning environment makes a difference to the possibility for teachers of making a reality of what they learn through continuing professional development opportunities. Large class sizes and a lack of teaching materials, in particular, affect the ability of teachers effectively to put into practice strategies such as collaborative group work, that support teaching of the KCBC. Context therefore must be taken into account.

The research reinforced the notion that relationships underpin the competencies of the KCBC. Teachers showed that they understand and practise their role as models for strong relationship skills, throughout the school day. The importance of teachers' pastoral care is reflected in the relationships that they report building with their students. The study demonstrated that this is an essential part of the KCBC's vision of 'nurturing every learner's potential' and supporting pupils in managing complicated lives.

In relation to research sub-question 2, asking how teachers can engage parents and caregivers to support the implementation of the KCBC, findings were limited. Nevertheless, from the evidence gathered, the study illuminates the theory (for example, Bronfenbrenner, 1979; CASEL, 2017; Jones et al., 2017) that the importance of relationships for wellbeing and strong learning outcomes, extends to parents, caregivers and other community members. The findings show that teachers understand the importance of working with parents and caregivers in the cause of improving education quality for their children, and that they are willing and able to facilitate awareness-raising and discussion with parents to this end. From teacher reports it can be concluded that the attitude of parents towards the new curriculum and their children's schooling can be positive and supportive, but can also present challenges both for teachers and children.

In relation to sub-question 3 regarding associations between learners' social and emotional skills and their reading and mathematics achievement, indicative conclusions drawn from statistical

analysis of the quantitative findings, show substantial progress in Grade 1-3 learners' demonstration of the four competencies measured, between time points three months apart. This implies that **tangible** results can be achieved through relatively limited input to teachers, that enables them better to understand the nature of the competencies, and to structure their practice through an action research approach. Given the interconnection between competencies, a focus on developing learner behaviours that contribute to one competency, also enhances the acquisition of other competencies. When disaggregated by grade, progress in the development of competencies was uneven between grade levels. This can be attributed to differences in the age of pupils, in teacher interpretation of scoring criteria, and the small sample size. These issues could be addressed through further piloting.

The study contributed to the debate around the extent to which community norms that encourage conformity through a sense of 'social responsibility' and 'obedient' behaviours – for example: answering nicely; respecting instructions, school rules and others who are speaking; and the willingness to accept feedback – might disadvantage learners from rural areas in a school setting. Factor analysis used to group questions from the Mtwara tool according to four competencies of the KCBC, showed that these behaviours help explain much of the variance in scales to assess Communication and collaboration and Learning to learn. This suggests that competency-based curricula have the potential to bridge the gap between 'school' and 'community' valued behaviours. This fits well with the emphasis in the KCBC on parental and caregiver engagement, and should support ongoing efforts to bring the school and community closer together.

The reorganisation of the RTI Mtwara tool, based on factor analysis of the results of social and emotional competency assessment conducted during the study, helps respond to the identified need for measurement tools for these skills, particularly ones adapted for poorly resourced settings (Jukes & et al, 2018, p. 182). The updated, validated tool, groups assessment questions according to four of the seven KCBC competencies. This makes it easier for teachers to use the instrument, allowing them to assess one competency at a time, focusing on five questions or behaviours. The updated version of the tool, with supporting documentation, will be proposed

to education authorities and teachers for piloting and potential adoption within the KCBC assessment structure.

In response to the call by Jukes et al for research to ‘help understand which social and emotional competencies are most predictive of academic success’ (Jukes & et al, 2018, p. 182), this exploratory study suggests that Self-efficacy¹² has the biggest impact on reading and mathematics scores. Communication and collaboration¹³ and Critical thinking and problem solving¹⁴ also show significant correlations with at least one of the three academic assessments. Correlations do not prove causality, but the statistically significant associations are strongly indicative. We can conclude that building children’s ability to organise their work, their perseverance, confidence to ask and answer questions, and capacity to work with others, has a significant impact on their scores in English and Kiswahili reading, and mathematics. These conclusions are supported by qualitative evidence from teachers. Wherever possible, ongoing work with teachers should prioritise teacher-led assessments as the point of comparison with social and emotional learning assessment, in preference to external one-off evaluations such as EGRA and EGMA.

Overall, the study concludes that a combination of qualitative methods aiming to understand teachers’ experience as human beings and as professionals, in their context, combined with quantitative assessment that makes the results of their practice visible for them, is well suited to meeting the needs of teachers who are supporting learners to acquire the competencies of the KCBC. This conclusion has the potential to contribute to the ongoing rollout of Kenya’s new curriculum. The study was facilitated by a connection with an international NGO, but is firmly rooted within the national education system. It demonstrates the potential for the Government of Kenya to embrace the ‘affective dimension’ of the professional development of teachers as

¹²Assessed in questions about keeping to deadlines, working hard, perseverance and the ability to plan work.

¹³ Particularly questions about being eager to answer questions, raising your hand before speaking and helping another student who is struggling.

¹⁴ Particularly questions about exchanging ideas, liking to ask many questions and giving unique answers.

‘core to their commitment to quality and equitable education’ (Sayed, Mogliacci, et al., 2018, p. 211). That potential is relevant to the teaching of competency-based curricula worldwide.

8.2. Recommendations

The conclusions support recommendations to government and non-government stakeholders in Kenya, for approaches that were shown by this study to be effective in supporting teaching of the KCBC. They are pertinent beyond Kenya, and point to areas for future research.

Training and support on the KCBC, and competency-based curricula generally, should provide explicit and systematic support on the nature and interconnectedness of social and emotional competencies, that takes account of the specific context of teaching practice. It is important to demonstrate how ‘building blocks’ of simple skills lead to higher order competencies. Discussions should start with teachers’ own experience of their emotions, particularly stress, emphasising the centrality of social and emotional learning in psychosocial wellbeing. The critical importance of relationships, between teachers and learners, and in their families and the wider community, should be the guiding principle throughout. This has been highlighted particularly in the context of the COVID-19 pandemic, but is always fundamental.

It is recommended that an action research approach be built more strongly into current lesson plan requirements, by incorporating teacher reflective writing more explicitly (see suggestion in [Annex 28](#)). Teaching practice within such an approach could be guided by the Classroom Guide: Creating an Inclusive Learning Environment (see [Annex 11](#)). Teachers’ action research reflections should as far as possible be the focus of individualised feedback, as part of the support they already receive from Curriculum Support Officers (CSOs) and non-governmental actors. This can be provided using a combination of school visits and, where feasible, guidance from a distance facilitated by technological solutions. Such a ‘blended’ approach is particularly relevant in the context of COVID-19 restrictions, but is also a way to address transport problems, and in some contexts insecurity, that hamper school visits. To provide a strong foundation for school-based support, pre-service and continuous professional development should integrate explicit guidance

on action research approaches incorporating reflective writing. This could be done for example, through discussion and feedback on micro-lesson observation. Teachers' use of an action research approach in Kenya should be recognised via the teacher support and review system (Teacher Performance Appraisal and Development, TPAD) that is facilitated by CSOs.

In general, those responsible for professional development provision should have confidence in teachers' ability and potential, and listen and respond to their experience of teaching the competency-based curriculum. The impact of the physical teaching environment on teaching practice, particularly large class sizes and insufficient materials, should be acknowledged and wherever possible addressed. Specific to this study, opportunities should be found for the case study school teachers to share their experience of participating in the research. They are powerful ambassadors for the KCBC.

Teachers should continue to be encouraged and supported to build on opportunities within the KCBC to develop strong relationships with parents, caregivers and the community, and involve them as key partners in the implementation of the new curriculum. The findings of this study can be used to help parents understand the value of a competency-based teaching approach, specifically the quantitative results demonstrating the close association between the competencies of the KCBC, and success in reading and mathematics. Highlighting where KCBC competencies are supported by behaviours valued by the community, may help to bridge the gap between home and school. Teachers' discussions with learners in their classes, about the gender breakdown of domestic work for example, can inform teachers' interactions with parents and other community members. All aspects of teachers' engagement with parents should aim to ensure a supportive environment at home to complement children's learning at school.

Finally, education authorities should consider incorporating the validated assessment tool for four of the KCBC competencies (see [Annex 22](#)) into the set of assessment tools proposed by the KCBC. Teacher-led assessments of academic outcomes, rather than external assessments such as EGRA and EGMA, should be used as the point of comparison with social and emotional

competencies. Where possible, digital data collection and processing by teachers should be explored. For example, guidance on using excel for data entry and simple analysis, could be included in pre-service and in-service teacher training.

Future research could include further piloting and refinement of the KCBC teacher-led competency assessment tool, in collaboration with Kenyan university and teacher training institute partners. Academic institutions could also guide the incorporation of action research into KCBC teacher training and support, including lesson planning and review. Universities and teacher training institutions could be engaged in the discussion and sharing of results, and in integrating learning into ongoing practice.

Further research, ideally led by teachers, should explore ways to engage better parents and the wider community in their children's schooling, and specifically in building the competencies of the KCBC. Complementing this, participatory, child-friendly ways could be used to explore children's experience of the KCBC, to answer questions such as: Do they feel nurtured? Do they feel 'empowered'? How 'ethical' and 'engaged' are they? How do they experience gender relationships in relation to household work and social norms?

Studies addressing these questions could be conducted in diverse contexts within Kenya, and in other settings globally. Where possible, larger samples should be used when exploring further the quantitative findings of this research, to allow more scope for statistical analysis.

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ANNEXES

Ethics

Annex 1: Information sheet

How to be an effective ‘competency-based’ teacher: A participatory action research case study from Kenya

Information sheet Case study school teachers

The researcher: Alison Joyner



Hello! I have prepared this brief sheet to explain the action research we will work on together until the end of this school year. As we have already discussed, it is based on the research I did with you last year, and is part of my studies for a Doctor of Education (EdD) at University College London Institute of Education, a leading teacher training institute specialising in education and social science research.

‘Research’ is a big word for studies that help us understand how the world works and why people act the way they do. As we have discussed, we would like to understand better what can help teachers like yourself teach the new Kenya Competency Based Curriculum, and assess their pupils’ competencies. Aisha Abeid, who you know from the Aga Khan Foundation, will continue to work with me as Research Advisor.

I hope this sheet will answer questions you may have. I will also speak to you and your colleagues. Please contact Aisha on [REDACTED] or me at [REDACTED] if there is anything else you would like to know.

Answering your questions:

Why this research?

We know that how children feel, and how they interact with others, make a big experience and achievement at school. The Government of Kenya’s new Basic Framework reflects this. It includes values and principles - which guide children’s



difference to their Education Curriculum relationships - as pillars

of the framework, as a way to reach the vision of engaged, empowered, and ethical citizens. The curriculum emphasises key skills such as critical thinking, problem-solving, citizenship, communication and collaboration, as ways to nurture them.

Teachers are central to making a reality of the new education framework. The research last year highlighted that teachers know a lot about children's social and emotional learning, but they need more support to adapt their teaching to support learners to gain the competencies of the KCBC. It also showed that parents need to be more involved in supporting children's acquisition of the competencies.

'Action research' is an approach which helps to find new ways to do things, by identifying a particular question to explore, trying something out, seeing how it goes, and then writing and thinking about it, and deciding what to do next. We will work together on this process, during my visits to your school and via WhatsApp in between.

Who is funding the research?

I am funding the research myself as part of my studies.

Why am I invited to take part?

This research is based on the work we did together last year. As a primary school teacher, you are an expert on what helps children be happy at school, and how they learn best. Your work is essential to the successful implementation of Kenya's new competency-based curriculum. I can support with ideas about what may help you to adapt your teaching to the new curriculum. Together we can identify techniques that work well, that can also be helpful for other primary school teachers.

What will happen if I choose to take part?

If you choose to take part:

1. You will sign a consent form saying you understand the study and agree to take part.
2. I will interview you for about one hour at the beginning and end of the action research process, in June and October 2019. In June I would like to talk to you about your expectations for the action research process, and at the end I will ask about your experience of it.
3. We will work together in a workshop in June to:
 - a. Understand what is action research, and make concrete plans for the action research cycles that will take place between June and October. This will include working on lesson plans that incorporate techniques for supporting the development of learners' competencies,
 - b. Finalise the Classroom Guide and Social and Emotional Competencies Teacher Rating scale that will be used respectively to observe teaching, and to assess children's social and emotional skills during the action research process.

4. Between my visits in June and October, you will try out techniques for supporting the development of children's competencies. This should include some ways of working with parents to help them understand better and support the development of their children's competencies. You may also try using the Social and Emotional Competencies rating scale for children in your class.
5. You will share with me your reflections and results through the WhatsApp group and your reflection journal. You will video some lessons on tablets and transfer the videos to me via WhatsApp. Through the WhatsApp group I will share with you ideas and feedback as you try out techniques, and support you in identifying issues to work on during the action research cycles.
6. In June and October, grade 3 learners' social and emotional skills will be assessed by the grade 3 teacher using the rating scale. In October, grade 3 students will do a mathematics and literacy assessment. The results of these assessments will be confidential. They will be used to understand better how children's competencies are developing, and any connection between social and emotional and academic learning.

Will I be recorded?

I will record the interviews on a voice recorder. I will ask that you video yourself teaching some lessons on a tablet, and transfer to me the video recordings. I will also video some classes during my visits to the school in June and October 2019.

We will continue our WhatsApp group, which means we will share written, voice and visual material. This material is encrypted as it is sent and I will not share it with anyone else.

How will the recordings be used?

1. I will transfer the voice and video recordings to a safe server as soon as I can after they are taken, and then delete them from mobile devices. Your name will not be on any of the recordings.
2. The recordings will only be used for my research analysis, and possibly for illustration in conference presentations and lectures. Your name will not be associated with anything you have told me, in reports or publications on this research.
3. No other use will be made of the recordings without your permission, and no one apart from myself will have access to the original recordings.
4. The recordings, notes that you share with me from your reflection diary, and our exchanges on WhatsApp, will be kept on a secure drive for 10 years after the end of the research, and then destroyed.

Will anyone know I have been involved?

Your colleagues and other community members will know that you are taking part in the action research process, but I will not discuss the results of our work together with anyone. The only exception is if I hear or see anything which makes me worried someone might be in danger of harm. In this case I might have to inform relevant agencies.

And data protection?

- The consent form you sign is the legal basis on which your personal data will be processed.
- All data (written and recorded) will first be anonymised so your name will not appear anywhere.
- University College London (UCL) is the 'data controller', which means the UCL Data Protection Office oversees the processing of your personal data. If you have any concerns, you can contact the Data Protection Officer, Lee Shailer, at data-protection@ucl.ac.uk
- Further information on how UCL uses participant information can be found in our 'general' privacy notice: [here](https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice) (<https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice>)
- If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

Could there be problems for me if I take part?

- There should be no problems for you if you take part.
- However if you are uncomfortable at any time during the action research process, or if you decide you do not want any videos of you teaching to be used, you are free to withdraw, with no negative consequences. I will not use any of the information you have already given me if you ask me not to.
- In case you need to make a complaint, please contact me first. You can also contact my supervisor, Amy North, [REDACTED] or the Chair of the UCL Research Ethics Committee at ethics@ucl.ac.uk

What are the possible benefits of taking part?

- You will receive no money or gifts in return for participating.
- However I hope the ideas and learning we share as a result of the discussions and action research will help you in your teaching, and particularly in implementing the Basic Education Curriculum Framework and the Values Based Education project.
- I plan to prepare some training materials on action research and relevant teaching approaches as part of the workshop training. You will be able to use these, and we will continue to share ideas and materials on the WhatsApp group.

What will happen to the results of the research?

I will write up the research as my doctoral thesis, but your name will not be linked to what you have said. I may refer to the research in presentations at conference, journal articles and in future research in this area, but I will never use your name unless I ask you and you give me permission to do so.

Do I have to take part?

No, it is entirely up to you to choose whether to take part. The research has no connection with your role as a teacher at Mabokoni. There will be no negative consequences if you choose not to take part, or if you decide to withdraw from the research. You can withdraw at any time and any information you have provided will not be used.

I hope that if you do choose to be involved then you will find it a valuable experience.

Thank you very much for taking the time to read this information sheet.

This project has been reviewed and approved by the UCL IOE Research Ethics Committee, reference No Z6364106/2019/05/200 social research. You can contact the Data Protection Officer, Lee Shailer, at data-protection@ucl.ac.uk

Annex 2: Consent form

How to be an effective 'competency-based' teacher: A participatory action research case study from Kenya

Consent form for teachers

Researcher: Alison Joyner, [REDACTED]

Supervisor: Dr Amy North, [REDACTED]

Department: Education Practice and Society

University College London (UCL) data protection officer: Lee Shailer, data-protection@ucl.ac.uk

This project has been reviewed and approved by the UCL IOE Research Ethics Committee, reference No Z6364106/2019/05/200 social research.

Thank you for considering taking part in this research. Alison Joyner will explain the study to you. If you agree, you will complete and sign this form to say you would like to join in. You will be given a copy of this consent form, with the information sheet, to keep.

If you agree to take part, please read, complete and sign this form.

| | | Yes | No |
|---|--|-----|----|
| 1 | I have read and understood the information sheet about the research, had time to think about it and to ask questions about the study. | | |
| 2 | I agree to take part in the interviews, classroom observation, workshop and action research as described in the information sheet. | | |
| 3 | I consent that my interviews are audio recorded and that some classroom observation will be video recorded. I understand that: <ul style="list-style-type: none"> - my name will not be linked to the recordings - the recordings will be transferred to and stored anonymously on a server based in Europe, using password-protected software - my information will not be made available to any commercial organisations. It may be reviewed by responsible people from the | | |

| | | | |
|---|--|--|--|
| | University for monitoring and audit purposes, but the data is the responsibility of the researcher, Alison Joyner - if my words are used in reports or presentations, my name will not be used | | |
| 4 | I understand that there should be no problems from participating in the study. I also understand that if I feel uncomfortable I can withdraw from the project at any time. If I choose to do this, any data I have contributed will not be used. | | |
| 5 | I understand that I will receive no financial or other benefits to encourage me to participate | | |
| 6 | I know that I can contact Alison Joyner ([REDACTED] or [REDACTED]) at any time if I wish to make a complaint, or for any other reason linked to the study. | | |

If you would like your contact details to be kept so that you can be invited by UCL researchers to participate in future studies, please tick the 'yes' box below.

| | |
|---|--|
| Yes, I would be happy to be contacted in this way | |
| No, I would not like to be contacted | |

Name of participant Date Signature

Telephone number (if available) _____

Email address (if available) _____

Researcher Date Signature
Alison Joyner

Workshop Supports

Annex 3: Teacher workshop slides, June 2019

Becoming an effective 'competency-based' teacher

Preparing our Action Research

Mabokoni Primary School,

Monday 17 and Tuesday 18 June 2019

SCHOOL MOTTO: EDUCATION IS THE KEY.

SCHOOL MISSION: TO PRODUCE EDUCATED AND DISCIPLINED PUPILS FOR FUTURE DEPENDENCY

VISION: TO NURTURE LEARNERS TALENTS AND FIT IN THE SOCIETY THROUGH DEVELOPED LIFE SKILLS

CORE VALUES: DISCIPLINE, HARD WORKING, HONESTY, RELIGIOUS, TRUST WORTHY

1

Why are we here?

- 'To be empowered'
- 'For the Kenyan child' – good change
- To gain knowledge

Action Research:

- Increases our understanding
- Creates new knowledge

=> Transformation

2

1
Connect ideas and practice
Complement support provided by CSOs

2
Teachers as models
Teacher social and emotional skills
Provide models

3
Role of parents and community
Bring them on board
'Translate' for ancient wisdom

Conclusions

3

Recommendations

1. Support and recognise teachers
2. Build relationships with parents

4

'Relationships are the soil in which children's social and emotional competencies grow'

Plus air, water, light...

PARENTS/FAMILY

SCHOOL/TEACHERS

FRIENDS/COMMUNITY

It's the RELATIONSHIP between the teachers and students that is different in their classrooms

5

Our objectives

Day 1

- Understand the process of Action Research
- Review the competencies of the KCBC
 - What behaviours demonstrate them?
- Ready to learn, Ready for life

Day 2

- Plan for Action Research:
 - To try out strategies that will help children develop the competencies

6

What is Action Research?

- Values-based – aims for good change
- **Systematic, reflective** study of one's actions, and the **effects** of those actions
- Should develop **critical awareness** of surroundings
- 'Socially constructed knowledge' – done collaboratively
- Potential for **transformation** – based on relationships
- As research: data sharing and **knowledge construction**

Process of inquiry into professional interactions with others, aiming for an envisioned future, more closely aligned with social justice values.

7

Participatory Action Research Cycle

Ferrance, E (2000) 'Action Research'
 Nison, R (2016) 'Principals and teachers as partners in critical, participatory action research'

8

Understanding Action Research

Margaret Riel, 2017, Collaborative Action Research website

9

Action Research study

Jean McNiff: 'Action research for professional development'

1. A way of living out values
2. Personal learning is central, with support: 'creative dialogue of equals'; self-reflection
3. Formative evaluation to measure change against criteria: tools
4. Belief in the possibility of change: transformation

10

Kenyan Competency Based Curriculum

Basic Education Curriculum Framework

11

Pluralism and Ethics with KCBC Values and Competencies

| AKDN Values and Attitudes | Personal Qualities and Competencies aligned with pluralism and ethics | Kenyan Curriculum Values aligned with pluralism and ethics | Kenyan Curriculum Competencies aligned with pluralism and ethics |
|---------------------------|---|---|---|
| Pluralism and Ethics | <ul style="list-style-type: none"> • Self-awareness and resilience • Empathy & open mindedness • Respect for diversity • Taking responsibility • Relationship building • Collaboration • Reconciling tensions • Critical thinking & problem solving | <ul style="list-style-type: none"> • Care and compassion • Understanding & tolerance • Unity • Trust and honesty • Respect for others • Responsibility • Being ethical | <ul style="list-style-type: none"> • Self-efficacy • Empathy and open mindedness • Citizenship • Communication and collaboration • Creativity and imagination • Critical thinking and problem solving |

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School culture: VALUES and ETHICS

Should be reflected in COMPETENCIES

13

SUSTAINABLE DEVELOPMENT GOAL 4

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.7 by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development

<https://sustainabledevelopment.un.org/sdg4>

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Aim of the study

To understand better the approaches that best support teachers to develop, and assess, their pupils' social and emotional competencies, as required by the competency-based curriculum in Kenya

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What is the purpose of our action research together?
Draft research questions

Overall research question (draft)
How to enable teachers to support and assess better their pupils' acquisition of the competencies of the KCBC?

I. Sub-questions (draft)

1. Which teaching strategies do teachers find most helpful?
2. How can parents and other community members be involved?
3. What association, if any, is found between learners' social emotional skills and their literacy and mathematics achievement?
4. What are the implications of the findings for improving support to teachers?

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Tools

1. Teacher self-reflection diaries
2. WhatsApp group
3. Semi-structured interviews
4. Coded videoed classroom observations: Classroom Guide
5. Early Grade Reading Assessment
6. Early Grade Mathematics Assessment
7. Social Emotional Learning Assessment

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Three areas on which to focus during the Action Research

1. 'Infusing' competencies into lesson CONTENT
Schemes of work, curriculum designs
2. 'READY TO LEARN, READY FOR LIFE'
Breathing and concentration exercises
3. Working with PARENTS
Integrate as far as possible

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Implications of the Action Research process until October 2019

Grades 1-3:

- Commitment to send me something every week for 3 half terms (till October)
- Meetings/mutual support
- Using Classroom Guide
- Teacher reflection diaries
- Assessments of grade 3:
 - Social and Emotional
 - Literacy
 - Numeracy

All those who would like to:

- Meetings between teachers
- Using Classroom Guide
- WhatsApp group
- Teacher reflection diaries

'Whole school'

19

19

IN PRACTICE

1. Action Research document 1: Writing your Action Research question
2. Action Research document 2: Logic model and plan
3. Action Research document 3: Weekly Reflective writing in your diary
4. Action Research document 4: Writing your cycle reflection

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20

Creating a good Action Research questions

- *If I listen to students, will I have better understanding of them?*
- *If I set up community circle time to listen to students describe their learning experiences in my classroom (description of the action), in what ways, if any, will the information about their learning processes lead to changes in my teaching practices (description of the outcome that will be studied)?*

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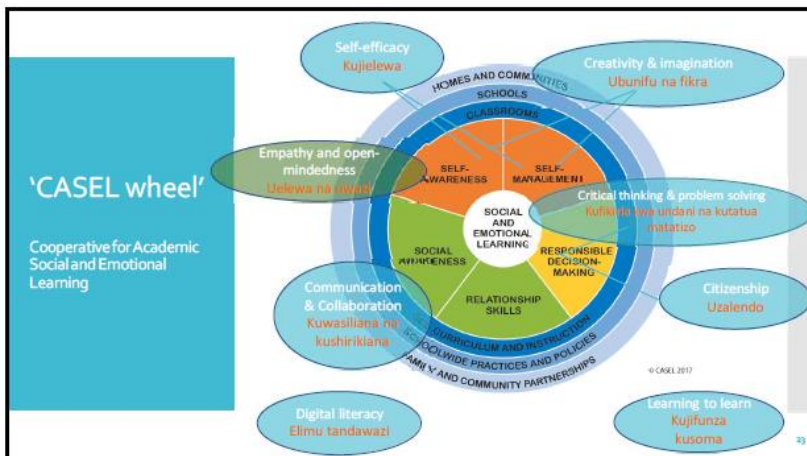
21

Understanding the competencies 1

- What exactly does each competency mean?
- Agree a list of behaviours for each competency to:
 - Support use/revision of tools
 - Refer to in lesson planning
- Are they appropriately reflected in:
 - The Social Emotional Competencies rating tool?
 - Are there competencies that are missing from the tool – do we need to add questions?
 - The Classroom Guide?
 - Review as doing teacher practice

22

22



23

Behaviours describing competencies: 25-6 April workshop

| Competency | Behaviours |
|------------------------|---|
| Open-mindedness | Teacher: not biased caters for all children allows questions from the children - they are not 'shut down' |
| Confidence | Pupils: try to answer, raise their hands, answer questions without fear, <u>ask questions</u> are able to criticize the teacher or others eg if the teacher misspells a word, if there is something missing help others in the group show peer teaching – teaching others |
| Respect | Pupils: do work on time, do something in the correct way, not because of fear, obey the rules mind how they speak to each other – use assertive but 'not hurting' words apologise if do something wrong |
| Obedience | Doing as told, when not forced to do so |

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Self-awareness and resilience
Kujidambua na kujidhibiti

Empathy & open mindedness
Uelewa na uawazi

Reconciling tensions
Uwiano/ Maridhiano ya taharuki

Taking responsibility
Uwajibikaji

25

Relationship building
Kujenga uhusiano

Collaboration
Kushirikiana/ Kuungana

Respect for diversity
Kuheshimu utofauti

Critical thinking & problem solving
Kufikiria kwa kina na kutatua matatizo

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Understanding the competencies 2

- What exactly does each competency mean?
- Agree a list of behaviours for each competency to:
 - Support use/revision of tools
 - Refer to in lesson planning
- Are they appropriately reflected in:
 1. The **Social Emotional Competencies rating tool**
 - Are there competencies that are missing from the tool – do we need to add questions?
 2. The **Classroom Guide**
 - Review during teacher practice

27

| | | | | |
|----------------------------------|--|------------------------|--------------------------------------|---------------------|
| | | | | |
| Learning objectives & sequencing | Teacher sensitivity | Emotional climate | Effective facilitation | Classroom agreement |
| Malengo ya kusoma na ratiba | Umakinifu wa mwalimu/ Uangalifu wa mwalimu | Hati ya hisia darasani | Ufunzaji timilifu/ ukufunzi timilifu | Maafikiano darasani |

28

| | | | | |
|------------------------------|---|-------------------------------|--------------------------|-----------------------|
| | | | | |
| Differentiation | Individual & collaborative learning | Learning to learn strategies | Feedback strategies | Assessment strategies |
| Mbinu mbadala za kufundishia | Kujifunza kibinafsi na kwa kushirikiana | Mikakati ya kujifunza kuelewa | Mikakati ya kutoa majibu | Mikakati ya kutaihini |

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| | | | | |
|----------------------------------|------------------------|---------------------|-------------------------------------|-----------------------|
| | | | | |
| Learning objectives & sequencing | Teacher sensitivity | Classroom agreement | Learning to learn strategies | Feedback strategies |
| Emotional climate | Effective facilitation | Differentiation | Individual & collaborative learning | Assessment strategies |

30

'Happy teachers change the world'
Thich Nhat Hanh

<https://plumvillage.org/books/happy-teachers-change-the-world/>

31

'Well-being'

Your well-being

- Write down everything that comes to mind when you think of your own **well-being**. Think about what makes you **feel well** and how you act when you are well

Condition of **holistic health**: physical, emotional, social, and cognitive health.

Well-being includes **what is good for a person**:

- participating in a **meaningful social role**
- **feeling happy and hopeful**
- living according to **good values**, as locally defined
- having **positive social relations** and a **supportive environment**
- coping with challenges through the use of **positive life skills**
- **security**, protection and access to quality services.

32

'Well-being'

Group work

1. What affects your well-being as a teacher, positively and negatively?

| Things that have a positive effect on teacher well-being | Things that have a negative effect on teacher well-being |
|--|--|
| | |

2. How do you think a teacher's well-being affects:

- Their teaching performance?
- The well-being of learners in their class?

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Our brains

Fear and Anxiety Affect the Brain Architecture of Learning and Memory

PREFRONTAL CORTEX
Center of executive functions; regulates thoughts, emotions, and actions. Especially vulnerable to disruption of brain chemistry caused by stress. Matures later in childhood.

AMYGDALA
Triggers emotional responses; senses whether a stimulus is threatening. Elevated cortisol levels caused by stress can affect activity. Matures in early years of life.

HIPPOCAMPUS
Center of short-term memory; connects sensation of fear to the context in which the threatening event occurs. Elevated cortisol levels caused by stress can affect growth and performance. Matures in early years of life.

34

'Happy hormones'
(neurotransmitters)

'Happy hormones'

- Serotonin
 - Affect mood, supported by diet, natural light, sleep
- Dopamine
 - When you achieve something, laugh
- Endorphins
 - Anti-stress, released during exercise
- Oxytocin
 - Released by touch, encourage prosocial behaviour

How they work:

35

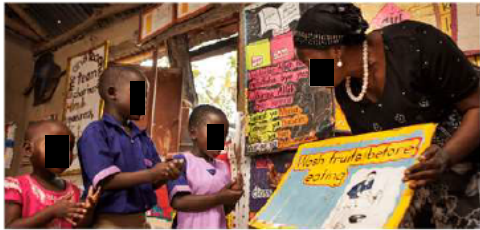
35

'Tribal classroom'

?

36

36



Teachers are models

Strategies:

- 'Ready to learn Ready for life'
- 'STOP, THINK, ACT'
- Talking about emotions
- Social emotional well-being activities and routines

What we do is more important than what we say

37

37

How is this relevant to KCBC?

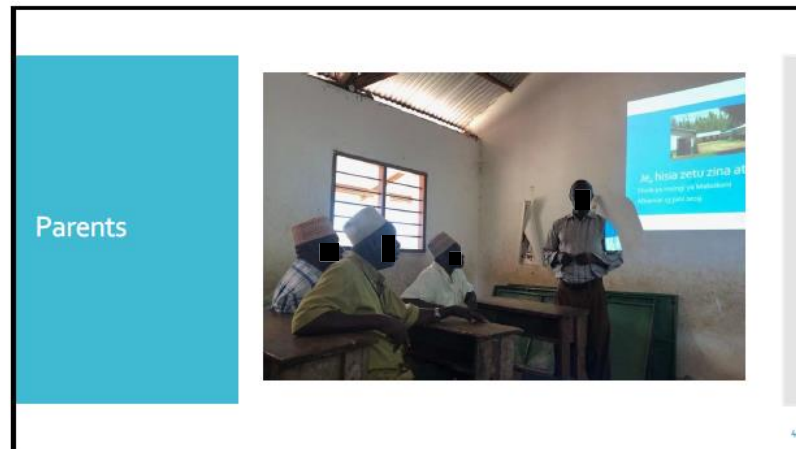
- Teacher self-care
- Helping children be ready to learn
- Supporting development of the competencies directly

38

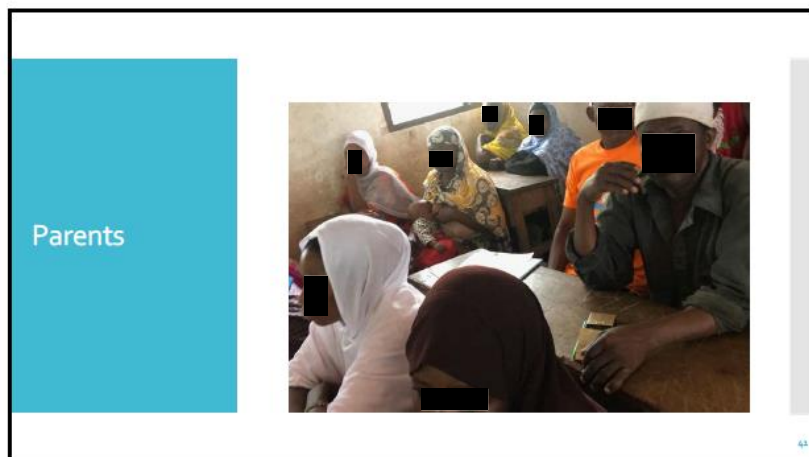
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39



40



41



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'Infusing' competencies into lesson plans

- Curriculum designs: NB link to strands/sub-strands, learning outcomes, **key enquiry questions**
- Map the **competencies** – what kind of **activities** **COULD** support them (cf Classroom Guide)
- Which **research questions** could be explored?

Resources:

- Beyond Ethnicism
- INTERNET
 - Explore SEL website...
- Newspapers?
- BOOKS – reading stories
- What else?

45

PLAN for our ACTION RESEARCH

46

45

46

Annex 4: Teacher workshop slides, July 2019



1



2

'Relationships are the soil in which children's social and emotional competencies grow'

Navigating SEL from the inside out, Jones et al, 2017

Plus air, water, light...

PARENTS/FAMILY

SCHOOL/TEACHERS

FRIENDS/COMMUNITY

'It's the RELATIONSHIP between the teachers and students that is different' in their classrooms
Teacher Educator in Finland

3

Kenyan Competency Based Curriculum

Basic Education Curriculum Framework

4

Pluralism and Ethics with KCBC Values and Competencies

| AKDN Values and Attitudes | Personal Qualities and Competencies aligned with pluralism and ethics | Kenyan Curriculum Values aligned with pluralism and ethics | Kenyan Curriculum Competencies aligned with pluralism and ethics |
|---------------------------|---|---|---|
| Pluralism and Ethics | <ul style="list-style-type: none"> Self-awareness and resilience Empathy & open mindedness Respect for diversity Taking responsibility Relationship building Collaboration Reconciling tensions Critical thinking & problem solving | <ul style="list-style-type: none"> Care and compassion Understanding & tolerance Unity Trust and honesty Respect for others Responsibility Being ethical | <ul style="list-style-type: none"> Self-efficacy Empathy and open mindedness Citizenship Communication and collaboration Creativity and imagination Critical thinking and problem solving |

5

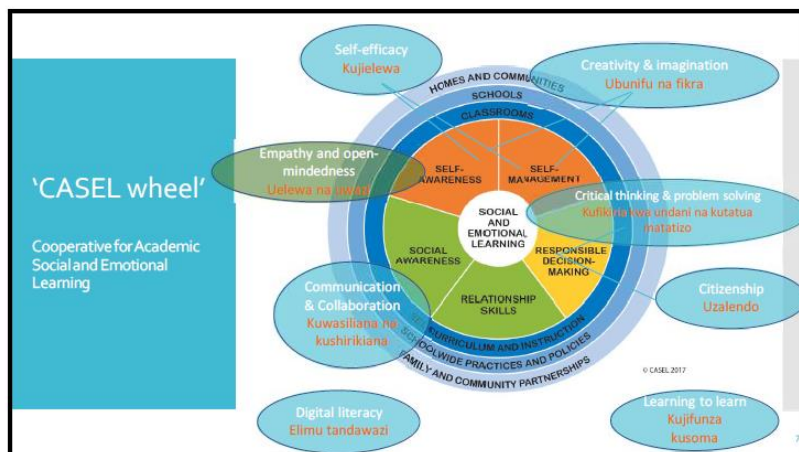
SUSTAINABLE DEVELOPMENT GOAL 4

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.7 by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development

<https://sustainabledevelopment.un.org/sdg4>

6



7

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Kujidambua na kujidhibiti

Empathy & open mindedness
Uelewa na uawazi

Reconciling tensions
Uwiano/ Maridhiano ya taharuki

Taking responsibility
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Kufikiria kwa kina na kutatua matatizo

9

Why are we here?

- 'To be empowered'
- 'For the Kenyan child' – good change
- To gain knowledge

Action Research:

- Increases our understanding
- Creates new knowledge

=> Transformation

10

Annex 5: Annotated Handout: Preparing Our Action research

'Becoming an effective competency-based teacher': Preparing Our Action research (part 2)

20 July 2019

HANDOUT 3 with notes from the discussion

Highlighted/elicited in discussion
Discussion points in comments

Center For Collaborative Action Research

Background on Action Research

Understanding Action Research Margaret Riel, 2017, Collaborative Action Research website

Action research is not a single approach but rather represents a tension between a **number of** forces that lead to **personal, professional** and **social** change. I think of action research is a process of **deep inquiry** into one's practices in service of moving towards an **envisioned future**, aligned with **values**. Action research, can be seen as a **systematic, reflective** study of one's **actions**, and the effects of these actions, in a **workplace** or **organizational context**. As such, it involves **deep inquiry** into one's professional practice. However it is also a **collaborative process** as it is done **WITH** people in a **social context** and **understanding** the change means **probing multiple understandings** of complex **social systems**. And finally as research it implies a **commitment to data sharing**.

1. Action researchers examine their **interactions** and **relationships** in **social settings** seeking opportunities for **improvement**. As **designers and stakeholders**, they work with their colleagues to propose **new courses of action** that help their **community improve work practices**. As researchers, they seek **evidence** from **multiple sources** to help them **analyze reactions** to the action taken. They recognize their own view as **subjective and** seek to develop their **understanding** of the events from **multiple perspectives**. The action researcher uses **data** collected from **interactions** with others to **characterize** the forces in ways that **can** be shared with **other practitioners**. This leads to a **reflective phase** in which the action researchers formulates new plans for action during the next cycle.

AJ Alison Joyner
Encouraged teachers to register on and use this website – at least one became a member of the community of practice

AJ Alison Joyner
As in KCBC

AJ Alison Joyner
as we want to stimulate in children

AJ Alison Joyner
6 main points in this part of the document were highlighted

AJ Alison Joyner
the focus of action research question

AJ Alison Joyner
in our research, we have: 2 observation tools (of children, in the SE competency assessment tool, and of teachers, Classroom Guide); reflective journals; whatsapp sharing; contributions from the parents of children (through meetings)

AJ Alison Joyner
'characterise' – means describe

2. Action research provides a path of learning from and through one's practice by working through a series of reflective stages that facilitate the development of progressive problem solving (Bereiter & Scardamalia, 1993). Over time, action researchers develop a deep understanding of the ways in which a variety of social and environmental forces interact to create complex patterns. Since these forces are dynamic, action research is a process of living one's theory into practice (McNiff & Whitehead, 2010) or taking a living and learning stance to teaching (Clive Beck, 2016). This diagram illustrates the process of action research through time.

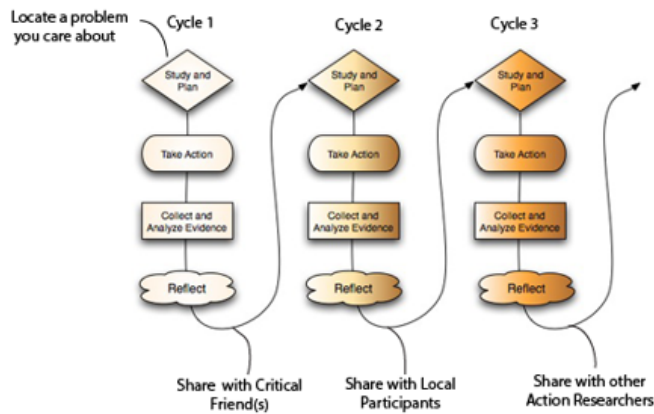


Figure 1: The iterative process of action research

Action research polls

3. Goals of Action Research include:
- The improvement of professional practice through continual learning and progressive problem solving;
 - A deep understanding of practice and the development of a well specified theory of action;
 - An improvement in the community in which one's practice is embedded through participatory research.
4. Action research involves a systematic process of examining the evidence. The results of this type of research are practical, relevant, and can inform theory. Action research is different than other

AJ Alison Joyner
and supporting children to learn in a similar way. Ambition to succeed can be fostered in this way – for example the achievements of children in Tabichi's school – find solutions to questions of parents and communities. This is an example of what can happen

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and support children to learn in similar ways. In discussion it was commented that this approach can be shared with children also. The importance of 'opening up' was noted – teachers said we should share with children that if you're angry, it may be because of your parents (for example). They agreed on the need to sensitise children on their feelings, and the importance of being open about this with teachers and their peers.

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Agreed that 'critical friends' would be the teachers in the case study school; 'local participants' are parents, the education office, 'other action researchers' could be teachers from other schools, potentially the Ministry of Education and Kenya Institute for Curriculum Development.

Teachers noted that they would be building themselves through looking at videos of their and each others' teaching. They suggested it was not 'a must' for the researcher to give feedback – this is considered a learning process for teachers and they suggested this would happen anyway

| | |
|--|--|
| <p>forms of research as there is less concern for universality of findings, and more value is placed on the relevance of the findings to the researcher and the local collaborators. Critical reflection is at the heart of action research and when this reflection is based on careful examination of evidence from multiple perspectives, it can provide an effective strategy for improving the organization's ways of working and the whole organizational climate. It can be the process through which an organization learns. We conceptualize action research as having three outcomes—on the personal, organizational and scholarly levels.</p> | <p>Alison Joyner <i>As we aim to encourage in</i> ▼</p> <p>Alison Joyner <i>Pointed out that the approach</i> ▼</p> |
| <p>5. Action research is conducted in the workplace with others. It is a collaborative process. But, also, the doing of action research is more effective when action researchers can benefit from the help of a community of action researchers. The Center for Collaborative Action Research is part of a process of developing the community of action researchers for each cadre. In our program, action researchers carry out their work in learning circles—a structure for organizing group interaction. Combining this collaborative structure with the action research process is an effective way to provide high levels of support for action researchers as they design their action and engage in the process of studying the outcomes.</p> | <p>Alison Joyner Alison Joyner <i>Encouraged teachers to</i> ▼</p> <p>Alison Joyner <i>Comparable to 'scaffolding'</i> ▼</p> |
| <p>6. Developing Action Research Questions: A Guide to Progressive Inquiry</p> <p>The questions asked by action researchers guide their process. A good question will inspire one to look closely and collect evidence that will help find possible answers. What are good examples of action research questions? What are questions that are less likely to promote the process of deep sustained inquiry? The best question is the one that will inspire the researcher to look at their practice deeply and to engage in cycles of continuous learning from the everyday practice of their craft. These questions come from a desire to have practice align with values and beliefs. Exploring these questions helps the researcher to be progressively more effective in attaining their personal goals and developing professional expertise.</p> <p>Good questions often arise from visions of improved practice (KCBC/VBE) and emerging theories about the change that will move the researcher closer to the ideal state of working practices. When stated in an if/then format, they can take the shape of a research hypothesis. If I [insert the action to be taken], how will it affect [describe one or more possible consequences of the action]? We will look at two examples, one from education and one from a business setting.</p> | <p>Alison Joyner <i>It was noted that this repeats</i> ▼</p> <p>Alison Joyner <i>Aligns also therefore with the</i> ▼</p> <p>Alison Joyner <i>Noted how this fits with the</i> ▼</p> <p>Alison Joyner <i>Red text added into original</i> ▼</p> <p>Alison Joyner <i>Theorists include, for example,</i> ▼</p> <p>Alison Joyner <i>This would be specific to the action chosen – in the context of our action research, it would support the development of the particular competency on which you are focusing</i></p> |

Development of Action Research Questions in an Educational Context

Suppose the researcher is worried about designing the learning context to meet the needs of students who are currently not doing well in the classroom. The general question might be:

How can I personalize instruction to match the diverse needs of my students??

This forms a good overall goal which can then lead to a number of possible cycles of action research, each with a separate question. I find that a helpful research question has two parts. The first part describing the action and second part focused on the outcome that is anticipated.

Consider this question:

If I listen to students, will I have better understanding of them?

This question suggests an action and possible outcome but is vague in both in the description of the action and in the possible outcome. It is not clear what is going to be done to increase attention to students and what evidence will help evaluate the action.

Now consider:

If I set up community circle time to listen to students describe their learning experiences in my classroom (description of the action), in what ways, if any, will the information about their learning processes lead to changes in my teaching practices (description of the outcome that will be studied)?

Now it is clear what the researcher intends to do and what a possible outcome might be. In listening to students, the researcher might discover information that will lead directly to an experiment in instructional design or might refocus the overall goal to one that was not apparent when the researcher began the inquiry.

Recognizing Weak Action Research Questions

- Questions with known answers where the goal is to "prove" it to others. For example, suppose a person has been holding family math night for years and sees an effect on parent participation. A weak question for action research would be: Will holding a family math night

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We went through this section in detail

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Alison Joyner

This is comparable to the overall research question of our shared action research project

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Alison Joyner

These examples had been discussed in earlier sessions

increase parent participation? This might be a useful evaluative research question where a controlled study could be set up to explore the connection. But evaluative research is different than action research. Action research is an experiment in design, and involves implementing an action to study its consequences.

- *Questions that can be answered yes or no. Generally these are questions that will not encourage paying attention to the many nuances of the setting and the social interactions. Although, like any guide, while some yes/no questions can provide direction, it is often helpful to think about ways to transform the question into a different format. For example: *Will the introduction of project-based learning lead to more student engagement?* The question might be reworked to, *How will the introduction of project-based learning affect student engagement in my classroom?* The first one, the researcher can answer the question with yes (an outcome that they might have expected). The second question guides them to look for the possible mechanism of project-based learning (maybe ownership, collaboration, or self-assessment) that have been found to be related to increased engagement.*
- *Questions that can be answered by reading the literature. What does community of practice mean?* This might be a question that the researcher needs to answer, and can do so by reading more readily than by engaging in action research. A better formulation for action research might be: *How will increasing the time for teacher collaboration in grade level teams affect the development of a community of practice at our school?*

Sharing your Action Research with Others:

One of the strongest acts of **leadership** can be the **act of writing**—of sharing knowledge and insights gained. Writing enables contribution to the **body of knowledge** that exists **beyond the researcher**. The **final report** serves the purpose of sharing the knowledge gained through action research with others in a community of practice. Action researchers will need to decide **what** to write and **to whom** to write.

AJ Alison Joyner
This point was emphasised

AJ Alison Joyner
Cited the example of Peter Tabichi

AJ Alison Joyner
One form of this will be the thesis written by the student researcher. But teachers will also share through other teachers, through the education officer and potentially more widely in Kenya

| | |
|--|--|
| <p style="text-align: center;">Action Research tutorials</p> | <p>Alison Joyner <i>Teachers were encouraged to do</i></p> |
| <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">These notes are taken from Action research tutorials (https://www.actionresearchtutorials.org/tutorial-overview). I encourage you, if possible, to go through the tutorials on line, which include videos and exercises.</p> </div> | |
| <p>Tutorial 6: Cycle 1 research question</p> | <p>Alison Joyner <i>In the discussion of these points</i></p> |
| <p>1. Frame your question</p> <p>Each action researcher finds an area where he or she could effect change. A cycle can be as small as changing the way you talk, or as large as rethinking the way people work together. Action researchers look at how things were while thinking about how they would like things to be. The change seen in the examples started small and the evidence that they collected moved them to the next cycle. This progressive problem solving can form a path to deeper understanding and expertise.</p> | <p>Alison Joyner <i>This was revision of what had</i></p> |
| <p>Don't start with how, rather the answer to the question: if I did...how will it affect students' acquisition of [a specific] competency/ies...</p> | <p>Alison Joyner <i>For example, one of the case</i></p> |
| <p>Issue or scope – how big or small should it be? You can't start with your whole work – start small in scope</p> <p>NB the answer should be unknown (not an evaluation) – the goal is inquiry- into ways people interact</p> <p>NB an effective teacher is always in action research mode – just formalize it a bit; NB both researching and being researched (ie the process)</p> | <p>Alison Joyner <i>This is comparable to what we</i></p> |
| <p>Note – the first stage may be preparing – eg preparing the tool</p> | <p>Alison Joyner <i>As in the discussions in June an</i></p> |
| <p>Who owns the problem – the people involved in that problem, should be the ones involved with solving it. Children can also be involved (eg in the questions around parental involvement?)</p> | <p>Alison Joyner <i>See note above about teachers</i></p> |
| <p>Try not to get too far ahead with your own vision – often the first cycle is bringing together the people who are involved, and discussing with them your plans, for how you see the plan. This can have effect on how you see the problem.</p> <p>LISTEN TO the concerns of those people who are involved – frame something collaboratively rather than pushing ahead with something that you want to do/your own vision</p> | |

2. **Take action**

Some things to keep in mind as you begin your first cycle:

1) **SCOPE**: Your whole job or a large project is not your action research, it is the **CONTEXT** for your action research. You need to **focus** your **conceptual microscope** on one small part. Think of a **strategy** that you are going to use to accomplish your goals. If you think of a situation when you say to yourself, I wonder what would happen if I **....**, you have the start of a possible cycle of action research.

Then you **have to** ask yourself some questions:

- Will this **action** help me achieve my **overall inquiry question**?
- Is this something I need to **better understand**?
- Will the **outcome** be important to me and worth the time investigating and analyzing the outcomes?

2) **INQUIRY**: A good action research question is one that you **do you know the answer to**. Your action research questions should **not** be directed towards gathering evidence about something you have done **before** that you want to promote as successful or effective. Evaluation research is better suited for this task. You should be asking a question that will **lead you to explore**. You are trying to understand **if and why something works**. For example, you might have to start up a program you have done before. Was there something that did not work as well as you would have liked? In your review of the literature, maybe you got an **idea of a different way of approaching** it. So now you are going to try **this different approach**. You **don't know** how it will work in your setting, or with your partners. This is a **good project** because you are **exploring** something where the outcome is unknown but you hope it will move you in the **direction of improvement**.

3) **COLLABORATIVE DESIGN**: Action researchers are less concerned with baselines, controls, and treatments—these concepts are a part of experimental research. Instead, action researchers are looking at **change over time from different perspectives**. Each cycle is a **baseline for the next one**. The goal is to **understand why** the **change** works or **doesn't work** in the **setting**. The **knowledge** development comes from **reflection** on one's actions and from the **inquiry** into how these actions cause reactions in others. Understanding change **from the perspectives of others** in the **social** setting is an important part of the

AJ **Alison Joyner**
The aim was to do this each week

AJ **Alison Joyner**
NOTE – check ideas that have been shared (on Whatsapp and during workshop sessions), search online if possible

AJ **Alison Joyner**
IMPORTANT – this connects to the overall research question, and the Kenya Competency Based Curriculum

AJ **Alison Joyner**
Towards answering the overall research question

process. Reflecting to **make sense of** what you are learning and how it **relates** to your **theories of action** is critically important.

4) **NONLINEAR CYCLIC PROGRESS** - All of us would like everything we try to be successful, but action researchers develop a healthy attitude towards **calculated risks** and **possible failure**. Being willing to try something that might not work often takes **courage** and **confidence**. The **courage** to explore new territory and the **confidence** to **learn** from situations that did not turn out as well as expected are good skills in the action researchers' toolbox. **Cycles that are unsuccessful are often followed by ones with more success. It takes more than once to figure out the best ways to work.**

Note this is a **MODEL** for how we would like children to take **risks, and learn from their mistakes** (part of learning to learn).

3. **Write about it** – what **happens**, and how you **feel** about what happens – document your **mindset** at each point along the way.

C) Reflective and Descriptive Writing

Both **descriptive** and **reflective** writing are important in documenting your action research for yourself and others. Memory is reconstructive. It uses bits of evidence to reconstruct scenes and events. A **rich description** can preserve one's time-sensitive way of seeing a set of actions and reactions. Without careful **note-taking throughout** the process of action research, it is very difficult to **remember** the conditions as the memories tend to reconstruct with the benefit of evolving knowledge. In any process of change, it is important to keep a **research log**—notes that describe what is seen and heard. A good researcher is always aware that **their point-of-view is not the only one that defines reality**. The more **evidence of the perceptions of others** that are collected, the deeper the researcher's understanding will be of the multiple perspectives on the same actions.

Descriptive writing aims to be **low inference**. For example, writing "the students were excited, engaged, and did an excellent job on their projects" is drawing an **inference** from an observation. A lower inference description of the same event by an action researcher might read, "The students spent most of the period **focused on their projects** with **relatively few distractions**. They did not want to leave

AI **Alison Joyner**
VERY IMPORTANT

AI **Alison Joyner**
We discussed the importance of being explicit with children that it is ok to make mistakes, and to learn from that.

Teachers gave the example of reviewing with children grade 8 results, both good and bad, as a way to work towards school improvement

AI **Alison Joyner**
This is your reflective diary or journal. At the end of the action research, in October 2019, we agreed that this reflection could be included in the last section of the lesson plan: 'Reflection on the lesson'

at the end of the period. I assessed each of the group projects in terms of the objectives set for the activity." *is specific, relatively objective, emotion-free description*

Reflective writing can and often does contain descriptions of events—but the **goal** of the writing is very different. The focus is **not on what** happened, but **why** it happened and on **how what happened connects** to the **past** events and ideas and **possible futures** that such events might bring. The **reflection** is what the **mirror** shows of **mind**—one's **thinking about these connections**. So while a reflection may begin by describing an action or a consequence of an action, it quickly leaves the details of what happened and uses some aspect of the situation as a springboard for **exploring** the writer's **analysis** and **synthesis** of actions or **consequences**, and **why** and **how** they are connected.

For example, the researcher might have **noticed** something about the way pupils **work**, or the development of a new individual or group **skill** might **alter the way pupils interact** with one another and **the reflection might dwell on those relationships**. Something **learned** about the people involved in the action research might lead the researcher to **question the way they think about an issue**.

For **reflective** writing, the **mirror** shows **what cannot be seen**—that is, the **thinking** that the researcher is doing about the **action** and **consequences of the actions** for **now** and for the **future**.

Structures for keeping notes

1) Reflection on what you observed. --These are the easiest to write and it is often easiest to start here. These reflections tell the reader what happened. Instead of saying "all participants thought it was a terrific experience. It was a great **success** and they want more." You might write something like..."Most of the participants were actively engaged all of the time and when the time was up many of them keep working for another 10-15 minutes. When leaving most expressed positive comments and we have been asked to hold a similar session next week." The second description allows the reader to make the conclusion that the session was successful.

2) Reflection on why it happened. -- Writing about **what** happened is only the first step. Now the question is why did it happen? **Why** were participants engaged or not engaged? What was the part of the action that was **most critical**? The researcher begins with a theory of action or predictions about

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Revision of what was discussed during the June workshop

what **might** happen. The reflection begins with what happened but then moves to **why** it happened and how this **compares** to the prior theory of action. The researcher notes things that **match** and things that **deviate from** the theory of action.

3) Reflection on how **this ties** to your **past and future** experiences. -- An event can be a trigger to look more deeply at one's past experiences and project to future experiences. This is an **exploration** of the mind. How are events linked and what might this say about **future directions**? This is **highly personal** and can also deal with **emotive** content (that stimulates **emotions**). **Did your action help you learn more about your values and directions you want to take in your work? Was there something in your past that influenced your actions in ways that were not productive?**

4) Reflection on **conceptual knowledge structures** -- An event or experience can **change how we think** and in doing so can **change our identity**. This reflection returns to the larger history of ideas and tries to **place this event in the history of ideas**. For example, how does this event shape **your educational philosophy**? Does it help you see **learning in a different light**? Did you learn something about **group processes** that connect to ideas that you encountered in your literature review?

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This will be examined in the report (thesis) on the overall action research question, but applies equally to each individual teacher

Annex 6: Suggested activities for supporting concentration and attention in the classroom

Teacher handout, June 2019

Suggestions for activities: for teachers and with learners in the classroom

PLEASE NOTE

These activities are suggestions. Most will need to be adapted for your classroom.

When you are choosing an activity, ask yourself the questions:

1. Is this appropriate for what I want to achieve?
2. If yes, do I need to adapt it? How?

When you have tried the activity ask yourself, and note in your reflective diary:

3. How did it go? What worked well? What didn't work well?
4. Should I use it again? If yes, what should I change, if anything

The activities marked with 'INEE' are drawn from Modules 1 and 2 of the [Training for Primary School Teachers in Crisis Contexts](#). The full package is available on the Inter-Agency Network for Education in Emergencies (INEE) [website](#). For other activities the book and page references are given.

Classroom Activities and Routines

How can I make my classroom a safe and protective environment?

Inter-Agency Network for Education in Emergencies

It is important to make the classroom a friendly environment where children feel safe and protected. Having a daily routine, setting class rules and empowering children can help teachers in this task. Here are a set of different strategies teachers can use and adapt to their classroom on a daily basis.

Classroom rules and routines

- **Start the day** with something interesting such as a song, a joke or an interactive activity.
- Create a **mailbox** where your students can send you anonymous correspondence. Encourage them to share their feelings, their worries and concerns with you.
- At the **end of the day** you could ask about the **Two Best Things**:

At the end of every day before the children go home, ask them to think of the two best things that happened during the day. This helps you and the students to leave school on a positive note. It is not to ignore the negative, but rather to remember the positive parts that are often forgotten.

Other ideas for **greetings and endings** are found on pages 20-21 of Adrian Bethune's book 'Wellbeing the Primary Classroom'

Managing stress and our emotions

INEE

Self-care, relaxation and focus

These activities may be particularly helpful for teachers to do themselves, but you can also try them with children.

Contract and Release- Heat

Take one minute to sit silently.

Grow your back longer and taller, reaching your head to the sky. Breathe in deeply. Exhale slowly and let yourself relax. Squeeze up your toes, and release them, feeling heat come out of your toes. Squeeze the muscles in your legs and knees, now let them fully relax and feel the heat coming out of your legs. Squeeze up your bottom and then let the heat warm up your chair as you relax. Pull your tummy muscles in, then release them and feel the warmth radiate out. Feel your chest tighten up, and then relax, releasing heat. Shrug your shoulders up to your ears, then relax your shoulders down your back, feeling the heat come out. Contract your arms, then relax them and let the heat come out of your fingertips. Feel the heat come up your neck and wrap around your head. Feel your whole body warm and relaxed.

Sit silently for 30 seconds, or as long as they are comfortable.

Now bring your attention back to the class. Wiggle your fingers and your toes. Make small circles with your wrists. Stretch your arms up to the sky and then shake them out. If your eyes are closed, slowly, gently open them.

Sitting Silently

Before you begin this activity you will need to identify a daily intention. This can be a short saying that you repeat to yourself throughout the day for encouragement or motivation. Example: I am going to be joyful today. OR breathe in the peace, breathe out the stress.

Sit tall in your seats and stretch your neck out above you. State your daily intention. Repeat the daily intention one or two more times. Ask yourself, “What does today’s “Daily Intention” mean to you?”

Now take one minute to sit silently.

Grow your back longer and taller, reaching your head to the sky. Breathe calmly. Continue to breathe slowly for one minute. If it is comfortable, you can close your eyes and think about the daily intention.

Flower and candle

Purpose of the activity: calming, concentration, relaxation/evacuation of stress

If possible, have a real flower and a real candle (lit?) as visual aids

Exercise:

Everyone sit or stand, as comfortable

(If we have it): here we have a flower, and a candle; (if not): I want you to imagine a flower, and a candle:

- What do we do with a flower? We sniff it, breathe in the good smell. Let’s do that all together – one deep breath
- What do we do with a candle? Blow it out. Let’s do that – pfff it out

Now keep that in your mind as we start:

- If you like, you can place one hand on your belly, the other on your chest.
 - If you feel comfortable, you can close your eyes.
 - Now imagine the flower in front of you, take in one big breath, *breath in* the good smell
 - Hold for a moment if you can, then puff out the candle, quickly *breath out* the air from your body
- Let’s do that a few more times:
- Breathe in, breathe out; breathe in, breathe out, breathe OUT...
 - NOW as you breathe out, imagine that your breathing into your belly all the bad things you might feel in your body, any bad feelings, bad thoughts, anything that’s making you cross, or sad Hold them all in your belly for now
 - Now breathe in again, and as you breathe out, imagine that you’re breathing OUT all those bad things that you had gathered in your belly, all those bad feelings, thoughts, sadness, crossness
 - Now two more breathes in... and out....in....out

- Notice how it feels – how different it feels now all the bad things have gone, and you’re only breathing out good things
PAUSE
- Now if you have your eyes closed, gently open them, come back to the room

- How did that feel? Discuss the ways people

There are further ideas for relaxation/meditation activities with children in Adrian Bethune’s book ‘Wellbeing in the Primary Classroom’, pages 40-42. These include ‘Tummy and Chest’, which focuses on breathing, and activities based on walking, listening and eating.

Conflict resolution with children

INEE

STOP

THINK

ACT

This approach will be particularly useful for managing children’s conflicts, but it can also be helpful to practice yourself, and to suggest and discuss with parents.

1. **Stop** - remove yourself from the conflict, calm yourself down, and state the conflict without blaming anyone.

Eg Deep breaths, counting to ten, taking water, walking away from the situation, thinking happy thoughts, put the problem into perspective.

2. **Think** - think of solutions and their consequences, select the most appropriate.

1. How do **I** feel?
2. How do **they** feel? Try to see the conflict from their side.
3. What was I doing? Was it causing a problem?
4. What can I do to **solve the problem**?

3. **Act** - act on the solution you decided on to solve the conflict.

Whatever you decide to do you need to make sure you are **respecting yourself** and the **other person**. You want to make the situation better, not worse. It is a good idea to learn how to state the conflict without placing any blame. For example, instead of saying, **you** made me late. Say, **we** were late.

You can use the format below, for children to write or draw an example of a situation where they practice STOP, THINK, ACT:

| | |
|------|-------|
| STOP | THINK |
|------|-------|

| |
|-----|
| ACT |
|-----|

Talking about emotions

Happiness and dreams

INEE

Select one student and depending on the students' "age-range", do one of the following:

Students Age Activity

0 – 7 years

Ask a student what makes him/her happy. Ask the rest of the class to make a drawing representing the selected student in a happy scenario. When they have finished, ask them to show their drawings to the rest of the class.

8 – 13 years

Ask a student what makes him/her happy or what they dream about. Organise the class into small groups and to create a puppet show based on the selected student's dream to present at the end.

14 or older

Ask a student what is his/her dream, what makes him/her happy and what he/she wants to accomplish. Make the class form a circle. Create a storytelling activity where one child begins a story about the selected student, and every other students adds something good to the story. The story should end by the student achieving his/her dream.

Helping people feel good about themselves

INEE

'Affirmation' means being positive about someone, seeing the good side to make them and you feel good.

1. Affirmation Adjectives:

Stand in a circle. Each person in turn will say his or her name with an adjective that starts with the same letter. The word must refer to good qualities. "I'm marvelous Mohammed," "I'm amazing Amina," "I'm optimistic Okello".

This could be part of work you do on naming emotions, to give children the vocabulary they need to talk about how they feel, and how they feel about themselves.

2. Affirmation Pages:

Each pupil should have a piece of paper and a pen or pencil. In a large class, children can sit in groups.

Each child puts their name and a small picture of their face at the top. Then the pages are passed to the left. Everyone must write a few nice words about the person whose name is on the paper. Then they pass it to the left again and write on each page as they receive it, till the pages have been all around the circle and have come back to the students they belong to.

3. Child's Name in a Box:

Make a chart at the back of the room with each child's name in a boxed section. Allow children to write nice words for other children. Children can also write positive things about themselves.

Discussions

INEE

Writing Assignments:

Have your students write about a theme that is relevant to their lives. You can use this exercise to promote expression as well as to help improve their writing skills.

Possible subjects:

- The most important event of my life
- The best thing that has ever happened to me
- I am most happy when...
- A dream
- How I would describe myself
- Last week I felt ...because...
- My best friend
- The person I trust the most and why

Weekly Class Discussions:

1. Set aside a time during the week for classroom discussion.
2. Start your first meeting by agreeing with your pupils the 'rules' or agreements of the discussion
 - It is a place for students to share their ideas and opinions.
 - All who want to share must be allowed to share – everyone has a voice.
 - No one may criticise or make fun of anyone else.
3. Introduce a topic. For example: "Today I think it is important for us to talk about playing at break time. I have noticed that there is a lot of arguing and fighting. Would anyone like to share about this?" Use a topic that is relevant to your class.

4. Allow students to share their feelings and thoughts and then, when appropriate, ask for possible solutions.
5. Do not tell them what to do. Try to help them come up with their own solutions. This enables them to grow in independence, responsibility, and creativity.
6. When you feel comfortable with the discussions, try allowing the students to come up with the agenda for the meetings. Leave a space on the blackboard or a piece of paper in the classroom. Throughout the week if they have a topic they need to discuss, they can write it on the agenda. Students will begin to discuss topics knowing that their “community” of peers and teacher will help them come up with a solution.
7. You may also start regular discussions with a small number of students for a particular reason. You may use the same steps with this type of group. A possible time for these discussions may be your break time, lunch, recreation, or after school depending on the schedule and the school regulations.

There are more ideas about organizing debates in Adrian Bethune’s *Wellbeing in the Primary classroom*, pages 102-3.

Practising paying attention to other people

INEE

Introducing Each Other:

Let students sit in pairs. Give them five minutes to tell one another about themselves (what they like, what they are good at doing, what they dislike, some of their achievements and dreams).

After five minutes, come back into the large circle. Go around the circle with each person introducing his or her neighbour. Eg. “This is Nelson. He lives at home with two brothers and one sister. He likes playing football and he scored a goal in the last match. He lives at home with two brothers and one sister. He likes pineapple and he doesn’t like cassava.

Invisible Clay:

Sit in a circle in silence. You pretend you have a piece of clay in your hands. Without speaking, you pretend to slowly shape it into some object the students will recognise (eg. if you make a hat, finish by pretending to put it on your head). Don’t work too quickly! When you have finished, people can guess what you made. Then pass the imaginary clay to the next person to do the same. Continue around the circle. (This is an interesting exercise, because each person in turn will feel the group watching him or her with close attention and interest.)

Tools

Annex 7: Framing your cycle 1 research question (Handout 1, June 2019 workshop)

T6-A - Framing your Cycle One Research Question

Adapted for Action Research study: **'Becoming an effective 'competency-based' teacher'**

Action Research Document 1

Writing your Action Research question

Cycle 1, 2, or 3:

Competencies and Values on which you are focusing: _____

The **specific question** you would like to explore: _____

Overall Action Research Question: How to enable teachers to support and assess better their pupils' acquisition of the competencies of the KCBC?

The **action** you could take: _____

The **learning outcome** you expect: _____

To form your **research question**, use the last two entries to fill in the gaps:

If I _____, what effect will it have on
[action you plan to take]

[outcome you will be measuring or evaluating]

See T6: Resources for examples (<http://ccar.wikispaces.com/T6+Examples>)

From [Activities for Tutorial 6](#), part of the Open, Online, Action Research Course (actionresearchtutorials.org)

Annex 8: Writing in your reflective diary (Handout 3, June 2019 workshop)

Adapted for Action Research study: **'Becoming an effective 'competency-based' teacher'** (first three questions from template T2A –Understanding Action Research)

Action Research document 3

The **first time** you write in your diary, respond to the following three points:

- 1) My thoughts on how action research will help me learn more about myself, my practice, my community
- 2) What change would I like to design and implement?
- 3) How will I understand this change? (what data or information will I use, how will I tell if it is good change?)

WEEKLY REFLECTIVE WRITING in your diary

Then **each week**, use the following points to guide your writing:

1) Reflective Description: what happened in your action research process.

What took place?

What do you think about why things happened as they did?

Will you continue doing the same things, or will you do something differently?

2) Reflective Practice: What is the connection between what is happening now with the past and the future.

How are your actions and the reactions helping you think about what you did before, and how you will change in future?

3) Reflective Knowledge Building: Connections to what you are learning.

What are you learning from this process?

Note any questions you would like to discuss with other teachers

Annex 9: Semi-structured interview guide

How to be an effective ‘competency-based’ teacher: A participatory action research case study from Kenya

Guide for interviews with teachers

Introduction

Hello, we already know each other from my research project last year. You know that I’m a student at the University of London, and that I’m now starting the second and last part of my research for my doctoral thesis.

First of all, thank you very much for being willing to take part in another interview. This time I would like to ask you some questions about the action research that we have planned, with the aim of supporting the implementation of the Kenya Competency-Based Curriculum. This short interview, and one we will have at the end of the process in October, will complement the other methods we are using for the study: teachers’ reflective diaries and a WhatsApp group, teacher observation and child assessment.

As you know, the research last year highlighted that teachers know a lot about children’s social and emotional learning, but they need more support to adapt their teaching to support learners to gain the competencies of the KCBC. It also showed that parents need to be more involved in supporting children’s acquisition of the competencies.

‘Action research’ is an approach which can help us find possible solutions; it helps to find new ways to do things. We identify a particular question to explore, try something out, see how it goes, then write and think about it, and decide what to do next. I will work particularly with you and the other early grade teachers in the school on this process, as these years are the focus of the KCBC.

However I hope other teachers will be interested to try out the techniques and be involved in the discussions.

I'd like to emphasise that you are the expert in relation to the questions I will ask. I am here to learn from your experience. Please feel free with your answers and any questions.

Before we go any further, have you read the **information sheet** and read and signed the **consent form**? Do you have any further questions right now?

I think the interview will take about 30 minutes. I will record what we say and may take some notes, but your name will not be recorded on either. I will not use your name when the interview is transcribed, and I will not associate your name with what you have said when I write my thesis. If you feel uncomfortable at any time we can stop the interview, and I will not use the recording so far if you don't want me to.

Can you confirm all these points are ok for you?

Do you have any more questions now, before we begin?

Questions for the beginning of the process

| |
|--|
| <p>1. What are the greatest <u>challenges</u> you are facing in implementing/teaching the KCBC?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - In particular, there has been the political tension around the KCBC, the disruptions to trainings. What impact has this had? - What about the role of parents and the community? |
| <p>2. What are your biggest <u>needs</u> as a teacher in order to teach the KCBC?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - In terms of training? - In terms of resources? - In terms of the school context? |
| <p>3. What do you think are the greatest needs for <u>pupils</u> in realizing the aims of the KCBC?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - How aware do you think pupils are of the new KCBC? - What changes have you seen in pupils since the new curriculum started to be rolled out? |
| <p>4. What are your hopes or <u>expectations</u> for the action research process that is planned?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - How do you think it may contribute to meeting the challenges/needs you mentioned? - Are there particular areas you would like it to focus on? - Do you think it has the potential to support work in other schools? - Do you think there may be interest in the findings from KICD, Ministry of Education? |
| <p>5. What are your hopes or expectations for <u>pupils</u> for the action research process that is planned?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - How do you think it may contribute to meeting the challenges/needs you mentioned? - Are there particular areas you would like it to focus on? |
| <p>6. What do you think will be the most critical factors influencing whether those expectations are <u>achieved</u>?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - Parental support? - Ministry support? - School support? |

7. **Do you have any fears or worries about the action research process? Please elaborate if so:**

Follow up questions:

- Workload?
- Not seeing any changes?
- Pressure from your CSO or other parts of the system?

8. **Do you have any other questions or concerns you would like to discuss?**

How to be an effective ‘competency-based’ teacher: A participatory action research case study from Kenya

Guide for interviews with teachers

End of the process

Introduction

Hello, we already know each other - that I’m a student at the University of London, and that I’m now completing my data collection for research for my doctoral thesis.

First of all, thank you very much for being willing to take part in another interview. This time I would like to ask you some questions *following* the action research that teachers have been doing, that has aimed to support the implementation of the Kenya Competency-Based Curriculum. This short interview, with the one we did in June, will complement the other

methods we are using for the study: teachers' reflective diaries and a WhatsApp group, teacher observation and child assessment.

As you know, the research so far has highlighted that teachers know a lot about children's social and emotional learning, but they need more support to adapt their teaching to support learners to gain the competencies of the KCBC. It has showed that parents need to be more involved in supporting children's acquisition of the competencies.

'Action research' is an approach which can help us find possible solutions; it helps to find new ways to do things. We identify a particular question to explore, try something out, see how it goes, then write and think about it, and decide what to do next. I have been working particularly with you and the other early grade teachers in the school on this process, as these years are the focus of the KCBC. However I hope other teachers will be interested to try out the techniques and be involved in the discussions.

I'd like to emphasise that you are the expert in relation to the questions I will ask. I am here to learn from your experience. Please feel free with your answers and any questions.

Before we go any further, have you read the **information sheet** and read and signed the **consent form**? Do you have any further questions right now?

I think the interview will take about 30 minutes. I will record what we say and may take some notes, but your name will not be recorded on either. I will not use your name when the interview is transcribed, and I will not associate your name with what you have said when I write my thesis. If you feel uncomfortable at any time we can stop the interview, and I will not use the recording so far if you don't want me to.

Can you confirm all these points are ok for you?

Do you have any more questions now, before we begin?

Questions

| |
|---|
| <p>1. To what extent, if at all, were your hopes or <u>expectations</u> for the action research process realised? <i>Refer to initial interviews</i></p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - Do you think you have changed at all as a result of participating in this action research process? If so, how? - Has your view of the CBC, and support teachers need, changed in any way? How? - How do you think it may have contributed to meeting the challenges/needs you mentioned before? - Did it focus on the right areas? Please elaborate <p>2. If we did such a process again, how would you change it?</p> <ul style="list-style-type: none"> - How <u>practical</u> was the process (eg keeping a reflective diary each week) – were we realistic in what we planned? |
| <p>3. To what extent, if at all, were your hopes or expectations for <u>pupils</u> for the action research process realised?</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - What changes did you see, if any, in your class, in individual pupils? Positive or negative? - How do you think it may have contributed to meeting the challenges/needs you mentioned before? - Did it focus on the right areas? Please elaborate |
| <p>4. What do you think will be the most critical factors influencing any achievements have lasting effects? (rephrase as: the most important things that will affect whether or not any good change is lasting?)</p> <p>Follow up questions:</p> <ul style="list-style-type: none"> - Parental support? - Ministry support? - School support? |

**5. What do you think should happen now? Do you have any fears or worries about that?
Please elaborate**

Follow up questions:

- Do you think it has the potential to support work in other schools? **Can our work lead to positive action for teachers, and for teaching the CBC?**
- Do you think there may be interest in the findings from KICD, Ministry of Education?
- Workload for teachers?
- Not seeing longer term changes?
- Pressure from other parts of the system?

6. Please give any further feedback/reflections you have on the process

7. Do you have any other questions or concerns you would like to discuss?

Annex 10: Sample Teacher interview transcript

First round interviews**Teacher03 Transcription****Date: 14 June 2019****Length: 19:51 minutes**

AJ So, this is teacher number 3, 14th of June 2019.

So first of all thank you, again for coming to this interview. And as you know it's part of my research, and I'm a student, so we know each other, I don't need to introduce myself...

T03 Yeah yuh, exactly.

AJ So the idea is to discuss a few questions about the action research process that we're going to do, based on the study that was done last year, that found out about how teachers think about these things and different practicing...and we already spoke about the action research process, so as you know this interview will be part of a number of different activities that we are doing. And I won't talk to anyone about what we've said, I won't use your name in relation to anything that's been said, in what we discuss now. And you are the expert in terms of the children, the community, the school...so the ideas that we are discussing together are a way to learn together and to try to support each other. Do you have any questions at the moment, before we start?

T03 Question 1?

AJ About this interview, or about the process..

T03 Mmmm maybe the questions can arise as we....but for now I do not have a question.

AJ Great. And you've signed the consent form?

T03 Yes

AJ I think this will take about 30 minutes. I'm going to take some notes, but otherwise it will be the recording...ok? So starting off then, what do think are...what do you feel are the greatest challenges for you in implementing the CBC, at the moment?

T03 The challenge? Ahh.. the challenge is the knowledge about it....so I need more knowledge on how to....I as a teacher first, to get to know about the..competencies, such things, the skills of being competent, the skills, I get the skills. And then, how I can maybe handle the new curriculum, such things, so that's still a challenge...and also materials, that can support me to deliver well in the spected...

- AJ In the expected curriculum....so are you missing materials that you need?
- T03 Ahm...as at now we had some problem like the books, but now they were delivered....the books, for the new curriculum were introduced. Some were brought earlier like Kiswahili and English, and mathematics which were in the programme...the other one like experimental and hygiene just came last week the books. But by then we had to solicit from... we did not have specific books, so we tried to collect information from there from there so we were....it was like beating on the bush [laughs] yeah...but still we have that challenge.
- AJ Right. And what about the political context?
- T03 Ahmmm. I think errr, the way politically it seems this programme was not actually ready, because as we can see, not all, maybe stakeholders were involved. There were no agreement, though it was like a promise, the people wanted to fulfil it. So fulfilment it means that it's like, it meets somebody's objective, but it was not agreeable. Though if it would have been...everybody should have been put in board, I think there couldn't much challenge, maybe it could have come at the right time. Because at first we were told that the programme was launched, then when we went for the training, like last year say now it was, it's like errr it was an introduction, now it was going to be rolled out, next year. So, you see, they are saying we are going to roll out, they said we have already rolled out...so we don't know which. Meaning that we were not ready for that...it could be a good programme, but maybe it could have started maybe earlier, we would have been given time to be able to discuss, to see how best to do it. But it is aaaa, a good programme, but I think if we had been given time, people would have talked much on it and see how best it can be implemented.... As we are phasing out the other curriculum...because now say you for like the class three now, they are going to do exam this year, so people are wondering, which kind of exam, how would it be done, how can a grade 3 do an exam. So people are trying to say no, this....are those challenge.
- AJ Very difficult. So in that context, what are your biggest needs as a teacher, in teaching the KCBC.
- T03 The skills first?
- AJ What do you feel you most need, to help you, in teaching the CBC?
- T03 Need to be empowered, I as a teacher have to be empowered, to be....to have a knowledge about it, how I can used to apply it as I teach...so that as I teach to the child knows...because a child cannot be...cannot have the competence...the competence cannot be developed if I the teacher even I don't know what I am doing. And maybe teaching I will just a wrong thing. Yuh, I should know what I am teaching first. Yuh..
- AJ Yeah, that makes sense...and what about the children, indeed, what do you see as the greatest needs for the pupils in terms of successfully implementing the CBC?
- T03 Ahh, with the children, you know, a child can, maybe can show interest when the teacher himself also has maybe a direction. So even the teacher's no direction, to me it's like err, a pupil

- you know, a pupil is like a baby, so any, maybe any caregiver or the person who's bringing up, he copies, so if the teacher himself, he copies, he's a role model, maybe he doesn't have anything, then the child has to be like that, so I think errr the children to be, err, to be a good child, maybe a child growing with good skills, is like a competencies, this depends, on the teacher. Like we learned on the relationship, like the soil – so if the soil is not productive, how do you expect the plant to grow healthy. So I think the child [laughs]...the way I'm thinking the children, then they have some challenge in the same ??.
- AJ Sure, sure. That's good. And so the two come together in fact, the teacher and the pupils together. And what are your hopes or expectations for this research that we're doing together, the action research?
- T03 My expectations?
- AJ Or what do you hope to achieve through it?
- T03 I hope with this research after maybe I have been taken through, I would have known, first I myself, maybe I would have known, maybe how to work, that to start, when I'm carrying out, what preparations, what material, what should I do, so I know by the end of it I shall know what to do to maybe as a teacher when I'm handling a....maybe teaching a lesson, or anything as a child I should know what to do, the steps, why do I do that, what do I expect from it. And if we do not expect to get what I expected then, what should I do?
- AJ Sure. And so do you think it...are you hoping that it will help you meet some of the challenges that you described earlier, that you mentioned?
- T03 In the research?
- AJ Yes, are you hoping that the research will help you to meet those challenges?
- T03 Yeah, according to me the research will help me err, through the ...when I go through it, and at the end it will help me in how I can do, how best it will help me, because I will have known something, that what I should do. Something that I have not earlier done, then I will apply, use the same as a tool to develop, to reach where maybe I would intend to.
- AJ And are there particular areas that you would like to focus on, particular issues that you have seen in children or particular problems that you want to try to address?
- T03 Maybe....maybe... I would like to....maybe to look at maybe the behaviours, the emotions, yuh, such things.
- AJ Sure. Of the pupils? Yeah, ok. And what do you hope from the point of view of pupils, for the action research process? Do you have expectations of how...it might change things for the pupils?
- T03 Yeah...I have expectation of change because if I have done a try out, and I find that maybe the

- way I've used I have not achieved it, then I have to redraw back, so from there by so doing, then I would have known the weakness which I have done. Then if I do another way around, I think that as I do that I will make the children better than the way they were at first.
- AJ Good, that's great. And are there any....in terms of the social and emotional behaviours that you've been...activities that we've been talking about, are there any particular problems that you see amongst the students, any particular areas where they need more support?
- T03 In terms of..emotional?
- AJ In social and emotional learning, the skills like being able to work together for example
- T03 Yeah, there's a need like there's a self-awareness, problem solving, critical thinking, such is very important, yuh. So if I happen to address to such, maybe that one can enable the child...like a case this morning, when I was preparing to take the lesson, another child started vomiting, so the place was in a very bad situation, I could not continue. So I had to organise from some other boys to bring some soil to cover the spit and so on, some I've organised to bring brooms to sweep, so I had to concentrate on that, because some other children saying ahh, ahh, so I was trying to bring to attend to that, to have immediate attention to that, and thank that it, I really managed, I mobilised to- there was a brother in grade 2, I talked to the class teacher, if I could get the child's brother, when I reached there I found that the brother also had a similar problem, so I had to take the two boys then home, I arranged to took some two more boys to accompany...to tell their parents that this one, not feeling well. So I had to make sure that the situation has calmed down, then I started taking the....so I thought that is, through this, will help me much to know how to deal about with the emotions, because the children also they are different reaction toward their....that the place the what...the mood also would have changed. So I tried to...I think through this I can get a place, it will help more to....maybe to manage such a situation to children. Also to myself. Sometimes maybe such a situation can happen, maybe they can see, so that were our teacher ohhh that yes, it's good because suchso I think if I learn this research it will help me change some....maybe some of the emotions.... I will seek?? maybe feel sympathy maybe to my child, my fellow colleagues like that, in case of anything. Maybe my friend, he goes to the class, maybe he's not happy, 'what's wrong Bakar?' I put the situation in my shoes – I say ah it's no problem, Bakari you are problematic. So I have to put go down, say yes what's the problem, so I look for a way of how I can bring the situation to....
- AJ That's good, very good, so that sensitivity to what's happening is very important...what do you think will make the most difference to whether or not we achieve the aims of the action research, what kind of factors might affect whether or not we can achieve the action research?
- T03 Things that can affect...?
- AJ Yes, do you think that erm, there are certain things that will make a difference in whether or not we are successful in making some good changes as a result of the action research? I'm thinking for example of the support from parents, or the support from maybe the CSO, or the support

from the school? What kinds of things might affect whether or not you meet your expectations of the action research process?

- T03 There can be a challenge because when you are bringing something that you are doing a try out there should be... it will be depending on how people will be awill receive it...so the reception also matters. And approach. So maybe....we can understand you, that the way you intend doing this....while to some people maybe they can take it in a negative way, but later on maybe they can say ok, but that was the best person, the best way of doing it. But I think that in anything we do there are challenges there, but challenge are also help us establish the strength of the thing. Because through the challenge we now can know that since this is...has not made me to go through now, may I use another way around so that I can reach there.
- AJ Good, that's great, so you're feeling positive. Do you have any fears or worries about the action research?
- T03 With me, now? Me I've no worries because I have that interest, because I have developed a thing like, I want to become a researcher, like now I have a diploma, and by now I would have gone for my BA, but because of some other commitment I could not. But I did say that if I go for further education, if I go to master on curricular, you know when you do master on something you have to do research. So that thing it is to me, research. So to me, even if there will be a challenge, but I know, to do that, but I am going to reach somewhere.
- AJ Yeah, that's good. Excellent, well I'm very glad, because I think that this will be a good opportunity for you to do some research together.
- T03 Yeah that's why I told you earlier, if you have some input about the desiwall??? that will help me, I say ok, I can do this, I can be guided on how to do err...to carry out some research. Leave alone this one but err, this one can lead me to...other researches. Using maybe the same principles, or other formats, depending on the institutions, yeah.
- AJ Do you think that there will be enough time? Are you worried that you will not have enough time to do the things that are required of the action research – the reflection diaries, an extra meeting...and things like that?
- T03 Time will be a challenge, because of so many programme. Because there can be a programme maybe overlapping with these programmes that can be there, so maybe I will not meet the deadline the way I have planned. Maybe the way I have planned, maybe there can be another programmes, or from the outside, so maybe can interfere with...sometimes they can make a delays – sometimes maybe in some areas I can do well, sometimes....
- AJ So it's an ongoing challenge
- T03 Yeah it's ongoing, there's something that cannot be straight...even leave alone maybe the problem of school but...even me I can have a family programme, maybe I would intend to do maybe in the afternoon abc, maybe assessments or whatever, then before that I receive a call

that I don't know...my son I don't know what, maybe he's critical, so you find that you will not concentrate on that, the mind will be focused on that, you want to address the situation. So I think the challenges are there, because there are some wise men say that err, challenge, err problem, does not come to destroy but to establish the hidden potential. Yuh, even if there will be a challenge, but I know how potential am I to...[laughs]

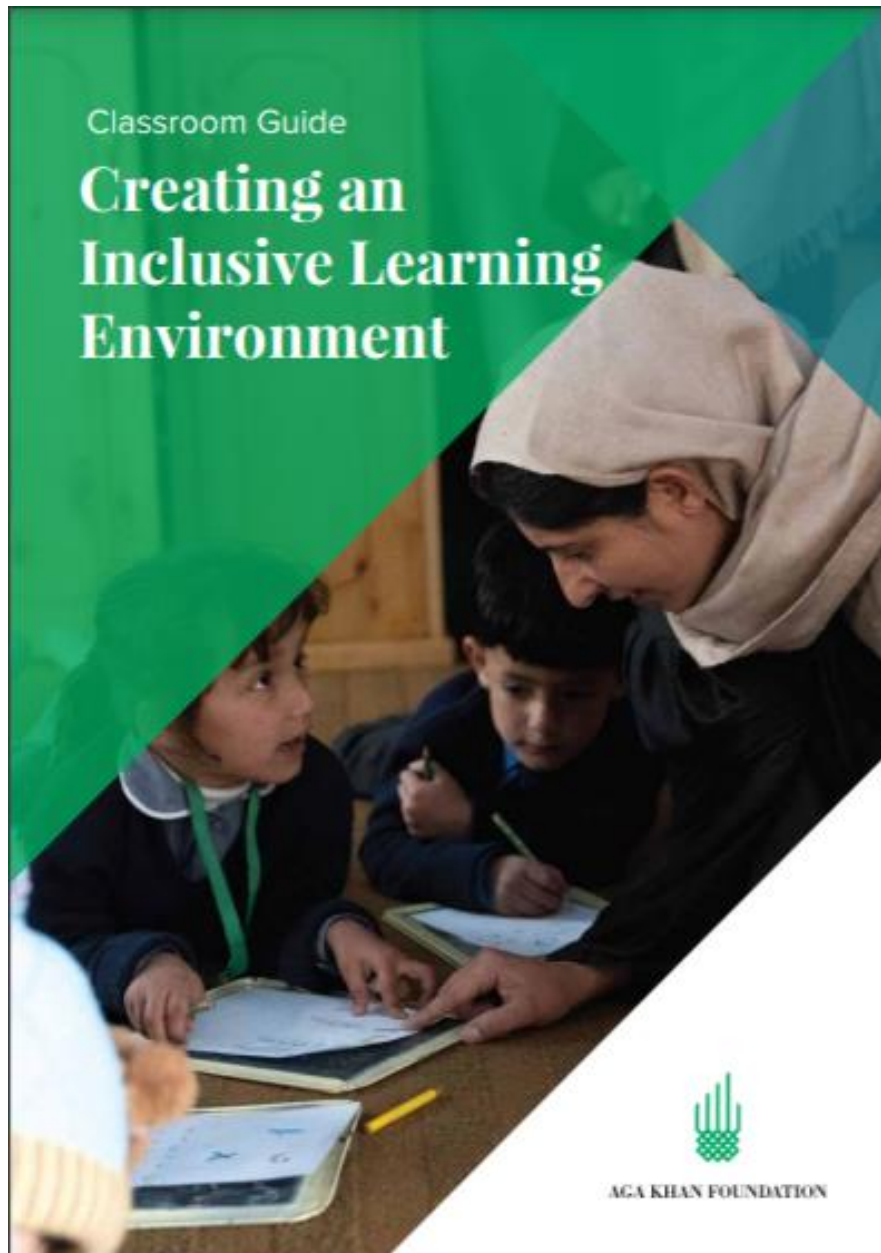
AJ That's right, exactly. Very good. And do you have any questions for me at this point?

T03 Hmm, for you? Errm, I don't know if it's a question or what? Or whether it's an appeal. May I say welcome, I appreciate, because according to me I see a...you came at the right time for me, because the area, the interest, the area of my interest, I have seen that I have got a person who can share more, and where maybe I will find some difficult, we can share a lot, maybe, can get some support, leave alone being a teacher but any other things. Maybe through me that when I have the knowledge, I have done it practically, I can be a model to...to be used for other, leave alone here, but can as well, maybe, if we say this one be successfully, maybe I can be led to volunteer to say the same thing to maybe to the next school or to the next somewhere. Yeah so as I do that I will exploit more and then, I advance knowledge.

AJ That's great, I'm glad to hear that. Well let's hope we can move forward together on that, and we must keep open....I think those kinds of...that wish to advance knowledge means, depends on keeping in contact, and making sure that we share those problems and find the ways to solutions. Excellent, thank you very much. I appreciate. So it's just a short interview this time....

Annex 11: Classroom Guide: Creating an Inclusive Learning Environment, Aga Khan Foundation

See full tool online [here](#).



Annex 12: Social and Emotional Competency Teacher Rating Scale: As used, questions and associated competencies reviewed and adjusted

Final version, 21 July 2019: note to teachers who used the tool

This tool is adapted from the Tanzania Social and Emotional Competency Parent and Teacher Rating Scale, a streamlined questionnaire (Annex A of the file in the dropbox [here](#)) for the **assessment of social and emotional competencies** by parents and teachers, developed by RTI for Tusome Pamoja. The tool was designed to be used to evaluate pre-primary and primary programs in Tanzania and can be used by teachers to track children's social and emotional learning skills in the classroom.

The RTI tool is being contextualised by teachers in the case study school as part of the action research process. Note that in the current version of the tool, there are fewer questions reflecting the following KCBC competencies:

- Empathy/open-mindedness
- Creativity and imagination
- Critical thinking and problem solving

Communication and collaboration will be the focus of the action research questions for grades 1 and 3, Critical thinking and problem solving will be the focus of action research questions for grade 2. The questions that reflect these tools were reviewed, and adjusted as indicated below, during discussions on 21 July 2019 at the case study school.

Teachers in grades 1-3 will use the tool for their classes in July 2019, and in October 2019 (at the end of this action research process). Please note any changes or additional questions that you think should be made to the tool.

NOTE: The competencies noted in *italics* are used by the values based education (VBE) project personal qualities and competencies. Notes from our discussions on 20 July are underlined.

| | Question | Which KCBC competency or competencies does it measure, if any? | Answer |
|---|--|---|--|
| | Trait: Conscientiousness | | |
| 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? Je (jina) hujali muda na kumaliza kazi katika muda uliopangwa? | Critical thinking and problem solving Self-efficacy <u>Meeting deadlines requires some critical thinking and problem solving, but we agreed it is not a very strong indicator of this competency.</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |

| | | | |
|---|--|--|--|
| 2 | 2a Does (name) give up easily when tasks or work seem difficult? Je (jina) hukata tamaa kirahisi kuendelea kufanyia kazi au mazoezi yanayokuwa magumu kwake? | Critical thinking and problem-solving Self-efficacy <u>This is negative – please enter the number that answers the question correctly, and I will change round the results on the computer afterwards</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 3 | 3a Does (name) often plan his/her tasks well? Je (jina) hupangilia kazi zake vizuri? | Learning to learn Self-efficacy <i>Self-awareness and resilience</i> Critical thinking and problem solving (<u>added 20 July</u>) | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 4 | 4a Is (name) hardworking? Je (jina) hufanya kazi kwa juhudi? | Learning to learn Self-efficacy Critical thinking and problem-solving | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 5 | 5a Is (name) happy to give the first answer to a question in class? Je (jina) hupenda kuwa wa kwanza kujibu darasani? | Self-efficacy Open-mindedness Communication and collaboration <u>It was agreed to keep the word 'happy' – if a child is not enjoying learning so is happy to answer questions, the teacher needs to find out why.</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 6 | 6a Does (name) raise his/her hand before responding to a question in class? Je (jina) hunyoosha mkono | Communication and collaboration Self-efficacy (<i>Open-mindedness and empathy</i>) | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 |

| | | | |
|----|--|--|--|
| | anapotaka kujibu swali darasani? | | Hajui/Hajajibu / Don't know/Refuse888 |
| 7 | 7a If (name) cannot do something, do they try again? Je (jina) hujaribu tena anaposhindwa na jambo fulani? | Self-efficacy Learning to learn Communication and collaboration Critical thinking and problem-solving <i>Taking responsibility</i> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 8 | 8a Is (name) eager to hear and learn from feedback s/he is given? Je (jina) huonesha hamu ya kujifunza kutoka kwenye mrejesho anaopewa? | Learning to learn Respect for diversity Relationship building Communication and collaboration | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? | Communication and collaboration Empathy and openmindedness Citizenship <i>Taking responsibility</i> <u>Critical thinking and problem solving</u> <u>Learning to learn</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| | Trait : Curious (Mdadisi) | | |
| 10 | 1a Does (name) exchange his/her ideas with teachers? Je (jina) hubadilishana mawazo na walimu? | Communication and collaboration <i>Relationship building</i> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 11 | 2a Does (name) like to ask many questions? | Empathy and open-mindedness Learning to learn | Hapana / No 0 Ndiyo / Yes, less than other children 1 |

| | | | |
|---|--|---|--|
| | Je (jina) hupenda kuuliza maswali mengi? | Communication and collaboration Creativity and imagination Self-efficacy Critical thinking and problem-solving | Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 12 | 3a Does (name) give unique responses that go beyond those of other children? Je (jina) hutoa majibu ya kina tofauti na yaliyozoeleka na wenzake? | Creativity and imagination Critical thinking and problem solving Self-efficacy | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| Trait/Construct: Obedient (Mtii) | | | |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? | Self-efficacy Learning to learn <u>Communication and collaboration</u> <u>Critical thinking and problem solving</u> <u>We agreed that if a person is calm that means they are able to reason properly, so this reflects critical thinking and problem solving</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? | Self-efficacy Learning to learn Communication and collaboration | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 15 | 3a Does (name) avoid bad company? Je (jina) hujiepusha na makundi mabaya? | Self-efficacy Citizenship Critical thinking and problem-solving | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 |

| | | | |
|----|--|---|--|
| | | | Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 16 | 4a Is (name) slow and unhurried in deciding what to do next? Je (jina) huwa mtaratibu katika kufanya maamuzi ya kitu kifuatacho? | Critical thinking and problem-solving Self-efficacy (negative) <u>The discussion confirmed this is negative, as teachers want to encourage children to move more quickly. Please enter the number that answers the question correctly, and I will change round the results on the computer afterwards</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 17 | 5a Does (name) respond nicely/politely when asked a question? Je (jina) hujibu vizuri na kwa upole? | Communication and collaboration Learning to learn | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 18 | 6a Does (name) follow and fulfil school rules as required? Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? | Self-efficacy Citizenship Learning to learn Communication and collaboration | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 19 | 7a Does (name) respect when others are talking? Je (jina) heshimu wengine wanapozungumza? | Learning to learn Communication and collaboration <u>We agreed to change 'care' to 'respect'</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |

| | | | |
|----|--|---|--|
| | | | |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behaviour? Je (jina) hukubali kirahisi unapomrekebisha makosa yake au tabia zisizokubalika? | Self-efficacy Learning to learn <u>Communication and Collaboration</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| | Trait/Construct: Sociable (Mchangamfu) | | |
| 21 | 1a Does (name) love his/her teachers? Je (jina) hupenda au waalimu? | Communication and collaboration Learning to learn Relationship building <u>Teachers agreed that 'love' (just the heart) is important, as it shows the affection and openness that mean that children are happy at school</u> | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 22 | 2a Does (name) kindly greet teachers? Je (jina) husalimia vizuri walimu? | Communication and collaboration Self-efficacy Citizenship | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |
| 23 | 3a Does (name) enjoy talking with others? Je (jina) hufurahia kuongea na wenzake? | Communication and collaboration Citizenship | Hapana / No 0 Ndiyo / Yes, less than other children 1 Ndiyo / Yes, about the same as other children 2 Ndiyo / Yes, more than other children 3 Hajui/Hajajibu / Don't know/Refuse888 |

Annex 13: Social and Emotional Competency Teacher Rating Scale as used for teacher assessments and showing competencies associated by teachers, and competencies associated based on factor analysis

**Tool 7: Social and Emotional Competency
Teacher Rating Scale**

Competencies revised 21 July 2019, Case study school

Hapana / No 0
 Ndiyo / Yes, less than other children 1
 Ndiyo / Yes, about the same as other children 2
 Ndiyo / Yes, more than other children 3
 Hajui/Hajajibu / Don't know/Refuse888

| Question no | Column A: Question | Column B: Competency associated by teachers | Column C: Competency with which grouped based on factor analysis | Column D: Kiswahili |
|-------------|--|---|---|---|
| | Trait: Conscientiousness | | | |
| 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hujali muda nakumaliza kazi katika muda uliopangwa? |
| 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? | Self-efficacy | Self-efficacy | Je (jina) hujali muda nakumaliza kazi katika muda uliopangwa? |
| 2 | 2a Does (name) give up easily when tasks or work seem difficult? (<i>negative</i>) | Critical thinking and problem-solving | Self-efficacy | Je (jina) hukata tamaa kirahisi kuendelea kufanyia kazi au mazoezi yanayokuwa magumu kwake? |
| 2 | 2a Does (name) give up easily when tasks or work seem difficult? | Self-efficacy | Self-efficacy | Je (jina) hukata tamaa kirahisi kuendelea kufanyia kazi au mazoezi yanayokuwa magumu kwake? |

| | | | | |
|---|---|---------------------------------------|---------------------------------|--|
| 3 | 3a Does (name) often plan his/her tasks well? | Learning to learn | Self-efficacy | Je (jina) hupangilia kazi zake vizuri? |
| 3 | 3a Does (name) often plan his/her tasks well? | Self-efficacy | Self-efficacy | Je (jina) hupangilia kazi zake vizuri? |
| 3 | 3a Does (name) often plan his/her tasks well? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hupangilia kazi zake vizuri? |
| 4 | 4a Is (name) hardworking? | Learning to learn | Self-efficacy | Je (jina) hufanya kazi kwa juhudi? |
| 4 | 4a Is (name) hardworking? | Self-efficacy | Self-efficacy | Je (jina) hufanya kazi kwa juhudi? |
| 4 | 4a Is (name) hardworking? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hufanya kazi kwa juhudi? |
| 5 | 5a Is (name) happy to give the first answer to a question in class? | Self-efficacy | Communication and collaboration | Je (jina) hupenda kuwa wa kwanza kujibu darasani? |
| 5 | 5a Is (name) happy to give the first answer to a question in class? | Communication and collaboration | Communication and collaboration | Je (jina) hupenda kuwa wa kwanza kujibu darasani? |
| 6 | 6a Does (name) raise his/her hand before responding to a question in class? | Communication and collaboration | Communication and collaboration | Je (jina) hunyoosha mkono anapotaka kujibu swali darasani? |
| 6 | 6a Does (name) raise his/her hand before responding to a question in class? | Self-efficacy | Communication and collaboration | Je (jina) hunyoosha mkono anapotaka kujibu swali darasani? |
| 7 | 7a If (name) cannot do something, do they try again? | Self-efficacy | Self-efficacy | Je (jina) hujaribu tena anaposhindwa na jambo fulani? |
| 7 | 7a If (name) cannot do something, do they try again? | Learning to learn | Self-efficacy | Je (jina) hujaribu tena anaposhindwa na jambo fulani? |
| 7 | 7a If (name) cannot do something, do they try again? | Communication and collaboration | Self-efficacy | Je (jina) hujaribu tena anaposhindwa na jambo fulani? |
| 7 | 7a If (name) cannot do something, do they try again? | Critical thinking and problem-solving | | |

| | | | | |
|----|---|---------------------------------------|---------------------------------------|---|
| 8 | 8a Is (name) eager to hear and learn from feedback s/he is given? | Learning to learn | Learning to learn | Je (jina) huonesha hamu ya kujifunza kutoka kwenye |
| 8 | 8a Is (name) eager to hear and learn from feedback s/he is given? | Communication and collaboration | Learning to learn | Je (jina) huonesha hamu ya kujifunza kutoka kwenye |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Communication and collaboration | Communication and collaboration | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Citizenship | | |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Critical thinking and problem-solving | | |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Learning to learn | Communication and collaboration | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? |
| | Trait : Curious (Mdadisi) | | | Mdadisi |
| 10 | 1a Does (name) exchange his/her ideas with teachers <u>and other children</u> ? | Communication and collaboration | Critical thinking and problem solving | Je (jina) hubadilishana mawazo na walimu? |
| 10 | 1a Does (name) exchange his/her ideas with teachers? | Critical thinking and problem-solving | | |
| 11 | 2a Does (name) like to ask many questions? | Learning to learn | Critical thinking and problem solving | Je (jina) hupenda kuuliza maswali mengi? |
| 11 | 2a Does (name) like to ask many questions? | Communication and collaboration | Critical thinking and problem solving | Je (jina) hupenda kuuliza maswali mengi? |
| 11 | 2a Does (name) like to ask many questions? | Creativity and imagination | | |
| 11 | 2a Does (name) like to ask many questions? | Self-efficacy | | |
| 11 | 2a Does (name) like to ask many questions? | Critical thinking and problem-solving | | |
| 12 | 3a Does (name) give unique responses that go beyond those of other children? | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) hutoa majibu ya kina tofauti na yaliyozoeleka na wenzake? |

| | | | | |
|----|--|---------------------------------------|---------------------------------------|---|
| 12 | 3a Does (name) give unique responses that go beyond those of other children? | Self-efficacy | Critical thinking and problem solving | Je (jina) hutoa majibu ya kina tofauti na yaliyozoeleka na wenzake? |
| | Trait: Obedient (Mtii) | | | Mtii |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Self-efficacy | Learning to learn | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Learning to learn | Learning to learn | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Critical thinking and problem-solving | Learning to learn | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Communication and collaboration | | |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Self-efficacy | Learning to learn | Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Learning to learn | Learning to learn | Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Communication and collaboration | Learning to learn | Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? |
| 15 | 3a Does (name) avoid bad company? | Self-efficacy | Critical thinking and problem solving | Je (jina) hujiepusha na makundi mabaya? |
| 15 | 3a Does (name) avoid bad company? | Citizenship | Critical thinking and problem solving | Je (jina) hujiepusha na makundi mabaya? |
| 15 | 3a Does (name) avoid bad company? | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) hujiepusha na makundi mabaya? |
| 16 | 4a Is (name) slow and unhurried in deciding what to do next? (<i>negative</i>) | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) huwa mtaratibu katika kufanya maamuzi ya kitu kifuatacho? |

| | | | | |
|----|--|---------------------------------|---------------------------------------|--|
| 16 | 4a Is (name) slow and unhurried in deciding what to do next? (<i>negative</i>) | Self-efficacy | Critical thinking and problem solving | Je (jina) huwa mtaratibu katika kufanya maamuzi ya kitu kifuatacho? |
| 17 | 5a Does (name) responds nicely/politely when asked a question? | Communication and collaboration | Communication and collaboration | Je (jina) hujibu vizuri na kwa upole? |
| 17 | 5a Does (name) responds nicely/politely when asked a question? | Learning to learn | Communication and collaboration | Je (jina) hujibu vizuri na kwa upole? |
| 18 | 6a Does (name) follow and fulfill school rules as required? | Self-efficacy | Learning to learn | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? |
| 18 | 6a Does (name) follow and fulfill school rules as required? | Citizenship | Learning to learn | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? |
| 18 | 6a Does (name) follow and fulfill school rules as required? | Learning to learn | Learning to learn | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? |
| 18 | 6a Does (name) follow and fulfill school rules as required? | Communication and collaboration | Learning to learn | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? |
| 19 | 7a Does (name) care when others are talking? | Learning to learn | Communication and collaboration | Je (jina) hujali wengine wanapozungumza? |
| 19 | 7a Does (name) care when others are talking? | Communication and collaboration | Communication and collaboration | Je (jina) hujali wengine wanapozungumza? |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behavior? | Self-efficacy | Learning to learn | Je (jina) hukubali kirahisi unapomrekebisha makosa yake au tabia zisizokubalika? |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behavior? | Learning to learn | Learning to learn | Je (jina) hukubali kirahisi unapomrekebisha makosa yake au tabia zisizokubalika? |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behavior? | Communication and collaboration | Learning to learn | |
| | Trait: Sociable (Mchangamfu) | | | Mchangamfu |
| 21 | 1a Does name love his/her teachers? | Communication and collaboration | | Je (jina) hupenda au waalimu? |

| | | | | |
|----|---|---------------------------------|--|---|
| 21 | 1a Does name love his/her teachers? | Learning to learn | | Je (jina) hupenda au waalimu? |
| 22 | 2a Does (name) kindly greet teachers? | Communication and collaboration | | Je (jina) husalimia vizuri walimu? |
| 22 | 2a Does (name) kindly greet teachers? | Self-efficacy | | Je (jina) husalimia vizuri walimu? |
| 22 | 2a Does (name) kindly greet teachers? | Citizenship | | Je (jina) husalimia vizuri walimu? |
| 23 | 3a Does (name) enjoy talking with others? | Communication and collaboration | | Je (jina) hufurahia kuongea na wenzake? |
| 23 | 3a Does (name) enjoy talking with others? | Citizenship | | Je (jina) hufurahia kuongea na wenzake? |

Annex 14: Social and Emotional Competency Teacher Rating Scale as used by teachers, filtered by Communication and Collaboration and Critical Thinking and problem solving

**Tool 7: Social and Emotional Competency
Teacher Rating Scale**

Competencies revised 21 July 2019, Case study school

Hapana / No 0
 Ndiyo / Yes, less than other children 1
 Ndiyo / Yes, about the same as other children 2
 Ndiyo / Yes, more than other children 3
 Hajui/Hajajibu / Don't know/Refuse888

| | Column A: Question | Column B: Competency associated by teachers | Column C: Competency with which grouped based on factor analysis | Column D: Kiswahili |
|---|--|--|---|---|
| | Trait: Conscientiousness | | | |
| 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hujali muda nakumaliza kazi katika muda uliopangwa? |
| 2 | 2a Does (name) give up easily when tasks or work seem difficult? (<i>negative</i>) | Critical thinking and problem-solving | Self-efficacy | Je (jina) hukata tamaa kirahisi kuendelea kufanyia kazi au mazoezi yanayokuwa magumu kwake? |
| 3 | 3a Does (name) often plan his/her tasks well? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hupangilia kazi zake vizuri? |
| 4 | 4a Is (name) hardworking? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hufanya kazi kwa juhudi? |
| 5 | 5a Is (name) happy to give the first answer to a question in class? | Communication and collaboration | Communication and collaboration | Je (jina) hupenda kuwa wa kwanza kujibu darasani? |
| 6 | 6a Does (name) raise his/her hand before responding to a question in class? | Communication and collaboration | Communication and collaboration | Je (jina) hunyoosha mkono anapotaka kujibu swali darasani? |
| 7 | 7a If (name) cannot do something, do they try again? | Communication and collaboration | Self-efficacy | Je (jina) hujaribu tena anaposhindwa na jambo fulani? |
| 7 | 7a If (name) cannot do something, do they try again? | Critical thinking and problem-solving | Self-efficacy | Je (jina) hujaribu tena anaposhindwa na jambo fulani? |

| | | | | |
|----|---|---------------------------------------|---------------------------------------|---|
| 8 | 8a Is (name) eager to hear and learn from feedback s/he is given? | Communication and collaboration | Learning to learn | Je (jina) huonesha hamu ya kujifunza kutoka kwenye |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Communication and collaboration | Communication and collaboration | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Critical thinking and problem-solving | Communication and collaboration | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? |
| | Trait : Curious (Mdadisi) | | | Mdadisi |
| 10 | 1a Does (name) exchange his/her ideas with teachers? | Communication and collaboration | Critical thinking and problem solving | Je (jina) hubadilishana mawazo na walimu? |
| 10 | 1a Does (name) exchange his/her ideas with teachers? | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) hubadilishana mawazo na walimu? |
| 11 | 2a Does (name) like to ask many questions? | Communication and collaboration | Critical thinking and problem solving | Je (jina) hupenda kuuliza maswali mengi? |
| 11 | 2a Does (name) like to ask many questions? | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) hupenda kuuliza maswali mengi? |
| 12 | 3a Does (name) give unique responses that go beyond those of other children? | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) hutoa majibu ya kina tofauti na yaliyozoeleka na wenzake? |
| | Trait: Obedient (Mtii) | | | Mtii |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Critical thinking and problem-solving | Learning to learn | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Communication and collaboration | Learning to learn | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Communication and collaboration | Learning to learn | Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? |
| 15 | 3a Does (name) avoid bad company? | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) hujiepusha na makundi mabaya? |
| 16 | 4a Is (name) slow and unhurried in deciding what to do next? (<i>negative</i>) | Critical thinking and problem-solving | Critical thinking and problem solving | Je (jina) huwa mtaratibu katika kufanya maamuzi ya kitu kifuatacho? |
| 17 | 5a Does (name) responds nicely/politely when asked a question? | Communication and collaboration | Communication and collaboration | Je (jina) hujibu vizuri na kwa upole? |
| 18 | 6a Does (name) follow and fulfill school rules as required? | Communication and collaboration | Learning to learn | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? |

| | | | | |
|----|--|---------------------------------|---------------------------------|--|
| 19 | 7a Does (name) care when others are talking? | Communication and collaboration | Communication and collaboration | Je (jina) hujali wengine wanapozungumza? |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behavior? | Communication and collaboration | Learning to learn | |
| | Trait: Sociable (Mchangamfu) | | | Mchangamfu |
| 21 | 1a Does name love his/her teachers? | Communication and collaboration | | Je (jina) hupenda au walimu? |
| 22 | 2a Does (name) kindly greet teachers? | Communication and collaboration | | Je (jina) husalimia vizuri walimu? |
| 23 | 3a Does (name) enjoy talking with others? | Communication and collaboration | | Je (jina) hufurahia kuongea na wenzake? |

Annex 15: Social and Emotional Competency Assessment updated by teachers, October 2019

Social and Emotional Competency Assessment Tool: with notes on question selection

Adapted from Tool 7: Social and Emotional Competency Teacher Rating Scale, 19 October 2019

Comparison with previous (21 July 2019) version of the tool in *italics*

| <p>Assessment now based on Kenya National Examinations Council rating scale: Below expectation (<i>Ndiyo / Yes, less than other children</i>) 1 Approaching expectation (<i>Ndiyo / Yes, about the same as other children</i>)... 2 Meeting expectation (<i>Ndiyo / Yes, more than other children</i>).... 3 Exceeding expectation (<i>not in previous version</i>).... 4 (<i>Hajui/Hajajibu / Don't know/Refuse888</i>)</p> | | | | | |
|---|----------------------|-----------------|--|--|--|
| Former question no | RTI tool question no | New question no | Column A Question | Column B Competency NOTE: Competencies included in the Kenya Competency-Based Curriculum, plus empathy and openmindedness, classified as values, have been mapped to the questions | Column C Explanation for removing questions |
| | | | Trait: Conscientiousness | | |
| 1 | 1a | 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? | Critical thinking and problem-solving | |
| 1 | 1a | 1 | Je (jina) hujali muda nakumaliza kazi katika muda uliopangwa? | Self-efficacy | |
| 2 | 2a | - | 2a Does (name) give up easily when tasks or work seem difficult? | Critical thinking and problem-solving | Negative, and very similar to question 7 |
| 2 | 2a | - | Je (jina) hukata tamaa kirahisi kuendelea kufanya kazi au mazoezi yanayokuwa magumu kwake? | Self-efficacy | |
| 3 | 3a | 2 | 3a Does (name) often plan his/her tasks well? | Learning to learn | |
| 3 | 3a | 2 | Je (jina) hupangilia kazi zake vizuri? | Self-efficacy | |
| 3 | 3a | 2 | Je (jina) hupangilia kazi zake vizuri? | Critical thinking and problem-solving | |
| 4 | 4a | 3 | 4a Is (name) hardworking? | Learning to learn | |
| 4 | 4a | 3 | Je (jina) hufanya kazi kwa juhudi? | Self-efficacy | |

| | | | | | |
|----|------|---|---|---------------------------------------|---|
| 4 | 4a | 3 | Je (jina) hufanya kazi kwa juhudi? | Critical thinking and problem-solving | |
| 5 | 5a | - | 5a Is (name) happy to give the first answer to a question in class? | Self-efficacy | <i>All/most children do it, covered in other question/s</i> |
| 5 | 5a | - | Je (jina) hupenda kuwa wa kwanza kujibu darasani? | Communication and collaboration | |
| 6 | 6a | - | 6a Does (name) raise his/her hand before responding to a question in class? | Communication and collaboration | <i>Most children do it, and covered in questions 17, 18</i> |
| 6 | 6a | - | Je (jina) hunyoosha mkono anapotaka kujibu swali darasani? | Self-efficacy | |
| 7 | 7a | 4 | 7a If (name) cannot do something, do they try again? | Self-efficacy | |
| 7 | 7a | 4 | Je (jina) hujaribu tena anaposhindwa na jambo fulani? | Learning to learn | |
| 7 | 7a | 4 | Je (jina) hujaribu tena anaposhindwa na jambo fulani? | Communication and collaboration | |
| 7 | 7a | 4 | Je (jina) hujaribu tena anaposhindwa na jambo fulani? | Critical thinking and problem-solving | |
| 8 | 8a | 5 | 8a Is (name) eager to hear and learn from feedback s/he is given? | Learning to learn | |
| 8 | 8a | 5 | Je (jina) huonesha hamu ya kujifunza kutoka kwenye | Communication and collaboration | |
| 9 | 9a | 6 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Communication and collaboration | |
| 9 | 9a | 6 | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? | Critical thinking and problem-solving | |
| 9 | 9a | 6 | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? | Learning to learn | |
| 9 | 9a | 6 | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? | Empathy and open-mindedness | |
| 9 | 9a | 6 | Kama mwanafunzi haelewi masomo, je (jina) hujitolea kumsaidia? | Citizenship | |
| | | | Trait : Curious (Mdadisi) | | |
| 10 | Cu1a | 7 | 1a Does (name) exchange his/her ideas with teachers <u>and other children</u> ? | Communication and collaboration | |
| 10 | Cu1a | 7 | Je (jina) hubadilishana mawazo na walimu? | Critical thinking and problem-solving | |
| 11 | Cu1a | - | 2a Does (name) like to ask many questions? | Empathy and open-mindedness | <i>Covered in question 10 – Exchange ideas with teachers and other children (added)</i> |
| 11 | Cu2a | - | Je (jina) hupenda kuuliza maswali mengi? | Learning to learn | |
| 11 | Cu2a | - | Je (jina) hupenda kuuliza maswali mengi? | Communication and collaboration | |
| 11 | Cu2a | - | Je (jina) hupenda kuuliza maswali mengi? | Creativity and imagination | |
| 11 | Cu2a | - | Je (jina) hupenda kuuliza maswali mengi? | Self-efficacy | |
| 11 | Cu2a | - | Je (jina) hupenda kuuliza maswali mengi? | Critical thinking and problem-solving | |
| 12 | Cu3a | 8 | 3a Does (name) give unique responses that go beyond those of other children? | Critical thinking and problem-solving | |

| | | | | | |
|----|------|----|---|---------------------------------------|---|
| 12 | Cu3a | 8 | Je (jina) hutoa majibu ya kina tofauti na yaliyozoeleka na wenzake? | Self-efficacy | |
| | | | Trait/Construct: Obedient (Mtii) | | |
| 13 | Ob1a | 9 | 1a Is (name) calm at school even when disturbed/irritated by others? | Self-efficacy | |
| 13 | Ob1a | 9 | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? | Learning to learn | |
| 13 | Ob1a | 9 | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? | Communication and collaboration | |
| 13 | Ob1a | 9 | Je (jina) anatulia shuleni hata kama anachokozwa na wenzake ? | Critical thinking and problem-solving | |
| 14 | Ob2a | - | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Self-efficacy | <i>Covered in question 13</i> |
| 14 | Ob2a | - | Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? | Learning to learn | |
| 14 | Ob2a | - | Je (jina) anaweza kukaa kimya darasani endapo ataambiwa asiongee? | Communication and collaboration | |
| 15 | Ob3a | 10 | 3a Does (name) avoid bad company? | Self-efficacy | |
| 15 | Ob3a | 10 | Je (jina) hujiepusha na makundi mabaya? | Citizenship | |
| 15 | Ob3a | 10 | Je (jina) hujiepusha na makundi mabaya? | Critical thinking and problem-solving | |
| 16 | Ob4a | - | 4a Is (name) slow and unhurried in deciding what to do next? (<i>negative?</i>) | Critical thinking and problem-solving | <i>Not considered a positive competency</i> |
| 16 | Ob4a | - | Je (jina) huwa mtaratibu katika kufanya maamuzi ya kitu kifuatacho? | Self-efficacy | |
| 17 | Ob5a | 11 | 5a Does (name) respond nicely/politely when asked a question? | Communication and collaboration | |
| 17 | Ob5a | 11 | Je (jina) hujibu vizuri na kwa upole? | Learning to learn | |
| 18 | Ob6a | 12 | 6a Does (name) follow and fulfil school rules as required? | Self-efficacy | |
| 18 | Ob6a | 12 | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? | Citizenship | |
| 18 | Ob6a | 12 | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? | Learning to learn | |
| 18 | Ob6a | 12 | Je (jina) anazifuata na kutekeleza sheria za shule ipasavyo? | Communication and collaboration | |
| 19 | Ob7a | - | 7a Does (name) care when others are talking? | Learning to learn | <i>Covered in question 9</i> |
| 19 | Ob7a | - | Je (jina) hujali wengine wanapozungumza? | Communication and collaboration | |
| 20 | Ob8a | - | 8a Does (name) easily accept when you correct his/her mistakes or poor behaviour? | Self-efficacy | <i>Covered in question 8</i> |
| 20 | Ob8a | - | Je (jina) hukubali kirahisi unapomrekebisha makosa yake au tabia zisizokubalika? | Communication and collaboration | |
| 20 | Ob8a | - | Je (jina) hukubali kirahisi unapomrekebisha makosa yake au tabia zisizokubalika? | Learning to learn | |
| | | | Trait/Construct: Sociable (Mchangamfu) | | |

| | | | | | |
|----|------|----|--|---------------------------------|---|
| 21 | So1a | - | 1a Does name love his/her teachers? | Communication and collaboration | <i>Considered a weak question – children do what they're told</i> |
| 21 | So1a | - | Je (jina) hupenda au waalimu? | Learning to learn | |
| 22 | So2a | - | 2a Does (name) kindly greet teachers? | Communication and collaboration | <i>All children do it (little variation)</i> |
| 22 | So2a | - | Je (jina) husalimia vizuri walimu? | Self-efficacy | |
| 22 | So2a | - | Je (jina) husalimia vizuri walimu? | Citizenship | |
| 23 | So3a | 13 | 3a Does (name) enjoy talking with others? | Communication and collaboration | |
| 23 | So3a | 13 | Je (jina) hufurahia kuongea na wenzake? | Citizenship | |

Annex 16: EGRA Kiswahili and English protocols, and Pupil context interview

Becoming an effective 'competency-based' teacher
Action Research Case Study

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Early Grade Reading Assessment

KISWAHILI

Maelekezo ya Jumla:

Wakati wa kufanya uchunguzi huu, ni muhimu kuonyesha mwelekeo wa kucheza na kuburudika na wanafunzi kwa kuanza kuzungumza nao juu ya maswala rahisi yatakayowapendeza (tazama mfano ulioko hapa chini). Mwanafunzi anapaswa kuchukulia uchunguzi huu kama mchezo wa kujifurahisha kuliko mtihani wa kuogopewa. Ni muhimu kusoma TU zile sehemu zilizo ndani ya visanduku pole pole na kwa ufasaha.

Hujambo! Jina langu ni ____ na ninaishi _____. Ningependa kukueleza kidogo kunihusu. (Mwambie kwa ufupi kuhusu familia yako, idadi ya watoto wako na umri wao, michezo upendayo, n.k.)

1. Hebu nieleze kwa ufupi kuhusu familia yako. (Ngojea jibu la mwanafunzi kwa muda mfupi. Ukiona kwamba anasita, uliza swali la pili; lakini asiposita, enda kwenye sehemu ya idhini ya Kusemwa.
2. Unapenda kufanya nini wakati haupo shuleni?

Idhini ya Kusemwa

Hebu nikueleze sababu za kuja kwangu hapa hivi leo. Nafanya kazi na Alison Joyner, ambaye ni mwanafunzi kutoka chuo kikuu nchini Uingereza - unajua amekuwa akifanya kazi na walimu katika shule yako tangu mwaka jana kwenye KCBC mpya. Kama sehemu ya kazi hii tunapenda kujua jinsi wanafunzi wa darasa la tatu wanajifunza kusoma.

Tunakuomba ushirikiane nasi katika shughuli hii. Lakini ushiriki katika shughuli hii iwapo hutaki.

Tutacheza mchezo wa kusoma. Nitakuuliza usome herufi, maneno na hadithi fupi kwa sauti.

Nitatumia hii saa ya kasi ili kupima muda utakaotumia kusoma.

Pia nitakuuliza maswali mengine juu ya familia yako, kama vile lugha ya familia yako hutumia nyumbani na mambo kadhaa ambayo familia yako inayo.

Huu SIO mtihani na alama zako za mitihani shuleni hazitaathirika.

SITAANDIKA jina lako po pote. Kwa hivyo, mtu hawezi kujua kwamba majibu haya ni yako.

Kumbuka kwamba una hiari ya kutoshiriki katika shughuli hii. Vile vile, tutakapoanza shughuli hii, utajibu maswali kwa hiari yako na ni sawa iwapo hutaki kujibu swali.

Je, una swali lo lote? Uko tayari kuanza?

Tia alama ya sahihi ikiwa mwanafunzi ametoa idhini:

NDIO

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

| | | | |
|----------------------------|--|---------------------|--------------------|
| A. Student's Name | | C. Student's age | |
| B. Student's Date of Birth | | D. Student's Gender | 1= Boy 2=Girl |

Adapted from Primary Math and Reading in Kenya Project Tool (PRIMR) / RTI

KISWAHILI: Sehemu ya Kwanza: Ufahamu wa Sauti za Herufi

Mwonyeshe mwanafunzi orodha ya herufi iliyomo katika kijitabu cha mwanafunzi. Kisha sema ifuatavyo:

Karatasi hii ina herufi mbali mbali. Tafadhali zitamke sauti za herufi zote unazozijua.

Kwa mfano, sauti ya herufi hii [kisha mwonyeshe herufi k] ni /k/

Hebu tufanye mazoezi: Nitamkie sauti ya herufi hii [mwonyeshe herufi A]:

Iwapo jawabu la mwanafunzi ni sahihi, sema: Vyema, sauti ya herufi hii ni /a/

Iwapo jawabu la mwanafunzi sio sahihi, sema: Sauti ya herufi hii ni /a/

Sasa, hebu jaribu herufi nyingine: nitamkie sauti ya herufi hii [mwonyeshe herufi m]:

Iwapo jawabu la mwanafunzi ni sahihi, sema: Vyema, sauti ya herufi hii ni /m/

Iwapo jawabu la mwanafunzi sio sahihi, sema: Sauti ya herufi hii ni /m/

Je, umeelewa unavyopaswa kufanya?

Nikisema "Anza", tafadhali zitamke sauti za herufi hizi haraka iwezekanavyo lakini kwa makini. Nitamkie sauti za herufi, kuanzia hapa kisha kuendelea hivi. [Elekeza kidole chako katika herufi ya kwanza katika mstari wa juu baada ya mfano kisha undelele hadi mwisho wa mstari huo]. Nitanyamaza nikusikilize. Uko tayari? Anza.



Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo herufi ya mwanzo. Fuatiliza kusoma kwake ukitumia penseli kisha utie alama ya mkwaju (/) katika kila herufi ambayo hakuweza kuitamka. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Iwapo ulikuwa umemkosoa mwanafunzi katika jibu ambapo alijisahihisha, tia alama ya duara (O) kwa herufi hiyo kisha uendelee. **Unapaswa kukimya**, isipokuwa wakati unampa mwanafunzi majibu, ifuatavyo: Iwapo mwanafunzi anasita kwa muda wa sekunde 3, mpe jawabu halafu mwelekeze katika herufi inayofuata kisha umwambie "

Tafadhali endelea ."Kisha utie alama ya kuonyesha hakupata jibu sahihi.

BAADA YA SEKUNDE 60 SEMA, "Acha kusoma." Halafu tia alama ya mabano (]) katika herufii ya mwisho aliyosoma. **Kanuni ya kusitisha kusoma mapema:** Iwapo mwanafunzi hatapata jawabu sahihi hata moja katika mstari wote wa juu, hata kwa kujikosoa, sema "Asante !" Sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendelee na shughuli inayofuata.

Mifano: k A m

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|-----|----|---|----|----|---|---|----|----|----|-------|
| Z | u | g | a | m | a | d | M | o | t | (10) |
| S | th | n | N | B | i | R | k | u | T | (20) |
| I | A | h | l | k | a | w | A | O | a | (30) |
| E | f | n | A | l | a | W | K | sh | a | (40) |
| L | o | a | w | gh | m | a | l | h | l | (50) |
| M | e | i | k | n | a | b | ch | y | a | (60) |
| Dh | i | u | a | z | u | S | l | A | V | (70) |
| N | E | i | n | Y | i | e | D | i | a | (80) |
| I | U | t | Ny | a | i | a | u | m | N | (90) |
| Ng' | p | n | g | u | o | A | L | k | i | (100) |

Muda uliosalia katika saa ya kupima kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE)

Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.

Attempted

Correct

Sehemu ya Pili: Kutambua Maneno ya Kubuni

Muonyeshe mwanafunzi orodha ya maneno ya kubuni iliyomo ndani ya kijitabu cha mwanafunzi, halafu sema,

Karatasi hii ina maneno yaliyobuniwa. Ningependa usome maneno yote unayoweza. Kwa mfano, neno hili la kubuni ni: "ju"

Hebu tufanye mazoezi: tafadhali lisome neno hili [mwonyeshe neno "huka"]

[Iwapo mwanafunzi atasema "huka", mwambie]: "Vizuri sana : "huka"

[Iwapo mwanafunzi hakusoma neno "huka" vizuri, mwambie]: Neno hili la kubuni ni "huka."

Sasa, hebu jaribu neno lingine la kubuni: Tafadhali soma neno lifuatalo mwonyeshe neno: "fisa".

[Iwapo mwanafunzi atasema "fisa", mwambie]: "Vizuri sana : "fisa"

[Iwapo mwanafunzi hakusoma neno "fisa" vizuri, mwambie]: Neno hili la kubuni ni "fisa."

Nikisema "Anza", yasome maneno haraka iwezekanavyo lakini kwa makini. Yasome maneno kutoka upande wa kushoto kuelekea upande wa kulia wa ukurasa huu, ukianzia mstari wa kwanza. Nitakimya nikusikilize, isipokuwa wakati unapohitaji usaidizi. Je, umelewa jinsi unavyopaswa kufanya? Uko tayari? Anza.



Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo neno la kwanza. Fuatiliza kusoma kwake ukitumia penseli kisha utie alama ya mkwaju (/) katika kila neno ambalo hakusoma vilivyo. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Iwapo ulikuwa umemkosoa mwanafunzi katika jibu ambapo alijisahihisha, tia alama ya duara (O) kwa neno hilo kisha uendelee. **Unapaswa kukimya**, isipokuwa wakati unampa mwanafunzi majibu, ifuatavyo: Iwapo mwanafunzi anasita kwa muda wa sekunde 3, mpe jawabu halafu mwelekeze katika neno linalofuata kisha umwambie "**Tafadhali endelea.**" Kwa kila neno unalomsomea mwanafunzi, tia alama ya kuonyesha hakupata jibu sahihi. **BAADA YA SEKUNDE 60 SEMA, "Acha kusoma." Halafu tia alama ya mabano (J) katika neno la mwisho alilosoma.**

Kanuni ya kusitisha kusoma mapema: Iwapo mwanafunzi hakusoma vilivyo maneno yote katika mstari wa kwanza, sema "**Asante !**", sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendelee na sehemu inayofuata.

Mifano: ju huka fisa


| 1 | 2 | 3 | 4 | 5 | |
|-------|--------|-------|--------|-------|------|
| ngiso | fipe | mwela | hungu | ndaho | (5) |
| regu | ndise | gazu | vube | nyuza | (10) |
| kabe | nzinga | dhilu | yota | josa | (15) |
| mtozo | vili | bwara | leye | howe | (20) |
| choyu | honzi | chuso | rime | toko | (25) |
| gowe | ripi | nepu | mtofi | shifi | (30) |
| thata | aate | riki | kengu | ngute | (35) |
| nziki | msino | mbeta | sharu | dusu | (40) |
| kenzi | kine | kuvi | vicha | mapa | (45) |
| ndami | chena | owa | ng'ila | zefu | (50) |

| | |
|---|--|
| <i>Muda uliosalia katika saa ya kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE):</i> | |
| <i>Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.</i> | |
| <i>Attempted</i> | |
| <i>Correct</i> | |

Sehemu ya Tatu (a): Kusoma Hadithi kwa Sauti

Mwonyeshe mwanafunzi hadithi iliyomo katika kijitabu cha mwanafunzi. Halafu sema hivi,

Hii hapa ni hadithi fupi. Ningependa uisome kwa sauti, haraka lakini kwa makini. Ukimaliza kuisoma, nitakuuliza maswali kuhusu yale uliyosoma. Je, umeelewa jinsi unavyopaswa kufanya? Nikisema “Anza,” isome hadithi vizuri kadri ya uwezo wako. Nitanyamaza nikusilikilze. Uko tayari? Anza.

 Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo neno la kwanza. Fuatilia kusoma kwake ukitumia penseli kisha utie alama ya mkwaju (/) katika kila neno ambalo hakisoma vilivyo. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Usiseme cho chote, isipokuwa wakati mwanafunzi atasita kwa muda wa sekunde 3 ambapo sasa utamsomea neno kisha umwonyeshe neno linalofuata na kumwambia “Tafadhali endelea.” Kwa kila neno unalomsomea mwanafunzi, tia alama ya kuonyesha hakupata jibu sahihi.

Baada ya sekunde 60 sema, “Acha kusoma.” Halafu tia alama ya mabano () katika neno la mwisho alilosoma.

Kanuni ya kusitisha kusoma mapema: Iwapo mwanafunzi hakisoma vilivyo maneno yote katika mstari wa kwanza, sema “Asante !”, sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendelee na shughuli inayofuata.

Muda uliosalia katika saa ya kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE):

Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.

Attempted

Correct

| |
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| |
| |
| |
| |

Sehemu ya Tatu (b). Kusoma na Kufahamu

Baada ya kukamilika kwa sekunde 60 au Iwapo mwanafunzi atamaliza kusoma hadithi, IONDOE hadithi kutoka mbele ya mwanafunzi, kisha uulize swali la kwanza hapa chini.

Mpe mwanafunzi hadi sekunde 15 alijibu swali, tia alama mwafaka kulingana na jibu lake, halafu uendelee katika swali linalofuata.

Soma maswali ya kila mstari hadi katika mabano yanayoonyesha mahala mwanafunzi alikomea kusoma.

| ADITHI 1: MUMO APOTEA | | MASWALI | JIBU SAHIHI | JIBU LISILOSАHIHI | KUTOJIBU |
|---|----|--|--------------------|--------------------------|-----------------|
| Mumo na mama yake wanaishi karibu na msitu. | 8 | Mumo na mama yake wanaishi karibu na nini? [na msitu] | | | |
| Mumo hupenda kucheza. Mama yake humwambia asicheze mbali na nyumbani. | 18 | Mama yake humwambia nini? [Asiende kucheza mbali na nyumbani] | | | |
| Siku moja, Mumo aliona ndege wa kupendeza akipita. Alimfuata mpaka msituni. | 29 | Mumo alimfuata nani mpaka msituni? [ndege/ndege wa kupendeza] | | | |
| Hakujua njia ya kurudi kwao. Aliketi chini | 36 | Nini kinaonyesha Mumo alikuwa amechoka? [aliketeti chini; kulia; alishikwa na usingizi] | | | |
| ya mti na kuanza kulia. Baadaye alishikwa na usingizi akalala. Alipoamka, giza lilikuwa limeingia. Mara akaona taa kwa mbali. Watu wakaja. Wakamuona na kufurahi. | 60 | Kwa nini watu walifurahi? [Walimwona Mumo] | | | |

| HADITHI 2: RIZIKI | MASWALI | JIBU SAHIHI | JIBU LISILOSAHIHI | KUTOJIBU |
|--|---|-------------|-------------------|----------|
| <p>Riziki ni msichana anayependa kuchezecheza. Siku moja mwalimu alipoingia darasani wanafunzi walisimama na kumsalimia. Riziki akakiondoa kiti cha msichana mmoja aliyekuwa mbele yake. Yule msichana alipokuwa akikaa, alianguka chini. Wanafunzi wote wakacheka. Mwalimu akamuadhibu Riziki kwa kosa hilo. Riziki hakurudia hilo kosa tena.</p> | <p>Msichana aliyependa kuchezecheza alitwa nani? [Riziki]</p> | | | |
| | <p>Riziki alifanya nini wakati wanafunzi waliposimama kumsalimia mwalimu? [Alikiondoa kiti cha mwanafunzi aliyekuwa mbele yake. Alitoa kiti]</p> | | | |
| | <p>Kwa nini wanafunzi walicheka? [Kwa sababu msichana alianguka chini, alikiondoa kiti]</p> | | | |
| | <p>Kwa nini mwalimu alimwadhibu Riziki? [alisababisha kuanguka kwa mwenzake, aliondoa kiti cha mwenzake, alifanya kosa]</p> | | | |
| | <p>Je, unafikiri mwalimu alimuadhibu Riziki kwa njia gani? [Alipiga magoti, jibu lolote sahihi na kuadhibu]</p> | | | |

Sehemu ya 4(a): Hadithi ya Kusikiza Ikisomwa

Mwonyeshe mwanafunzi hadithi iliyomo katika kijitabu chako. Halafu sema hivi,

Hii hapa ni hadithi fupi. Nita soma kwa sauti. Nita soma mara moja tu. Halafu nitakuuliza maswali. Tafadhali sikiliza kwa makini kisha ujaribu kujibu maswali. Je, umeelewa jinsi unavyopaswa kufanya? Uko tayari? Naanza.

Sehemu hii haitapimwa muda.

4b: Ufahamu wa Hadithi ya Kusikiza

Baada ya kusoma hadithi, muulize mwanafunzi maswali. Mpe mwanafunzi hadi sekunde 15 alijibu swali, tia alama mwafaka kulingana na jibu lake, halafu uendelee katika swali linalofuata.

Soma maswali ya kila mstari hadi mwisho.

Time Ended: ____ : ____

EGRA English

Becoming an effective 'competency-based' teacher

Action Research Case Study

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Early Grade Reading Assessment

ENGLISH

General Instructions

It is important to establish a playful and relaxed rapport with the children to be assessed, via some simple initial conversation among topics of interest to the child (see example below). The child should perceive the following assessment almost as a game to be enjoyed rather than an exam. It is important to read ONLY the sections in boxes aloud slowly and clearly.

Good morning. My name is ____ and I live in _____. I'd like to tell you a little bit about myself. [Number and ages of children; pets; sports; etc.]

1. Could you tell me a little about yourself and your family? [Wait for response; if student is reluctant, ask question 2, but if they seem comfortable continue to verbal consent].

2. What do you like to do when you are not in school?

Verbal Consent

- Let me tell you why I am here today. I am working with Alison Joyner, who is a student from a university in England – you know she has been working with teachers in your school since last year on the new KCBC. As part of this work we would like to find out how students in grade 3 are learning to read. We would like your help in this. But you do not have to take part if you do not want to.
- We are going to play a reading game. I am going to ask you to read letters, words and a short story out loud.
- Using this stopwatch, I will see how long it takes you to read.
- This is NOT a test and it will not affect your grade at school.
- I will NOT write down your name so no one will know these are your answers.
- Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right.
- Do you have any questions? Are you ready to get started?

Check box if verbal consent is obtained: YES

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

| | | | |
|----------------------------|--|---------------------|--------------------|
| A. Student's Name | | C. Student's age | |
| B. Student's Date of Birth | | D. Student's Gender | 1= Boy 2=Girl |

Section 1. Letter Sound Knowledge

Show the child the sheet of letters in the student stimuli booklet. Say:

Here is a page full of letters of the English alphabet. Please tell me the SOUNDS of as many letters as you can; not the NAMES of the letters, but the SOUNDS.

For example, the sound of this letter [point to A] is "AH" as in "APPLE".

Let's practise: Tell me the sound of this letter [point to V]:

If the child responds correctly say: Good, the sound of this letter is "VVVV."

If the child does not respond correctly, say: The sound of this letter is "VVVV."

Now try another one: Tell me the sound of this letter [point to L]:

If the child responds correctly say: Good, the sound of this letter is "LLL."

If the child does not respond correctly, say: The sound of this letter is "LLL."

Do you understand what you are to do?

When I say "Begin," please sound out the letters as quickly and carefully as you can. Tell me the sound of the letters, starting here and continuing this way. [Point to the first letter on the row after the example and draw your finger across the first line]. If you come to a letter sound you do not know, I will tell it to you. If not, I will keep quiet and listen to you. Ready? Begin.



Start the timer when the child reads the first letter. Follow along with your pencil and **clearly** mark any incorrect letters with a slash (/). Count self-corrections as correct. If you've already marked the self-corrected letter as incorrect, circle the letter and go on. **Stay quiet**, except when providing answers as follows: if the child hesitates for 3 seconds, provide the sound of the letter, point to the next letter and say "Please go on." Mark the letter you provide to the child as incorrect. If the student gives you the letter name, rather than the sound, provide the letter sound and say: ["Please tell me the SOUND of the letter"]. This prompt may be given only once during the exercise.

AFTER 60 SECONDS SAY, "stop." Mark the final letter read with a bracket (]).

Early Stop Rule: If you have marked as incorrect all of the answers on the first line with no self-corrections, say "Thank you!" discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example : A v L

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|----|-------|
| d | i | R | E | t | N | t | y | s | n | (10) |
| v | o | E | A | h | g | B | h | u | R | (20) |
| l | t | Q | Y | s | a | l | m | o | a | (30) |
| t | U | H | E | k | w | b | W | h | z | (40) |
| l | H | t | E | o | l | E | n | M | p | (50) |
| G | P | r | H | l | i | w | A | e | o | (60) |
| N | C | n | O | S | O | L | J | T | o | (70) |
| s | A | c | E | x | m | s | D | F | r | (80) |
| i | d | i | R | e | f | s | t | s | e | (90) |
| E | a | e | T | u | a | n | a | r | e | (100) |

Time remaining on stopwatch at completion (number of SECONDS) :

Check this box if the exercise was discontinued because the child had no correct answers in the first line.

Attempted

Correct

Section 3a. Oral passage reading

Show the child the story in the student stimuli booklet. Say,

Here is a short story. I want you to read it aloud, quickly but carefully. When you have finished, I will ask you some questions about what you have read. Do you understand what you are to do? When I say “begin,” read the story as best as you can. I will keep quiet & listen to you, unless you need help. Ready? Begin.



Start the timer when the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/).

Count self-corrections as correct. **Stay quiet**, unless the child hesitates for 3 seconds, in which case provide the word, point to the next word and say “Please go on.” Mark the word you provide to the child as incorrect.

At 60 seconds, say “Stop.” Mark the final word read with a bracket (]).

Early stop rule: If the child reads no words correctly on the first line, say “Thank you!”, discontinue this exercise, check the box at the bottom of the page, and go on to the next exercise.

Section 3b. Reading comprehension

When 60 seconds are up or if the child finishes reading the passage in less than 60 seconds, REMOVE the passage from in front of the child, and ask the first question below.

Give the child at most 15 seconds to answer the question, mark the child’s response, and move to the next question.

Read the questions for each line up to the bracket showing where the child stopped reading.

Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.

| Story 1: A New Dress | | Questions | Correct Response | Incorrect Response | No Response |
|--|----|---|------------------|--------------------|-------------|
| Anna went to the shop to buy a new dress. | 10 | Why did Anna go to the shop? [to buy a new dress] | | | |
| She saw dresses with many colours. | 16 | What types of dresses did Anna see at the market? [Dresses of different colors; beautiful dresses; many dresses.] | | | |
| She did not know which one to buy. Anna looked and looked. All the dresses were too big. She started to walk home. | 39 | Why did she start to walk home? [She did not find a dress, the dresses were too big, she was tired, it was getting late] | | | |
| Anna ran into the next shop because it began to rain. | 50 | Why did Anna run into the shop? [Because it started raining.] | | | |
| She saw a very nice dress. She smiled and bought it. | 61 | How do we know Anna liked the dress? [She smiled, she bought the dress.] | | | |

Time remaining on stopwatch at completion (number of SECONDS)

Check this box if exercise stopped due to no correct answers in the first line.

Attempted

Correct

| |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Pupil Context questions

..Becoming an effective ‘competency-based’ teacher

Action Research Case Study

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Early Grade Reading Assessment

Pupil Context Interview

Ask each question verbally to the child, as in an interview. Do not read the response options aloud. Wait for the child to respond, then write this response in the space provided, or circle the code for the option that corresponds to the child’s response. If there is no special instruction to the contrary, only one response is permitted.

| | | |
|---|--|--|
| 1 | Who are the main people in your home who take care of you (maximum 2 people)? | Mother..... 1 Father..... .2 Grandmother..... 3 Grandfather..... .4 Aunt..... 5 Other person.....6 |
| 2 | Does this person/these persons know how to read and write? <i>(question automatically generated for each person)</i> | No..... .0 Yes..... ...1 Do not know / No response.....999 |
| 3 | Which language/s do you speak at home? <i>[language most commonly spoken]</i> | Kiswahili.....1 Kidigo.....2 English.....3 |
| 4 | Which language do you speak at school when you are with your teachers? | Kiswahili.....1 Kidigo.....2 |

| | | | | |
|----|--|--|------------|---|
| | [language most commonly spoken] | English.....3 | | |
| 5 | Which language do you speak as you play with your friends? [language most commonly spoken] | Kiswahili.....1 Kidigo.....2 English.....3 | | |
| 6 | Did you go to pre-school before grade 1? | No..... 0 Yes..... 1 Do not know/No response.....999 | | |
| 7 | What class were you in last year? | Grade 1.....1 Grade 2.....2 Grade 3.....3 Not in school.....4 Do not know/No response.....999 | | |
| 8 | How many meals did you eat yesterday? | At least 3 meals.....3 2 meals.....2 1 meal.....1 | | |
| | In your home, do you have: | No | Yes | Don't Know / No response |
| 9 | a radio ? | 0 | 1 | 999 |
| 10 | a telephone or mobile phone? | 0 | 1 | 999 |
| 11 | electricity? | 0 | 1 | 999 |
| 12 | a television? | 0 | 1 | 999 |
| 13 | a refrigerator? | 0 | 1 | 999 |
| 14 | a toilet inside the house ? | 0 | 1 | 999 |
| 15 | a bicycle ? | 0 | 1 | 999 |
| 16 | a motorcycle ? | 0 | 1 | 999 |
| 17 | a computer or tablet device | 0 | 1 | 999 |
| 18 | Do you have a way of connecting to the internet at home? If yes, how? | Mobile phone Tablet Computer | | |
| 19 | How long does it take you to come to school? (Minutes) | | | |
| 20 | How do you get to school? | | | |

| | | |
|----|---|---|
| 21 | How many days have you been absent from school in the last 10 days (or two school weeks)? | Number of days:..... |
| 22 | <i>If the child gave a number of days in question 19, What was the reason for being absent from school?</i> | Sick.....1 School fees.....2 Sick parent.....3 Working at home.....4 Working outside home.....5 Lack of school uniform.....6 Lack of exercise books.....7 Lack of pencil / pen.....8 Another sick child in the family.....9 Others:..... |
| 23 | What activities do you do outside of school? (multiple answers allowed) | Take care of siblings.....1 Cooking.....2 Work in the farm.....3 Work in the market.....4 Other.....5 |
| 24 | Do you ever have to miss school because you are doing any of these activities? | No.....0 Yes1 Do not know/No response.....999 |
| 25 | How many books do you think you have at home (not magazines or newspapers) <u>that you like to look at?</u> | None.....0 1-101 More than 10.....2 Do not know/No response.....999 |

| | | |
|--|--|--|
| 26 | <i>If a number is given in Question 24, What language (s) are these books or other materials in?</i> | Kiswahili..... 1 English..... 2 Arabic.....3 Do not know / No response.....999 |
| 27 | Do you look at these books on your own? | No..... 0 Yes..... 1 Do not know / No response.....999 |
| 28 | Is there anyone at home who reads with you, or who helps you with your school work? | |
| If this is the end of the three assessments (Kiswahili, English and Math) say: Ok we are done! You have done very well. You can now go back to your classroom, and please do not talk to other pupils about what we have done today | | |

Time Ended: ____ : ____ AM / PM

Annex 17: EGMA protocol

Becoming an effective ‘competency-based’ teacher

Action Research Case Study

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Early Grade Mathematics Assessment

MATHEMATICS

General Instructions

It is important to establish a playful and relaxed rapport with the children to be assessed, via some simple initial conversation among topics of interest to the child. The child should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read **ONLY** the sections in boxes aloud slowly and clearly.

Verbal Consent: Read the text in the box clearly to the child in Kiswahili or English:

Before we start, I want to tell you my name. I’m _____

Kabla ya kuanza, ningependa kukueleza majina yangu. Mimi naitwa _____

- **I am working with Alison Joyner, who is a student from a university in England – you know she has been working with teachers in your school since last year on the new KCBC. As part of this work we would like to find out how students in grade 3 are learning to read.**

Kiswahili: Nafanya kazi na Alison Joyner, ambaye ni mwanafunzi kutoka chuo kikuu nchini Uingereza - unajua amekuwa akifanya kazi na walimu katika shule yako tangu mwaka jana kwenye KCBC mpya. Kama sehemu ya kazi hii tunapenda kujua jinsi wanafunzi wa darasa la tatu wanajifunza kusoma.

- **We want to know how children learn math. You were picked by chance, like in a raffle or lottery.**

Kiswahili: Tungependa kujua vile watoto wanajivunza hesabu. Kuchaguliwa kwako kulikuwa ni bahatitu, kama mchezo wa bahati na sibu

- **We would like your help in this. But you do not have to take part if you do not want to.**

Kiswahili: Tungepedelea usaidizi wako katika haya. Lakini si lazima ushiriki ikiwa hupendelei.

- **We are going to play some counting games and some number games.***Kiswahili: Tutacheza michezo ya kuhesabu na pia michezo ya nambari.*

- **Using this stopwatch, I will see how long it takes you to count.**

Kiswahili: Kwa kutumia saa hii, nitaweza kuona itakuchukua mda gani kuhesabu.

- **This is NOT a test and you will NOT be graded on it for school.**

Kiswahili: Huu sio mtihani na hautatahiniwa shuleni.

- **I will NOT write down your name so no one will know these are your answers.**

Kiswahili: Sita yaandika majina yako kwa hivyo hakuna mtu atakayejua ya kwamba haya ni majibu yako.

- **Once again, you do not have to take part in this if you do not want to. Once we begin, if you do not want to answer a question, that’s all right.**

Kwa mara nyingine, silazima ushiriki iwapo hujihisi. Tukishaanza, una uhuru wa kutojibu swali lolote.

Okay, are you ready to start?*Kiswahili: Je, uko tayari kuanza?*

Check box if verbal consent is obtained:

YES

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----|---|----------------------|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|--|--|
| A. Student's Name | | C. Student's age | | | | | | | | | | | | | | | | | | | | | |
| B. Student's Date of Birth | | D. Student's Gender | 1= Boy 2=Girl | | | | | | | | | | | | | | | | | | | | |
| Task 1: Number Identification - EXERCISE | | Sheet 1 | 🕒 60 seconds (Timed) | | | | | | | | | | | | | | | | | | | | |
| <p> Here are some numbers. I want you to point to each number and tell me what the number is. I am going to time you and will tell you when to begin and when to stop.</p> <p><i>Kiswahili: Hapa pana nambari kadhaa. Nataka uonyeshe kila nambari kwa kidole na uniambie ni nambari gani. Nitakuhesabia wakati, nitakueleza wakati wa kuanza na wakumaliza</i></p> <p>- [Point to the first number] Start here.[Glide hand from left to right]. Are you ready? . . . Start.</p> <p><i>Kiswahili: [Onyesha nambari ya kwanza kwakidole] Anza hapa. [Teleza mkono kutoka upande wa kushoto hadi wakulia]. Je, ukotayari?...Anza.</i></p> <p>- What number is this?</p> <p><i>Kiswahili: Hii ni nambari gani?</i></p> | | <p> (Stop)</p> <ul style="list-style-type: none"> • If the time on the stopwatch runs out (60 seconds). <p>➡ (Move on)</p> <ul style="list-style-type: none"> • If a child stops on a number for <u>5</u> SECONDS, mark as <u>wrong and move on.</u> | | | | | | | | | | | | | | | | | | | | | |
| <p> (/) Incorrect or no response</p> <p>() After the last number read</p> <table border="1"> <tr> <td>3</td> <td>8</td> <td>0</td> <td>16</td> <td>25</td> </tr> <tr> <td>33</td> <td>59</td> <td>48</td> <td>13</td> <td>20</td> </tr> <tr> <td>62</td> <td>71</td> <td>44</td> <td>86</td> <td>95</td> </tr> <tr> <td>167</td> <td>287</td> <td>506</td> <td>713</td> <td>957</td> </tr> </table> | | 3 | 8 | 0 | 16 | 25 | 33 | 59 | 48 | 13 | 20 | 62 | 71 | 44 | 86 | 95 | 167 | 287 | 506 | 713 | 957 | | |
| 3 | 8 | 0 | 16 | 25 | | | | | | | | | | | | | | | | | | | |
| 33 | 59 | 48 | 13 | 20 | | | | | | | | | | | | | | | | | | | |
| 62 | 71 | 44 | 86 | 95 | | | | | | | | | | | | | | | | | | | |
| 167 | 287 | 506 | 713 | 957 | | | | | | | | | | | | | | | | | | | |
| | | Record time left (seconds): | | | | | | | | | | | | | | | | | | | | | |
| | | Attempted | | | | | | | | | | | | | | | | | | | | | |
| | | Correct | | | | | | | | | | | | | | | | | | | | | |

| Task 2: Number Discrimination - PRACTICE | Sheet 2A | ⌚ × (Not Timed) |
|---|----------|-----------------|
| <p>P1:</p> <p>👂 Look at these numbers. Tell me which number is bigger. <i>Kiswahili: Tazama nambari hizi. Niambie ni namabari gani kubwa?</i> 8 4</p> <p>✓👂 That's correct, 8 is bigger. Let's do another one. <i>Kiswahili: Sahihi! 8 ndio kubwa. Tujaribu mfano mwingine.</i></p> <p>×👂 The bigger number is 8. [Point to 8]: This is 8. [Point to 4]: this is 4. 8 is bigger than 4. Let's do another one. <i>Kiswahili : Nambari kubwa ni 8.[elekeza kidole kwa 8]. Hiini 8. . [elekeza kidole kwa 4]. Hii ni 4. '8' nikubwa kuliko '4'. Tujaribu mfano mwingine.</i></p> | | |
| <p>P2:</p> <p>👂 Look at these numbers. Tell me which number is bigger. <i>Kiswahili: Tazama na mbari hizi. Niambie ni nambari gani kubwa?</i> 12 22</p> <p>✓👂 That's right, 22 is bigger. Let's continue. <i>Kiswahili: Ndivyo! 22 nikubwa. Ebu tuendele.</i></p> <p>×👂 The bigger number is 22. [Point to 22]: This number is 22. [Point to 12]: This is 12. 22 is bigger than 12. Let's continue. <i>Kiswahili : Nambari kubwa ni 22. [Elekeza kidole kwa 22]. Hii ni 12. [Elekeza kidole kwa 12]. 22 ni kubwa kuliko 12. Hebu tuendele.</i></p> | | |

| Task2: Number Discrimination - EXERCISE | Sheets 2B1 & 2B2 | ⌚ × (Not Timed) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------|--|---|----------|---|------------|---|-----------|---|----|----|-----------|---|-----|-----|------------|---|----|----|-----------|---|-----|-----|------------|---|----|----|-----------|---|-----|-----|------------|---|----|----|-----------|---|-----|-----|------------|---|---|
| <p>👂 Look at these numbers. Tell me which number is bigger. <i>Kiswahili: Tazama nambari hizi. Nieleze ni nambari gani kubwa kuliko nyingine. Point and say [Repeat for each item]</i></p> | | <p>👋 (Stop)</p> <ul style="list-style-type: none"> • If the child makes 4 successive errors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>✂ Circle: 1 = Correct 0 = Incorrect or no response.</p> <table border="1"> <tbody> <tr> <td>5</td><td>3</td><td><u>5</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> <td>63</td><td>93</td><td><u>93</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> </tr> <tr> <td>18</td><td>23</td><td><u>23</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> <td>134</td><td>164</td><td><u>164</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> </tr> <tr> <td>52</td><td>15</td><td><u>52</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> <td>327</td><td>626</td><td><u>626</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> </tr> <tr> <td>88</td><td>72</td><td><u>88</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> <td>452</td><td>152</td><td><u>452</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> </tr> <tr> <td>37</td><td>45</td><td><u>45</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> <td>963</td><td>864</td><td><u>963</u></td><td><input type="checkbox"/> 1 <input type="checkbox"/> 0</td> </tr> </tbody> </table> | | 5 | 3 | <u>5</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 63 | 93 | <u>93</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 18 | 23 | <u>23</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 134 | 164 | <u>164</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 52 | 15 | <u>52</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 327 | 626 | <u>626</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 88 | 72 | <u>88</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 452 | 152 | <u>452</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 37 | 45 | <u>45</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 963 | 864 | <u>963</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | <p>➡ (Move on)</p> <ul style="list-style-type: none"> • If the child doesn't respond after <u>5 SECONDS</u>, mark as <u>wrong and move on.</u> |
| 5 | 3 | <u>5</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 63 | 93 | <u>93</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 23 | <u>23</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 134 | 164 | <u>164</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | 15 | <u>52</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 327 | 626 | <u>626</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 88 | 72 | <u>88</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 452 | 152 | <u>452</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 45 | <u>45</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | 963 | 864 | <u>963</u> | <input type="checkbox"/> 1 <input type="checkbox"/> 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Attempted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Correct | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Task 3: Missing number - PRACTICE

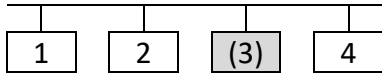
Sheet 3A

⌚ × (Not Timed)

P1:

👤 Here are some numbers. 1, 2, and 4, what number goes here?

Kiswahili: Hapa pana nambari kadhaa. 1, 2 na 4. Ni nambari gani itaekwa hapa?



✓ 👤 That's correct, 3. Let's do another one.

Kiswahili: Ndivyo, 3! Tujaribu mfano mwingine.

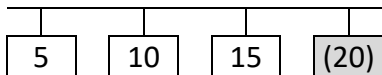
✗ 👤 The number three goes here. Say the numbers with me. [Point to each number] 1, 2, 3, 4. 3 goes here. Let's do another one.

Kiswahili: Namabari 3 itaekwa hapa. Tuseme nambari hizi pamoja. [Elekezakidolekwakilanambari]. 1, 2, 3, 4. Namabari 3 itaekwa hapa. Tujaribu mfano mwingine.

P2:

👤 Here are some numbers. 5, 10, and 15, what number goes here?

Kiswahili: Hapa pana nambari kadhaa: 5, 10 na 15. Ni nambari gani itaenda hapa?









✓ 👤 That's correct, 20. Let's do some more.

Ndivyo, 20! Tujaribu mifano zaidi.

✗ 👤 The number 20 goes here. Say the numbers with me. [Point to each number] 5, 10, 15, 20. 20 goes here. Let's do some more.

Kiswahili: Namabari 20 itaekwa hapa. Tuseme nambari hizi pamoja [elekeza kidole kwa kila nambari]. 5, 10, 15, 20. 20 inaekwa hapa. Tujaribu Mifano zaidi.

| Task 3: Missing number - EXERCISE | 📖 Sheets 3B1 & 3B2 | ⌚ × (Not Timed) | | | | | | | | | | | | |
|---|--------------------|--|------|-----|---|---|---|-----|------|-------|-----|---|---|--|
| <p>👁️ Here are some more numbers. <i>[Point to the box]</i> . . . What number Goes here? Kiswahili: Hapapa na nambari zaidi. <i>[elekeza kidole kwa sanduku]</i> ... Ni Nambari gani itaenda hapa? [Repeat for each item]</p> <p>✂️ Circle: 1 = Correct. 0 = Incorrect or no response.</p> | | <p>🛑 (Stop)</p> <ul style="list-style-type: none"> • If the child gets 4 successive errors <p>➡️ (Move on)</p> <ul style="list-style-type: none"> • If the child doesn't respond after 5 SECONDS, mark as <u>wrong and move on.</u> | | | | | | | | | | | | |
| <p>1</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">2</td> <td style="border: 1px solid black; width: 25px; height: 25px;">3</td> <td style="border: 1px solid black; width: 25px; height: 25px;">4</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(5)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 2 | 3 | 4 | (5) | 1 | 0 | <p>6</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">457</td> <td style="border: 1px solid black; width: 25px; height: 25px;">458</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(459)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">460</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 457 | 458 | (459) | 460 | 1 | 0 | |
| 2 | 3 | 4 | (5) | 1 | 0 | | | | | | | | | |
| 457 | 458 | (459) | 460 | 1 | 0 | | | | | | | | | |
| <p>2</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">16</td> <td style="border: 1px solid black; width: 25px; height: 25px;">17</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(18)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">19</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 16 | 17 | (18) | 19 | 1 | 0 | <p>7</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">38</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(36)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">34</td> <td style="border: 1px solid black; width: 25px; height: 25px;">32</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 38 | (36) | 34 | 32 | 1 | 0 | |
| 16 | 17 | (18) | 19 | 1 | 0 | | | | | | | | | |
| 38 | (36) | 34 | 32 | 1 | 0 | | | | | | | | | |
| <p>3</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">40</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(50)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">60</td> <td style="border: 1px solid black; width: 25px; height: 25px;">70</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 40 | (50) | 60 | 70 | 1 | 0 | <p>8</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">25</td> <td style="border: 1px solid black; width: 25px; height: 25px;">30</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">35</td> <td style="border: 1px solid black; width: 25px; height: 25px;">40</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 25 | 30 | 35 | 40 | 1 | 0 | |
| 40 | (50) | 60 | 70 | 1 | 0 | | | | | | | | | |
| 25 | 30 | 35 | 40 | 1 | 0 | | | | | | | | | |
| <p>4</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(600)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">700</td> <td style="border: 1px solid black; width: 25px; height: 25px;">800</td> <td style="border: 1px solid black; width: 25px; height: 25px;">900</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | (600) | 700 | 800 | 900 | 1 | 0 | <p>9</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">390</td> <td style="border: 1px solid black; width: 25px; height: 25px;">380</td> <td style="border: 1px solid black; width: 25px; height: 25px;">370</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">360</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 390 | 380 | 370 | 360 | 1 | 0 | |
| (600) | 700 | 800 | 900 | 1 | 0 | | | | | | | | | |
| 390 | 380 | 370 | 360 | 1 | 0 | | | | | | | | | |
| <p>5</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">3</td> <td style="border: 1px solid black; width: 25px; height: 25px;">5</td> <td style="border: 1px solid black; width: 25px; height: 25px;">7</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(9)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 3 | 5 | 7 | (9) | 1 | 0 | <p>10</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;">11</td> <td style="border: 1px solid black; width: 25px; height: 25px;">16</td> <td style="border: 1px solid black; width: 25px; height: 25px; background-color: #cccccc;">(21)</td> <td style="border: 1px solid black; width: 25px; height: 25px;">26</td> <td style="border: 1px solid black; width: 25px; height: 25px;">1</td> <td style="border: 1px solid black; width: 25px; height: 25px;">0</td> </tr> </table> | 11 | 16 | (21) | 26 | 1 | 0 | |
| 3 | 5 | 7 | (9) | 1 | 0 | | | | | | | | | |
| 11 | 16 | (21) | 26 | 1 | 0 | | | | | | | | | |
| | | <p>Attempted _____</p> <p>Correct _____</p> | | | | | | | | | | | | |

| Task 4A: Addition: Level 1 - EXERCISE | Sheet 4A | 60 seconds (Timed) | | | | | | | | | | | | | | | | | | | | |
|---|-----------------|--|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|--|
| <p> Here are some addition exercises [<i>glide hand from top to bottom</i>]. I am going to time you and will tell you when to begin and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready? . . .</p> <p><i>Kiswahili: Hapa kuna zoezi la kuongeza. [Pitisha mkono kutoka juu hadi chini] . Nita kuhesabia wakati na nitakuambia wakati wa kuanza na wakati wa kumaliza. Sema jibu kwa kila swali.Kama haunajibu, endelea na swali linalofuatia.Je, ukoTayari? . . .</i></p> <p>Start here [point to the first problem].</p> <p><i>Kiswahili: Anziahapa [elekeza kidole kwa swali la kwanza]</i></p> | | <p> (Stop)</p> <ul style="list-style-type: none"> • If the time on the stopwatch runs out (60 seconds). <p> (Move on)</p> <ul style="list-style-type: none"> • If a child stops on an item for 5 SECONDS, <u>mark as wrong and move on.</u> | | | | | | | | | | | | | | | | | | | | |
| <p> (/) Incorrect or no response () After last problem attempted</p> <table border="1"> <tbody> <tr> <td>$2 + 1 = (3)$</td> <td>$8 + 9 = (17)$</td> </tr> <tr> <td>$3 + 2 = (5)$</td> <td>$4 + 8 = (12)$</td> </tr> <tr> <td>$6 + 3 = (9)$</td> <td>$9 + 5 = (14)$</td> </tr> <tr> <td>$4 + 5 = (9)$</td> <td>$6 + 6 = (12)$</td> </tr> <tr> <td>$4 + 4 = (8)$</td> <td>$8 + 7 = (15)$</td> </tr> <tr> <td>$5 + 1 = (6)$</td> <td>$8 + 5 = (13)$</td> </tr> <tr> <td>$2 + 6 = (8)$</td> <td>$9 + 9 = (18)$</td> </tr> <tr> <td>$7 + 3 = (10)$</td> <td>$4 + 9 = (13)$</td> </tr> <tr> <td>$5 + 5 = (10)$</td> <td>$10 + 4 = (14)$</td> </tr> <tr> <td>$2 + 8 = (10)$</td> <td>$7 + 10 = (17)$</td> </tr> </tbody> </table> | | $2 + 1 = (3)$ | $8 + 9 = (17)$ | $3 + 2 = (5)$ | $4 + 8 = (12)$ | $6 + 3 = (9)$ | $9 + 5 = (14)$ | $4 + 5 = (9)$ | $6 + 6 = (12)$ | $4 + 4 = (8)$ | $8 + 7 = (15)$ | $5 + 1 = (6)$ | $8 + 5 = (13)$ | $2 + 6 = (8)$ | $9 + 9 = (18)$ | $7 + 3 = (10)$ | $4 + 9 = (13)$ | $5 + 5 = (10)$ | $10 + 4 = (14)$ | $2 + 8 = (10)$ | $7 + 10 = (17)$ | |
| $2 + 1 = (3)$ | $8 + 9 = (17)$ | | | | | | | | | | | | | | | | | | | | | |
| $3 + 2 = (5)$ | $4 + 8 = (12)$ | | | | | | | | | | | | | | | | | | | | | |
| $6 + 3 = (9)$ | $9 + 5 = (14)$ | | | | | | | | | | | | | | | | | | | | | |
| $4 + 5 = (9)$ | $6 + 6 = (12)$ | | | | | | | | | | | | | | | | | | | | | |
| $4 + 4 = (8)$ | $8 + 7 = (15)$ | | | | | | | | | | | | | | | | | | | | | |
| $5 + 1 = (6)$ | $8 + 5 = (13)$ | | | | | | | | | | | | | | | | | | | | | |
| $2 + 6 = (8)$ | $9 + 9 = (18)$ | | | | | | | | | | | | | | | | | | | | | |
| $7 + 3 = (10)$ | $4 + 9 = (13)$ | | | | | | | | | | | | | | | | | | | | | |
| $5 + 5 = (10)$ | $10 + 4 = (14)$ | | | | | | | | | | | | | | | | | | | | | |
| $2 + 8 = (10)$ | $7 + 10 = (17)$ | | | | | | | | | | | | | | | | | | | | | |
| <p> Record time left (seconds)</p> | | | | | | | | | | | | | | | | | | | | | | |
| <p>To solve the problems, indicate the method the child used (tick all that apply):</p> <p><input type="checkbox"/> Solved the problems in his/her head</p> <p><input type="checkbox"/> Fingers</p> <p><input type="checkbox"/> Counters</p> <p><input type="checkbox"/> Tick marks on paper with a pencil</p> <p><input type="checkbox"/> Other ( describe) _____</p> | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>Attempted <input type="text"/></p> <p>Correct <input type="text"/></p> | | | | | | | | | | | | | | | | | | | | |

| Task 4B: Addition: Level 2 - EXERCISE | Sheet 4B | ⌚ × (Not Timed) |
|--|----------|---|
| ✎ Paper and pencil. | | ✋ (stop) |
| <p>💡 Here are more addition exercises. You may use this paper and pencil if you want to. But you do not have to do so. <i>Kiswahili: Hapa kuna mazoezi mengine ya kuongeza. Ukipenda, waweza Kutumia penseli na karatasi Lakini sio lazima. .</i></p> <p>Start here [point to the first problem]. <i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i></p> | | <ul style="list-style-type: none"> • If the child did not answer any Level 1 question correctly. • If the child makes 4 consecutive errors. |
| <p>✂ Circle: 1 = Correct. 0 = Incorrect or no response.</p> <p>11 + 3 = (14) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>16 + 9 = (25) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>11 + 17 = (28) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>27 + 32 = (59) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>34 + 19 = (53) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> | | <p>➡ (Move on)</p> <ul style="list-style-type: none"> • If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” • If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS. |
| <p>To solve the problems, the child used [(✓) tick all that apply]:</p> <p><input type="checkbox"/> Solved the problems in his/her head</p> <p><input type="checkbox"/> Fingers</p> <p><input type="checkbox"/> Counters</p> <p><input type="checkbox"/> Tick marks on paper with a pencil</p> <p><input type="checkbox"/> Other (✍ describe) _____</p> | | |
| | | Attempted |
| | | Correct |

| Task 5A: Subtraction: Level 1 - - EXERCISE | Sheet 5A | 60 seconds (Timed) | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|--|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|--|
| <p> Here are some subtraction exercises [<i>glide hand from top to bottom</i>]. I am going to time you and will tell you when to begin and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready? . . .</p> <p><i>Kiswahili: Hapa kuna zoezi la kutoa [elekeza mkono kutoka juu Hadi chini].Nitakuhesabia wakati na nitakuambia wakati wa kuanza Na wakati wa kumaliza. Sema jibu kwa kila swali.Kama Hauna jibu, endalea na swali linalofuatia. Je, uko tayari? . . .</i></p> <p>Start here [point to the first problem].</p> <p><i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i></p> | | <p> (Stop)</p> <ul style="list-style-type: none"> • If the time on the stopwatch runs out (60 seconds). <p> (Move on)</p> <ul style="list-style-type: none"> • If a child stops on an item for 5 SECONDS, <u>mark as wrong and move on.</u> | | | | | | | | | | | | | | | | | | | | |
| <p> (/) Incorrect or no response () After last problem attempted</p> <table border="1"> <tbody> <tr> <td>$3 - 1 = (2)$</td> <td>$17 - 9 = (8)$</td> </tr> <tr> <td>$5 - 2 = (3)$</td> <td>$12 - 8 = (4)$</td> </tr> <tr> <td>$9 - 3 = (6)$</td> <td>$14 - 5 = (9)$</td> </tr> <tr> <td>$9 - 5 = (4)$</td> <td>$12 - 6 = (6)$</td> </tr> <tr> <td>$8 - 4 = (4)$</td> <td>$15 - 7 = (8)$</td> </tr> <tr> <td>$6 - 1 = (5)$</td> <td>$13 - 5 = (8)$</td> </tr> <tr> <td>$8 - 6 = (2)$</td> <td>$18 - 9 = (9)$</td> </tr> <tr> <td>$10 - 3 = (7)$</td> <td>$13 - 9 = (4)$</td> </tr> <tr> <td>$10 - 5 = (5)$</td> <td>$14 - 4 = (10)$</td> </tr> <tr> <td>$10 - 8 = (2)$</td> <td>$17 - 10 = (7)$</td> </tr> </tbody> </table> | | $3 - 1 = (2)$ | $17 - 9 = (8)$ | $5 - 2 = (3)$ | $12 - 8 = (4)$ | $9 - 3 = (6)$ | $14 - 5 = (9)$ | $9 - 5 = (4)$ | $12 - 6 = (6)$ | $8 - 4 = (4)$ | $15 - 7 = (8)$ | $6 - 1 = (5)$ | $13 - 5 = (8)$ | $8 - 6 = (2)$ | $18 - 9 = (9)$ | $10 - 3 = (7)$ | $13 - 9 = (4)$ | $10 - 5 = (5)$ | $14 - 4 = (10)$ | $10 - 8 = (2)$ | $17 - 10 = (7)$ | |
| $3 - 1 = (2)$ | $17 - 9 = (8)$ | | | | | | | | | | | | | | | | | | | | | |
| $5 - 2 = (3)$ | $12 - 8 = (4)$ | | | | | | | | | | | | | | | | | | | | | |
| $9 - 3 = (6)$ | $14 - 5 = (9)$ | | | | | | | | | | | | | | | | | | | | | |
| $9 - 5 = (4)$ | $12 - 6 = (6)$ | | | | | | | | | | | | | | | | | | | | | |
| $8 - 4 = (4)$ | $15 - 7 = (8)$ | | | | | | | | | | | | | | | | | | | | | |
| $6 - 1 = (5)$ | $13 - 5 = (8)$ | | | | | | | | | | | | | | | | | | | | | |
| $8 - 6 = (2)$ | $18 - 9 = (9)$ | | | | | | | | | | | | | | | | | | | | | |
| $10 - 3 = (7)$ | $13 - 9 = (4)$ | | | | | | | | | | | | | | | | | | | | | |
| $10 - 5 = (5)$ | $14 - 4 = (10)$ | | | | | | | | | | | | | | | | | | | | | |
| $10 - 8 = (2)$ | $17 - 10 = (7)$ | | | | | | | | | | | | | | | | | | | | | |
| | | <p> Record time left (seconds): <input type="text"/></p> | | | | | | | | | | | | | | | | | | | | |
| <p>To solve the problems, the child used[(✓)tick all that apply]:</p> <p><input type="checkbox"/> Solved the problems in his/her head</p> <p><input type="checkbox"/> Fingers</p> <p><input type="checkbox"/> Counters</p> <p><input type="checkbox"/> Tick marks on paper with a pencil</p> <p><input type="checkbox"/> Other (describe) _____</p> | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>Attempted <input type="text"/></p> | | | | | | | | | | | | | | | | | | | | |
| | | <p>Correct <input type="text"/></p> | | | | | | | | | | | | | | | | | | | | |

| Task 5B: Subtraction: Level 2 - EXERCISE | Sheet 5B | ⌚ × (Not Timed) |
|---|----------|--|
| ✎ Paper and pencil. | | ✋ (Stop) |
| <p>💡 Here are more subtraction exercises. You may use this paper and pencil if you want to. You do not have to do so. <i>Kiswahili: Hapa kuna zoezi linguine la kutoa. Ukipenda, unaeza Kutumia penseli na karatasi lakini sio lazima..</i></p> <p>Start here [point to first problem]. <i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i></p> | | <ul style="list-style-type: none"> • If the child did not answer any Level 1 question correctly. • If the child makes 4 consecutive errors. |
| <p>🗒 Circle: 1 = Correct. 0 = Incorrect or no response.</p> <p>14 – 3 = (11) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>25 – 9 = (16) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>28 – 17 = (11) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>59 – 32 = (27) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>53 – 19 = (34) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> | | <p>➡ (Move on)</p> <ul style="list-style-type: none"> • If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” • If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS. |
| <p>To solve the problems, the child used [(✓) tick all that apply]:</p> <p><input type="checkbox"/> Solved the problems in his/her head</p> <p><input type="checkbox"/> Fingers</p> <p><input type="checkbox"/> Counters</p> <p><input type="checkbox"/> Tick marks on paper with a pencil</p> <p><input type="checkbox"/> Other (🗒 describe) _____</p> | | |
| | | Attempted |
| | | Correct |

Task6: Word Problems- PRACTICE

📖* (No Stimuli Sheet)

🕒*(Not Timed)

✏️📎 Counters, paper and pencil.

🗣️ I have some exercises that I am going to ask you to do for me. Here are some objects to help you. You can use them if you need, but you don't have to use them. Listen very carefully to each exercise. If you need, I will repeat the exercise for you. Okay, let's get started.

Kiswahili: Hapa nina mazoezi zaidi ambayo nitakuuliza uyafanye. Hapa pana vyombo kadhaa vya kukusaidia. Ukitaka, unaweza kuvitumia lakini sio lazima uvitumie. Sikiliza kwa makini kwa kila zoezi. Ukitaka nirudie, niko tayari kurudia. Sawa! Hebu tuanze.

🗣️ There are three children in the matatu.
One child gets out of the matatu.
How many children are left in the matatu?

Kiswahili: Kuna watoto watatu ndani ya matatu.

Mtoto mmoja anatoka nje ya matatu.

Je, ni watoto wangapi wamebaki ndani ya matatu?

✓🗣️ That's right. There are two children left in the matatu. Let's do some more.

Kiswahili: Ndivyo; watoto wawili wamebaki ndani ya matatu. Hebu Tufanye mazoezi zaidi.

✖️🗣️ Imagine these counters are children [*point to counters. Count out three children*]. These children are in the matatu. One child gets out of the matatu. Using the counters, show me one child getting out of the matatu. How many children are left in the matatu? That's right. There are two children left in the matatu. Let's do some more.

Kiswahili: Chukulia hivi vihesabio ni watoto [elekeza kidole kwa vihesabio]. Hesabu watoto watatu. Hawa watoto wako ndani ya matatu. Mtoto mmoja anatoka nje ya matatu. Ukitumia vihesabio, nionyeshe motto mmoja akitoka nje ya matatu. Je, ni watoto wangapi wamebaki ndani ya matatu? Ndivyo; watoto wawili wamebaki ndani ya matatu. Hebu tufanye mazoezi zaidi.

| Task 6: Word Problems - EXERCISE | | 📖× (No Stimuli Sheet) | 🕒× (Not Timed) |
|---|--|--|----------------|
| ✂️❖ Counters, paper and pencil. | | | |
| <p>🧠 Now I have some more exercises for you. <i>Kiswahili: Sasa ninayo mazoezi zaidi ambayo ningetaka ufanye.</i></p> | | <p>🖐️ (Stop)</p> <ul style="list-style-type: none"> • If the child gets 4 successive errors | |
| <p><u>Exercise 1</u></p> <p>🧠 5 children are playing a game. [<i>pause and check</i>] 3 more children join the game. [<i>pause and check</i>] How many children are playing the game altogether?</p> <p><i>Kiswahili: Watoto watano wanacheza mchezo fulani. [pumziko]. Watoto wengine watatu wanaingia kucheza nao [pumziko]. Je, ni watoto wangapi sasa wanaoucheza huo mchezo kwa jumla?</i></p> | | <p>Correct answer: 8 <u>Circle one:</u></p> <p><input checked="" type="radio"/> 1 Correct <input type="radio"/> 0 Incorrect</p> | |
| <p><u>Exercise 2</u></p> <p>🧠 There are 9 children playing a game. [<i>pause and check</i>] 3 are boys. The others are girls. [<i>pause and check</i>] How many girls are playing the game?</p> <p><i>Kiswahili: Kuna watoto 9 wanacheza mchezo fulani [pumziko]. Wavulana ni 3. Wengineo ni wasichana [pumziko]. Je, kuna wasichana wangapi wanaocheza huo mchezo?</i></p> | | <p>Correct answer: 6 <u>Circle one:</u></p> <p><input checked="" type="radio"/> 1 Correct <input type="radio"/> 0 Incorrect</p> | |
| <p><u>Exercise 3</u></p> <p>🧠 There are 2 Teams, Team A and B. [<i>pause and check</i>] There are 8 children on Team A. There are 4 children on Team B. [<i>pause and check</i>] How many more children must join Team B so that it has the same number of children as Team A?</p> <p><i>Kiswahili: Kuna vikundi viwili: A na B. [pumziko] Kuna watoto 8 katika kikundi A. [pumziko] Kuna watoto 4 katika kikundi B. [pumziko] Je, ni watoto wengine wangapi wanafaa kujiunga na kikundi B ili idadi ya watoto katika kikundi B, iwe sawa na ile yenye iko Katika Kikundi A?</i></p> | | <p>Correct answer: 4 <u>Circle one:</u></p> <p><input checked="" type="radio"/> 1 Correct <input type="radio"/> 0 Incorrect</p> | |

➡️ (Move on)

- If a child stops on an item for 5 SECONDS. (and does not attempt to use counters, fingers, paper, or pencil)

Comment: The “[*pause and checks*]” in each problem should be certain that the child understands what you have said before continuing. You may want to ask, “**Do you understand?**” “*Je, unaelewa?*”

| | | |
|---|--|--|
| <p>Exercise 4</p> <p>☞ There are some children playing a game. 3 more children join the game. [<i>pause and check</i>] Now there are 10 children playing the game. [<i>pause and check</i>] How many children were playing the game at the beginning?</p> <p><i>Kiswahili: Kuna watoto kadhaa wanaocheza mcheza. Watoto wengine watatu wanaingia kucheza nao [pumziko]. Sasa kuna watoto 10 wanaocheza huo mchezo kwa jumla [pumziko]. Je, ni watoto wangapi waliku wakiucheza huo mchezo mwanzoni (Kabla ya wengine kuingia)?</i></p> | <p>Correct answer: 7</p> <p>Circle one:</p> <p><input type="radio"/> 1 Correct</p> <p><input type="radio"/> 0 Incorrect</p> | <p>👋 (Stop)</p> <ul style="list-style-type: none"> • If the child gets 4 successive errors <p>➡ (Move on)</p> <ul style="list-style-type: none"> • If a child stops on an item for <u>5 SECONDS</u>. (and does not attempt to use counters, fingers, paper, or pencil) |
| <p>Exercise 5</p> <p>☞ There are 15 sweets. [<i>pause and check</i>] 5 children share the sweets equally. [<i>pause and check</i>] How many sweets does each child get?</p> <p><i>Kiswahili: Pana peremende 15 [pumziko]. Watoto 5 wanagawana hizi peremende kwa kiasi sawa [pumziko]. Je, kila mtoto anapata peremende ngapi?</i></p> | <p>Correct answer: 3</p> <p>Circle one:</p> <p><input type="radio"/> 1 Correct</p> <p><input type="radio"/> 0 Incorrect</p> | <p>Comment: The “[<i>pause and checks</i>]” in each problem you should be certain that the child understands what you have said before continuing. You may want to ask, “Do you understand?” “Je, unaelewa?”</p> |
| <p>To solve the problems, the child used [(✓)tick all that apply]:</p> <p><input type="checkbox"/> Solved the problems in his/her head</p> <p><input type="checkbox"/> Fingers</p> <p><input type="checkbox"/> Counters</p> <p><input type="checkbox"/> Tick marks on paper with a pencil</p> <p><input type="checkbox"/> Other (👁 describe) _____</p> | | |
| | | <p>Attempted <input type="text"/></p> <p>Correct <input type="text"/></p> |

Time Ended: _____:_____ am/pm

Annex 18: EGRA and EGMA: Agreements on handling sub-tasks and debriefing (document shared with assessors)

Becoming an effective 'competency-based' teacher

Action Research Case Study

Early Grade Reading and Mathematics Assessment

Agreements on handling sub-tasks and debriefing

Case study primary school, 15-17 October 2019

The following notes record the discussions held during the EGRA EGMA Refresher Training on 15 October 2019, and the discussions and debriefings we held during and after the assessments conducted on 16 and 17 October.

Agreements on handling sub-tasks: EGRA EGMA Refresher Training

Introductions, getting started: discussions during training

1. Do this in Kiswahili, or local dialect if possible, to put the child at ease
2. Be relaxed and friendly with the child. No need to say the introduction text word for word: use high 5 for example not 'good morning teacher'
3. Questions assessors had had from children in previous experience:
 - a. Will I get something after the assessment?
 - b. Will you tell the teacher?
4. Refusals to consent:
 - a. Generally very rare
 - b. Reasons include if children:
 - i. are nervous
 - ii. sick
 - iii. feel pressure from the teacher – don't want to let them down, feel it's an exam.
 - c. Saying No to adults is a big problem, especially in rural areas; in urban areas – children are opening up.

Early Grade Reading Assessment English

Early Grade Reading Assessment Kiswahili

Task 1 in EGRA English and Kiswahili: letter sound

Correct the letter name to the sound on the very first letter if necessary – show the child the way to do it, and they can start again if they got it wrong (as in guidance).

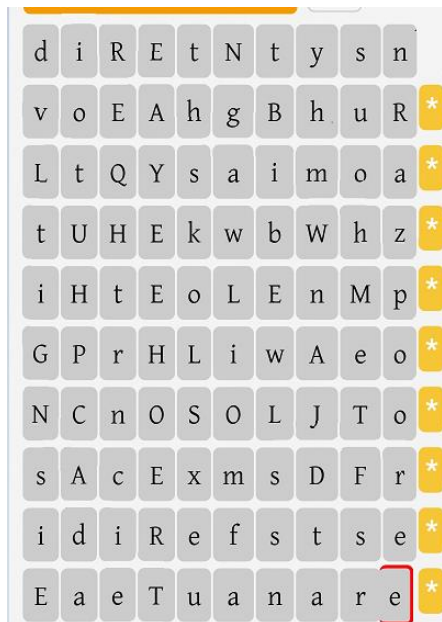
If child:

1. gets the letter wrong, mark wrong and move on
2. says letter name, say the letter sound and move on
3. says 'sijui', say letter and move on.

Agreements made for the case study school assessment (see photo of 'note to assessors' at the end of these notes):

4. Letter sounds should be 'soft'
5. Don't accept 'long' letters, ie that become syllables
6. 3 errors in the paper copies of the prompts were found: I could be a small 'L' or capital 'I', so the sound for the letters L and I were accepted:
 - o English lines 3 (letter 1) and 5 (letters 6)
 - o Kiswahili lines 4 (letter 5) and 7 (letter 8).

See screenshot for English:



Screenshot for Kiswahili:



Early Grade Mathematics Assessment

1. Conduct in English or Kiswahili, depending on how the child is most comfortable
2. Task 1: Number identification
Child needs to say number fully, for example, 713 is 'seven hundred and thirteen', not 'seven thirteen' or 'seven one three'
3. Tasks 2 and 3, Number discrimination (which number is bigger) and Number series:
After some discussion, we agreed that as this exercise is testing the concept of size, the answer would be accepted as correct if the child did not say the full number but identified the correct number eg for the larger number of 452 and 152, the answer 'four five two' or 'four fifty two' would be accepted, as well as four hundred and fifty two.
This was a change from what assessors had been advised in previous assessments, which was that the answer would not be accepted unless the number was stated correctly in full (although in the 'help' tab this is not specified). Assessors interpreted the earlier guidance to reflect a wish to assess what teachers had taught, more than what children understood.

Show the child what is the task for each new stimulus sheet (two for number discrimination, three for number series)

4. Task 4A Timed addition exercise, level 1:
 - a. start the timer when the child gives the answer to the first addition.
 - b. Bring the exercise to a smooth end if the child takes longer than 5 seconds, don't cut them off roughly

5. Tasks 4B and 5B Non timed addition and subtraction exercises, level 2:
 - a. Offer paper and pencil for this exercise only
 - b. If the child is using an inappropriate method (eg toes, tick marks), you can ask 'Is there another way to do that?'

Pupil context interview

1. Ask in Kiswahili, from English prompts, change if struggling to local language.
2. Question 9:
 - 'electricity': children may say no if they have solar energy, not realising it is electricity, so specify 'solar' for electricity
 - Skip other vehicles (lorry, 4x4, engine boat) if children say they don't have a car, or a tractor.

3. Question 9a:
 - Asking about internet connection, need to make sure children understand the difference between an electricity and internet connection, so specify 'bundles'
4. Question 9b: 'Through which device are you connected to the internet?'
 - A skip rule had not been introduced for 9a, 'Do you have an internet connection at home?' if the answer was 'No'. So in answer to question 9b, assessors recorded '4' if the answer to 9a was 'No'.

Statistical tables

Annex 19: Four scales for assessment of KCBC Competencies

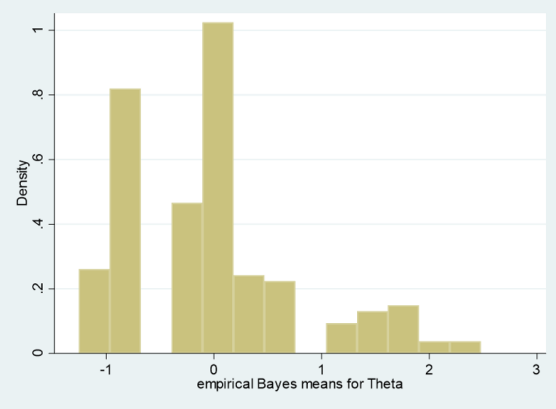
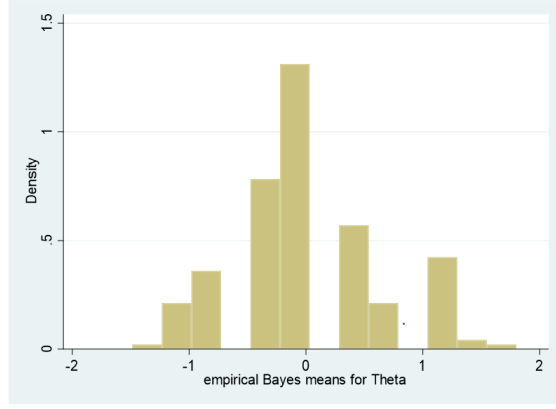
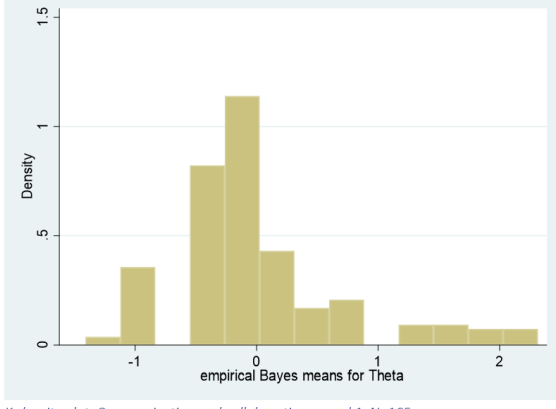
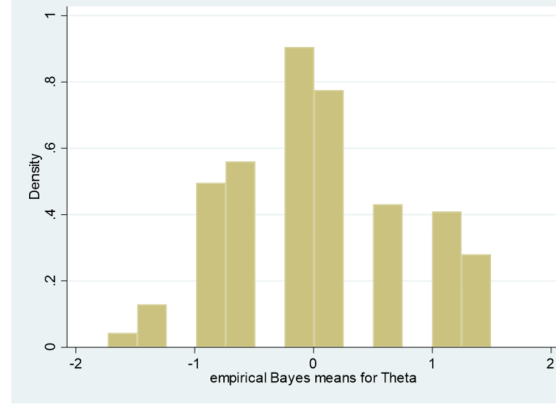
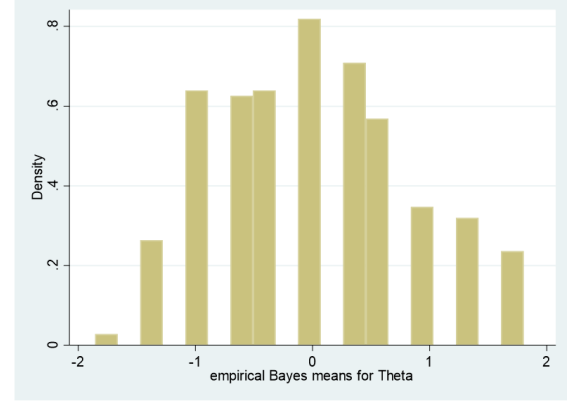
| | Round 1, n=165 | | Round 2, n=187 | |
|---------------------------------------|---------------------|-------------------------------|---------------------|-------------------------------|
| <i>Trait/competency</i> | Eigenvalue factor 1 | Scale reliability coefficient | Eigenvalue factor 1 | Scale reliability coefficient |
| Self-efficacy | 2.00251 | 0.7680 | 2.30565 | 0.8197 |
| Communication and collaboration | 1.33520 | 0.6540 | 1.11513 | 0.5708 |
| Critical thinking and problem solving | 1.00751 | 0.5660 | 1.22865 | 0.5720 |
| Learning to Learn | 1.59130 | 0.7059 | 0.89395 | 0.4966 |

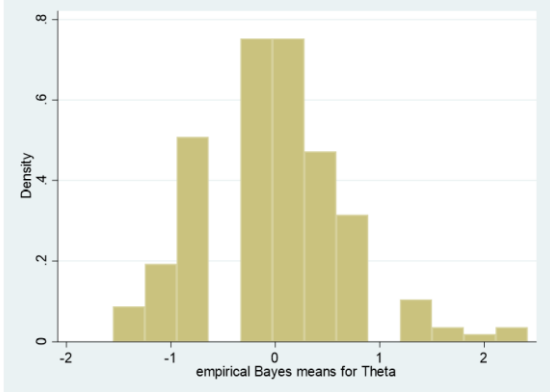
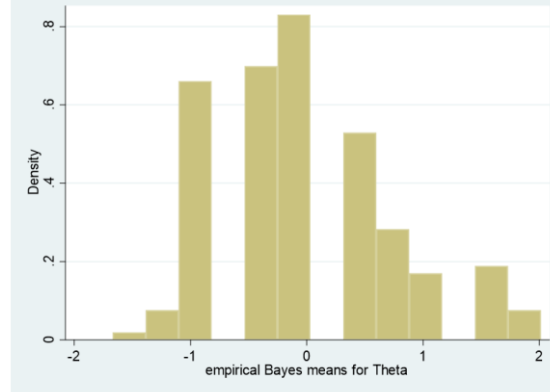
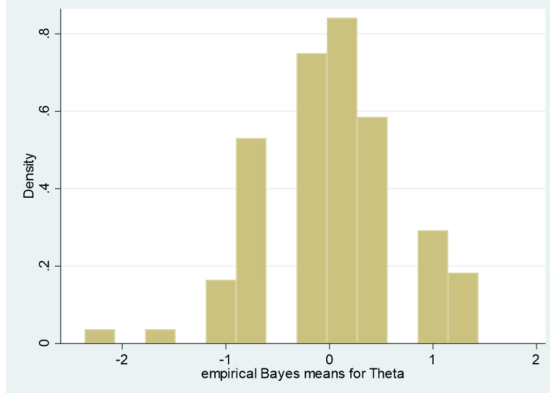
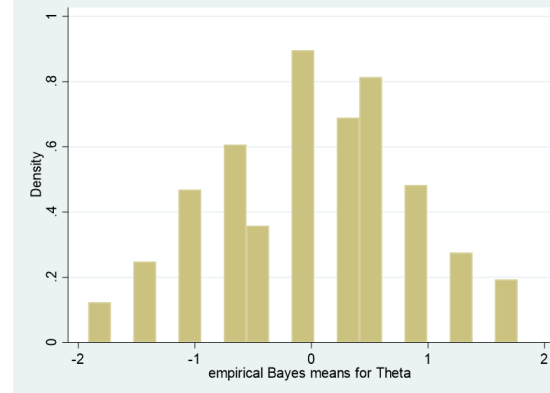
The table shows that the questions for self-efficacy worked together most strongly, with an eigen value¹⁵ of over 2 for both rounds of assessment, and Cronbach's alpha coefficient¹⁶ of between 0.77 and 0.82. The other three scales had eigen values of over or close to 1, and alphas of between 0.5 and over 0.7.

¹⁵ A factor which has an eigenvalue of 1 or more, explains more variance than a single observed variable – or question.

¹⁶ An alpha coefficient of between 0.75 and 1 is sometimes cited as reflecting good reliability (Coolican, 2009, p. 194). However as the calculation depends on the number of items squared, a smaller number of items on a scale reduces the alpha (Field, 2009, p. 675). Each scale in the social and emotional assessment contained only five questions, so an alpha value of 0.5 or above was considered acceptable.

Annex 20: K-density plots for predicted competency scores, rounds 1 and 2

| Column A | Column B | Column C |
|--|--|--|
| Self-efficacy Round 1 | Self-efficacy Round 2 | Self-efficacy Concurrent calibration |
|  <p><i>K-density plot, Self-efficacy round 1. N=165</i></p> |  <p><i>K-density plot, Self-efficacy round 2. N=185</i></p> |  <p><i>K-density plot, Self-efficacy, with concurrent calibration. N=350</i></p> |
| Communication and collaboration Round 1 | Communication and collaboration Round 2 | Communication and collaboration Concurrent calibration |
|  <p><i>K-density plot, Communication and collaboration, round 1. N=165</i></p> |  <p><i>K-density plot, Communication and collaboration, round 2. N=185</i></p> |  <p><i>K-density plot, Communication and collaboration, with concurrent calibration. N=350</i></p> |

| | | |
|---|--|---|
| <p>Critical thinking and problem-solving Round 1</p> | <p>Critical thinking and problem-solving Round 2</p> | <p>Critical thinking and problem-solving Concurrent calibration</p> |
|  <p><i>K-density plot, Critical thinking and problem-solving, round 1. N=165</i></p> |  <p><i>K-density plot, Critical thinking and problem-solving, round 2. N=185</i></p> |  <p><i>K-density plot, Critical thinking and problem-solving, with concurrent calibration. N=350</i></p> |
| <p>Learning to learn Round 1</p> | <p>Learning to learn Round 2</p> | <p>Learning to learn Concurrent calibration</p> |
|  <p><i>K-density plot, Learning to learn, round 1. N=165</i></p> |  <p><i>K-density plot, Learning to learn, round 2. N=185</i></p> |  <p><i>K-density plot, Learning to learn, with concurrent calibration. N=350</i></p> |

Annex 21: Selected Grade 3 pupil characteristics

Ownership of assets at home

n=47

| | Mean | St. Dev |
|-------------------|------|---------|
| Radio | 69% | .48 |
| Mobile phone | 92% | .28 |
| Solar electricity | 55% | .5 |
| Television | 25% | .44 |
| Refrigerator | 2% | .15 |
| Toilet inside | 23% | .43 |
| Bicycle | 42% | .5 |
| Motorcycle | 46% | .46 |

Percentage of main caregivers who know how to read and write

| Caregiver | number | percentage |
|----------------|--------|------------|
| Mother | 24 | 51% |
| Father | 29 | 62% |
| Sister | 14 | 30% |
| Brother | 13 | 28% |
| Grandmother | 2 | 4% |
| Grandfather | 3 | 6% |
| non-relative | 3 | 6% |
| other relative | 8 | 17% |

Distribution of work at home amongst Grade 3 learners, n=47

| n=47 | Girls | | Boys | | Total | |
|-------------------------|--------|------------|--------|------------|--------|------------|
| | Number | Percentage | Number | Percentage | Number | Percentage |
| Taking care of siblings | 12 | 50% | 11 | 48% | 23 | 49% |
| Cooking | 21 | 88% | 5 | 22% | 26 | 55% |
| Working on the farm | 16 | 67% | 21 | 91% | 37 | 79% |
| Fetching firewood | 19 | 79% | 17 | 74% | 36 | 77% |
| Working in the market | 10 | 42% | 15 | 65% | 25 | 53% |
| Other activities | 4 | 17% | 0 | 0% | 4 | 9% |

Annex 22: Most useful questions for assessing the competencies

| | | Round 1 | Round 2 |
|---------------------------------------|--|-----------------------|-----------------------|
| Competency | Question <i>Questions shaded in grey were selected by teachers as priority in closing workshop (see 4.6.5.4)</i> | Factor loading | Factor loading |
| Self-efficacy | 1 Is (child's name) mindful of deadlines that are set and good about meeting them? | 0.7691 | 0.6916 |
| | 2 Does (name) give up easily when tasks or work seem difficult? (corrected for negative scoring) | 0.4265 | 0.6353 |
| | 3 Does (name) often plan his/her tasks well? | 0.6258 | 0.6454 |
| | 4 Is (name) hardworking? | 0.7249 | 0.7156 |
| | 7 If (name) cannot do something, do they try again? | 0.5585 | 0.7036 |
| Communication and collaboration | 5 Is (name) happy to give the first answer to a question in class? | 0.6180 | 0.6331 |
| | 6 Does (name) raise his/her hand before responding to a question in class? | 0.4120 | 0.4459 |
| | 9 If a student does not understand or is struggling to learn, does (name) offer to help the student? | 0.4803 | 0.6111 |
| | 17 Does (name) respond nicely/politely when asked a question? | 0.4779 | 0.3165 |
| | 19 Does (name) respect when others are talking? | 0.5696 | 0.2046 |
| Critical thinking and problem solving | 10 Does (name) exchange his/her ideas with teachers and other children? | 0.4591 | 0.6509 |
| | 11 Does (name) like to ask many questions? | 0.4280 | 0.6523 |
| | 12 Does (name) give unique responses that go beyond those of other children? | 0.4120 | 0.5207 |
| | 15 Does (name) avoid bad company? | 0.5655 | 0.1102 |
| | 16 Is (name) slow and unhurried in deciding what to do next? (corrected for negative scoring) | 0.3521 | 0.3101 |
| Learning to Learn | 8 Is (name) eager to hear and learn from feedback s/he is given? | 0.6012 | 0.1388 |
| | 13 Is (name) calm at school even when disturbed/irritated by others? | 0.6253 | 0.5343 |
| | 14 Is (name) able to stay quiet in class when s/he is asked not to talk? | 0.5862 | 0.3935 |
| | 18 Does (name) follow and fulfil school rules as required? | 0.5560 | 0.5561 |
| | 20 Does (name) easily accept when you correct his/her mistakes or poor behaviour? | 0.4314 | 0.3537 |

The table shows factor loadings¹⁷ for questions of the four scales, based on factor analysis of the results in rounds 1 and 2. A factor loading of 0.4 or over was considered a 'good' question (Salkind, 2010, p. 482). Almost all questions had a factor loading of 0.4 or above, and most had a factor loading of 0.6 or above in at least one round.

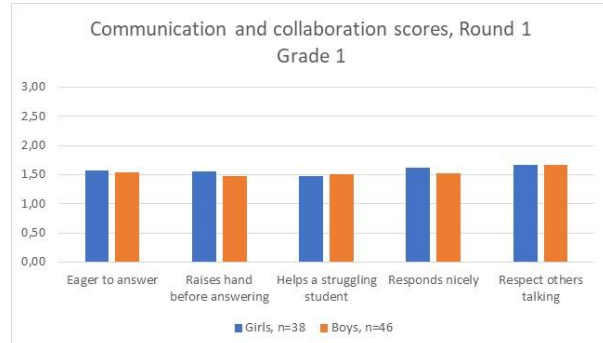
¹⁷ Factor 'loadings' express the relationship of each variable (question) to the underlying factor (competency), showing how much each question contributes to the overall score on the scale. (Field, 2009, pp. 630–631).

Annex 23: Results of Social and Emotional Competency Teacher Rating Scale assessment by grade



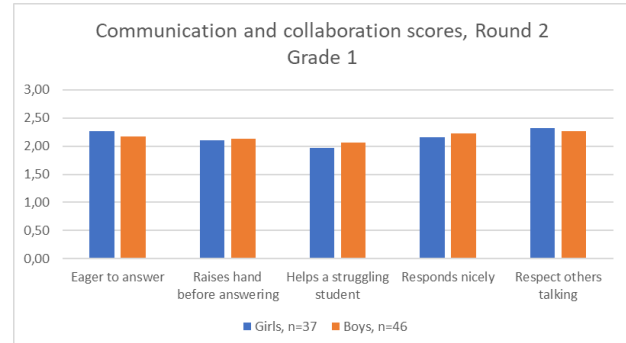
Communication and collaboration

Grade 1, Round 1



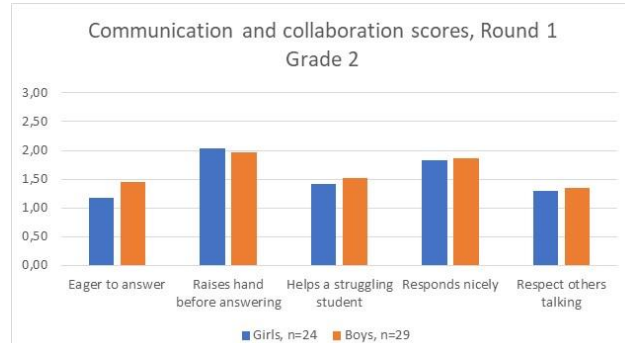
| | Eager to answer | Raises hand before answering | Helps a struggling student | Responds nicely | Respect others talking |
|-------------|-----------------|------------------------------|----------------------------|-----------------|------------------------|
| Girls, n=38 | 1,57 | 1,55 | 1,47 | 1,61 | 1,66 |
| Boys, n=46 | 1,54 | 1,48 | 1,50 | 1,52 | 1,67 |
| Total, n=84 | 1,56 | 1,51 | 1,49 | 1,56 | 1,67 |

Grade 1, Round 2



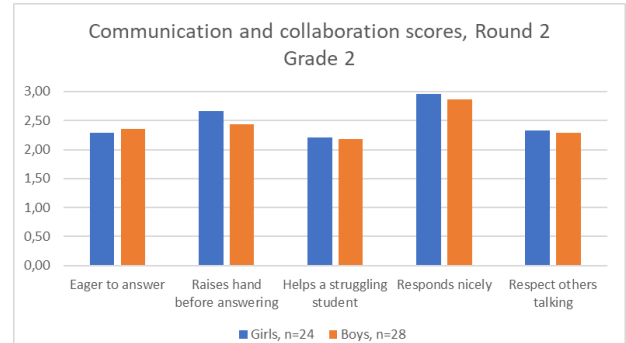
| | Eager to answer | Raises hand before answering | Helps a struggling student | Responds nicely | Respect others talking |
|-------------|-----------------|------------------------------|----------------------------|-----------------|------------------------|
| Girls, n=37 | 2,27 | 2,11 | 1,97 | 2,16 | 2,32 |
| Boys, n=46 | 2,17 | 2,13 | 2,07 | 2,22 | 2,26 |
| Total, n=83 | 2,21 | 2,12 | 2,02 | 2,19 | 2,29 |

Grade 2, Round 1



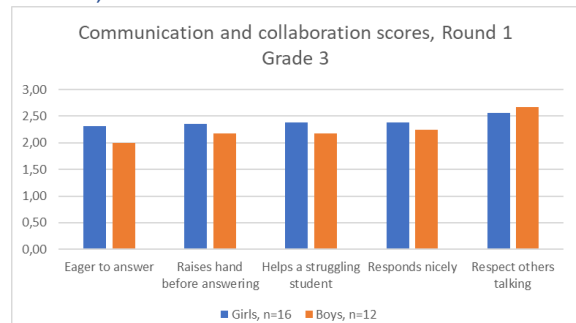
| | Eager to answer | Raises hand before answering | Helps a struggling student | Responds nicely | Respect others talking |
|-------------|-----------------|------------------------------|----------------------------|-----------------|------------------------|
| Girls, n=24 | 1,17 | 2,04 | 1,42 | 1,83 | 1,29 |
| Boys, n=29 | 1,45 | 1,97 | 1,52 | 1,86 | 1,34 |
| Total, n=53 | 1,32 | 2,00 | 1,47 | 1,85 | 1,32 |

Grade 2, Round 2



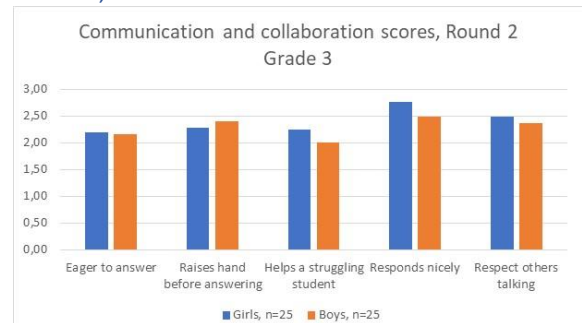
| | Eager to answer | Raises hand before answering | Helps a struggling student | Responds nicely | Respect others talking |
|-------------|-----------------|------------------------------|----------------------------|-----------------|------------------------|
| Girls, n=24 | 2,29 | 2,67 | 2,21 | 2,96 | 2,33 |
| Boys, n=28 | 2,36 | 2,43 | 2,18 | 2,86 | 2,29 |
| Total, n=52 | 2,33 | 2,54 | 2,19 | 2,90 | 2,31 |

Grade 3, Round 1



| | Eager to answer | Raises hand before answering | Helps a struggling student | Responds nicely | Respect others talking |
|-------------|-----------------|------------------------------|----------------------------|-----------------|------------------------|
| Girls, n=16 | 2,31 | 2,36 | 2,38 | 2,38 | 2,56 |
| Boys, n=12 | 2,00 | 2,17 | 2,17 | 2,25 | 2,67 |
| Total, n=28 | 2,18 | 2,86 | 2,85 | 2,32 | 2,61 |

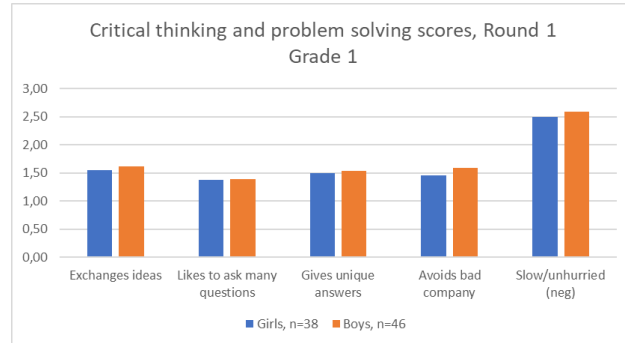
Grade 3, Round 2



| | Eager to answer | Raises hand before answering | Helps a struggling student | Responds nicely | Respect others talking |
|-------------|-----------------|------------------------------|----------------------------|-----------------|------------------------|
| Girls, n=25 | 2,20 | 2,28 | 2,24 | 2,76 | 2,48 |
| Boys, n=25 | 2,16 | 2,40 | 2,00 | 2,48 | 2,36 |
| Total, n=50 | 2,18 | 2,34 | 2,12 | 2,62 | 2,42 |

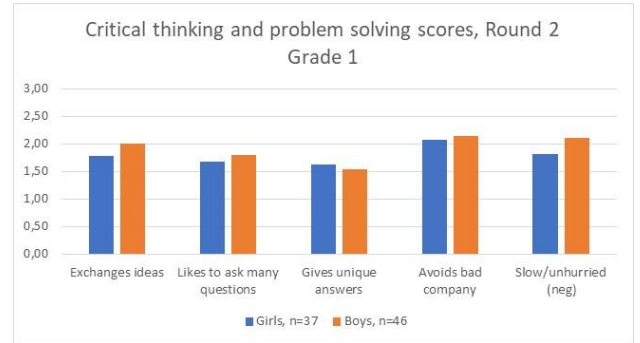
Critical thinking and problem solving

Grade 1, Round 1



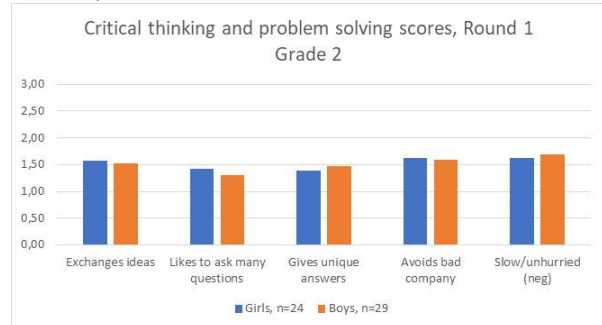
| | Exchanges ideas | Likes to ask many questions | Gives unique answers | Avoids bad company | Slow/unhurried (neg) |
|-------------|-----------------|-----------------------------|----------------------|--------------------|----------------------|
| Girls, n=38 | 1,55 | 1,37 | 1,50 | 1,45 | 2,50 |
| Boys, n=46 | 1,61 | 1,39 | 1,54 | 1,59 | 2,59 |
| Total, n=84 | 1,58 | 1,38 | 1,52 | 1,52 | 2,55 |

Grade 1, Round 2



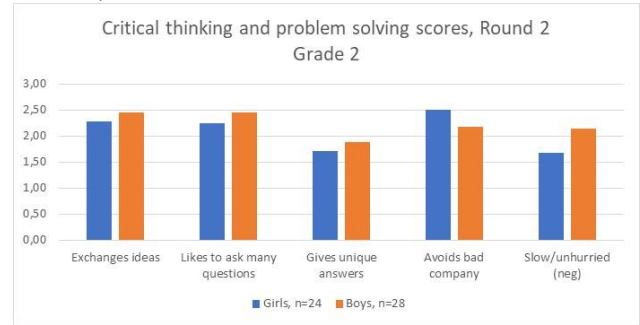
| | Exchanges ideas | Likes to ask many questions | Gives unique answers | Avoids bad company | Slow/unhurried (neg) |
|-------------|-----------------|-----------------------------|----------------------|--------------------|----------------------|
| Girls, n=37 | 1,78 | 1,68 | 1,62 | 2,08 | 1,81 |
| Boys, n=46 | 2,00 | 1,80 | 1,54 | 2,15 | 2,11 |
| Total, n=83 | 1,90 | 1,75 | 1,57 | 2,12 | 1,98 |

Grade 2, Round 1



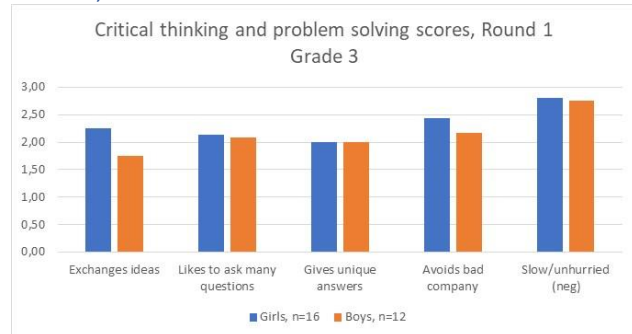
| | Exchanges ideas | Likes to ask many questions | Gives unique answers | Avoids bad company | Slow/unhurried (neg) |
|-------------|-----------------|-----------------------------|----------------------|--------------------|----------------------|
| Girls, n=24 | 1,58 | 1,42 | 1,38 | 1,63 | 1,63 |
| Boys, n=29 | 1,52 | 1,31 | 1,48 | 1,59 | 1,69 |
| Total, n=53 | 1,55 | 1,36 | 1,43 | 1,60 | 1,66 |

Grade 2, Round 2



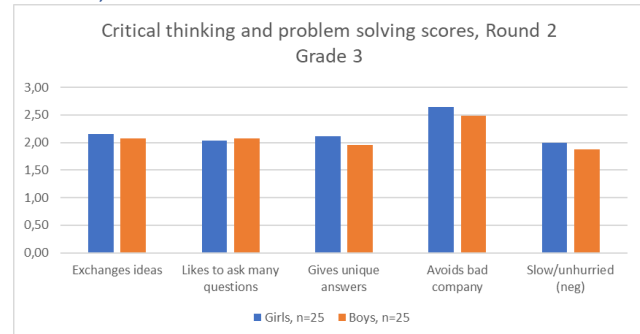
| | Exchanges ideas | Likes to ask many questions | Gives unique answers | Avoids bad company | Slow/unhurried (neg) |
|-------------|-----------------|-----------------------------|----------------------|--------------------|----------------------|
| Girls, n=24 | 2,29 | 2,25 | 1,71 | 2,50 | 1,67 |
| Boys, n=28 | 2,46 | 2,46 | 1,89 | 2,17 | 2,14 |
| Total, n=52 | 2,38 | 2,37 | 1,81 | 2,32 | 1,92 |

Grade 3, Round 1



| | Exchanges ideas | Likes to ask many questions | Gives unique answers | Avoids bad company | Slow/unhurried (neg) |
|-------------|-----------------|-----------------------------|----------------------|--------------------|----------------------|
| Girls, n=16 | 2,25 | 2,13 | 2,00 | 2,44 | 2,81 |
| Boys, n=12 | 1,75 | 2,08 | 2,00 | 2,17 | 2,75 |
| Total, n=28 | 2,03 | 2,11 | 2,00 | 2,32 | 2,79 |

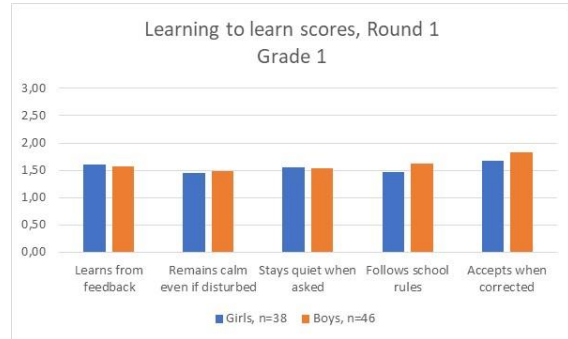
Grade 3, Round 2



| | Exchanges ideas | Likes to ask many questions | Gives unique answers | Avoids bad company | Slow/unhurried (neg) |
|-------------|-----------------|-----------------------------|----------------------|--------------------|----------------------|
| Girls, n=25 | 2,16 | 2,04 | 2,12 | 2,64 | 2,00 |
| Boys, n=25 | 2,08 | 2,08 | 1,96 | 2,48 | 1,88 |
| Total, n=50 | 2,12 | 2,06 | 2,04 | 2,56 | 1,94 |

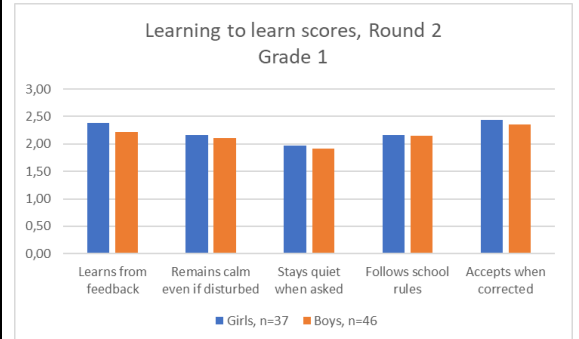
Learning to learn

Grade 1, Round 1



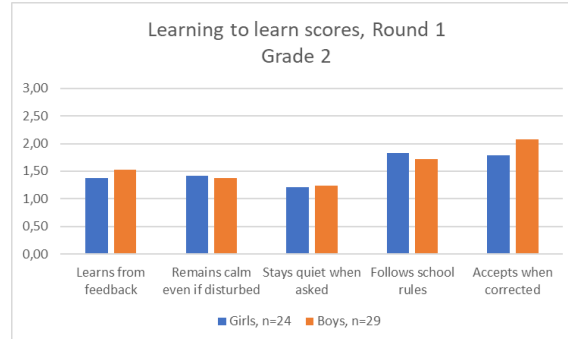
| | Learns from feedback | Remains calm even if disturbed | Stays quiet when asked | Follows school rules | Accepts when corrected |
|--------------------|----------------------|--------------------------------|------------------------|----------------------|------------------------|
| Girls, n=38 | 1,61 | 1,45 | 1,55 | 1,47 | 1,68 |
| Boys, n=46 | 1,57 | 1,48 | 1,54 | 1,63 | 1,83 |
| Total, n=84 | 1,58 | 1,46 | 1,55 | 1,56 | 1,76 |

Grade 1, Round 2



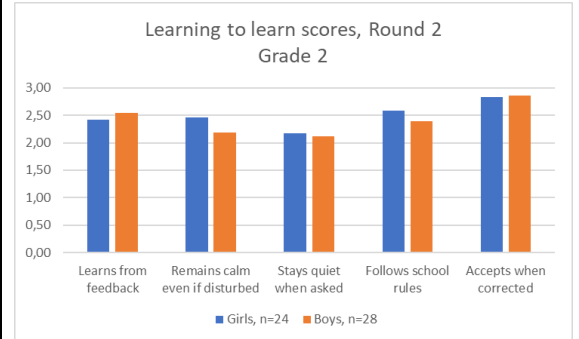
| | Learns from feedback | Remains calm even if disturbed | Stays quiet when asked | Follows school rules | Accepts when corrected |
|--------------------|----------------------|--------------------------------|------------------------|----------------------|------------------------|
| Girls, n=37 | 2,38 | 2,16 | 1,97 | 2,16 | 2,43 |
| Boys, n=46 | 2,22 | 2,11 | 1,92 | 2,15 | 2,35 |
| Total, n=83 | 2,29 | 2,13 | 1,95 | 2,16 | 2,39 |

Grade 2, Round 1



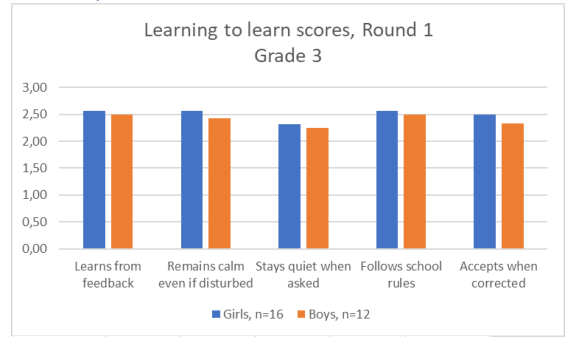
| | Learns from feedback | Remains calm even if disturbed | Stays quiet when asked | Follows school rules | Accepts when corrected |
|--------------------|----------------------|--------------------------------|------------------------|----------------------|------------------------|
| Girls, n=24 | 1,38 | 1,42 | 1,21 | 1,83 | 1,79 |
| Boys, n=29 | 1,52 | 1,38 | 1,24 | 1,72 | 2,07 |
| Total, n=53 | 1,45 | 1,40 | 1,23 | 1,77 | 1,94 |

Grade 2, Round 2



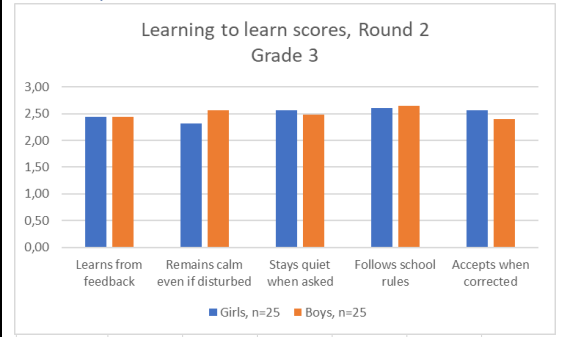
| | Learns from feedback | Remains calm even if disturbed | Stays quiet when asked | Follows school rules | Accepts when corrected |
|--------------------|----------------------|--------------------------------|------------------------|----------------------|------------------------|
| Girls, n=24 | 2,42 | 2,46 | 2,17 | 2,58 | 2,83 |
| Boys, n=28 | 2,54 | 2,18 | 2,12 | 2,39 | 2,86 |
| Total, n=52 | 2,48 | 2,30 | 2,14 | 2,48 | 2,85 |

Grade 3, Round 1



| | Learns from feedback | Remains calm even if disturbed | Stays quiet when asked | Follows school rules | Accepts when corrected |
|--------------------|----------------------|--------------------------------|------------------------|----------------------|------------------------|
| Girls, n=16 | 2,56 | 2,56 | 2,31 | 2,56 | 2,50 |
| Boys, n=12 | 2,50 | 2,42 | 2,25 | 2,50 | 2,33 |
| Total, n=28 | 2,54 | 2,50 | 2,29 | 2,54 | 2,43 |

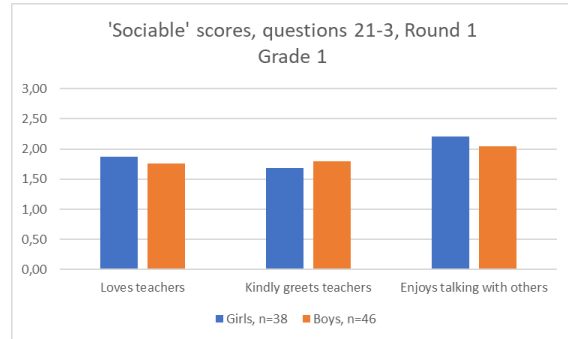
Grade 3, Round 2



| | Learns from feedback | Remains calm even if disturbed | Stays quiet when asked | Follows school rules | Accepts when corrected |
|--------------------|----------------------|--------------------------------|------------------------|----------------------|------------------------|
| Girls, n=25 | 2,44 | 2,32 | 2,56 | 2,60 | 2,56 |
| Boys, n=25 | 2,44 | 2,56 | 2,48 | 2,64 | 2,40 |
| Total, n=50 | 2,44 | 2,44 | 2,52 | 2,62 | 2,48 |

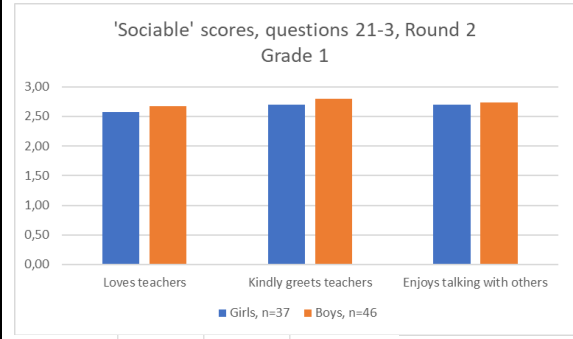
'Sociable'

Grade 1, Round 1



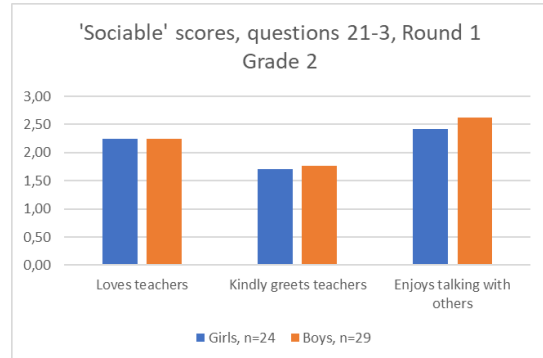
| | Loves teachers | Kindly greets teachers | Enjoys talking with others |
|-------------|----------------|------------------------|----------------------------|
| Girls, n=38 | 1,87 | 1,68 | 2,21 |
| Boys, n=46 | 1,76 | 1,80 | 2,04 |
| Total, n=84 | 1,81 | 1,75 | 2,12 |

Grade 1, Round 2



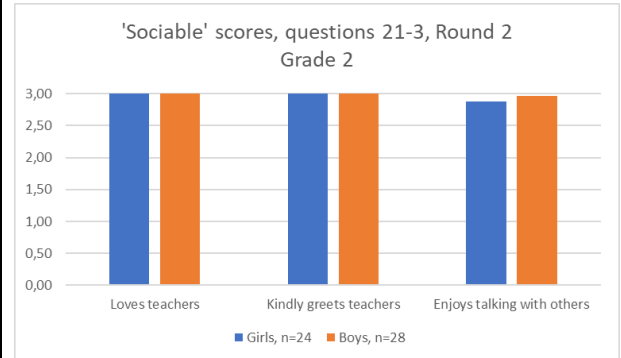
| | Loves teachers | Kindly greets teachers | Enjoys talking with others |
|-------------|----------------|------------------------|----------------------------|
| Girls, n=37 | 2,57 | 2,70 | 2,70 |
| Boys, n=46 | 2,67 | 2,80 | 2,74 |
| Total, n=84 | 2,63 | 2,76 | 2,72 |

Grade 2, Round 1



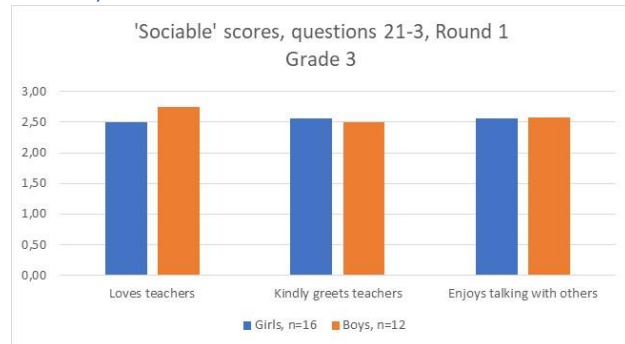
| | Loves teachers | Kindly greets teachers | Enjoys talking with others |
|-------------|----------------|------------------------|----------------------------|
| Girls, n=24 | 2,25 | 1,71 | 2,42 |
| Boys, n=29 | 2,24 | 1,76 | 2,62 |
| Total, n=53 | 2,25 | 1,74 | 2,53 |

Grade 2, Round 2



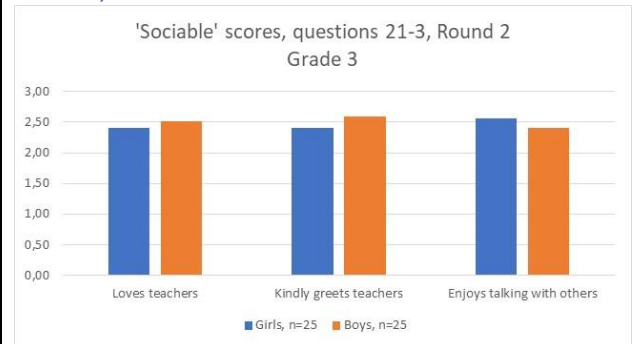
| | Loves teachers | Kindly greets teachers | Enjoys talking with others |
|-------------|----------------|------------------------|----------------------------|
| Girls, n=24 | 3,00 | 3,00 | 2,88 |
| Boys, n=28 | 3,00 | 3,00 | 2,96 |
| Total, n=52 | 3,00 | 3,00 | 2,92 |

Grade 3, Round 1



| | Loves teachers | Kindly greets teachers | Enjoys talking with others |
|-------------|----------------|------------------------|----------------------------|
| Girls, n=16 | 2,50 | 2,56 | 2,56 |
| Boys, n=12 | 2,75 | 2,50 | 2,58 |
| Total, n=28 | 2,61 | 2,53 | 2,57 |

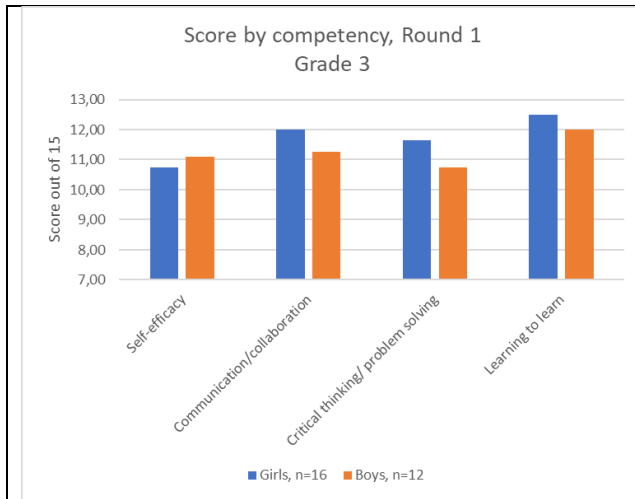
Grade 3, Round 2



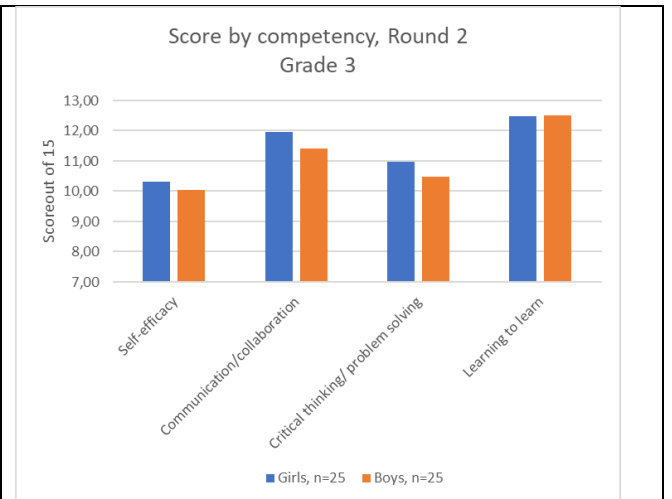
| | Loves teachers | Kindly greets teachers | Enjoys talking with others |
|-------------|----------------|------------------------|----------------------------|
| Girls, n=25 | 2,40 | 2,40 | 2,56 |
| Boys, n=25 | 2,52 | 2,60 | 2,40 |
| Total, n=50 | 2,46 | 2,50 | 2,48 |

Annex 24: Results of Social and Emotional Competency Teacher Rating Scale assessment:
Total by competency

| Totals by competency and by grade | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---------------|--|-----------------------------------|-------------------|--|---------------|-----------------------------|-----------------------------------|-------------------|-------------|-------|-------|-------|-------|------------|-------|-------|-------|-------|--------------------|--------------|--------------|--------------|--------------|
| Grade 1, Round 1 | | Score by competency, Round 1 Grade 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>Self-efficacy</th> <th>Communication/collaboration</th> <th>Critical thinking/problem solving</th> <th>Learning to learn</th> </tr> </thead> <tbody> <tr> <td>Girls, n=38</td> <td>8,21</td> <td>7,86</td> <td>8,37</td> <td>7,76</td> </tr> <tr> <td>Boys, n=46</td> <td>8,26</td> <td>7,71</td> <td>8,72</td> <td>8,05</td> </tr> <tr> <td>Total, n=84</td> <td>8,24</td> <td>7,79</td> <td>8,55</td> <td>7,91</td> </tr> </tbody> </table> | | | | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | Girls, n=38 | 8,21 | 7,86 | 8,37 | 7,76 | Boys, n=46 | 8,26 | 7,71 | 8,72 | 8,05 | Total, n=84 | 8,24 | 7,79 | 8,55 | 7,91 |
| | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | | | | | | | | | | | | | | | | | | | | |
| Girls, n=38 | 8,21 | 7,86 | 8,37 | 7,76 | | | | | | | | | | | | | | | | | | | | |
| Boys, n=46 | 8,26 | 7,71 | 8,72 | 8,05 | | | | | | | | | | | | | | | | | | | | |
| Total, n=84 | 8,24 | 7,79 | 8,55 | 7,91 | | | | | | | | | | | | | | | | | | | | |
| Grade 1, Round 2 | | Score by competency, Round 2 Grade 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>Self-efficacy</th> <th>Communication/collaboration</th> <th>Critical thinking/problem solving</th> <th>Learning to learn</th> </tr> </thead> <tbody> <tr> <td>Girls, n=37</td> <td>10,01</td> <td>10,83</td> <td>8,97</td> <td>11,10</td> </tr> <tr> <td>Boys, n=46</td> <td>10,06</td> <td>10,85</td> <td>9,60</td> <td>10,75</td> </tr> <tr> <td>Total, n=83</td> <td>10,04</td> <td>10,83</td> <td>9,32</td> <td>10,92</td> </tr> </tbody> </table> | | | | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | Girls, n=37 | 10,01 | 10,83 | 8,97 | 11,10 | Boys, n=46 | 10,06 | 10,85 | 9,60 | 10,75 | Total, n=83 | 10,04 | 10,83 | 9,32 | 10,92 |
| | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | | | | | | | | | | | | | | | | | | | | |
| Girls, n=37 | 10,01 | 10,83 | 8,97 | 11,10 | | | | | | | | | | | | | | | | | | | | |
| Boys, n=46 | 10,06 | 10,85 | 9,60 | 10,75 | | | | | | | | | | | | | | | | | | | | |
| Total, n=83 | 10,04 | 10,83 | 9,32 | 10,92 | | | | | | | | | | | | | | | | | | | | |
| Grade 2, Round 1 | | Score by competency, Round 1 Grade 2 | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>Self-efficacy</th> <th>Communication/collaboration</th> <th>Critical thinking/problem solving</th> <th>Learning to learn</th> </tr> </thead> <tbody> <tr> <td>Girls, n=24</td> <td>8,04</td> <td>7,75</td> <td>7,64</td> <td>7,63</td> </tr> <tr> <td>Boys, n=29</td> <td>7,95</td> <td>8,14</td> <td>7,59</td> <td>7,93</td> </tr> <tr> <td>Total, n=53</td> <td>7,94</td> <td>7,96</td> <td>7,60</td> <td>7,79</td> </tr> </tbody> </table> | | | | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | Girls, n=24 | 8,04 | 7,75 | 7,64 | 7,63 | Boys, n=29 | 7,95 | 8,14 | 7,59 | 7,93 | Total, n=53 | 7,94 | 7,96 | 7,60 | 7,79 |
| | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | | | | | | | | | | | | | | | | | | | | |
| Girls, n=24 | 8,04 | 7,75 | 7,64 | 7,63 | | | | | | | | | | | | | | | | | | | | |
| Boys, n=29 | 7,95 | 8,14 | 7,59 | 7,93 | | | | | | | | | | | | | | | | | | | | |
| Total, n=53 | 7,94 | 7,96 | 7,60 | 7,79 | | | | | | | | | | | | | | | | | | | | |
| Grade 2, Round 2 | | Score by competency, Round 2 Grade 2 | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>Self-efficacy</th> <th>Communication/collaboration</th> <th>Critical thinking/problem solving</th> <th>Learning to learn</th> </tr> </thead> <tbody> <tr> <td>Girls, n=24</td> <td>10,79</td> <td>12,46</td> <td>10,42</td> <td>12,46</td> </tr> <tr> <td>Boys, n=28</td> <td>10,93</td> <td>12,12</td> <td>11,12</td> <td>12,09</td> </tr> <tr> <td>Total, n=52</td> <td>11,41</td> <td>12,27</td> <td>10,80</td> <td>12,25</td> </tr> </tbody> </table> | | | | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | Girls, n=24 | 10,79 | 12,46 | 10,42 | 12,46 | Boys, n=28 | 10,93 | 12,12 | 11,12 | 12,09 | Total, n=52 | 11,41 | 12,27 | 10,80 | 12,25 |
| | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn | | | | | | | | | | | | | | | | | | | | |
| Girls, n=24 | 10,79 | 12,46 | 10,42 | 12,46 | | | | | | | | | | | | | | | | | | | | |
| Boys, n=28 | 10,93 | 12,12 | 11,12 | 12,09 | | | | | | | | | | | | | | | | | | | | |
| Total, n=52 | 11,41 | 12,27 | 10,80 | 12,25 | | | | | | | | | | | | | | | | | | | | |
| Grade 3, Round 1 | | Score by competency, Round 1 Grade 3 | | | | | | | | | | | | | | | | | | | | | | |
| Grade 3, Round 2 | | Score by competency, Round 2 Grade 3 | | | | | | | | | | | | | | | | | | | | | | |



| | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn |
|--------------------|---------------|-----------------------------|-----------------------------------|-------------------|
| Girls, n=16 | 10,75 | 11,99 | 11,63 | 12,49 |
| Boys, n=12 | 11,10 | 11,26 | 10,75 | 12,00 |
| Total, n=28 | 10,89 | 12,82 | 11,25 | 12,30 |



| | Self-efficacy | Communication/collaboration | Critical thinking/problem solving | Learning to learn |
|--------------------|---------------|-----------------------------|-----------------------------------|-------------------|
| Girls, n=25 | 10,32 | 11,96 | 10,96 | 12,48 |
| Boys, n=25 | 10,04 | 11,40 | 10,48 | 12,52 |
| Total, n=50 | 10,18 | 11,68 | 10,72 | 12,50 |

Annex 25: Regression of the progress in each competency with each other and gender

The following partial correlation tables show the results when the calculated difference in the IRT between rounds 1 and 2 for each competency (Difference IRT: *competency*), was regressed with the three other competencies and with gender, showing significant correlations in most cases, as reported in [7.2.3](#).

Self-efficacy regressed with the other competencies and gender

Number of observations = 187
Adj R-squared = 0.3660

| Difference IRT self-efficacy | Coefficient | Standard Error | t | p> t |
|---|-------------|----------------|-------|-------|
| Difference IRT comm/collab | .4672183 | .0905618 | 5.16 | 0.000 |
| Difference IRT crit thinking/prob solving | .5865525 | .0993934 | 5.90 | 0.000 |
| Difference IRT learning to learn | -.2089288 | .1203364 | -1.74 | 0.004 |
| Gender | 5.217621 | 16.74379 | 0.31 | 0.756 |
| _cons | 16.30928 | 18.37604 | 0.89 | 0.376 |

Significant correlations were found between self-efficacy and Communication and collaboration ($p < 0.001$), and Critical thinking and problem solving ($p < 0.001$) and Learning to learn ($p < 0.05$).

Communication and collaboration regressed with the other competencies and gender

Number of observations = 187
Adj R-squared = 0.3148

| Difference IRT comm/collaboration | Coefficient | Standard Error | t | p> t |
|---|-------------|----------------|-------|-------|
| Difference IRT self-efficacy | .2730745 | .0529306 | 5.16 | 0.000 |
| Difference IRT crit thinking/prob solving | .0568159 | .0828318 | 0.69 | 0.494 |
| Difference IRT learning to learn | .3041762 | .0899745 | 3.38 | 0.001 |
| Gender | -3.872787 | 12.80092 | -0.30 | 0.763 |
| _cons | 61.66271 | 13.31636 | 4.63 | 0.000 |

Significant correlations were found between Communication and collaboration and self-efficacy ($p < 0.001$), and learning to learn ($p < 0.05$).

Critical thinking and problem solving regressed with the other competencies and gender

Number of observations = 187
Adj R-squared = 0.5467

| Difference IRT crit thinking/prob solving | Coefficient | Standard Error | t | p> t |
|---|-------------|----------------|-------|-------|
| Difference IRT self-efficacy | .2738301 | .0464015 | 5.90 | 0.000 |
| Difference IRT learning to learn | .648769 | .0675253 | 9.61 | 0.000 |
| Difference IRT comm/collaboration | .0453819 | .0661622 | 0.69 | 0.494 |
| Gender | 21.35328 | 11.33345 | 1.88 | 0.061 |
| _cons | -51.05949 | 12.00008 | -4.25 | 0.000 |

Significant correlations were found between Critical thinking and problem solving and Self-efficacy ($p < 0.001$) and Learning to learn ($p < 0.001$).

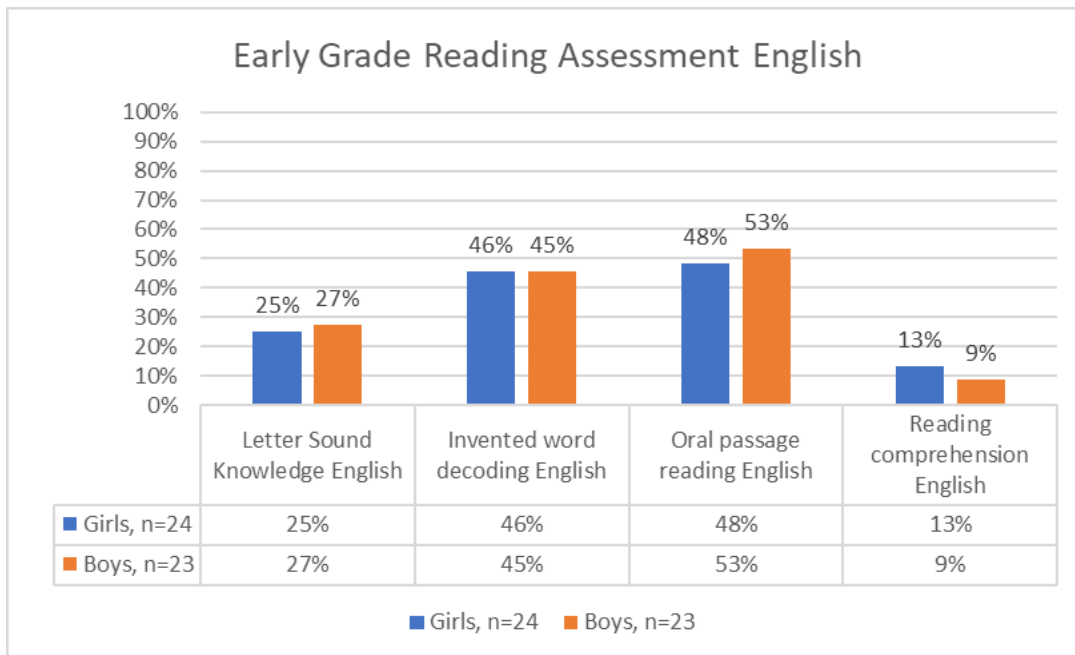
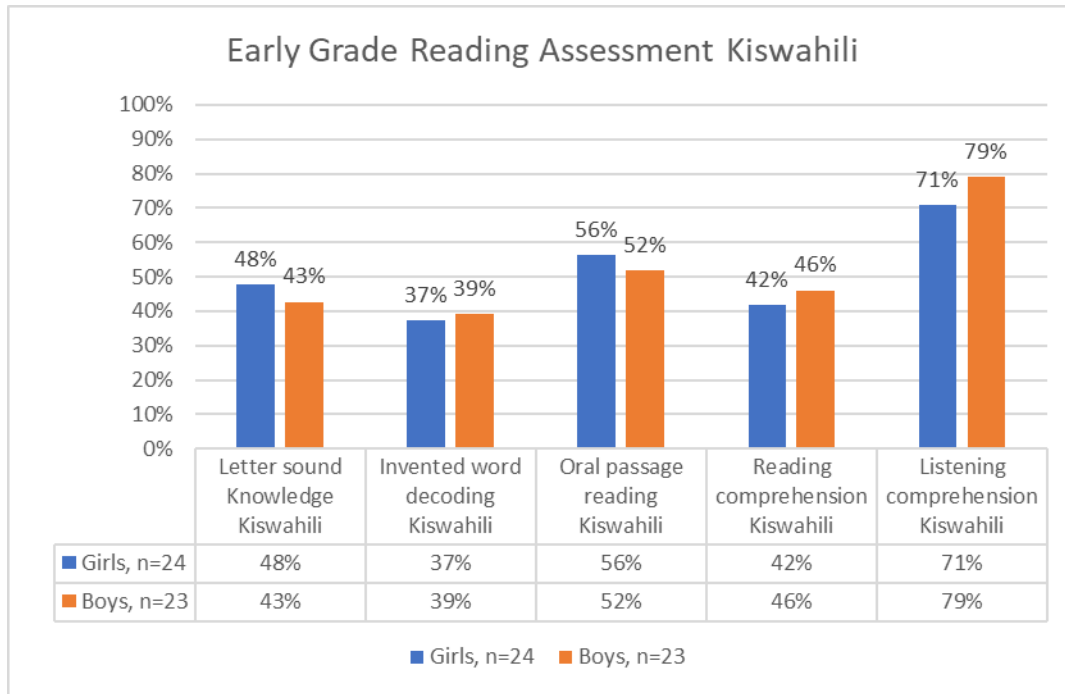
Learning to learn regressed with the other competencies and gender

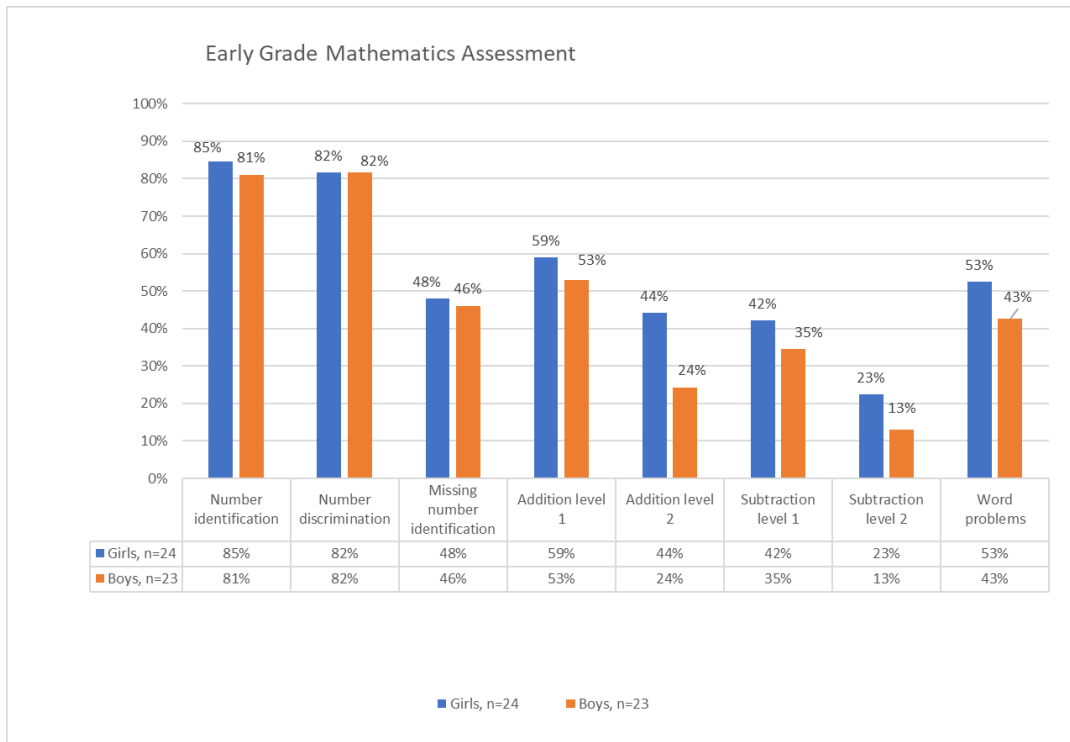
Number of observations = 187
Adj R-squared = 0.4632

| Difference IRT learning to learn | Coefficient | Standard Error | t | p> t |
|---|-------------|----------------|-------|-------|
| Difference IRT self-efficacy | -0.779828 | .0449156 | 0.084 | 0.004 |
| Difference IRT comm/collaboration | .1942514 | .0574591 | 3.38 | 0.001 |
| Difference IRT crit thinking/prob solving | .5186999 | .0539874 | 9.61 | 0.000 |
| Gender | -.18.99999 | 10.13483 | -1.87 | 0.062 |
| _cons | 78.65894 | 9.622294 | 8.17 | 0.000 |

Significant correlations were found between Learning to learn and Self-efficacy ($p < 0.05$), Communication and collaboration ($p < 0.05$) and Critical thinking and problem solving.

Annex 26: Results of Early Grade Reading and Mathematics Assessments, Grade 3





Annex 27: Regressions between Early Grade Reading and Mathematics assessments and four KCBC competencies

The following partial correlation tables show the results of regressions of the results of each of the Early Grade assessments (Kiswahili, English and mathematics) with the calculated difference in the IRT RSM between rounds 1 and 2 for each competency (Difference IRT: *competency*), gender, attendance, and asset index, where significant correlations were found.

EGRA English and Self-efficacy

Number of observations = 47
Adj R-squared = 0.3531

| EGRA English total | Coefficient | Standard Error | t | p> t |
|------------------------------|-------------|----------------|-------|-------|
| Difference IRT self-efficacy | .0743906 | .0140602 | 5.36 | 0.000 |
| Gender | 4.189112 | 4.118834 | 1.02 | 0.315 |
| Attendance | 62.99271 | 26.9655 | 2.34 | 0.024 |
| Asset index | -.7866501 | 1.6116245 | -0.49 | 0.628 |
| _cons | -24.53383 | 26.01328 | -0.94 | 0.351 |

Significant correlations were found between EGRA English results and Self-efficacy ($p < 0.001$) and attendance ($p < 0.05$).

EGRA English and Critical thinking and problem solving

Number of observations = 47
Adj R-squared = 0.3531

| EGRA English total | Coefficient | Standard Error | t | p> t |
|-----------------------------------|-------------|----------------|-------|-------|
| Difference IRT crit thinking/prob | .0532204 | .0225194 | 2.36 | 0.023 |
| Gender | 2.37646 | 5.002315 | 0.48 | 0.637 |
| Attendance | 37.19198 | 32.73505 | 1.14 | 0,262 |
| Asset index | -.2979146 | 1.972384 | -0.15 | 0.881 |
| _cons | -1.087666 | 31.72039 | -0.03 | 0.973 |

Significant correlation was found between EGRA English and Critical thinking and problem solving ($p < 0.05$).

EGRA Kiswahili and Self-efficacy

Number of observations = 47
Adj R-squared = 0.3968

| EGRA Kiswahili total | Coefficient | Standard Error | t | p> t |
|------------------------------|-------------|----------------|-------|-------|
| Difference IRT self-efficacy | .0926292 | .0166524 | 5.56 | 0.000 |
| Gender | 2.991699 | 4.878193 | 0.61 | 0.543 |
| Attendance | 22.612 | 31.93693 | 0.71 | 0.483 |
| Asset index | -2.161949 | 1.908749 | -1.13 | 0.264 |
| _cons | 34.78335 | 30.80916 | 1.13 | 0.265 |

Significant correlation was found between EGRA Kiswahili and Self-efficacy ($p < 0.001$).

EGRA Kiswahili and Communication and collaboration

Number of observations = 47
Adj R-squared = 0.0544

| EGRA Kiswahili total | Coefficient | Standard Error | t | p> t |
|-----------------------------------|-------------|----------------|-------|-------|
| Difference IRT comm/collaboration | 0.0728308 | .0342145 | 2.13 | 0.039 |
| Gender | -.7573783 | 6.047301 | -0.13 | 0.901 |
| Attendance | -11.96673 | 39.95477 | -0.30 | 0.766 |
| Asset index | -1.210699 | 2.422407 | -0.50 | 0.620 |
| _cons | 63.3224 | 39.2788 | 1.61 | 0.114 |

Significant correlation ($p < 0.05$) was found between EGRA Kiswahili and Communication and collaboration.

EGRA Kiswahili and Critical thinking and problem solving

Number of observations = 47
Adj R-squared = 0.0524

| EGRA Kiswahili total | Coefficient | Standard Error | t | p> t |
|-----------------------------------|-------------|----------------|-------|-------|
| Difference IRT crit thinking/prob | .0577272 | .0274146 | 2.11 | 0.041 |
| Gender | .5794281 | 6.089694 | 0.10 | 0.925 |
| Attendance | -13.11234 | 39.85084 | -0.33 | 0.744 |
| Asset index | -1.619322 | 2.401132 | -0.67 | 0.504 |
| _cons | 67.51476 | 38.61561 | 1.75 | 0.088 |

A significant correlation was found between EGRA Kiswahili and Critical thinking and problem solving ($p < 0.05$).

EGMA and Self-efficacy

Number of observations = 47
 Adj R-squared = 0.4497

| EGMA total | Coefficient | Standard Error | t | p> t |
|------------------------------|-------------|----------------|-------|-------|
| Difference IRT self-efficacy | .0664111 | .0119394 | 5.56 | 0.000 |
| Gender | -6.541119 | 3.497543 | -1.87 | 0.068 |
| Attendance | -.0075737 | 22.89799 | -0.00 | 1.000 |
| Asset index | -1.458482 | 1.368525 | -1.07 | 0.293 |
| _cons | 57.94384 | 22.0894 | 2.62 | 0.012 |

A significant correlation was found between EGMA and self-efficacy ($p < 0.001$).

Research Outputs

Annex 28: Early Years Education Lesson plan with suggested inclusion of Action Research Questions in *italics*

The lesson plan below follows the format provided by State Department of Early Learning and Basic Education, Ministry of Education, with a few additions based on learning from the action research project.

SCHOOL _____

Lesson Plan

| LEARNING AREA | GRADE | DATE | TIME | ROLL |
|---------------|-------|------|------|------|
| | | | | |

Strand/Theme/Topic: _____

Sub-strand: _____

Specific learning Outcomes: _____

By the end of the sub-strand, the learner should be able to:

Key enquiry question:

Core competences:

Values:

Action research question:

If I[fill in here the action you plan to take, to support the development of this learning outcome, competency or value],

what effect will it have on.... [fill in here the result you would like to see in the children's progress in developing the learning outcome, competency or value that you will be measuring or evaluating].

For example, 'If I organise group work so that children need to solve a problem together, what effect will it have on their ability to communicate and collaborate with each other?'

If I _____

what effect will it have on _____

Pertinent and Contemporary Issues (PCIs):

Learning Resources

Organisation of Learning

Introduction:

Lesson Development:

| Step | Activity |
|------|----------|
| | |

| | |
|--|--|
| | |
|--|--|

Conclusion:

Summary Statement:

Reflection on the lesson:

*1) Reflective **Description**: What took place? Why do you think things happened as they did?*

Will you continue doing the same things, or will you do something differently?

*2) Reflective **Practice**: How are your actions and the reactions helping you think about what you did before, and how you will change in future?*

*3) Reflective **Knowledge Building**: What are you learning from this process?*

Annex 29: Revised tool: Questions of the Social and Emotional Competency Assessment Tool showing KCBC competency definitions and teacher and parent interpretations

| SELF-EFFICACY | |
|---|---|
| <p>DESCRIPTION IN TEACHERS' GUIDE: Self-efficacy is a person's belief about his or her capabilities to perform tasks or assignments that can change and transform his or her life. It determines how the person feels, thinks, behaves and motivates themselves. Self-efficacy has the potential to determine four major processes, namely cognitive, motivational, affective and selection processes.</p> <p>A strong sense of self-efficacy enhances a learner's accomplishment and personal well-being in many ways. Learners with high assurance in their capabilities approach difficult tasks as challenges to be mastered, rather than as threats to be avoided. Self-efficacy fosters intrinsic interest and deep engrossment in activities. Learners set themselves challenging goals and maintain a strong commitment to them (page xiii).</p> | |
| <p><i>Parent and teacher descriptions:</i></p> <p>Parents emphasised a sense of purpose in life (know what they want and have a plan), and responsibility towards their community, including their parents, making the connection between school and home. Teachers emphasised respect for instructions (homework, chores, school bell), reflecting a similar idea in the school context. In addition, teachers highlighted the importance of speaking out, asking as well as answering questions. They identified with this competency, indicators from the classroom observation tool reflecting a warm relationship with the teacher and other students, including helping another student as appropriate. The ability to consider different view points and come to an independent decision was also associated with this competency.</p> <p>16 of the 23 questions were mapped to self-efficacy. Prioritised questions identified to reflect this competency were consistent with parents' and teachers' descriptions. They cover meeting deadlines, planning tasks, being hardworking, respect for school rules, asking and answering questions, perseverance, 'avoiding bad company', and self-management when annoyed. De-prioritised questions were considered to cover the same areas, apart from 'being slow and</p> | <p><i>Questions selected to reflect Self-efficacy:</i></p> <ol style="list-style-type: none"> 1. Is (child's name) mindful of deadlines that are set and good about meeting them? 2. Does (name) give up easily when tasks or work seem difficult? (recoded to reflect negative question – therefore question assesses perseverance) 3. Does (name) often plan his/her tasks well? 4. Is (name) hardworking? 5. If (name) cannot do something, do they try again? |

| | |
|---|---|
| <p>unhurried in performing a task', which teachers considered to be negative.</p> | |
| <p>COMMUNICATION AND COLLABORATION</p> <p>DESCRIPTION IN TEACHERS' GUIDE: Communication is the act of transferring information from one place to another, whether vocally, visually or non-verbally. Education at each level should endeavour to enhance the learner's acquisition of effective communication skills through which they can interact and express themselves during the learning process.</p> <p>Collaboration is the process of two or more people or organisations working together to realise shared goals. Collaborative learning is a system in which two or more people cooperate in a learning experience to share and contribute to each member's understanding of a topic, and to complete a given task. Collaborative learning is designed to help learners learn from each other and can be an important aspect of the school curriculum (page xii).</p> | |
| <p><i>Parent and teacher descriptions:</i></p> <p>Parents highlighted letting someone know if something is not correct, and facilitating communication by providing a phone. They also said taking children to school meant that they had communicated and collaborated. Collaboration was described as an extension of communication.</p> <p>Teachers emphasised various aspects of good participation, including sharing ideas, working together with others including helping those struggling, and the ability to narrate. Indicators associated with this competency from the classroom observation tools, covered asking/answering questions, effective group work activities (mixed ability, problem solving, interactive), student sensitivity and good discussion/free expression. No abusive language, mockery or discrimination (including gender) in the class, combined with warm atmosphere, students looking happy and interested, and their ability to consider different view points and come to an independent decision were also associated with this competency.</p> <p>15 of the 23 questions were linked to this competency. Prioritised questions associated with this competency can be considered consistent with these descriptions. They covered perseverance,</p> | <p><i>Questions selected to reflect Cooperation and Collaboration:</i></p> <ol style="list-style-type: none"> 1. Is (name) happy to give the first answer to a question in class? 2. Does (name) raise his/her hand before responding to a question in class? 3. If a student does not understand or is struggling to learn, does (name) offer to help the student? 4. Does (name) respond nicely/politely when asked a question? 5. Does (name) respect when others are talking? <p>(Does name love his/her teachers?) (Does (name) kindly greet teachers?) (Does (name) enjoy talking with others?)</p> <p>Questions in brackets were not as discriminating as others (all children scored 2 or 3 in the second round), and were not included in the final statistical analysis of the tool (item response theory rating scale model).</p> |

| | |
|---|--|
| <p>helping another student, exchanging ideas, responding well to feedback, keeping calm even if provoked and responding politely. Other questions related also to asking and answering questions (which teachers considered duplicated sharing ideas), and being polite with teachers.</p> | |
| <p>CRITICAL THINKING AND PROBLEM SOLVING</p> <p>DESCRIPTION IN TEACHERS' GUIDE: Critical thinking and problem solving An important outcome of quality education is teaching learners how to think critically. The British Council (2015) identifies three types of thinking: reasoning, making judgements and problem solving. It is possible for learners to reason in an uncritical way. When learners are empowered with critical thinking, they avoid being subjective, and use logic and evidence to arrive at conclusions. Critical thinking also facilitates exploring new ways of doing things and learner autonomy. Learners learn that for every issue there are multiple perspectives that they can explore, rather than a rigid recall and regurgitation of information. Critical thinking is important for lifelong learning. It helps learners to have an open mind and be ready to listen and appreciate information and opinions that may sometimes conflict with their earlier held beliefs and positions. Critical thinking and problem solving are useful for learners of all ages and in all the subjects and disciplines offered in the basic education curriculum (page xiii).</p> | |
| <p><i>Parent and teacher descriptions:</i></p> <p>Parents associated critical thinking and problem solving with the ability to help someone in trouble, and to think carefully before deciding what to do, to find a solution. Teachers related the competency to finding solutions to class-based problems including maths and spelling, but also, for example, finding an alternative to glue, and being open-minded.</p> <p>As indicators in classroom practice, teachers identified this competency with learners' attentiveness, freedom of expression and dealing with real life situations in problem-solving in class, including outdoor activity. Student participation in a range of activities, including the development of class code of conduct, teamwork and decision-making, was also highlighted, and the need to avoid lecture methods and any form of sarcasm or harshness in the class discourse.</p> <p>12 of the 23 questions were associated with this competency. Prioritised questions covered being hardworking, persevering, respecting deadlines, helping other students, sharing ideas and 'avoiding bad company'. Only three of the questions mapped to this</p> | <p><i>Questions selected to reflect Cooperation and Collaboration:</i></p> <ol style="list-style-type: none"> 1. Does (name) exchange his/her ideas with teachers and other children? 2. Does (name) like to ask many questions? 3. Does (name) give unique responses that go beyond those of other children? 4. Does (name) avoid bad company? 5. Is (name) slow and unhurried in deciding what to do next? (recoded to reflect negative question – therefore question assesses quickness to react) |

| | |
|--|--|
| <p>competency were de-prioritised; they duplicated the prioritised ones, apart from being slow and unhurried, which teachers considered negative</p> | |
| <p>LEARNING TO LEARN</p> <p>DESCRIPTION IN TEACHERS' GUIDE: Learning to learn is the ability to pursue and persist in learning, to organise one's own learning by the effective management of time and information, both individually and in groups. This competence includes awareness of one's learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance. Learning to learn helps learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts. There are four pillars of learning: learning to know, learning to do, learning to be, and learning to live together (page xiv).</p> | |
| <p><i>Parent and teacher descriptions:</i></p> <p>Parents interpreted 'learning to learn' as passing what has been learned in school, outside. Teachers referred to the ability to think critically, and to explain or retell something learnt. Classroom indicators for the competency included the involvement of learners in summarising the lesson objectives, positive student-teacher interactions, including students expressing themselves freely, their sensitivity and empathy for others, open discussion of local context including ethical issues, and respect for a class code of conduct.</p> <p>Prioritised questions associated with this competency covered planning of tasks, perseverance, hard work, acceptance of feedback, helping a struggling student, answering questions politely, following school rules and keeping calm despite provocation. Deprioritised questions covered the same areas, apart from liking to ask many questions, and loving their teachers, which had been dropped as difficult to assess and not useful.</p> | <p><i>Questions selected to reflect Learning to learn:</i></p> <ol style="list-style-type: none"> 1. Is (name) eager to hear and learn from feedback s/he is given? 2. Is (name) calm at school even when disturbed/irritated by others? 3. Is (name) able to stay quiet in class when s/he is asked not to talk? 4. Does (name) follow and fulfil school rules as required? 5. Does (name) easily accept when you correct his/her mistakes or poor behaviour? |

Annex 30: Selection of one competency per question for scale creation

Social and Emotional Competency Assessment Tool:**Draft scale**

Adapted from Tool 7: Social and Emotional Competency Teacher Rating Scale, 19 October 2019
Competencies revised 21 July 2019, Case study school

Key

Italics highlight the competency selected per question

Grey highlights the questions prioritised by teachers, Oct 2019

| A | Column B | Column C | Column D |
|------------------|---|---|--|
| Study tool qn no | Question | Competency Competencies of the Kenya Competency-Based Curriculum have been mapped to the questions | Judgement |
| | RTI trait: Conscientious | | |
| 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? | Critical thinking and problem-solving | In description of self-efficacy, teachers mentioned specifically 'Completes assignments on time eg if given homework they complete it within the time and submit it to the teacher; complete school chores on time'. Basic Education Curriculum Framework (BECF) refers to self-efficacy helping to determine motivational processes, amongst others. |
| 1 | 1a Is (child's name) mindful of deadlines that are set and good about meeting them? | <i>Self-efficacy</i> | |
| 2 | 2a Does (name) give up easily when tasks or work seem difficult? | Critical thinking and problem-solving | Parents mentioned a sense of responsibility, which could be related to perseverance in difficulty. |

| | | | |
|---|---|--|---|
| 2 | 2a Does (name) give up easily when tasks or work seem difficult? | <i>Self-efficacy</i> | BECF includes in the definition of self-efficacy that 'learners with high assurance in their capabilities approach difficult tasks as challenges to be mastered, rather than as threats to be avoided'. |
| 3 | 3a Does (name) often plan his/her tasks well? | Learning to learn | As for question 1 |
| 3 | 3a Does (name) often plan his/her tasks well? | <i>Self-efficacy</i> | |
| 3 | 3a Does (name) often plan his/her tasks well? | Critical thinking and problem-solving | |
| 4 | 4a Is (name) hardworking? | Learning to learn | Teachers referred to motivation of learners reflected for example in 'Responding to a bell ie by running to an assembly ground, running back to class after break time'; parents referred to a sense of responsibility also suggests hard work. BECF describes self-efficacy as fostering 'intrinsic interest and deep engrossment in activities' (page xiii). |
| 4 | 4a Is (name) hardworking? | <i>Self-efficacy</i> | |
| 4 | 4a Is (name) hardworking? | Critical thinking and problem-solving | |
| 5 | 5a Is (name) happy to give the first answer to a question in class? | Self-efficacy | Teachers emphasised participation in class, including sharing ideas. Indicators associated with this competency in the classroom observation tool included asking and answering questions. The BECF defines communication as 'the act of transferring information from one place to another', including vocally, and communications skills as learners' ability to 'express themselves during the learning process' (page xii) |
| 5 | 5a Is (name) happy to give the first answer to a question in class? | <i>Communication and collaboration</i> | |
| 6 | 6a Does (name) raise his/her hand before responding to a question in class? | <i>Communication and collaboration</i> | Taking a positive answer to this question to reflect a learner who respects rules for orderly communication in a group, the justification is as for question 5. This could also reflect 'inhibitory control', a 'simple' executive function/control skill (EASEL, Navigating SEL from the inside out, 2017, page 18) |
| 6 | 6a Does (name) raise his/her hand before responding to a question in class? | Self-efficacy | |
| 7 | 7a If (name) cannot do something, do they try again? | <i>Self-efficacy</i> | As for question 2 |
| 7 | 7a If (name) cannot do something, do they try again? | Learning to learn | |

| | | | |
|----|---|--|---|
| 7 | 7a If (name) cannot do something, do they try again? | Communication and collaboration | |
| 7 | 7a If (name) cannot do something, do they try again? | Critical thinking and problem-solving | |
| 8 | 8a Is (name) eager to hear and learn from feedback s/he is given? | <i>Learning to learn</i> | |
| 8 | 8a Is (name) eager to hear and learn from feedback s/he is given? | Communication and collaboration | |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | <i>Communication and collaboration</i> | For communication and collaboration, teachers included working together with others, including helping those struggling. Student sensitivity and good discussion/free expression was included amongst indicators from the classroom observation tool associated with this competency. The BECF described collaborative learning as a system in which two or more people cooperate in a learning experience to share and contribute to each member's understanding of a topic, and to complete a given task' (page xii). |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Critical thinking and problem-solving | |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Learning to learn | |
| 9 | 9a If a student does not understand or is struggling to learn, does (name) offer to help the student? | Citizenship | |
| | Trait : Curious (Mdadisi) | | |
| 10 | 1a Does (name) exchange his/her ideas with teachers <u>and other children</u> ? | <i>Communication and collaboration</i> | As for question 5. |
| 10 | 1a Does (name) exchange his/her ideas with teachers <u>and other children</u> ? | Critical thinking and problem-solving | |
| 11 | 2a Does (name) like to ask many questions? | Learning to learn | Teachers associated this competency with the ability to find solutions to class-based problems, and being open-minded. Indicators in the classroom observation tool included freedom of expression and dealing with real-life situations in problem-solving in class. Asking questions is integral to all of these processes. The BECF includes critical thinking as including the avoidance of 'rigid recall and regurgitation of information', also implying a questioning approach. |
| 11 | 2a Does (name) like to ask many questions? | Communication and collaboration | |
| 11 | 2a Does (name) like to ask many questions? | Creativity and imagination | |
| 11 | 2a Does (name) like to ask many questions? | Self-efficacy | |

| | | | |
|---|---|--|--|
| 11 | 2a Does (name) like to ask many questions? | <i>Critical thinking and problem-solving</i> | |
| 12 | 3a Does (name) give unique responses that go beyond those of other children? | <i>Critical thinking and problem-solving</i> | As for question 11 |
| 12 | 3a Does (name) give unique responses that go beyond those of other children? | Self-efficacy | |
| Trait/Construct: Obedient (Mtii) | | | |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Self-efficacy | Classroom indicators for this competency included respect for a class code of conduct. The BECF describes learning to learn as the 'ability to pursue and persist in learning, to organise one's own learning by the effective management of time and information, both individually and in groups', which implies self-control and ability to focus out distractions. |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | <i>Learning to learn</i> | |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Communication and collaboration | |
| 13 | 1a Is (name) calm at school even when disturbed/irritated by others? | Critical thinking and problem-solving | |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Self-efficacy | As for question 13. This could reflect 'inhibitory control', a 'simple' executive function/control skill (EASEL report, page 18) |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | <i>Learning to learn</i> | |
| 14 | 2a Is (name) able to stay quiet in class when s/he is asked not to talk? | Communication and collaboration | |
| 15 | 3a Does (name) avoid bad company? | Self-efficacy | Taking the 'avoidance of bad company' to mean responsible decision-making, parents associated critical thinking and problem solving with the ability to help someone in trouble, and to think carefully before deciding what to do. Teachers identified the competency with dealing with real life situations, and classroom observation indicators included decision-making. The BECF emphasises making judgements and problem-solving and learner autonomy |
| 15 | 3a Does (name) avoid bad company? | Citizenship | |
| 15 | 3a Does (name) avoid bad company? | <i>Critical thinking and problem-solving</i> | |
| 16 | 4a Is (name) slow and unhurried in deciding what to do next? (<i>negative?</i>) | <i>Critical thinking and problem-solving</i> | Teachers associated this question with the ability to react quickly and find a solution, so the justification for its |

| | | | |
|----|---|--|---|
| 16 | 4a Is (name) slow and unhurried in deciding what to do next? (<i>negative?</i>) | Self-efficacy | inclusion to reflect this competency is covered by questions 11 and 15. The question implies an approach going beyond school-based activities, and the BECF refers to the importance of this competency for lifelong learning. |
| 17 | 5a Does (name) respond nicely/politely when asked a question? | <i>Communication and collaboration</i> | As for question 6. |
| 17 | 5a Does (name) respond nicely/politely when asked a question? | Learning to learn | |
| 18 | 6a Does (name) follow and fulfil school rules as required? | Self-efficacy | Classroom indicators for this competency included respect for a class code of conduct. The BECF describes learning to learn as the 'ability to pursue and persist in learning, to organise one's own learning by the effective management of time and information. |
| 18 | 6a Does (name) follow and fulfil school rules as required? | Citizenship | |
| 18 | 6a Does (name) follow and fulfil school rules as required? | <i>Learning to learn</i> | |
| 18 | 6a Does (name) follow and fulfil school rules as required? | Communication and collaboration | |
| 19 | 7a Does (name) respect when others are talking? | Learning to learn | As for question 6. |
| 19 | 7a Does (name) respect when others are talking? | <i>Communication and collaboration</i> | |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behaviour? | Self-efficacy | Teachers referred to 'positive student-teacher interactions' in describing this competency. The BECF includes 'awareness of ones's learning process and needs, identifying available opportunities' in its description. |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behaviour? | Communication and collaboration | |
| 20 | 8a Does (name) easily accept when you correct his/her mistakes or poor behaviour? | <i>Learning to learn</i> | |
| | Trait/Construct: Sociable (Mchangamfu) | | |
| 21 | 1a Does name love his/her teachers? | <i>Communication and collaboration</i> | Parents indicated that 'taking children to school meant that they communicated and collaborated', suggesting that they see this skill built by teachers. Teachers referred to good participation, while classroom observation indicators included children looking happy and interested. The BECF refers to learners' ability to 'interact and express themselves during the learning process' |
| 21 | 1a Does name love his/her teachers? | Learning to learn | |

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|----|---|--|--|
| 22 | 2a Does (name) kindly greet teachers? | <i>Communication and collaboration</i> | As for question 21 |
| 22 | 2a Does (name) kindly greet teachers? | Self-efficacy | |
| 22 | 2a Does (name) kindly greet teachers? | Citizenship | |
| 23 | 3a Does (name) enjoy talking with others? | <i>Communication and collaboration</i> | Teachers emphasised participation in class, including sharing ideas. Enjoyment of this skill will be motivational. The BECF defines communication as 'the act of transferring information from one place to another', including vocally, and communications skills as learners' ability to 'express themselves during the learning process' (page xii) |
| 23 | 3a Does (name) enjoy talking with others? | Citizenship | |

Annex 31: Summary of the 'best' questions in the social and emotional competency assessment

| Competency assessed | 'Best' questions: those which explain most variance according to factor analysis |
|---------------------------------------|--|
| Self-efficacy | Keeping to deadlines and working hard, combined with perseverance and the ability to plan work, are the key behaviours. The contribution to building confidence, which contributes to all other competencies, and the connection with study skills and therefore Learning to learn, are worth noting. |
| Communication and collaboration | Being eager to answer questions, raising your hand before speaking and helping another student who is struggling, contribute most to this competency. Responding politely and respecting while others are talking are also included in the scale. The combination of initiative and energy with respect for the group characterise this set of behaviours. |
| Critical thinking and problem solving | Exchanging ideas, liking to ask many questions and giving unique answers are the 'top' questions in this scale. The complementarity with Communication and collaboration is clear. The ability to ask as opposed to answer questions is particularly important, as classroom observation suggests learners have less opportunity to build this skill. Avoiding bad company and reacting quickly are less important in explaining the variance. |
| Learning to learn | Remaining calm even if disturbed and following school rules contribute most explanation for this competency. Learning from and accepting feedback are also assessed in this scale. The combination of self-management and respect for others is again notable, highlighting the connection with Communication and collaboration. |

Research schedule

Annex 32: Relationship of research visits with action research cycles

| Date of Research Visit | Primary purpose of visit/workshop title | Activities with teachers | Action research cycle (Researcher) | Action research step (Researcher) |
|-----------------------------------|---|--|------------------------------------|---|
| <i>Preparation with teachers:</i> | | | | |
| April-May 2018 | Institution Focused Study Workshop: Do our feelings matter? Social and emotional learning and skills in Kenya's Competency Based Curriculum | <ul style="list-style-type: none"> - Interviews with teachers, AKF staff and Education officials - Focus Group Discussions with students (3 groups) and their parents - Workshop to introduce the KCBC and action research, 30 April 2018 | 1 | A complete cycle of: <ul style="list-style-type: none"> - Study and plan - Take action (interviews, observations) - Collect and Analyse Evidence (IFS report) - Reflect |
| October 2018 | Aga Khan Foundation: participation in Values Based Education Module 1 preparation workshop | <ul style="list-style-type: none"> - Brief meeting with teachers (no powerpoint), to update on research progress and plans for the thesis (left some storybooks for lower grades), 22 October 2018 | 2 | <ul style="list-style-type: none"> - Study and plan (with teachers) |
| April 2019 | Workshop: Do our feelings matter? Feedback on last year's research, preparation for Action Research Case study primary School, 24 April 2019 | <ul style="list-style-type: none"> - Preparation for action research based on IFS workshop - Review/adaptation of Social and Emotional Competency Rating Scale | 2 | <ul style="list-style-type: none"> - Study and plan (with teachers) |

| Date of Research Visit | Primary purpose of visit/workshop title | Activities with teachers | Action research cycle (Researcher) | Action research step (Researcher) |
|-------------------------|--|--|------------------------------------|--|
| | Aga Khan Foundation Classroom guide contextualization workshop, 25-6 April 2019 | | | |
| <i>Thesis research:</i> | | | | |
| June 2019 | <p>Research launch visit: Presentation to parents: 'Do our feelings matter? Je, hisia zetu zina athari yoyote?', 13 June 2019'</p> <p>Workshop: Becoming an effective 'competency-based' teacher: Preparing our action research, 17-18 June 2019</p> | <ul style="list-style-type: none"> - Feedback to parents on the IFS research, explanation of thesis research, discussion of meaning of competencies - Further review of Social and Emotional Competency Rating Scale - Developing teacher action research questions - First round interviews - Classroom observation videoing | 2 | <ul style="list-style-type: none"> - Take action (start of teachers' action research) - Collect evidence (interviews, classroom observation videos) |
| July 2019 | <p>Second visit: Workshop: Becoming an effective 'competency-based' teacher: Preparing our action research (part 2)</p> | <ul style="list-style-type: none"> - Review/reinforcement of the development of action research questions - Finalisation of first round of data collection using adapted Social and Emotional Competency Rating Scale | 2 | <ul style="list-style-type: none"> - Take action (reinforce action research planning with teachers) - Collect evidence (assessment of social emotional competencies) |
| October 2019 | <p>Closing visit: Workshop: Becoming an effective</p> | <ul style="list-style-type: none"> - Second round interviews - Classroom observation videoing | 2 Looking towards 3 | <ul style="list-style-type: none"> - Collect evidence (interviews, assessments: |

| Date of Research Visit | Primary purpose of visit/workshop title | Activities with teachers | Action research cycle (Researcher) | Action research step (Researcher) |
|------------------------|---|---|------------------------------------|---|
| | 'competency-based' teacher: Reflecting on our Action Research | <ul style="list-style-type: none"> - Early Grade Reading and Mathematics Assessments (grade 3) - Second round of data collection using adapted Social and Emotional Competency Rating Scale - Review of the action research process, agreement on next steps | | <ul style="list-style-type: none"> literacy, numeracy, social emotional competency) - Reflection with teachers on future actions (a future cycle 3) following analysis and writeup of thesis (analysis and reflection on cycle 2) |

Research questions

Annex 33: Research question and sub-questions mapped with methods and tools

| What is needed better to enable teachers to support and assess their pupils' acquisition of the competencies of Kenya's Competency Based Curriculum? | | | |
|--|---|---------------------------------------|----------------------------|
| Data collection June to October 2019 | | | |
| Research sub-question | Method/Tool | Used by/with whom | Time point |
| 1. Which teaching strategies do teachers find most helpful in supporting learners' social and emotional skills? | 1. WhatsApp group | Teachers | Throughout |
| | 2. Teachers self-reflection diaries | Teachers with researcher | Throughout |
| | 3. Semi-structured interviews | Researcher with teacher/s | June and October 2019 |
| | | Researcher with Education officials | June and October 2019 |
| 4. Qualitatively reviewed videoed classroom observations | Researcher | June and October 2019, and in between | |
| 2. How can teachers engage parents to support the implementation of the CBC? | 1. WhatsApp group | Teachers | Throughout |
| | 2. Teachers self-reflection diaries | Teachers with researcher | Throughout |
| | 3. Semi-structured interviews | Researcher with teacher/s | June and October 2019 |
| Researcher with Education officials | | June and October 2019 | |
| 3. What association, if any, is found between learners' social emotional skills and their literacy and mathematics achievement? | 5. Social and Emotional Learning Assessment | Grade 3 students | June/July and October 2019 |
| | 6. Early Grade Reading Assessment | Grade 3 students | October 2019 |
| | 7. Early Grade Mathematics Assessment | Grade 3 students | October 2019 |

Annex 34: Summary of action research questions developed by teachers

| | 1. Competency on which you are focusing | 2. Specific question or problem | 3. Action research question | 4. Lessons/activities tried during action research, as described in reflective diaries |
|---------|--|--|--|---|
| Grade 1 | Communication and collaboration | Learners to be able to communicate and collaborate during reading, discussion and doing activities for the purpose of fluency and sharing of ideas or experiences. | If I give learners activities that enhance communication and collaboration and build the learners' confidence and expression, what effect will it have on learner's ability to express freely with their peers and as they interact sharing while constructing sentences in English and about what other friends do? | <u>Reflective writing 1</u> , Kiswahili (12 July 2019; 12 minute video clip reviewed): learners answering questions <u>Reflective writing 2</u> , English (29 July 2019): a song to start; letter sounds and names; saying sentences using possessive pronouns, use of real objects; writing of words with guidance from the teacher |
| Grade 3 | Communication and collaboration | They can narrate a story fluently to their peers | If I give learners stories, what effect will it have on learners' ability to narrate the story in their own words, evaluated through oral questioning? | <u>Video clip and photographs</u> , Kiswahili (13 September 2019): story reading in pairs and groups <u>Video clips and photographs</u> , mathematics (5 October 2019): outdoor activity creating |

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| | | | | <p>maps in the earth to practise direction and spatial awareness</p> <p>36 minute video of Kiswahili lesson, 14 October 2019</p> |
| Grade 2 | Critical thinking and problem solving | Learners to be able to critically think and come up with a solution to a problem. Help peers in solving mathematical problems | If I give learners sums that trigger them to critically think and build their confidence, what effect will it have on learners' ability to solve/help peers solve mathematical problems? | <p>Very brief video clips of mathematics lessons reviewed from 14 June (7 minutes) and 19 July 2019 (4 minutes)</p> <p><u>Reflective writing 1</u>, Kiswahili (26 July 2019): learners answering questions to find animal names based on descriptions of them, to encourage active participation and critical thinking</p> <p>(a videoed lesson on the environment was apparently lost)</p> <p><u>Reflective writing 2</u>, Nutrition (6 September 2019): started with relaxation activity; discussion about what learners had eaten the night before; creating balanced meals, the risk of lifestyle diseases, drawing and colouring food on a plate.</p> <p><u>Reflective writing 3</u>, Mathematics – capacity (19 September 2019): learners brought different sized containers from</p> |

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| | | | | <p>home; inter-group competition to fill containers of different sizes; songs and wide participation encouraged.</p> <p><u>Reflective writing 4</u>, Kiswahili (8 October 2019): Discussion of a story about a storm damaging the school; asking learners about where to find help in a similar situation; and how to avoid storm damage. Focus on learners asking questions, and having other students a chance to respond before teacher</p> <p>39 minute video of mathematics lesson, 14 October 2019</p> |
| Grade 1 | Critical thinking and problem solving | <p>Learners to identify, help each other solve problem as they work in pairs/groups.</p> <p>Think critical (deeply) and come up with constructive solutions to their problems.</p> | <p>If I give learners questions that provoke them to critically think, what effect will it have on learners' ability to build confidence in solving their problems with peers in groups or pairs?</p> | <p><u>Reflective writing 3</u>, Mathematics (12 September 2019, 9 minute video clip reviewed): song on waking up in the morning to gain interest; number patterns work on the board; work in pairs/groups; teacher marking individual work; homework</p> <p><u>Reflective writing 4</u>, Mathematics (20 September 2019): number song, subtraction using real objects (balls), pair/group work and feedback given to the teacher, task to complete at home</p> |

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| | | | | <p>Reflective writing 5, Kiswahili (27 September 2019): letter names and sounds, making words from the syllable box, task to complete at home</p> <p>52 minute video of Kiswahili lesson, 14 October 2019</p> |
|--|--|--|--|---|