

# TEACHING AND LEARNING IN MULTI-GRADE CLASSROOMS: THE LEPO APPROACH

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## ABSTRACT

The article examines teaching and learning in multi-grade classrooms using the Learning Environment, Learning Processes and Learning Outcomes (LEPO) as a conceptual framework. The article seeks to know how the learning environment is created, how the processes of teaching and learning takes place and how assessment is used to determine the achievement of learning outcomes in multi-grade classrooms. A qualitative research design is used, where interviews were conducted with nine teachers from schools with multi-grade classrooms. Data was analysed thematically. The data revealed the following: the learning environment can be created by grouping learners appropriately in classrooms, creating learning stations and reading stations, proper use of time-tables and adaptation of teaching plans; the learning process should take place through the differentiated curricular approach or quasi-monograde, learners should be afforded the opportunity to learn from their family members, teaching and learning should take place through self-directed learning, peer tutoring and cooperative learning and lessons should cater for different learning styles; to determine the realisation of learning outcomes teachers should assess learners in different grades informally with either the same or grade-specific assessment activities and formally assess with grade-specific assessment tasks. The article also addresses the main criticisms against the LEPO framework by explaining how teachers and learners should interact with the learning environment, learning process and learning outcomes in multi-grade classrooms. I conclude that if the LEPO framework can be implemented in multi-grade classrooms, teaching and learning can be strengthened in such classrooms.

**Keywords:** assessment; cooperative learning; differentiated curricular; learning environment; learning outcomes; learning process; learning styles; peer tutoring; self-directed learning

## **INTRODUCTION**

This article investigates the Learning Environment, the Learning Process and the Learning Outcomes (LEPO) framework in multi-grade classrooms, as discussed by Phillips, McNaught and Kennedy (2010). The kernel of the LEPO framework entails that the learning environment should be designed to enable teaching, learning processes, as well as the assessment of the learning outcomes to determine the achievement of learning outcomes in Higher Education classrooms. Since teaching still takes place in the so-called one-classroom or two-classroom schools, better known as multi-graded classrooms; this article, using the LEPO framework explains how teachers can sustainably enhance teaching and learning in multi-grade classrooms.

In Africa, multi-grade classrooms can be found in Zambia, Burkina Faso, Botswana, Namibia, South Africa, and Uganda (Taole, 2018). According to Republic of South Africa Department of Basic Education (2015), South Africa had approximately 5, 837 multi-grade schools, the majority of which were in the Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo and the North West provinces. The number of schools in South Africa that use multi-grade classrooms, clearly indicate that multi-grade classrooms still have a place in its education system. Furthermore multi-grade classrooms are associated with developing countries; they exist for a wide variety of reasons (Wallace, McNish & Allen, 2001). They are mostly found on farms, in rural areas, and some exist in urban areas (The Rural Education Newsletter, 2010).

## **MULTI-GRADE CLASSROOMS**

According to Berry (2006), Hargreaves (2000), and Makoelle and Malindi (2014), multi-grade classrooms occurs when a single classrooms contains two or more learners from multiple grade levels. Similarly, Little, Pridmore, Bajracharya and Vithanaphathivana (2007) state that in multi-grade classrooms, a single teacher teaches learners from more than one grade in the same classroom. In a multi-grade classroom, there are two or more teachers teaching different grades in the same classroom (Hyry-Beihammer & Hascher, 2015). Brown (2010) and Thalheimer (2010) argue that multi-grade classrooms demand more from the teacher than monograde classrooms. In the same vein, Mulaudzi (2016) indicates that the workload for teachers in multi-grade classrooms is more compared to teachers in mono-grade classrooms. Indeed, teachers teaching in multi-grade classrooms feel overloaded with work since they do the work of more

than one teacher (Kivunja & Sims, 2015). Beyond the workload, Little (2004) observes that multi-grade teaching has its own set of unique challenges and benefits. Jordaan (2006) identified the advantages of multi-grade teaching to be the following: flexible schedules, opportunities for resourceful and self-directed learning, a less formal classroom situation, and friendly relationships.

While, multi-grade classrooms are not established by choice, but rather by necessity to provide education for learners in remote areas (Du Plessis & Subramanien, 2014), Kivunja and Sims (2015) state that sometimes multi-grade classrooms are established deliberately as a pedagogical choice where school communities believe that learners of different age groups would benefit from such pedagogy. Undeniably many farm schools often have a limited number of staff members, hence they are pushed into using multi-grade classrooms. Also, low levels of learner enrolment, sometimes as low as 30 learners create the conditions for a multi-grade classroom (The Rural Education Newsletter, 2010). In the main, multi-grade classrooms arise due to the chronic shortage of teachers, scarcity of pupils, and the lack of physical resources, such as an inadequate number and size of classrooms (Little, 1995; Hargreaves, 2000; Little et al, 2007; The Rural Education Newsletter, 2010). In summary, the reasons for resorting to multi-grade classrooms are: low numbers of learners, low numbers of teachers, geographical conditions, cultural conditions, lack of physical resources and pedagogical reasons.

For effective teaching and learning in multi-grade classrooms, schools should have well-organised, well-resourced and well-trained teachers (Juvane, 2005). In addition, teachers should be creative and innovative in designing their own learning materials, adapt the existing school timetable and consult and co-plan lessons with others teachers (Haingura, 2014). Brown (2010) identified teacher's attitude, increased awareness, curriculum adaptation, transformation of philosophy of learning, learning materials, social organisation of students, assessment systems, the importance of teacher knowledge, and skills as fundamental aspects of multi-grade classrooms for effective teaching. Pancoe (2006) points out that the organisational strategies useful for multi-grade teaching and learning include the following: schedules and routines that not only promote clear, predictable instructional patterns, but also motivate learners' to be responsible for their own learning, how they use time by using group learning experiences, developing skills and strategies that allow learners to be highly independent, usually by learning

individually or with others, and developing strategies and routines of peer tutoring within and across different year levels.

## **CONCEPTUAL FRAMEWORK**

Learning Environments, Learning Processes and Learning Outcomes (LEPO) is the conceptual framework that grounds this study. It originates from the work of Phillips, McNaught, and Kennedy (Carr, Kelder & Sondermeyer, 2014; Obiria, 2017). According to Phillips et al. (2010), LEPO has three components: the environment which facilitates learning (Learning Environment), the activities which are part of learning (Learning Processes) and the knowledge, behaviours, skills or understanding which can be demonstrated (Learning Outcomes). LEPO incorporates Biggs' 3-P Model of Presage, Process and Product and Laurillard's Conversational Framework that involves interaction of the teacher and learner, interaction of the learner and the world, adaption of the world by the teacher and learners' action and reflection on learners' performance (Phillips et al., 2010). There are slight differences between the Biggs' 3-P Model, the LEPO framework and the Laurillard's Conversation Framework. Whereas Biggs' 3-P Model has presage, the LEPO framework has environment, The Laurillard's Conversation Framework and LEPO framework share the same components even though they are presented differently. These models encourage teachers to create positive learning environments that permit learners to interact for positive outcomes to be achieved (Sithole, 2017).

According to Sumanasiri, Yajid and Khatibi (2015:56), the LEPO framework is a "generalised and integrated conceptual framework on learning". The LEPO framework attends to the interrelationships between the teacher and learners in the teaching and learning process (Carr et al., 2014; Obiria, 2017). The LEPO framework also synergises all aspects of learning and supports new learning environments and methods by integrating learning environment, learning process and learning outcomes (Sumanasiri, Yajid & Khatibi, 2015:55). The main criticisms of the LEPO framework are the following: "The LEPO framework does not prescribe how learners and teachers interact with learning environments, processes and outcomes" (Phillips et al., 2010:2501) and "The LEPO framework does not specify how learners and teachers interact with learning environments, processes and outcomes" (Obiria, 2017:31). This article responds to these criticisms by demonstrating how the interactions of teachers and

learners with the learning environments, learning processes and learning outcomes should take place in multi-grade classrooms.

## **TEACHING AND LEARNING IN MULTI-GRADE CLASSROOMS**

The literature review comprehensively provides different views of the LEPO framework based on three aspects: Learning Environment, Learning Process and Learning Outcomes.

### **Learning Environment**

Learning environment refers to the context in which the learners work (Phillips et al., 2010). It involves the physical space, established respect and rapport, established culture for learning, managed classroom procedures and managed student behaviour (Coe, Aloisi, Higgins & Major, 2010). According to Wallace et al. (2001) multi-grade classrooms should have activity centres where materials linked to a particular topic or theme are displayed and activity centres should be at the corners of the classrooms so as not to interfere with other activities. In support, Jordaan, (2006) and The Rural Education Newsletter (2010) emphasised the use of workstations where learners do different activities should be innovative and flexible when they organise their classrooms to allow learning to take place in different ways. Teachers of multi-grade classrooms should have good classroom management skills, since they have to plan properly to avoid a situation where learners have nothing to do. The execution of tasks that need high teacher-learner contact, in a specific grade, need to be done at the same time as tasks that need less teacher-learner contact in another grade (Taole & Mncube, 2012). Beukes (2006) anticipated the strategies that should be considered in a multi-grade classroom to be the following: process approach to teaching, moving from all-knowing facilitator of learning, integrating areas of the curriculum and ensuring flexible grouping within the classroom. This means that teachers plan properly to ensure that learners are continuously engaged in learning activities. Also, teachers should be facilitators of learning while learners construct knowledge, use process approach to learning, integrate different areas of curriculum and use flexible groupings.

### **The Learning Process**

The learning process is the way by which learners engage with the learning environment and learning activities (Phillips et al., 2010). According to CREATE (2008), the approaches to

teaching and learning in multi-grade classrooms include avoidance, quasi-monograde and differentiation. Whereas Jordaan (2006) identifies the approaches as whole class teaching, learning in groups and independent working, Little (2004) and Little et al. (2007) identify the approaches to teaching and learning as multi-year curriculum spans, differentiated curricula, quasi mono-grade, and a learner and material-centred approach. In multi-year curriculum spans, units of curriculum content are spread across two to three grades rather than one, where learners are expected to work through common topics and activities (Little, 2004; Little et al., 2007). In differentiated curricular, the same theme is covered in which all the learners in each grade engage in learning tasks appropriate to their level of learning. Where the quasi mono-grade approach is used, learners in multi-grade classrooms are taught in turns as though they were in a mono-grade classroom (Little, 2004; Little et al., 2007). A learner and material-centred strategy implies that learners do self-study using graded learning guides; that learners learn at their own pace supported by teachers who give them structured or planned assessment tasks. Furthermore, learners using material-centred strategies can either adopt the multi-year curriculum span or the quasi mono-grade approach (Little, 2004; Little et al., 2007). From above, appropriate teaching approach should be chosen in the teaching and learning process, the approach chosen should be supported by the relevant instructional strategy for multi-grade classrooms.

Jordaan (2006) identifies individualised learning programmes or self-directed learning, peer instruction, and cooperative group work as important instructional strategies in multi-grade classrooms. Jordaan (2006) and Wallace et al. (2001) agree on the importance of self-directed learning in multi-grade classrooms. Self-directed learning is a process in which individuals take initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes (Wallace et al., 2001). The importance of peer tutoring instructional strategy in multi-grade classrooms is emphasised by (Jordaan, 2006; Pancoe, 2006; Wallace et al., 2001). Peer tutoring occurs when pupils teach other pupils. Peer tutoring can take place when older pupils (in higher grades) teach younger pupils, when faster pupils help slower pupils (in the same grade) or when two friends study the topic together: through discussions, they help each other to understand the task (Wallace et al., 2001). Slower learners may also tutor faster learners in areas in which they are competent (Wallace et al., 2001). Also, peer tutoring can take place when learners help one

another unprompted or when the teacher guides learners on what should be tutored (Hyry-Beihammer & Hascher, 2015). According to Fyfe (2001), cooperative learning is an excellent strategy in multi-grade classrooms because it incorporates all grades, student achievements, diverse subject matter, urban/rural schools, a common goal for students with mixed ability, increased acceptance of others, positive self-esteem and interaction.

According to Msimanga (2014) learners learn differently granted that there are learners who learn through hearing information, through seeing and by doing, that is, they use the visual, aural and physical learning styles (Jordaan, 2006). Persons with a visual learning style learn best by reading new material, persons with an aural learning style learn best by listening to lectures, tapes or discussions and persons with a physical learning style learn best by doing or performing activities themselves (Hamachek cited in Drinkwater, 2002). It is important that teachers cater for different learning styles in their lessons to accommodate learners with different learning needs. When teachers of multi-grade classroom understand the learning needs of the learners, they will adapt their teaching to learning activities to suit different learning styles. Furthermore, learners in multi-grade classrooms should be given the opportunity to learn independently, this means away from their peers or groups. Lesson planning should consider individual uniqueness. This means that the classroom approach that the teacher adopts will determine how the classroom should be organised and how to address different learning styles.

### **Learning Outcomes**

Learning outcomes refer to what learners should demonstrate following the teaching and learning process (Phillips et al., 2010). Assessment is used to determine the extent of achievement of learning outcomes (Ndalichako, 2015). Assessment is undertaken by teachers to make judgements about learners' learning (Cordiner, 2011), to discover whether teaching and learning activities resulted in the intended learning (Wiliam, 2013), and to determine the effectiveness of teaching and learning done (Mege, 2014). According to Reddy, Le Grange, Beets and Lundie (2015), assessment is used to collect evidence, this evidence is used to determine how much and how well the learners learnt. It is through assessment that the achievement of the learning outcomes can be demonstrated. In multi-grade classrooms, teachers should use assessment to measure what was effective about the teaching and learning process and content.

## **RESEARCH METHODOLOGY AND DESIGN**

I used a phenomenological research design. According to Leedy and Omrod (2005:139) “a phenomenological study attempts to understand people’s perceptions, perspectives and understanding of a particular situation”. The phenomenological study provided the opportunity to obtain perspectives of experienced multi-grade classrooms teachers to understand how teaching and learning takes place in their classrooms. This is a qualitative research approach that is well suited to this study because participants shared their views on their teaching practices and on how to improve it. According to Leedy and Omrod (2005), the qualitative research approach is used to answer questions about the complex nature of phenomena with the purpose of describing and understanding it from the participants’ point of view, words, attitudes, and values. This qualitative research sought to capture how multi-grade teachers go about teaching in the classroom. The aim was to understand their experiences.

### **Sampling**

Tustin, Lightelm, Martins and Van Wyk (2005) state that with purposive sampling the sample members are chosen with a specific purpose or objective in mind, that is, the sample is intentionally selected. Purposive sampling was employed because the researcher identified the information rich participants from the whole population that suited the study. The participants are information rich since eight of them have the experience of teaching for more than ten years in multi-grade classrooms, and only one had less than ten year teaching experience in multi-grade classrooms. It is evident that the participants had a wealth of experience and had practiced teaching in multi-grade classrooms. They had also attended training workshops on multi-grade teaching. More importantly, I chose the participants based on that I had judged them to have a very good understanding of multi-grade classrooms from my past interactions with them.

### **Data Collection**

I made appointments with participants for face-to-face interviews. Face-to-face interviews involve asking questions to a sample of participants (Tustin et al., 2005). Arrangements were made with the participants to choose a suitable date and time for conducting interviews at their workplace, where I used a question guide to interview the participants. I followed-up the interviews with more questions, this was necessary to clarify a point or seek



more information. During interviews, the conversation were tape-recorded, and notes were taken. These are a sample of the question that participants were asked: How do you arrange your classroom to create a learning environment? How do you teach in your multi-grade classroom? How do learners learn in multi-grade classroom? How do you determine that the learning outcomes were achieved? Follow-up questions were asked based on the responses of the participants. The aim was to accomplish the objectives of the study.

### **Data Analysis**

I transcribed the interviews verbatim with the help of my notes. I asked the participants to confirm that the transcripts were a true representation of their words. The data were analysed steps-by-step thematically (Creswell, 1998). I identified the statements that were relevant to the topic; thereafter, I grouped the statements into units of meanings. I identified main themes and distinctive themes and grouped similar ones. I grouped the responses into one of these categories: learning environment, learning process and learning outcomes. I made the findings based on the three main themes. As far as possible, I guarded against presenting my own views.

### **Ethical Considerations**

Ethical considerations ensure that the study is not conducted in a manner that is detrimental to the participants. I was conscious of ethical issues that pervade any research process (Merriam, 2001:219). Ethical clearance certificate was obtained from the Ethics Committee of the College of Education Research, University of South Africa (UNISA). Permission to conduct the research was granted by the Research Directorate of the Free State Department of Education and principals of participating schools. Informed consent from participants was obtained by requiring them to sign consent forms. Participants were given assurance of anonymity and confidentiality, and were informed that participation was voluntary. They were also told that they were free to withdraw from the study at any stage, and that they could choose not to answer any question put to them.

### **Trustworthiness**

According to Cameron (2011:6) the criteria of determining trustworthiness in qualitative research as conceived by Lincoln and Guba are credibility, transferability, dependability and

confirmability. Amongst others credibility can be achieved through description of sources of data and participants checks, transferability can be achieved when the researcher provides sufficient information about the research context, processes and participants; dependability can be achieved when the process that derived the findings is explicit and repeatable as much as possible, and confirmability is achieved when the findings represent, as far as possible, the situation that is researched rather than beliefs (Morrow, 2005). I followed a planned research process. I used audio-tape to record data and took notes during the interviews. I kept audio-recordings, notes and all data collected in a safe place. Correctness of the transcripts was verified by the participants as the true statements they had made. For triangulation purposes, face-t-face interviews were conducted with nine multi-grade teachers on multiple farm schools. The research findings are supported by data and the realities about teaching and learning in multi-grade classrooms were gathered from the people teaching in multi-grade classrooms. I guarded against bias by collecting and analysing data according to research guidelines, literature and ethics. I reported the findings accurately.

## **RESEARCH FINDINGS AND DISCUSSIONS**

The findings on how teaching and learning takes place in multi-grade classrooms are presented and discussed below. I identified the main themes based on LEPO framework, which I also use to present the findings.

### **Learning Environment**

Classroom organisation is very important in every multi-grade classrooms. Berry (2006) and Hargreaves (2000) state that multi-grade teaching occurs when a single class contains two or more learners' grade levels. Little et al. (2007) observes that in multi-grade classrooms, a single teacher teaches learners from more than one grade in the same classroom. Therefore, it is important for the teacher to consider how to arrange the classroom consisting of learners from different grades for effective teaching and learning. This study found that in multi-grade classrooms, learners are grouped together according to their grades. In some schools, Grade 1 to Grade 3 learners are grouped together in the same class, Grade 4 to Grade 6 learners are also grouped in the same class, this was supported by the response of participant, for example, one stated that:

*“I started teaching in multi-grade class in a certain school in Bethlehem. There I was teaching Foundation Phase starting from Grade 1 to 3. I am teaching all the subjects. Yes, [of] Intermediate Phase”.*

However, in one-teacher schools, Grade 1 to Grade 6 learners were in the same class, this was supported by participant four who said, *“I am alone now teach all grades from Grade 1 to Grade 6”*. The sentiments of participant four were echoed by Participant 5 and Participant 8. Participant 1 responded as follows:

*“Then I had Grade 4, and Grade 4 and 5 is multi-graded. Grade 6 then was aside. Then I had to teach Grade 4 and 5 in multi-grade, then Grade 7 and 8 multi-grade; I am the new teacher. I was not trained for that thing, it was really hectic”*

In some schools, Grade 4 and Grade 5 learners are in the same classroom, while Grade 6 is a stand-alone grade, Grade 7 and Grade 8 learners are in the same classroom, while Grade 9 is a stand-alone grade. This situation was also supported by Participant 5. Learners in multi-grade classrooms sit in grade groups. In the main, multi-grade classrooms are mainly grouped as follows: Grade 1 to Grade 3, or Grade 1 to Grade 6, or Grade 4 to Grade 6, or Grade 7 to Grade 8. It is clear that the organisation of multi-grade classrooms, mainly catered for learners according to phases or within two phases. In order to create the environment for teaching and learning in multi-grade classrooms, teachers should ensure that learners are appropriately grouped in classrooms, according to their phases and grades.

Secondly, with regard to classroom organisation, teachers of multi-grade classrooms should design a classroom in such a way that there will be learning stations where different activities take place, as well as reading corners where learners may sit to read. Resources for the different subjects are kept in resource corners. The classrooms have a centre for direct instruction, an individual learning centre and a group discussion centre. When participant eight was asked how teaching takes place in her class, she responded as follows:

*“Firstly, I will talk about the sitting arrangement of the learners. Learners are seated in a circle in a small group where the direct attention and observation of the teacher is available. With this type of sitting arrangement the learner gets the opportunity to look at the teacher directly. Two, the horseshoe. This one is for direct teaching it pays to learners’ attention. Learners have to direct the questions at each other. Three, mat,*

*sometimes there is a mat. During the story telling, singing, news exchange the learners are divided according to their skills. Here, learners are grouped”.*

Multi-grade teaching takes place at different centres or stations, where learners either work on their own or with their teacher. These findings concur with the works of Jordaan (2006) and Wallace et al. (2001), who discuss different ways of organising the multi-grade classroom. Multi-grade classrooms should have activity centres where different activities take place. Since, the classroom consists of learners of different grades and do classroom activities at the same time, activity centres create appropriate environment for teaching and learning because learners do not have to wait for other learners to carry out tasks. These can take place concurrently at different stations in the same class.

Juvane (2005) contends that for learners in multi-grade classrooms to learn effectively, schools should have well-organised, well-resourced and well-trained teachers. The study found that, schools do not complete the curriculum given the annual teaching plans for the various subjects. Teachers are not teaching the content as it appears on the teaching plans of the different subjects; however, they teach those topics they feel comfortable to teach. Participant 2 said, *“I normally teach what I am comfortable with”*. Teachers do not master all the subjects and spend more time on the subjects they were trained to teach. In order to overcome this, Haingura (2014) recommended that teachers should consult and co-plan lessons with others teachers. But Participant 3 said, *“Time is also a problem”*. In support Participant 4 said, *“We are treated in the same way like township schools.”* The available time does not allow the teachers to cover the curriculum as stated in the teaching plans because these teaching plans are suited for implementation in monograde classrooms. Teachers of multi-grade classrooms should adapt their teaching plans to suit their circumstances, in order to cover what they expected to cover.

Planning for teaching in multi-grade classroom should consider the time-table, as some teachers in multi-grade classrooms do not follow the time-table.

Participant 2: *“To be honest, I don’t follow the time-table, I am teaching what I think I am left behind on it.”*

Participant 3: *“We juggle things around.”*

Participant 6: *“Here, we follow time-table, and some teachers dodge their periods.”*

Participant 9: *“How can I teach without following time-table, we use it, but sometimes there are problems [in following] it.”*

It is evident that in bigger schools, time-tables were used and followed in multi-grade classrooms although this is not done scrupulously. However, time-tables are not followed at all in one-teacher schools. Haingura (2014) argues that in multi-grade classrooms the existing school time-tables should be adapted. While teachers should adapt and follow time-tables in order to use their teaching time properly, timetables should be used to enhance teaching and learning in multi-grade classrooms rather than impede it.

### **Learning process**

Brown (2010) highlighted the importance of the teachers understanding of the processes for creation and implementation of the multi-grade classrooms and its methodologies. Little (2004) and Little et al. (2007) identified approaches to the curriculum in multi-grade classrooms as multi-grade curriculum spans, differentiated curricula, quasi mono-grade, and a learner and material-centred approach. With regard to methodologies and approaches, the study found that the differentiated curricular approach and quasi-mono-grade approach were the approaches preferred by the participants in multi-grade classrooms.

Participant 2: *“You see that thing of themes help us a lot.”*

Participant 4: *“Let me say, in Mathematics I will take the same topic.”*

Participant 6: *“The teacher tend to match the content for Grades 1, 2, 3.”*

Teachers use the differentiated curricular approach when the topics are the same or related in different subjects, or the same or related in different grades. The teachers spent more time teaching the topics of “struggling” grades.

Participant 1: *“If the lesson is totally different, then you will make group work for the other groups so that they work in groups while you are busy teaching the other grade.”*

Participant 3: *“Those subjects which are not the same I will concentrate on Intermediate Phase, those other learners will just learn for themselves.”*

When the topics are different for each grade, the teachers use the quasi-mono-grade approach where learners are taught in turns as if they are in a mono-grade classroom. When the quasi-mono-grade approach is used, the other grades are given different work to do so as to keep them busy while the teacher is teaching a specific grade. In one-teacher schools, every day

begins with a Mathematics period. Teachers should use approaches and teaching methods in multi-grade teaching in congruence with the lesson presented and classroom circumstances.

Participant 2 indicated that learners learn about languages and Mathematics from their brothers and sisters. While, Participant 6 indicated that parents help learners with dance and cultural aspects, which are taught in Creative Arts, and with politics, which is taught in Social Sciences. Participant 3 said, *“It is also true that many learners learn from their mothers because their fathers are not around — they work away [from home]”*. Participant 4 said, when asked how learners learn: *“Most of the time, they rely on me”*. To enhance teaching and learning in multi-grade classrooms, learners should be afforded the opportunity to learn from family members by giving them activities which they can complete with the help of family members, such as the activities that relate to languages, mathematics, creative arts and social sciences.

Whereas Jordaan (2006) identified self-directed learning as an advantage of multi-grade, teaching, Pancoe (2006) posited that the organisational strategies useful for multi-grade teaching and learning enhance learners’ responsibility for their own learning. The study found that, self-directed learning affords learners the opportunity to learn on their own. Participant 3 stated that *“They work on their own”*. Learners learn on their own and explain to other learners what they have learnt. Participant 5 stated that: *“After they have learnt on their own maybe I can give them a topic after five minutes I want everyone to tell me what he understood about the topic. I ask them to believe in their understanding and ask them to explain to us.”*

When learners are explaining what they have learnt, the teacher and other learners fill the content gaps and corrects the learners when they present incorrect information. Self-directed learning helps learners to read with understanding and master what they are learning. Jordaan (2006) and Wallace et al. (2001) also highlight the importance of self-directed learning. Learners in multi-grade classrooms should be afforded an opportunity for self-directed learning.

Learners are taught by their peers when the teacher is busy with something else. Fast learners, who have mastered the content are used as peer tutors. Participant 9 said, *“When we use peer tutors, we must consider the pace of the learner, because a learner can be very good, [but] works slowly and [fails to] complete his work.”* Eight of the participants confirmed that peer tutoring yielded the desired results. Only one participants remarked that peer tutoring did not yield any positive results at the specific school. Jordaan (2006), Pancoe (2006) and Wallace et al. (2001) also affirm the role played by peer tutoring as a teaching strategy in a multi-grade

classrooms. Also, the claim by Hyry-Beihammer and Hascher (2015) should be taken into account on the use of impromptu peer-tutoring or guided peer tutoring. He claims these can improve peer tutoring, which should not be used only when the teacher want to do other things, it should be integrated in the regular teaching and learning process through impromptu peer tutoring.

Fyfe (2001) asserts that cooperative learning is an excellent strategy in multi-graded classrooms because it incorporates all grades, student achievements, diverse subject matter, urban/rural schools, a common goal for students with mixed ability, increased acceptance of others, positive self-esteem and interaction. Learners sit in grade groups and help each other when the teacher is busy with the other grades. Participant 1 said:

*“Let’s say it is a double period you give them thirty minutes then they come to report on what they have been doing then you correct them here and there. On most of the time you find that they did something you didn’t even expect they go beyond measures so you just have like correct a little bit but most of the time when they educate themselves they just go out of the box so it becomes easier for you when you go you just correct them.”*

Cooperative learning plays an important role in multi-grade classrooms because learners do not rely only on the teacher or themselves, but also on their classmates. Learners learn from their grade groups and class groups. Cooperative learning helps learners to learn from their classmates and gives the teacher an opportunity to concentrate on other grades, but when learners report back, the teacher should give learners attention. Jordaan (2006) discussed learning these styles: visual, aural and physical styles.

Participant 6: *“You can see there are those that want to listen and others do not want to listen. Others want to do things so we tend to give them some chance to get to the board to show others.”*

Participant 7: *“Most learners like to see. As you can see, we were busy with these things they were excited. We were doing symmetric shapes and triangles at the same time they were so excited.”*

Learners in multi-grade classrooms have different learning styles, *i.e.*, there are visual learners, auditory learners and kinesthetic learners. Teachers teaching in multi-grade classrooms stated that auditory learners are the learners who benefit most in classes because most of the

teachers use the lecture method, which suits auditory learners best. Therefore, teachers teaching in multi-grade classrooms should ensure that their lessons cater for different learning styles.

### **Learning outcomes**

Learners should be assessed to determine learning that took place (Cordiner, 2011; Mege, 2014; Reddy et al., 2015; Wiliam, 2013). It is found that when learners in different grades are assessed formally, the activities used are different for each grade. This was based on the response of Participant 9 assessment: *“No with different work. Grade 6 their work, Grade 5 their work and Grade 4 their own work”*. Also Participant 6 stated that *“For formal [assessment] each grade must be focused on its specific grade”*. Conversely, Participant 1 stated that *“We assess them with the same work for informal but you will be taking questions again that are related to a specific grade.”* In other words, learners’ formal assessment is grade-specific. The activities that are used for assessment are found in grade-specific textbooks. When learners are assessed informally, the questions for the different grades may either be the same or grade-specific. Learners have the opportunity to revise the work of the previous grades or learn the work of the next grade during informal assessment. Informal assessment gives learners expanded opportunities as well as the opportunity for remedial work. Participant 1 indicated that learners in lower grades sometimes respond to questions that learners in higher grades struggle with. Therefore, learners benefit for being in multi-grade classroom when they are assessed informally.

### **CONCLUSION**

In summary, the article concludes that LEPO framework must be used in multi-grade classrooms and explains how teaching and learning in multi-grade classrooms is enhanced by using strategies of the LEPO framework. To create the learning environment, teachers should group learners appropriately in classrooms. Classrooms should be designed in such a way that there will be learning stations where different activities take place, as well as reading corners where learners may sit to read. Time-tables should be implemented for the proper use and management of time. Teaching plans should be adapted to suit multi-grade classrooms circumstances for teachers to cover what is expected to be covered.

The learning process should take place using the differentiated curricular approach when the topics are the same or related in different subjects, or the same or related in different grades.



When the topics are different for each grade, teachers should use the quasi-monograde approach where learners are taught in turns as if they are in a monograde classroom. When the quasi-monograde approach is used, the other grades should be given different work to do so as to keep them busy while the teacher is teaching a specific grade. Learners should be afforded the opportunity to learn from family members, this is achieved when learners are given activities which they can complete with the help of family members. Self-directed learning should be used to afford learners the opportunity to learn on their own and when learners are explaining what they have learnt, the teacher and other learners fill the content gaps and corrects the learners when they present incorrect information. Learners should be taught by their peers and peer tutoring should not be used only when the teacher want to do other things but it should be incorporated in the daily teaching and learning process. Cooperative learning should be used to allow learners to learn from their classmates and not rely entirely on the teacher or themselves. Teachers should ensure that their lessons cater for different learning styles.

To ascertain the achievement of learning outcomes teachers should assess learners. Teachers should informally assess learners in different grades with either the same or grade-specific assessment questions. When the same assessment activities are used, learners are afforded the opportunity to revise the work of the previous grades or learn the work of the next grade. Learners are afforded expanded opportunities as well as the opportunity for remedial work. Teachers should formally assess learners in different grades using different activities for each grade and the activities for assessment can be found in grade-specific textbooks. The conclusions above addresses the main criticisms of LEPO framework that it does not specify or prescribe how teachers and learners should interact with the learning environment, learning process and learning outcomes in multi-grade classrooms. The article can help teachers teaching in multi-grade classrooms to improve their current practices to enhance teaching and learning.

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