Investigating the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners: Perspective of Teachers

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ABSTRACT

This study aimed to discuss the teachers' perceptions of the transition stage of basic skills to higher mathematics of grade 7 learners. The participants of the study were the Grade 7 teachers taught in the face-to-face instructions. Purposive sampling was used in this study to select the participants from the secondary schools of Tagum City. The researchers employed a qualitative phenomenological case study design using in-depth interviews to gather information from the participants. Results showed that learners' lack of mastery in basic skills, learning in the new environment affects transition, learners' perception of mathematics is negative, curriculum implementation is challenging, and teaching strategies should be varied. Findings also suggested that remedial classes may be conducted, interactive instructions may be implemented, and hiring competent teachers to teach mathematics may be recommended. Furthermore, the Department of Education may continue to design programs that will support teachers in handling learners in the transition stage of their education career.

Keywords: transition stage, basic skills, higher mathematics, phenomenological case study

INTRODUCTION

Transitioning from elementary to secondary education is one of the most challenging issues that young people experience in their formal education worldwide. This transition, which usually occurs between the ages of eleven and thirteen, is thought to be crucial to an individual's academic success, well-being, and mental health (Prendergast et al., 2019). The transfer to secondary school has always been a two-headed beast: student anxiety about starting secondary school and student learning loss over the summer. The combination of weeks of classes, learning loss, and adjustment anxiety can stymie grade seven mathematics developments and will likely change how secondary math teachers prepare for the first semester (Hegarty, 2020).

School professionals play an essential role in improving students' transition experiences, but there is a need for further research into their perspectives on this transition in international literature. Primary and secondary teachers complained that there is a lack of consistency in the curricula. Secondary teachers described the lack of basic knowledge of incoming students as the most significant obstacle (Prendergast, 2019). This statement was supported by the study of Galabo et al. (2018), who said that the grade seven learners are only prepared for grade 5 level in mathematics. This problem could result from the findings in the study of Couch (2016), who said that teachers did not feel qualified to teach elementary math when they entered the classroom.

Learners can successfully progress to higher mathematics achievement levels when confident in their middle school mathematics skills. Teachers believe that basic mathematics skills are building blocks of mathematics that students can apply and remember for future instruction (Darkis, 2020). Furthermore, the researcher wants to investigate the grade seven mathematics teachers' experiences, coping mechanisms, and insights on how they handle the transition stage of basic skills to higher mathematics of the grade seven learners through having an in-depth interview.

METHODS

Research Design

This qualitative study utilized a phenomenological approach. Qualitative researchers approach the world from a very different perspective (Dodgson, 2017). All the qualitative methods view the world as subjective rather than objective (Creswell & Poth, 2017).

Teherani et al. (2015) explained that phenomenology's purpose is to define the meaning of this experience, both in terms of what happened and how it happened. It allowed the researcher to dive into the views, understandings, and sentiments of persons who had witnessed or lived through the phenomena or circumstances in question. Therefore, a qualitative phenomenology research design was used in this study to investigate the experiences, coping mechanisms, and insights of grade seven teachers in handling the transition stage of basic skills to higher mathematics of grade seven learners.

Research Participants

The research participants of this study were the seven grade seven mathematics teachers from the mega secondary schools of the Department of Education Tagum City Division. Purposive sampling was used in this analysis to classify the teachers who would be the study's participants. In qualitative research, purposeful sampling is commonly used to identify and select information-rich cases relevant to the event of interest (Palinkas et al., 2015).

Data Gathering Procedure

The researcher asked permission first from the office of the Schools Division Superintendent (SDS) and then to the school heads of the four mega public secondary schools of the Division of Tagum City. Second, the researcher listed the names of possible participants in the study and approached them if they were willing to participate. Those who voluntarily participated were given informed consent and underwent orientation before conducting an in-depth interview (IDI). An in-depth interview is one in which the goal is to learn more about the interviewee's experience and viewpoint on a particular topic.

Third, the researcher conducted an IDI to the seven grade seven mathematics teachers using the research questionnaire guide and voice recorder to record the interview.

Fourth, the researcher transcribed the data in verbatim and translated it. After that, thematic analysis was conducted. Lastly, with the support of related literature, the researcher wrote the results of the study and its implication.

Data Analysis

This study used thematic analysis. Thematic analysis, according to Braun and Clarke (2013), entails seven steps: transcribing, reading and familiarization, coding, searching for themes, reviewing themes, defining, and labeling themes, and concluding the study.

The researcher transcribed the recorded interviews and translated them into written documents. Before the coding and identifying themes, the researcher familiarized the data that happened during transcribing. This helped the researcher to gain an understanding of the data's patterns and linkages.

The researcher started coding the transcripts with the latent codes, and in coding, semantic codes were identified. After the coding, the researcher looked for patterns occurring within the data. Next, the researcher identified themes and sub-themes through the data patterns.

Last, the researcher presented the themes and other related data collected through codes about the research questions after data analysis. The researcher integrated the findings into the theories and literature of the study. Implications were written based on the findings.

Ethical Considerations

The participants' involvement was entirely voluntary. They had the option to withdraw their participation at any time during the research if they felt

uncomfortable. The confidentiality of research participants' information was maintained, as was the anonymity of participants.

The participants were given informed consent and fully informed about the objectives, methods, and benefits of the research as comprehensively as possible within the framework of the study. The researcher ensured that the participants would be physically, emotionally, and socially ready and wouldn't feel any discomfort or awkwardness in answering the research questions.

The researcher correctly cited the literature used in this study. There was no evidence or hint in the research of deliberate misreading of what had been done, no making up of data and outcomes, or purposely putting forward false conclusions.

RESULTS

Experiences of the Teachers Handling the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners

The in-depth interview gathered the teachers' experiences handling the transition stage of basic skills to higher mathematics of grade 7 learners. The major themes are evaluating learning, employing strategies, conducting the intervention, promoting collaboration, lacking mastery, having learning gaps, attitudes towards mathematics, taking responsibility for learning, implementing competencies, and learning diversity.

The results showed in the IDI that one of the major themes is evaluating learning. IDI 2 shared that the readiness of the grade seven learners into higher mathematics are measured by assessing their prior knowledge in their basic skills. The second theme which was revealed during the interview is employing strategies. IDI 5 shared that she used varied teaching strategies that will make learners enjoy learning in the classroom, like interactive games and other strategies that will suit their learning style in learning skills in mathematics. Since learners are still playful, IDI 7 shares that teachers should catch their learning attention. The third theme is conducting an intervention. IDI 2 shared that he builds up and enhances learners' basic skills mastery by giving additional math exercises and activities.

The fourth theme which transpires during the IDI is promoting collaboration. IDI 4 said that peer teaching is introduced in the class to help the learners who were not able to master the basic skills, and it helps learners fully understand the topic. Learners are arranged so that their friend is seated beside them to help them learn math. The fifth theme is lacking mastery. IDI 2, IDI 5, and IDI 7 share the same problem that their grade 7 learners struggle in performing fundamental operations in whole numbers, decimals, and fractions. The sixth theme is learning gaps. IDI 4 observed that some concepts in mathematics in the lower grade were not able to be taught. The seventh theme is attitudes towards mathematics. IDI 2 shared that learner are having culture shock as they enter grade 7, leading to mathematics anxiety.

The eighth theme which emerges during the IDI is taking responsibility for learning. IDI 1 shared that learners are still young and do not have responsibility. The ninth theme is implementing competencies. IDI 4 shared that unpacking the competencies helps teachers adjust the required time frame and cope. The last theme is learning diversity. IDI 6 and IDI 7 shared the same experience that the new learning environment affects learners' participation and only learners who are good in math are the most likely to participate.

Coping Mechanisms of the Teachers Handling the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners

With the challenges that the participants experience handling the transition stage of basic skills to higher mathematics of grade 7 learners, the following major themes have surfaced like using creative instructional material, devising interactive teaching strategies, conducting remedial class, creating a conducive classroom atmosphere, and

understanding learners' ability reveal during the collection of information through in-depth interview.

It is evident to the participants that they are using creative instructional material in handling grade 7 learners. IDI 7 shared that this multimedia grabs the attention of the learners. The second theme is that teachers are devising interactive teaching strategies. IDI 5 shared that she used interactive games since it covers the multiple intelligence of the learners. She also added that group activities help learners build their interpersonal skills and help them adjust to their new environment.

The third theme that transpires during the IDI with the participants is that teachers conduct remedial classes. IDI 7 said that she conducted remediation to enhance and master the learners' basic skills in mathematics. The fourth theme is creating a conducive classroom environment. IDI 1 shared that she wants to become approachable to the learners so they will not be afraid to ask questions and participate. The last theme is understanding learners' abilities. According to IDI 3, understanding the learners' ability as they enter grade 7 helps her teach strategies and skills that need improvement.

Insights of the Teachers Handling the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners

Through an in-depth interview, the teachers shared their insights in handling the transition stage of basic skills to higher mathematics of grade 7 learners. The major themes are designing remediation programs, developing mastery, conducting the assessments, assigning appropriate teachers, and planning the curriculum.

It transpires during the interview that teachers suggest designing a remediation program. IDI 2 shared that schools should allot time for remedial classes. The second theme is developing mastery. IDI 4 urged the learners to master these skills before entering grade seven. The third theme is conducting an assessment. IDI 5 suggested making activities that test the skills of the students and identify the least learned competencies

The fourth theme is assigning an appropriate teacher. IDI 1 and IDI 3 have the same suggestions that elementary teachers should major in mathematics. The last theme is planning the curriculum. IDI 6 shared that these kinds of learners are still playful. Interactive school activities motivate learners to adjust to their new environment.

DISCUSSION

The Cognitive Conflict and Conceptual Change of Clark and Lovric's (2009) align shared experiences of the teachers on their learners connecting their prior knowledge in mathematics to the new concept and the students' experiences, observed by the teachers, on connecting previous, present information. Teachers evaluate learners' prior knowledge before proceeding to the new concept to understand learners' ability in their basic skills in mathematics as they connect these skills to higher mathematics. This helps teachers know what to start and where to start in their classes.

Sociocultural Perspective (Vygotsky, 1978) explained the teachers' expectations to their learners in learning higher mathematics and how they help learners understand and in the new context. It shows that their relationship with peers is vital for students in transition (Spernes, 2020). This teachers' approach used in the classroom promotes collaboration and creates an atmosphere where everyone interacts and shares ideas. Trotman et al. (2015) also emphasized that teachers' support and peer support benefit the transition.

The Ecological Viewpoint of Bronfenbrenner (1979) gives the teachers' perspective on how students perform in their mathematics skills with their new environment. Teachers reiterated that group activities and buddy work help learners adjust to their new learning environment as they become acquainted with their classmates.

Prather and Alibali's (2009) Children Progress concepts relate to the teachers' perspective on how learners are

ready to move to a higher level of mathematics and learn mathematics. The lack of mastery in learners' basic math skills is evident that learners are not ready to learn higher mathematics.

Implication for Teaching Practice and Further Research

Handling the transition stage of basic skills to higher mathematics of grade 7 learners is very demanding for teachers. The awareness of the teachers how learners struggle in their mathematics learning during transition help teachers to provide actions that might occur during the transition. Teachers may also adjust their teaching practices and find teaching strategies that will help learners learn new concepts in mathematics.

Parental and psychosocial support might have an essential role in the transition stage. Exploring these areas might provide how parents and other stakeholders affect the learners' learning as they move from primary to secondary. There is also a potential to explore how peers, friends, and siblings might help learners adjust to their new environment, teaching practices, and school culture.

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