

Cultivating Students Learning Motivation Through Mathematics Lessons in a Lower Primary School of Seychelles

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ABSTRACT

Every child is born with the potential to acquire and apply knowledge and skills. It is the teachers' role to develop and nurture this competence in a holistic way. Eccles and Roeser believed that in doing so, teachers need to apply motivational activities within a conducive environment. The link between students' learning motivation and constructive learning effects has been established by researchers like Ryan and Deci. However, even though motivation is known to be a major influence on students learning, it is a demanding task for teachers to cultivate learning motivation among young students. Therefore, this study aims at exploring teachers' understanding of students' learning motivation and the motivational strategies used to teach Mathematics in a lower primary school. A qualitative case study was conducted in a lower primary state school in Seychelles with the objective of finding out the teachers' understanding of students' learning motivation; exploring the motivation strategies used by them, and examining the influence of motivation on students' learning. The study hopes to explore the strategies that Mathematics teachers used to cultivate motivation in Seychelles's Mathematics classroom and identify the influence of motivation on students' learning. The participants of this study comprised four lower primary Mathematics teachers and sixty-six students aged between five and a half to seven and a half years old. The study was conducted between March and May of 2021. The results showed that at the beginning of the school year, the teachers found that most students lack motivation in class. However, the level of students' interest and motivation increased when they learned the topics in Mathematics that are related to their everyday life. The students also showed pleasure in learning when teachers included learning strategies like educational play, inquiry-based learning as well as the use of information, communication and technology (ICT) in the classroom as they reduce Mathematics negativity, which is a stressor for students. The study found that the more students experienced learning that interests them in Mathematics classes, the higher the level of their motivational drive, and this, in turn, helps them to display learning behavior that impacts positively on their Mathematics learning.

Keywords: Cultivating students' learning motivation; Motivation strategies; Case study; Teaching and learning strategies of mathematics; Lower primary school mathematics learning in Seychelles

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INTRODUCTION

Mathematical skill is something that everyone has to use in one way or another in their everyday life, from managing money, measuring, calculating, shopping, budgeting, travelling, and many more. However, studies have shown that many children, as well as adults, seem to have a certain fear and dislike towards mathematics, a phenomenon called "maths anxiety" (Sokolowski H, & Ansari D (2017). According to Willis (2016), one-third of adults who were interviewed expressed how they hated Mathematics during their school years, and it is possible that they have subsequently passed on this sentiment to their children. Many school leavers also complained about how boring mathematics lessons were, and how complicated it has been and unfortunately, the effect seems to be long lasting they reach adulthood. Thus, it is for this specific reason that teachers should always take motivation

into consideration when teaching mathematics in lower primary classes. Ensuring that young learners know the value of this subject in their everyday day life is very crucial. Starting young and establishing a good foundation in the teaching of mathematics will help the learners develop a love for this subject and be motivated to learn and enjoy it.

Since Mathematics is a crucial subject, it is important to help our children to stay away from “maths anxiety”, or ‘mathematics negativity’ at a very early age to prevent ‘mathematics stress’. Inducing motivation in mathematics teaching involves investing efforts to help learners master the concepts, encouraging them to employ effective self-regulated strategies, helping them to persist despite the challenges that they faced, and guiding them toward demonstrating a higher level of achievement. By learning these skills, the young learners would learn to apply mathematics knowledge, skills and attitude in their everyday life, thus are ready to solve everyday problems when they turn into adulthood. Many studies have proved that without motivation, limited learning takes place in class. Teachers should be encouraged to see the importance of motivation and work towards nurturing their students to develop love and joy for learning by developing their intrinsic interests (Wang, 2017). The expression “joy of learning” is associated with the situation when students are motivated intrinsically, love the classroom activities that are happening in class, and develop joy in attending school (Ng, 2017).

A study in the lower primary year on integrating motivation in the teaching of Mathematics is vital as it has a major influence on the intellectual development of students. The learning experience during lower primary school plays a great role in cultivating students’ motivation, developing their love for school and the practice of good behaviour as it lays the foundation for academic achievement as they grow up. It is for this purpose that Craft (2002) highlighted the importance of developing motivation in young learners’ curriculum.

Purpose of the Study

The purpose of the study is to examine how lower primary Mathematics teachers in Seychelles integrate motivation into their teaching to cultivate and sustain students’ learning motivation in Mathematics. The study hopes to answer the following questions:

- How do the LDLP School Mathematics teachers use learning motivation in their teaching?
- What is the influence of motivation on students’ learning?

BACKGROUND OF STUDY

Concept of Motivation

The reasons for people’s choices, either consciously or subconsciously, are generally linked to motivation. There is an abundance of terms that are related to motivation. Keywords like intrinsic and extrinsic motivation (Landen & Willem, 2001), learning strategies (Pintrich & DeGroot, 1990), achievement (Gottfried, 1990), biological drives (Pintrich & Schunk, 2002) and performance-oriented and mastery-oriented goals (Elliot & Dweck, 1988) have been associated to motivation. It is generally accepted that learners’ motivation will be maintained if teachers’ learning styles and approaches are effective. Johnson and Johnson (2017) attributed learners’ motivation to personal commitment, engagement, and strength to achieve educational tasks.

Intrinsic and extrinsic motivation explains the engagement level with which a student connects and participates in each activity. When a student is engaged in an activity for his or her own sake or will, this is referred to as intrinsic motivation, whereas extrinsic motivation is the type of motivation or incentive where the student engages in an activity just to complete a given task or be instructed. Goal-oriented motivation on the other hand describes the behavioural achievements of a student. Usually, a performance goal demonstrates a focal point on showing competence or capability with a reward expectation. In contrast, a mastery goal is explained as focusing on learning or mastering of a given assigned task to develop new skills, to gain new understanding and for self-improvement (Elliot & Dweck, 1998). According to Pintrich & Schunk (2002), achievement may be seen as an indirect indicator of motivation. It is suggested that students who show the desire to engage, apply effort and persevere to keep up with an activity or task are likely to attain achievement at a higher level.

Theories of Motivation

The role of students’ motivation in learning has long been studied from different perspectives by researchers, and their endeavors have enabled the production of a rich underpinning of motivation theories. In the beginning, motivation theories mirrored the approach of traditional behaviourism, considering rewards and punishments as the basis of motivation. Progressively, other theories started looking at needs and drives. Over the last thirty years, conversely, motivation has been studied by researchers from an approach of social cognition which placed emphasis on the beliefs of individuals and the background factors that can be influential on motivation. Self-efficacy Theory and Self-Determination Theory are two significant learning motivation theories that can explain

students' learning motivation and learning. Even though their conceptual meaning might be different, they are found to be supporting each other.

Self-Efficacy Theory

People's beliefs in their ability and potential to carry out a course of actions that are required to attain a precise task are described by Bandura (1977) as the concept of self-efficacy. Self-efficacy is seen as the most powerful factor that is driven by one's motivation. Students are more provoked to engage in and complete a task when they believe that they are capable of accomplishing the task successfully. Many studies have revealed that, compared to high-efficacy learners, low-efficacy students most of the time choose not to participate in tasks that are challenging; that is, they do not show an interest in working harder, they do not show long persistent attitude in activities. As a result, they are not able to enhance their performance (Bandura, 1997; Park, 2017; Pintrich & De Groot, 1990). Furthermore, students' self-efficacy improves when they observe that similar tasks are being accomplished by similar peers. Such experience can develop self-anticipation, which is reassuring that one can complete or perform the same task or activity that someone else can do. Self-efficacy in a student can be improved when a teacher as a trustworthy person gives them confidence by encouraging and persuading them to attempt tasks that are challenging.

Self-Determination Theory

Self-Determination theory placed emphasis on orientation differences in motivation which influence engagement qualities (Deci & Ryan, 2000). According to Self-Determination Theory, motivation can be different in both strength and orientation. Usually, students become motivated and develop a willingness to learn skills that are new, simply because approval from their parents has been gained or they see the skills as a necessity for their dreamed future career. Derived from the orientations of motivation, Self-Determination Theory classifies motivation into a few types, the most prominent being intrinsic and extrinsic motivation (Ryan & Deci, 2000). Intrinsic motivation is referred to as the character of engaging in an activity or task because of having the pleasure of doing it. It is normal as human nature for people to be engaged and occupied in activities that they see as intrinsically interesting. According to Deci and Ryan (2000), intrinsic motivation frequently guides people to demonstrate high levels of engagement, commitment, and performance. Students feel motivated and self-determined when their basic psychological needs are well met and when they have choices of some sort.

Contrary to intrinsic motivation is extrinsic motivation. This is the type of motivation or incentive where the student engages in an activity just to complete a task, not necessarily for his own sake or will. This is usually a performance goal where a student demonstrates competence with a reward expectation.

Students' Engagement in Learning Activities

According to Kuh (2001), engagement refers to the effort and qualities of participation put into learning activities that are genuine. It is not easy to define engagement on an operational basis as engagement might not be accurately determined by sight. However, an expert in the field or practitioner knows and can talk more about engagement through observation (Schlechty, 2002). Through observation, one can tell whether engagement is happening or not (Newmann, 1996).

For so many reasons, it is very important for students to engage in different activities in the classroom. The engagement of students is crucial as it makes learning possible. Student engagement in the classroom is important as it can predict students' level of performance and achievement in schools (Ladd & Dinella, 2009). Student engagement furthermore helps teachers to get feedback on students' learning and helps them evaluate their own effort in motivating students in the classroom (Birch & Ladd, 1997).

Motivation has a direct potential link to students' engagement in learning and subsequently in their achievement. Research has shown that motivation develops self-regulated learning, which allows better retention of information and better understanding. In self-regulation learning, learners activate and sustain behaviour and cognition (Pintrich & Schunk, 2002). Learners who show a high level of intrinsic motivation do well in a class where achievement is concerned (Dev, 1997). Thus, motivation, self-efficacy, self-rated learning, and engagement in learning are all interconnected.

Learning Motivation among Young Children

Interest is seen as the key factor of motivation in early childhood. Developing a young learner's subjective value is said to relate to the different choices of activities. Young learners' verbal views on the importance of an activity cannot be relied upon because their scope of expressive and receptive language and cognitive skills are very

limited (Bjorklund, 2005). Therefore, young learners' interests can be analysed through observation of choice, performance and how much effort they put in an activity or a task. Research has shown that there are two types of interest. They are individual interest and situational interest (Boekaerts & Boscolo, 2002).

Theoretical Framework of the Study

There are many theories of motivation; however, Self-Determination Theory (SDT) is found to be most suitable to guide this study as it focuses on learning motivation. It involves elements from other theories such as self-efficacy, and intrinsic and extrinsic motivation. SDT was proposed by the psychologists Edward Deci and Richard Ryan (2000). The theory proposes that understanding motivation requires considering three basic human needs; three needs that both the teacher and the students will seek to enhance continually throughout their life. According to Deci and Richard Ryan (2000), the three basic needs are as follows:

- Autonomy - the need for students to feel that they have control over themselves and the choices they make; from the activities they take part in to their interaction with peers.
- Competence - the need to feel capable, powerful, and skillful, that allows students to believe in themselves and to attempt challenges, in the face of setbacks they exhibit resilience.
- Relatedness - the need to feel connected and accepted by others, this allows students to feel belong which led to wellbeing and academic achievements.

METHOD

This study adopted the paradigm of qualitative research case study methodology. The case is mathematics classes in a Lower Primary School in Seychelles, an island state country in the Indian Ocean, off East Africa. Case study is lavishly descriptive, accurate and comprehensive (Merriam, 1998). Qualitative study is a good approach for this study, as it allowed the researcher to immerse herself with the participants in the lower primary School of Seychelles to understand the culture of its Mathematics teachers in cultivating students' learning motivation. It also generated a better inclusive opinion of how student motivation is cultivated in Lower Primary classes as it allowed for in-depth empirical examination and further individualized descriptions in regard to the context of the study.

Observable data was collected through audio-taped interviews, audio-taped informal discussions, videotaped classroom observations and photo snap documentation of work where and when possible. Interviews with teachers and students were conducted in groups. In total, four (4) teachers and twenty-four (24) students were interviewed. Each group of students (6 in a group) was interviewed once for a duration of forty-five (45) minutes. Interviews with teachers lasted longer. Conversations with students during these group interviews were noted and recorded. Interviews were videotaped. The collection of data also involved videotaping sixteen (16) classroom lessons as well analysis of pictures drawn by the children. The collection of data took place from mid-March to mid-May 2021.

Setting

A vital reason for choosing the Lower Primary years for the study is simply because this educational level has a major influence on the intellectual development of young students. This particular lower primary school in Seychelles was selected for this research as it is representative of typical schools in Seychelles. The school catered for lower primary students aged five (5) to six (6). It comprised four (4) classes, sixty-six students (66), and eleven (11) trained teaching staff, with different years of experience (four class teachers, four (4) assistant teachers, and four non-academic teachers).-The lower primary class teachers in this school taught all the subjects except Arts, Physical Education and Technology Enterprise. It also has four members of management. There is an assistant teacher in each classroom, to support teaching and learning. The sixty-six students came from different social, spiritual, cultural, and socioeconomic backgrounds. Therefore, it is not surprising for them to have different life experiences and knowledge backgrounds. They are all fluent in Creole, their mother tongue. Furthermore, they can speak French and English according to their level; these two language subjects were included in the class timetable. However, for the purpose of this study on integrating motivation into the teaching of Mathematics, only the four class teachers, the four assistant teachers and the sixty-six students from this lower primary school were involved.

FINDINGS

Analysis of data was done with the aim of answering the targeted research questions using thematic analysis proposed by Braun and Clark (2013). To ensure the trustworthiness of findings, categories and themes were generated and validated by two other colleagues, one from the same school, and another from a member of the

school management from another school. Apart from the researcher's interpretation, students' drawings were further interpreted by another mathematics teacher in the same school as well as one from another school. Member's check was finally done with the teachers and students being interviewed. Discussion with these experts as well as the interviewees provide further insights and slight modification was done after the validation process. Moreover, triangulation of collected data from teacher interviews, student interviews, observations, and students' drawing assisted in yielding valid findings.

Influence of Motivation onto student learning

Three themes emerged from teachers' interviews, students' interviews, students drawing and classroom observation.

Intrinsic motivation sustain learning

Teacher participants believed that students' motivation has to be intrinsic, that is come from the child if it has to be sustainable. Otherwise, the outcome would be different and would not last. Non-intrinsic motivation gives rise to 'aggression' in carrying out the tasks. Only intrinsic motivation provides for 'willingness' and 'interest in participants, as shown in the quotes below:

"They have to be motivated to learn. If they do not want to learn [out of their own willingness], they would not. They need to be motivated to learn, something that they can develop." (T2Y)

Teachers also think that students' intrinsic motivation depends on how parents develop that intrinsic motivation in their children.

"Majority of students are motivated to learn. They have the intrinsic motivation. I can say, that will be based on how they are brought up at home, how their parents motivate them, the goals the parents have for them." (T1E)

Extrinsic motivation drives learning

Teacher participants opined that intrinsic motivation can be enhanced through teacher providing extrinsic motivations. One teacher participant pointed out that the way the teacher starts the lesson could provide extrinsic motivation that drives students' intrinsic motivation to learn.

"And also if to get their attention, if you get their attention before you start the lesson, this also works with the pupils, ya. Yes, even with the non-motivated ones. The motivation, the energizer that you start the lesson with." (T1Z)

Students too provided many instances of extrinsic motivation through teachers such as

"[Teacher] Gives me a star for my book! (REIA Interview)"; "Teachers gave incentives 'give five' and praise to further promote intrinsic motivation in students. (Classroom observation)"

Focusing on what interest students enhances learning motivation

The teacher participants expressed that topics which are pleasurable to students where they can see a purpose and related to students' every day's life interest them and motivated them to learn, an example of quote is:

"I have seen that they like the topics based on real, real life situation, they are very active. At this age, they love active topics, like when you go for visit outside. This is what motivates them". (T2Y)

Learning motivation strategies used by the Mathematics teachers

Teachers motivated the students through the lessons they designed. Responses from teachers and students' semi-structured interview, students' drawing and evidence from classroom observation gives rise to five categories of strategies; using toys and games, inquiry learning, cross-disciplinary learning, behavioural management, and using homework.

Play and Games

Teachers used toys, authentic objects, and games to explain mathematics concepts making learning more comprehensive and effective. For example, a teacher used a square plan game that was drawn on the floor in front

of the classroom. The chosen student should jump on one leg from the start to the end of the squares. As the student jumped from one square to another, the teacher clapped her hand without him or her noticing. On hearing the clap, the student stopped on a square and identified if the square contained the name of the month of the year, a day of the week, a date, or a year. Students exclaimed they “love to play the games in the lesson. (Student-KH1A)”.

Another example of play and games appears in students’ drawing is shown in Figure Iva.



Figure IVa – I learn Mathematics through play. My teacher asked me to kick the ball five times (Student GRI)

Inquiry Learning

Inquiry-based instruction was used frequently as a strategy to motivate the students in their learning. The teachers gave out activities and posed questions that provoke thought, inspired thinking in students and allow them to think about themselves to become more active learners. It was observed that students played a central role in learning and the teacher facilitated but not teaching didactic all the time. An example is the Calendar activity where students were given a blank calendar to complete the missing information in groups by placing the dates, years, months and days in their respective places on the calendar. Then they were given the opportunity to share and present their work with others (classroom observation-T2Z).

Cross Disciplinary Learning

Lesson observation and students’ drawings show that students are motivated to learn and do Mathematics as the subject is taught using both Mathematics and Language skills to teach mathematical concepts. When learning numbers in figures and words, the students were advised by the teacher to use the reading decoding skills to read the number words to match them with their correct number figures. Both reading and writing were involved in this activity (classroom observation note T1Z). Cross-disciplinary teaching of both Mathematics and Languages was a common feature in all the classroom observation.

Behavioral Management

Classroom observations showed that the Mathematics lessons ran smoothly, without disruption because there was good behaviour management. Behaviour management was practiced by both parties; the students and the Mathematics teachers and that was witnessed in all Mathematic lesson observations. This was also mentioned by teacher T1Z during the semi-structured interview.

“You should get their [students] attention before you start the lesson, this also works with the pupils, ya”. (T1Z)

Teacher 1E pointed out that the teacher’s tone of voice also plays a key role when it comes to getting student attention.

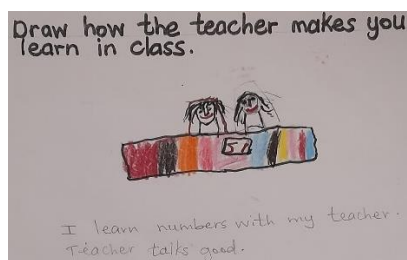
“ We tend to use the tone of voice as well when you start the lesson. If you are having a lively voice, will all want to know: ‘Ahhh, what Miss [teacher] is talking about’.”(T1E)

There were also instances during the student semi-structured interview where they informed the interviewer that they need to behave when the lesson is in progress. Below are examples of student quotations.

“We do not talk with our friends because if we look at the clock, we do not have much time. When we do not do our work and we talk, we take a long time.” (Student-JV1A)

“You have to listen to the teacher; because you have to know what she is saying.” (Student-AC2A)

The drawing below demonstrated how a student behaved in class while she is working with the teacher through her drawing.



Motivate students through comments on homework

Observations have shown that students were given an additional task based on what they have learned in the classroom to go and complete at home. This was pointed out by student AE2B when she said that she likes doing her homework (AE2B), and further added that she has to do it by herself. (AE2B). What was said by AE2B showed that she sees homework as something positive in learning. Responses from teacher semi-structured interviews gave an idea of how homework motivated students in their learning. Teacher participants focused their discussion more on positive and negative comments.

“The comments are mainly on the positive side, for example the student has a very nice handwriting, their homework is nicely done, we can see that what they have been taught during the lesson, they applied it, ok.” (T1E)

Another student AN2A also expressed that she like to come to school because they get extra work to do at home as homework.

“I like to come to school because the teacher gives me homework and lesson”. (Student-AN2A)

DISCUSSION

It is heartening to observe the students in this lower primary school motivated in their Mathematics lessons. They were always engaged in the different hands-on activities prepared by their Mathematics teachers, and they enjoyed it. For them, there was always something attractive with those activities that triggered them to discover more about the mathematics concept and want to do their best. The students loved experiencing material and objects and that developed an inquisitive attitude in them. Thus, students become engrossed and engaged in the lesson. Kuh (2001) defined engagement as effort and qualities of participation put into learning activities that are genuine. Engagement is crucial in any learning; it has a reciprocal relationship with motivation. Most of the students in this school were seen to be engaged in the mathematics lesson. It was evident that the Seychelles primary students from this school were motivated by what they called ‘great lessons’ and by homework.

The conceptual framework of this study proposed that if a teacher plans his or her lesson taking into consideration the three basic human needs of autonomy, competence and relatedness as indicated in Self-Determination Theory (SDT) (Ryan and Deci, 2000); students will be motivated to learn. Many students in this study were found to possess intrinsic motivation scaffolded by their teachers. In building up this intrinsic motivation, teachers applied extrinsic motivation through rewards and a caring attitude and created activities based on student’s interests. As a result, it has been found that the lower primary students were confident to manage their own learning by making appropriate choices in the classroom (practicing autonomy) which impacted positively their learning.

This ability is vital to sustaining student’s psychological well-being as students will feel the willingness to act and become more motivated when they felt supported by their teachers and friends (relatedness) and possessed the skills and knowledge to do well and that will bring an effect on the outcome of their learning (competence). The impact of motivation on learning in early mathematics was well documented in Bobis, Anderson, Martin and Way (2011). The finding of this study attests that children in the lower primary school in Seychelles likewise exhibited a heightened level of mathematics learning as they experience motivation through their mathematics lessons. This indicates that motivation brought about a rise in students’ performance in terms of their behavior change, engagement and task accomplishment.

The lower primary mathematics teachers were successful in motivating students in learning, what is their recipe for success? The mathematics activities teachers planned in the school were inquiry-based and play-based. These activities were student-centred. Through the activities, the students were empowered to make choices and respond,

without compulsory pressure upon them (autonomy). They enjoyed the teaching and learning taking place because it was the time to prove themselves. They brought out their personal drive and self-motivation. Thus, each student demonstrates his or her individual choice and keenness to participate in the lesson even though no external reward was mentioned most of the time. Teachers were practicing giving autonomy to learners as suggested in SDT theory. Ryan and Deci (2000) explained the need for autonomy as a voluntary behavior demonstrated by students toward their learning. According to them this is personally triggered, approved, and supported by the learner. Bandura (1977) related autonomy to learning with self-efficacy; that is students believe that they have the capabilities to exert self-control in activities they do. This willpower helps students, regardless of the presence of any challenging stimuli, direct their attention in their learning. Self-efficacy is a necessary formula for autonomy in learning which is evident in this lower primary school.

The lower primary mathematic teachers practice behavioral management. They were good at balancing caring and discipline. Students felt their care and want to please the teachers by doing well in mathematics. Teachers sat beside the students and taught them, they wrote comments on students' homework which motivate them to learn. They made use of the scaffolding strategies to motivate students as advised by Vygotsky's zone of proximal development and at the same time brought in challenging tasks as a motivator for students' learning (Vygotsky, 1978). As Pintrich (2003) put it, these strategies and tasks contributed towards the success of the students as they became fully engaged in the different mathematics activities or tasks. Students were always in contact with their teachers and there was smooth communication, good teaching-learning motivation strategies and good understanding between teacher-students. According to Johnson and Johnson (2017), student's motivation can vary from topic to topic, but if teachers' approaches are effective, and teachers are approachable, students' motivation will be maintained

Teachers also expressed the need to develop the student's competence in Mathematics, they achieved this through their teaching, the homework they provided, and the motivation given to the students. Even though students with different abilities were doing the same tasks most of the time, they all enjoyed it and completed their activities on time, a sign of attaining the competence needed for the activity. It was observed that lower primary students strived to become more competent when they saw their peers doing the same task as them.

CONCLUSION AND RECOMMENDATION

The finding of the study has made known the insight into how teachers in this lower primary school used learning motivation to sustain students' learning in Mathematics. Results indicated that teachers used intrinsic, extrinsic motivation and topics that interest students. The findings also give an understanding of what students appreciate as learning motivation and how teachers cope with motivating them amidst challenges in teaching and learning. Findings showed that students were more engaged and were willing to participate in the lessons where teachers came up with strategies such as inquiry-based learning, games and play, as well as cross-disciplinary learning. These lower primary teachers managed learning behaviour through constant communication with students, caring, good emotional support and environment for learning, group work, hands-on manipulation, real-life activities, and support from teachers triggered students to learn too. Learning motivation in the classroom allows students to be independent learners.

Based on the finding of the study, it could be recommended if schools in Seychelles want to continuously improve on mathematic learning, the curriculum developers of the Ministry of Education Seychelles should include in their curriculum, topics and innovative teaching and learning program that will engage students to learn as well as help motivate the students better. Inquiry learning, play-based learning, cross-disciplinary learning, and behavior management that were successful in this school can be emulated by other Seychelles schools. Ongoing in-service courses emphasising collaborative support to improve students' engagement in learning and learning motivation could be another recommendation. There is also a need to conduct further research in this field with a larger sampling, including assistant teachers and parents in the interview to get a more comprehensive understanding of motivation in lower primary schools at the national level as they are all involved in students learning.

Overall, it can be concluded that the objectives of this study have been achieved in tracking and exploring the situation of how the lower primary mathematics teachers of this Seychelles school integrated motivation in the teaching of Mathematics to cultivate students' learning motivation. This study revealed how teaching strategies, classroom environment and learning activities set by teachers impacted on student learning motivation; and this is connected to Self-Determination Theory by Deci and Ryan (2000) which focuses on three psychological needs for students' learning; autonomy, competency and relatedness which triggers intrinsic, extrinsic, and self-efficacy

in students; allowing them to engage in the different classroom activities. The case of this school can be emulated by other schools in Seychelles and other island state schools operating in the same context.

DECLARATION STATEMENT

The lead author* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained

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CONFLICT OF INTEREST

The authors declare no self-interest in the study conducted.

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