Double stimulation and transformative agency for leadership development of school learners in Southern Africa

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ABSTRACT

Learners, because of their minor status, are a virtual absence in everyday school leadership work, particularly on the African continent. School leadership, therefore, continues to be misconceived as an adult phenomenon. Framed by Cultural Historical Activity Theory, this paper reports on a Southern African Higher Education study that engages with the Vygotskian principle of 'double stimulation' and its relationship to transformative agency in the context of a school-based learner leadership development initiative. One school change project was purposively selected as the case, and data were drawn from a postgraduate student research report and self-reflective journal. Drawing on the Sannino model of double stimulation, the paper explores the phases of double stimulation as well as instances of transformative agency evident in the data, and speculates about the relationship between double stimulation and transformative agency in the leadership development of learners.

Introduction and problem space

Schools across the globe face tensions between economically driven imperatives to compete for resources and their 'pedagogical mission' (Van Oers 2015) to support younger generations to flourish in society. More often than not, in this conflicted situation, what gets lost is the values-based imperative to promote well-being and personal agency in learners (Van Oers 2015; Grant and Nekondo 2016). In many countries, discourses of performativity, competition, high stakes testing and accountability measures permeate schools and reduce the purpose of schooling to mandatory, fixed curricula (Thorne 2015; Van Oers 2015) and reproductive and receptive forms of learning (Engeström 2016). Schools are thus tightly maintained and controlled (Van Oers 2015) eliminating opportunities for spontaneity, debate, choice, problem solving and decision-making; key components of agency, leadership and democratic participation (Mitra and Gross 2009; Thorne 2015; Grant 2018).

In emerging democracies on the African continent, whilst the principles of access, quality, equality and democracy are enshrined in the respective constitutions and espoused in educational policies, the rhetoric of democratic citizenship, particularly for the youth, far outweighs its implementation in practice. With respect to learners in public schools in South Africa and Namibia, legislation provides for the establishment of the

Representative Council of Learners in all South African high schools (South Africa. Department of Education 1996) and the Learner Representative Council in all Namibian secondary schools (Namibia. Ministry of Education 2001). These learner councils are meant to serve as a platform for learners to participate in leadership and decision-making within their schools.

However, whilst these leadership councils are in place in all public secondary schools in both countries, the concept of 'leadership' continues to be misconceived as an adult phenomenon. Thakaso and Preece explain how the attitudes of adults, such as parents and teachers, often 'work against young people taking leadership or pursuing ideas in which they are interested' (2018, 114). Consequently, children are a virtual absence on the educational leadership research agenda (Mabovula 2009). Furthermore, when the concept of learner leadership is probed, Southern African research is beginning to show that it is frequently conflated with the legislated learner council (Vaino 2018; Kalimbo 2018). In addition, when council members are given responsibility in schools, more often than not they, operate as reproductive agents (Hays 1994) in supervisory (Haipa 2018) and administrative roles (Kalimbo 2018), dealing with learner discipline, maintaining order (Kadhepa-Kandjengo 2018) and ensuring social stability. Seldom viewed as transformative agents (Hays 1994), they are afforded little opportunity for leadership, defined in this paper as the deliberate initiation of social change, and instead operate as mere stooges for teachers, policing school policy on their behalf (Amadhila 2018).

Contexts such as the one described above, where there is little research intervention or experimental set-up (Hopwood and Gottschalk 2017), have been referred to as 'everyday work' or 'work in the wild' (Engeström and Sannino 2010). It is this everyday leadership work in the wild, particularly as it relates to school learners, which provides the problem space for this paper.

Contextual and conceptual frameworks

Framed by Cultural Historical Activity Theory, this paper reports on a Southern African study, 'Learners Lead' that engages with the Vygotskian principle of 'double stimulation' and its relationship to transformative agency in the context of a learner leadership development initiative in a schooling context.

Positioned as an Education Leadership elective within a university postgraduate qualification in South Africa since 2013, 'Learners Lead' is an agentive initiative which requires that the students (practising teachers) intervene in schools to establish after-school learner leadership clubs (Grant and Nekondo 2016). Given the tight maintenance and control of school curricula in the Southern African context, the learner leadership clubs are strategically positioned outside of the formal curriculum so that a different type of learning activity in a non-threatening space can be generated (Grant 2015). Thus, 'Learners Lead' is intentionally transgressive; the clubs are envisioned as participatory and deliberative democratic structures; important for bringing learners together to realise transformative leadership practices through a school change project 'at the co-learning and co-engaged knowledge co-production interface' (Lotz-Sisitka et al. 2015, 73; see also Nuttall, this issue). Envisaged as 'microcosms of the community' (Engeström 2015), they are aspirational, future-focused spaces, full of potential, where club learners can begin to 'speak back' (Smyth 2006) on matters they consider important. It is here, in these spaces of

potential, this paper argues, that double stimulation has purchase. Three research questions guided this study:

(1) What mediating artefacts (tools and signs) are used in working on problems in the 'Learners Lead' case, how are they used and to what purpose?
(2) Drawing on the Sannino model of double stimulation (2015a), what phases of double stimulation are evident in the data and how useful is such an analysis?
(3) How does transformative agency manifest itself in the data and what can we learn about the relationship between double stimulation and transformative agency in the leadership development of learners?

The following activity theoretical concepts contributed to the theoretical framing this study.

Formative intervention

Formative intervention research, in the tradition of cultural historical activity theory, is defined as 'a purposeful action by a human agent to support the redirection of ongoing change' (Virkkunen and Newnham 2013, 3). Researchers working within this tradition are provided with 'guidance and analytical tools for observing the relationships between transformative learning and transformative agency' (Lotz-Sisitka et al. 2017, 3). A formative intervention, such as 'Learners Lead', is built on a dialectical ontology of developing systems which integrate properties, relationships and movements (Virkkunen and Newnham 2013) and is driven by the resolution of historically formed contradictions in the system. The voluntary involvement of *subjects* (the learner collective in 'Learners Lead') is therefore central to the design and content of a formative intervention and it is this collective that collaborates to understand and resolve contradictions, and, thereafter, construct an innovative solution or concept (Sannino, Engeström, and Lemos 2016). For the purpose of this paper, it is the learner collective whose position and point of view are chosen as the perspective of the analysis. *Object* in activity theoretical terms refers to 'the "raw material" or "problem space" at which the activity is directed' (Engeström and Sannino 2010, 6); in this study, learner leadership in a school. Engeström and Sannino (2010) explain how the object carries inherent ambiguity and is turned into *outcomes* with the help of *instruments* (tools and signs) in a system informed by *rules* and a *division of labour*, and in relation to *community members* who share the same general object. A formative intervention is therefore different from a linear intervention because 'what is generated actually takes shape in the intervention' (Ploettner and Tresseras 2016, 90); predetermined end results are not the focus.

Double stimulation

The Vygotskian principle of 'double stimulation' is a foundational epistemological principle for activity theoretical interventionist research and a key conceptual resource for studying the emergence of agency (Sannino 2011). Double stimulation refers to the process where subjects draw on stimuli to deliberately and intentionally transform a meaningless, conflictual or problem situation which faces them (Engeström and Sannino 2010). Sannino refers to it as 'a process of reframing or

reconceptualising the problem situation' (2015b, 2). Double stimulation, Sannino (2015a) argues, is both a method and a principle of volitional action comprising conflictual aspects, in particular a key component of conflicts of motives. As a method, double stimulation serves to make visible internal and unobservable psychological processes (3) by observing how subjects develop and use cultural artefacts in the form of signs and conceptual tools, to resolve conflicted situations (Hopwood and Gottschalk 2017, 2; Hopwood and Gottschalk, this issue; Sannino, this issue) where people are torn between one course of action and another. Tool making can emerge as individuals face constraints and use the available resources in order to survive (Sannino 2011). Through the effective use of tools and signs, individuals, because of their volition, can transform their actions and change their given circumstances.

The first stimulus is usually the meaningless task, problem situation, or a contradiction which causes a paralysing conflict of motives (Thorne 2015). To cope, a second stimulus in the form of an external artefact is introduced and serves the function of a meaningful sign (Sannino, Engeström, and Lemos 2016). With the help of this second stimulus, subjects are likely to increase their control over the object, make more sense of it and ultimately transform it into something more meaningful (Sannino 2011). For Thorne, second stimulus artefacts assist in a variety of ways, including 'helping to organise behaviour, to objectify and rend visible relevant information, to support remembering, and to enable a participant or a group to conceptually reinterpret a situation in a new and potentially expansive way' (2015, 63). Double stimulation therefore, as Engeström (2015, 2016) argues, is a mechanism of building agency and will.

This paper engages particularly with Sannino's model of double stimulation (2015a; Sannino and Laitinen 2015; see also Sannino, this issue), a model derived from her meticulous reading and analysis of Vygotsky's work. Central to the model, and separating it from a general understanding of mediation, is the concept of a 'conflict of motives'. The model focuses on the use of auxiliary stimuli as the basis of volitional processes of complex choice by exploring decision making and decision implementing (Hopwood and Gottschalk 2017).

The model of double stimulation consists of two apparatuses, a decision-forming apparatus and a decision-implementing apparatus. The decision-forming apparatus consists of the formation of a decision to act in a certain way by means of an auxiliary motive (Sannino 2015a) and it embraces four phases; i) Conflict of stimuli, ii) Conflict of motives, iii) Conversion of one stimulus into an auxiliary motive, iv a) 'Real conflict of stimuli and iv b) Closure of conditioned connection. The decision-implementing apparatus involves the activation of the conditioned connection; i.e. implementing the decision formed in Apparatus 1 (Sannino and Laitinen 2015).

Conflict of stimuli refers to a clash between stimuli when new demands or expectations are experienced by the subject. Conflict of motives denotes 'a clash between opposite aspirations or tendencies which occur in situations involving uncertainty about the situation in which one is or about one's own conduct, and requiring the courage of deliberate choice' (Sannino 2015a, 8). Conflicts encompass different degrees of explicitness and tension and they are resolved through volitional action or will (Thorne 2015, 63). Phase three, the most important phase of the decision-making apparatus (Apparatus 1), involves change in the functional role of a stimulus and its conversion into an auxiliary

motive, an original strategic initiative to master our own lives (Sannino 2015a, footnote). We are confronted with 'a signal and a connection with it' (Sannino and Laitinen 2015, 7). Phase four is the closure of the conditioned connection between 'a concretely occurring external and unmediated stimulus and the decided reaction' (Sannino 2015a, 11).

Hopwood and Gottschalk (2017) usefully explain that the model not only acknowledges features arising from within the intervention itself (Channel intervention) or what Sannino and Laitinen (2015) refer to as 'Channel of the experiment'. It also acknowledges features from beyond the intervention (Channel wider life), or what Sannino and Laitinen (2015) refer to as 'channel of the activity'.

Artefacts

Artefacts are simultaneously ideal (conceptual) and material. Cole writes that 'they are ideal in that their material form has been shaped by their participation in the interactions of which they were previously a part and which they mediated in the present' (in Vossoughi 2014, 354). Hopwood and Gottschalk explain that conceptual tools are 'ideas that change our understanding of a problem and our responses to it' (2017, 2). Drawing on the work of Vygotsky, Leadbetter (2004) makes the distinction between a psychological tool and a material or technical tool. For her, a technical tool is directed towards producing one or other set of changes in the object itself whilst a psychological tool directs the mind and behaviour. Puonti (2004) uses the term tangible artefacts to refer to external representations of thoughts, which are required, she argues, when there is no shared understanding or common knowledge. Puonti further makes mention of cognitive and communicative artefacts, 'devices that manipulate information, knowledge and thoughts, and that are used collaboratively' (2004, 134).

Puonti (2004) makes the useful distinction between vertical and horizontal tools, with vertical tools being typically prescriptive and used in hierarchies in contrast to horizontal tools which are communicative and negotiable and more typical for networks. The strength of vertical tools, she argues, is that they are 'stable and easily transferable, and work in a uniform way everywhere' … [but] 'they are not open to local revision' (2004, 138). Consequently, locally constructed tools, which are flexible, unique and open to revision, are often created by the participants in the network for a specific local situation or purpose (Puonti 2004). Her argument is that a good tool is 'sensitive enough to adapt to local settings, and robust enough to be transferable to other contexts' (2004, 133).

Volitional action and transformative agency

Volition,[1] as understood in activity theory, refers to the human ability to deliberately influence mental processes, behaviour and external circumstances (Sannino 2015a, 3). Volitional action involves 'creating a new situation by changing the psychological field, producing new meaning in a task at hand' (Hopwood and Gottschalk 2017, 3). Volitional action, i.e. taking control of one's own behaviour regarding complex life choices, is always mediated and accomplished through certain auxiliary stimuli such as signs and words (Sannino 2015; Hopwood and Gottschalk 2017, 2–3). It always involves obstacles; if an action is carried out without obstacles and a struggle of opposing forces, it cannot be

volitional (Sannino and Laitinen 2015, 8). Duality is at the very foundation of the volitional act.

Whilst volitional action is a wilful response to an immediate conflicted situation, transformative agency is expressed in a sequence of actions that deliberately address the circumstances in which the conflicts arise and consequently have a more lasting future orientation (Hopwood and Gottschalk 2017). Thus, clusters of volitional actions which break away from entrenched restrictive frames and concretely contribute to the changing of specific circumstances constitute transformative agency. These volitional actions always involve questioning and searching for new possibilities (Sannino 2015b, 1). They inevitably start with individual initiatives and then expand towards collective endeavours. The notion of experimentation becomes crucial for understanding transformative agency (Miettinen, Paavola, and Pohjola 2012). Here the teacher or experimenter is actively trying to attain the goal of the subjects' learning a new task (Sannino 2015a, 4).

However, observing volitional action and the emergence of agency is not easy (Lotz-Sisitka et al. 2017, 6). In change laboratory interventions, Haapasaari and Kerosuo (2015, 39) explain, 'transformative agency is realised through agentive actions that evolve from resistance and criticism towards consequential change actions.' Drawing on two sources, Haapasaari and Kerosuo (2015) identify six basic types of agentive action. Useful in an analysis of transformative agency, these types are: i) resisting the management or the interventionist, ii) criticising the current activity and highlighting the need for change, iii) explicating new possibilities or potentials in the activity, iv) envisioning new patterns or models of the activity, v) committing to specific actions aimed at change the activity, and vi) taking the consequential actions needed to change the activity.

Methods of data collection and analysis

This paper draws on 'Learners Lead' for its data. From 2013–2018, 95 school change projects were documented in student authored research reports. Subsequent in-progress work involves an expansive learning analysis of these 95 school change projects.

This paper takes as its case one school change project in the wild of 'Learners Lead', the case being illustrative of conceptual findings that surfaced frequently in the data. By focusing on one project, the intention, as with the Vossoughi study (2014), was to gain a more situated, emic understanding of the possibility of leadership development in learners. Sannino's (2015a) model of double stimulation is then tested 'in the wild', with 'Learners Lead' providing a context for 'experimenting with the possible in order to stretch the ways we imagine, organise, and study learning' (Vossoughi 2014, 257). Central to this analysis is 'how people interpret circumstances, reframe a problem, make decisions, and act on those decisions' (Hopwood and Gottschalk 2017, 3).

In determining which school change project would be drawn on for its empirical data, all research reports (23) submitted by students in the ELM elective for the 2016 year of study were read and instances of tool appropriation, tool making, as well as the usage of signs in each of the reports were ascertained. One illustrative case (Research Report 8, 2016) was then selected, based on the robustness of its discussion of these processes, rather than on its representativeness (Puonti 2004). The research

report and self-reflective journal of the postgraduate student provided the documentary data.

Data analysis involved determining the manifestation of the features of the Sannino double stimulation model in the empirical data. However, this was not a straightforward process and, like Hopwood and Gottschalk (2017), I was concerned not to confuse the many general instances of mediation, replete in the data, with more specific cases of double stimulation (those involving the features of conflict of motives and volitional action). To identify the specific instances of double stimulation, I drew on Hopwood and Gottschalk (2017) analytical framework and first searched for evidence of motive and volition as they related to tools and signs, and second, mapped the identified instances of potential double simulation onto the Sannino model.

Both phases were analytically challenging. The first phase involved moves within and across the data sets in a bid to infer meaning where it was not explicit. The second phase necessitated finding some alignment between the messy, fragmented and partial empirical data and the Sannino model with its conceptual clarity. This proved hugely challenging and required repeated rounds of analysis in an iterative process between the data sets and the model. I was often left thinking, rather ironically, that I was searching for data which 'was not yet there'. This was likely because of; i) the design of 'Learners Lead' as an evolving 10-month formative intervention in the wild (with its complex yet rich intrusion of channel life activities) rather than a controlled experiment, ii) working with reported data (the research report and journal) rather than the actual data available to the postgraduate student; iii) that observational data was not a systematic data collection strategy with the postgraduate student relying also on a learner questionnaire (distributed during the implementation phase of the school change project); three focus group interviews, one with a small group of teachers and two with smaller groups of club learners; learner reflections; as well as textual and visual material. Tools were piloted prior to use. As a direct consequence, what follows is a necessarily partial account of the double stimulation instances in this one 'Learners Lead' case.

Once the instances of double stimulation were identified and aligned to the Sannino model, a third phase of analysis ensued. This final phase involved a Channel intervention/ Channel wider life analysis, followed by an examination of the discrete instances of transformative agency, drawing on Haapasaari and Kerosuo (2015) six basic types of agentive actions.

The findings are presented next. For ease of referencing, the following codes are used; Research Report (RR) and Journal (J).[2]

Presentation of findings

Work in the wild: the site, the leadership club and learner selection

The site of this case was a rural combined school (with classes from pre-grade to grade 10) located in the northern part of Namibia. This state school is poorly resourced with no hostel facilities for its learners, a number of whom are orphaned and vulnerable. Subsistence farming is the dominant form of employment in the area, although many parents and guardians are unemployed (RR). At the time of this study, the school had an

enrolment of 668 learners, with a teaching staff of 27 and a support staff of four. The postgraduate student, the researcher-interventionist, was the principal of this school.

The after-school learner leadership club established at this school initially consisted of 20 learners from grades six to ten (J). Participation was voluntarily, perhaps contributing to an early dropout rate in the intervention (J), with the number settling at a total 14 club learners for the remainder of the year (J). The researcher-interventionist speculates about the possible reasons for this in his reflective journal;

> I think this is too much for learners in grade 10 because they are only taught for six complete months before they sit for their final examination. I think next time I would plan to exclude them or only keep them for the first term to allow them to have more time with their books (J).

> Most of the dropouts were boys. I cannot provide accurate reasons why boys were dropping out more than girls. I suspect that boys were going to play soccer or maybe to look after livestock after school. Or maybe they lost interest and therefore do not share the same vision [of the learner leadership club] any longer and decided to drop out (J).

At this early stage in the intervention, it can already be seen from both reflections that Channel wider life activities were superseding the Channel intervention activities, leading to learner withdrawal from the club (Resisting). However, despite the initial uneven participation of club members, there was evidence to suggest that activities of the club continued. What follows next are four central conflicts identified in the data, experienced by the learner leaders as the intervention progressed. The conflicts are presented in the sequence in which they played out over the 10 months of the ELM elective. The instances of double stimulation are analysed according to the Sannino (2015a) model. Artefacts, in the form of conceptual and material tools as well as signs, are also presented. These artefacts have their genesis either in contributions from the curriculum experiment, the postgraduate student or the club learners.

Central conflict 1: learner voice and the lack of confidence in addressing adults

One of the central conflicts the club learners in this school faced, in line with the learner leadership literature presented earlier, was their fear of speaking in the presence of adults, particularly those occupying positions of authority. These club learners therefore experienced conflict, exacerbated as their researcher-interventionist was also their school principal.

Conflict of stimuli: The club was established to develop learner voice and leadership but a school culture existed which privileged the adult voice in leadership practices. In the survey done with all postgraduate students prior to embarking on the ELM elective, the researcher-interventionist wrote that the main players in the field of ELM were 'academics, politicians, consultants and educational officials' (J). He also wrote that 'in my culture there is a belief that leaders are born, not made' (J). A club learner, responding to a question about the challenges of being a member of the leadership club, wrote 'to direct big people' (J). In the presence of these 'big people', learners, from a very young age, are conditioned to be silent.

Conflict of motives: The motive to speak versus the motive to remain silent.

'Sometimes I have ideas that I want to give to the teachers but I am afraid to inform the teachers' (J). Self-doubt: 'I always think that people will not support my ideas' (RR). In these

excerpts we see learners facing a conflict of motives; they have ideas which they would like to share with significant adults but are paralysed by fear to do so. At this point they are unable to draw on a stimulus to assist them to move forward. They are in a state of paralysis (Sannino 2015a).

Auxiliary motive: Potential second stimuli are introduced by the researcher-interventionist. First, using his positional authority, he drew on his voice as a psychological tool (Leadbetter 2004) to encourage learners to speak without fear during club meetings. He explained the purpose of the club as 'creating an interactive platform which will allow members of the club to influence the actions of other learners who are not members' (J). Second, he introduced and executed an induction programme with his learners (J), a technical tool (Leadbetter 2004), intended to produce a set of changes in the current conceptualisation of the object. As a tangible artefact (Puonti 2004), the induction programme was an external representation of thoughts about learner leadership, required because there was no current shared understanding of the object.

Conversion to an auxiliary motive around ostensible commitment to the new ways of working, using mimicry; 'The first time I got in the leadership club I was not free to speak to the principal but after he told us not to be scared of him then from there I was free' (sic). (RR).

Closure: Learners resisted 'authentic' speaking through the use of mimicry in their interactions with the researcher-interventionist. They held to their previously held customary beliefs about adult-child relationships (Resisting) and remain reproductive agents (Hays 1994). The researcher-interventionist reflected on this outcome; 'Difficult for the principals because your authority seems to dictate on its own' (J).

Central conflict 2: finding out what matters to learners

Learners were not only intimidated when speaking to adults, they were also apprehensive about addressing their peers, given that they were not the elected (and therefore 'legitimate') learner representatives of the school. How would they find out what matters to learners in their school?

Conflict of stimuli: The mandate was given to the researcher-interventionist that club learners must collectively determine 'what matters' to learners and yet learners have lived experiences of i) being voiceless and ii) being told by adults what matters. As Flutter (2006) suggests, rather than imposing an adult-determined decision about 'what is important to learners' on learners, an alternative way is to ask learners themselves.

Conflict of motives: The motive to speak with peers versus the motive to avoid fear and failure (associated with lacking the confidence to do so); 'You have to say something to your peers' (J) but faced with a situation 'when you're not free to say something in front of your peers' (J).

Auxiliary motive: The decision to find out what mattered to learners using a questionnaire. The questionnaire, while a common tool in a research space, is uncommon to club learners. Indeed, research was a non-routine activity for learners, as was data collection. The questionnaire's purpose was therefore to trigger (but not produce) the school learners (the experimental subjects) construction of new psychological phenomena (Van der Veer and Valsiner 1991 in Sannino 2015a), in this case new learning in relation to leadership. In a co-engaged and intentional tool-making

process, this conceptual idea was translated into a material research tool. Whilst the goal was learners learning a new task (Sannino 2015a, 4), the questionnaire did not impose any standard solution (after Van Oers 2015, 24). Instead, as a stimulus-object, it provided the auxiliary means to trigger and record, as communicative artefact (Puonti 2004), the knowledge and thoughts of learners. In so doing, it became a sign, i.e. a traceable link between the outside world and inner psychological functioning of the learners.

'Real' conflict of stimuli: The questionnaire, as a neutral stimulus-object, provided club learners with a signal and a meaningful connection to their peers. It provided a tangible means to transfer agency to club learners and as an auxiliary motive, it aided learners to undertake agentive actions, including collecting data from their peers and analysing it collaboratively during a club meeting (Taking action).

Closure: What mattered to learners was identified; 'a need for the school to improve hygiene within and beyond the school boundaries (RR). This focus, the researcher-interventionist confirmed, 'was identified by learners themselves' and intended to 'address issues such as health hazards in the school grounds and the community at large' (J). This was considered important 'to avoid diseases' (J) and because 'if they [learners] do not practice hygiene, then a lot of diseases can easily spread among learners at school or from home to school' (J). Reflecting on the process, the researcher-interventionist explained how, when the floor was open for the learners to 'identify issues and suggest ways of handling these issues, I received fascinating answers, some I did not expect from them. This was a real learning exercise for me' (J). These excerpts suggest that this understanding of what matters to learners is a form of common knowledge (Edwards 2011) which emerges as a resource (Hopwood and Edwards 2017) to mediate how the researcher-interventionist and the club members work together on the complex problem of learner leadership. This common knowledge, in line with the view of Hopwood and Edwards (2017, 109), helped the club learners to 'understand their reasons for acting, valuing, and responding in particular ways'.

Central conflict 3: planning the school change project

Once the focus of the school change project was identified (Learner Hygiene), the work of the club learners was to plan and implement it for the remainder of the year.

Conflict of stimuli: Learners were expected to plan and implement a learner-driven school project yet they had no fixed text book or syllabus to guide the process.

Conflict of motives: Wanting to plan versus fear of failure because of their perceived illegitimacy as learner leaders.

Auxiliary motive: Offering of a constellation of second stimuli; first, the reintroduction of the video clip of 12-year-old Severn Suzuki speaking at the RIO earth summit in 1992. This clip was shown to club learners earlier in the intervention, in order 'to activate learner interest in the leadership club' (J). However, the researcher-interventionist made the calculated decision to reintroduce it as an icebreaker, following a holiday break: 'I wanted them to be inspired by Severn and emulate her work during our learner leadership intervention. I also wanted them to see other children in the world making their voices heard. Indeed, this was the purpose of the learner leadership club; to equip and develop

leaders who can transform Namibia. I think this will minimise my power relation issues to a certain extent' (J).

Second, the introduction of an open-ended questionnaire, developed by the researcher-interventionist, to hear the voices of his learners (J) regarding the school change project, in written, rather than the more threatening oral form. Third, the introduction of a self-reflective journaling process for learners (J); an additional communicative artefact in written form.

The decision to embark on the planning process; learner interest is activated as a consequence of this constellation of second stimuli.

Closure: Club learners started to engage, albeit unevenly, in discussion, problem solving and decision-making (in oral and written form) as they planned their school change project. This signalled a move from reproductive and receptive forms of learning to more agentic actions.

Decision implementing: Club learners consolidated their change project focus and become involved in a scoping activity (Explicating): 'Club members were responsible to do day-to-day observations of learners to see how they interact with each other and their environment' (J).

Thereafter, a plan was proposed (Envisioning) to 'sensitise the school community about different ways to improve personal and physical hygiene through a series of activities, including the i) introduction of a hand wash project and ii) a drinking habit project, iii) reading hygiene articles at the morning assembly and iv) drawing posters and displaying them around the school premises' (RR).

The plan ws ready to be put into practice (Committing to action).

Central conflict 4: implementation of the school change project

Once the project plan was in place, the next stage was that of project implementation. However, at this point in the intervention, the learners were again faced with a conflict.

Conflict of stimuli: The club learners were expected to communicate to their peers about the hygiene project but they experience persistent disquiet about speaking.

Conflict of motives: The motive to talk versus avoiding the discomfort of talking. 'I do feel free but I just never was ready to give my point of view but giving views would be a great advantage' (J).

Auxiliary motive: To source tools which allow learners to communicate their message in non-verbal ways. A constellation of material tools (buckets, soap, cups and bottles) was drawn by learners from channel wider life and purchased with the help of funds from the school finance committee. These material tools were strategically placed in front of the toilets and at the only drinking tap in the school. In order to communicate a message about the use of these material tools in developing good hygiene practices, a tool-making project was embarked upon. Photographs (secondary tools) were taken and used together with a series of symbols (signs) to create posters, communicative artefacts, which were displayed around the school with the aim to 'spread the message about good and bad hygienic practices through reading and observing the posters drawn by club members' (J).

Tool making (Haapasaari and Kerosuo 2015) in the form of posters (linguistic tools) occured, communicating a message about the use of the material tools in good hygiene practices; 'So far there are posters drawn to depict good habits towards improved

personal hygiene' (J). This tool making initiative reduced the pressure on club members as they did not have to speak in order to communicate their all-important message. They were controlling their behaviour; the posters constituted a stimulus that acquired the significance of an auxiliary motive.

'Real' conflict of stimuli: The posters were displayed around the school. Embedded in these posters was the expectation that they would be read by all learners in the school; each of whom would then have to make a choice as they faced a potential conflict situation; should I or should I not follow the rules as laid out in the posters regarding healthy hygiene habits? 'For instance, observing a poster with a person drinking with his/her mouth directly from the tap and another one drinking with a cup or bottle, we expect such a learner to be able to determine which of the two posters represent a better method to prevent the spread of diseases' (J).

Closure: The message was communicated to the majority of learners through the posters and the collective voice of the club learners was heard.

Decision-implementing: As a consequence of these activities, the majority (about 80%) of learners began to change their hygiene practices (J). 'The two strategies worked very well because after reading the posters many learners were seen washing hands after using the toilet. Some were spotted drinking water with bottles or cups. Some learners (including non-members) were heard and seen telling others learners not to use their hands whilst drinking from the tap. Both the hand washing bucket and the displayed posters around the school were very effective as many learners responded positively and changed their habits after using the toilets and drinking water' (RR). In the words of a club learner: 'Most learners, especially the older ones, are washing their hands after using a toilet (J).

However, another club learner, reflecting on this process, problematised this method of communication in relation to the younger learners in the school; 'we need to explain the message on the posters to pre-primary learners because they cannot read' (J). This volitional action opened up the possibility of a more expansive communication path.

In the decision-implementing phase of central conflict 4, we see club learners beginning to take control of their own behaviour (Taking action), acting on their own volition in response to an emerging challenge in the wild, rather than merely following the script of the principal. Faced with the obstacle of the young learners who were unable to read the posters, they did not turn to their principal for a solution but instead turned to each other to resolve the problem as a learner collective. They imagined (Envisioning) and developed new models of communication; meetings (J) and special 'healthy hygiene' days (J) were introduced for the first time at 'the co-production interface' (Lotz-Sisitka et al. 2015). This expansion of learner voice is evident in the following quotes: 'I learnt how to speak in front of people with confidence' and 'My confidence earned me a respect and I was able to influence their (learners') behaviour' (J, RR). What we see emerging here is the psychological tool of confidence and the courage to take risks on the part of learners; key leadership competences. It is the club learners who were taking the initiative and leading their learner hygiene change project.

Discussion

In the context of 'Learners Lead', my purpose in this paper has been to answer three questions. The first question was:

- What mediating artefacts (tools and signs) are used in working on problems in the 'Learners Lead' case, how are they used and to what purpose?

There is a prevalence of material artefacts in this case; tangible, technical tools which shaped the participants' capacity for imagery and reasoning. The mediating artefacts presented in the central conflicts, were, for the most part, in horizontal use, i.e. they were locally constructed tools, created by the learners and sensitive to the school setting (Puonti 2004). The questionnaire and the posters were local innovations, created by users from below; all were unique to the context, flexible and open to revision.

Whilst the design and purpose of the mandatory questionnaire was roughly outlined, its content, pitch, language and presentation were open to interpretation and reflection by the learners in their local context. This tool, as a communicative and cognitive artefact, was used for the collaborative task of data collection in response to a research question about what matters to learners. The posters, specialist tools, were unique to the school change project. They were developed by the 'originators of innovations' (Puonti 2004, 138), the learners themselves, within the horizontal network structure of the club. Their specific purpose was a communicative one: to send their message about learner hygiene to the learners in their school. When this communicative strategy was found wanting, new models of communication, such as meetings and 'health hygiene' days, were developed locally by club learners. These school-wide events called for oral communication on the part of club learners and occasioned the expansion of learner voice and leadership.

In direct contrast to these locally constructed tools, the video clip was a standardised stable product sourced from the Internet. It was closed to revision, stable and reproducible in design (after Puonti 2004, 138). As a vertical tool, it was introduced by the researcher-interventionist for the purpose of activating the interest of learners in the leadership club. This same tool was extemporaneously re-introduced at a later stage in the intervention but with a different purpose: to inspire club learners and offer a role model for the transformative power of learner leaders.

Puonti (2004) cautions that the problem with locally constructed tools is that they easily remain local. However, in the context of 'Learners Lead', the outcome is for the learners to take ownership of their school change projects and, in the process expand their voice and develop their leadership. Thus, locally constructed tools created by users from below are central to this intervention. But, without the structural frame of 'Learners Lead' and the introduction of key artefacts over time (some mandatory and externally driven, some context-specific and determined by the researcher-interventionist and others created by the learners themselves), the intervention is unlikely to succeed.

The second question I sought to answer was:

- Drawing on the Sannino model, what instances of double stimulation are evident in the data and how useful is such an analysis?

What became apparent from the analysis is that the Sannino model of double stimulation (2015a), with its decision forming and decision making apparatuses, provides a useful analytical tool for 'Learners Lead'. The central conflicts presented indicate progress through the apparatuses and phases. However, like Hopwood and Gottschalk (2017), this study found that ideal situations (where all phases of the model are apparent in the data) were seldom encountered. Yet, analysis with reference to Sannino's (2015a) 'clean' model has merit because it serves to highlight the messy, multi-strand, temporal and non-linear nature of transformative agency through the surfacing of the various conflicts of motives and the different auxiliary motives. Transformative agency, in the 'Learners Lead' case, was not a once-and-for-all solution to one problem. Instead it emerged through at least four instances of double stimulation in response to as many diverse conflicts, in an array of alternative 'solutions.'

The Decision implementing apparatus (Apparatus 2) of the Sannino model (2015a), with the addition of the Channel intervention/Channel wider life analysis and the agentive actions analysis, augments the analysis. A further advantage of the model, that there are no specifics about continuity or timeframes (Hopwood and Gottschalk 2017), enables it to be flexibly and variably applied in each of the instances presented.

The final question posed was:

- How does transformative agency manifest itself in the data and what can we learn about the relationship between double stimulation and transformative agency in the leadership development of learners?

Transformative agency, a central concept in school leadership work and understood as 'the collective capacity to change activity or practice' (Lotz-Sisitka et al. 2017, 3), manifested itself in the central conflicts. Particularly useful in the analysis of transformative agency in the wild of the intervention, were the six basic types of agentive actions. In the initial stages of the intervention (Central Conflicts 1 and 3), the agentive action of **resisting** was common; learner resistance at being implored to speak. **Taking action** is evident in Central Conflicts 2 and 4, first emerging in Central Conflict 2 through a tool making activity. However, because this activity was researcher-interventionist driven, it was not sustained beyond the data collection and analysis processes and required that the researcher-interventionist drive the next phase of the activity with the introduction of the video clip as one stimulus in a constellation of stimuli. As a consequence of these researcher-interventionist driven attempts to attain the goal of the subjects learning a new task (Sannino and Laitinen 2015), the agentive actions of **explicating, envisioning** and **committing to action** begin to emerge amongst the learner collective.

The possibility exists that the take-up of these agentive actions by learners in Central Conflict 3 provided the necessary stimulus for taking volitional action in Central Conflict 4. In this final central conflict, we again see tool making activities, drawing on channel wider life. But, in contrast to Central Conflict 2, the tool making activities were learner driven from the outset. Club learners took control of their behaviour as they were confronted with complex choices, drawing on auxiliary stimuli to do so. In so doing, their collective confidence was increased and they were able to create new situations and produce new meaning.

From the central conflicts presented, what can confidently be argued is that double stimulation can function as a means to promote volitional action in an after-school leadership club where a postgraduate student works with the learner collective (subjects) to expand their leadership through the identification and implementation of a school change project. In the case reported in this paper, the researcher-interventionist was able to get himself and his learners to think differently about the object – learner leadership. The outcome, as a consequence of the 10-month intervention, was a conceptual shift in thinking; learners distanced themselves from the dominant narrative (leadership as an adult phenomenon) and began generating an alternative discursive frame: that learners could indeed lead; i.e. they could deliberately initiate change through their joint actions and collective agency. In agreement with Hopwood and Gottschalk, what these empirical instances keenly show is that double stimulation as a means to promote volitional action 'is not purely a principle in the ideal (abstract) sense, but is very much concrete, material and embodied in its accomplishment' (2017, 2). In the case presented in this paper, novel spaces of innovative activity – embryos of future world views (Bakhtin 1981, in Vossoughi 2014) – were opened up. This innovative activity was completely beyond the learners' epistemic horizons before trying their change projects out in practice (Daniels 2008).

Decision making, integral to the Sannino model of double stimulation, is also at the heart of school leadership work (Chitpin and Evers 2015). This paper has shown that the Sannino model, with its decision forming and decision making apparatuses, provides a valuable heuristic for discerning decision-making in school leadership work, particularly as it relates to learner leadership. Leadership potential, I argue, lies latent within the conflict of motive phase of the Sannino model. When learners are confronted with a choice within this conflictual, yet potentially generative space, they can either resist and continue as they were (conform to the norm) or disrupt the current situation and reframe or reconceptualise the problem situation in some way. The conformity decision draws on their reproductive agency whilst the decision to disrupt and change the course of action constitutes a transformative leadership move in a school change project. A series of agentic moves that evolve from resistance and criticism towards consequential change actions, provide glimpses of leadership, and the likelihood of a successful school change project.

Conclusion

The 'pedagogical mission' of schools must be to support younger generations to flourish in society. 'Learners Lead', an intentionally transgressive Southern African university based postgraduate initiative, offers the possibility of disrupting the taken-for-granted assumptions about, and the embedded practices of, traditional school leadership work in the wild. Sannino's model of 'double stimulation' (2015a), derived from Vygotsky's work, had purchase in this school leadership work where 'the use of second stimuli can become a powerful means for transformative actions that open opportunities for creative problem solving and meaningful learning' (Van Oers 2015, 21). This paper has argued that double stimulation can function as the means to promote volitional action and transformative agency in the context of a learner leadership initiative in a schooling context. Double stimulation opens up a new way for teachers to work together *with* learners to expand their collective voice and activate their leadership in democratic settings. It embodies

a way of working in schools which puts collaborative work at the centre of the after-school curriculum; a boundary space (Edwards 2011) which serves as a springboard for horizontal linkages between teachers and learners. (There are connections here with Hopwood et al, this issue, which explores how educators foster transformative agency through volitional action among groups of learners – albeit in a different context).

This cultural historical account of learner leadership development locates the emergence of transformative agency in dynamic, dialectic relations between specialist expertise (located within the Experimental Design of the university elective and mediated by the postgraduate student) and everyday experience (of school learners), between what can be thought and what can be done (Hopwood and Gottschalk 2017). However, the interpretation of double stimulation evolving out of this study tells us that the emergence of volitional actions is recursive, multi-threaded and non-linear (Hopwood and Gottschalk 2017; see also Sannino, this issue); a complex journey across channels and fluidly evolving phases 'filled with conflicts that challenge one's comfort zone and can be overcome with the help of second stimuli crafted or adopted by the person' (Sannino and Laitinen 2015, 17). To capture this composite journey more fully, intentional teaching about double stimulation and the importance of conflictual moments is necessary in future iterations of 'Learners Lead'. The use of observational data followed by stimulated recall interviews should assist in this regard.

To conclude, and in line with the Vossoughi study, the formative interventionist research in this paper 'serves the larger goal of expanding and diversifying contexts where young people and adults work together to transform the social problems that affect our everyday lives – work that is deeply interwoven with the process of transforming ourselves' (2014, 371).

Notes

1. Agency, will, intentionality
2. Ethical clearance was obtained from Rhodes University for this study (EC number 17081001) and ethical principles were observed throughout.

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