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The Use of Meranao Language on the Conceptual Understanding of the Grade 7 Students of MSU – University Training Center

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ABSTRACT: The study aimed at determining the perception on the use of Meranao language instruction on the conceptual understanding of a 133 selected grade 7 students of the Mindanao State University-University Training Center. The researcher utilized a self-made questionnaire for conceptual understanding and an adapted and modified questionnaire for the perception on the use of Meranao language. The result showed that from 133 students, 28.6% are male and 71.4% are female with majority, 77.4%, were in the age group between 12 – 13 years old and 99.2% are Meranao in ethnicity. Conceptual understanding level of the students were in approaching proficiency level. During the survey, the perception of the students towards the use of Meranao language instruction remain undecided. Also, there exist a significant relationship between the students conceptual understanding and their perception towards the use of the Meranao language instruction.

KEYWORDS: Conceptual understanding, first language, Meranao, language barriers.

1. INTRODUCTION

It is detrimental that some students who graduate in primary and secondary education lack some of the fundamental mathematics requirements and skills they need in higher education (Sunio, 2018). Most are ineligible for college coursework specifically in mathematics (Logue, 2017). This makes hard for teachers to teach students lessons because the schema or background knowledge was still in a poor state when they entered secondary and tertiary education, their interest and motivation (George, 2012), attitude towards the subject matter (Mensah et. Al, 2013) and more so in the understanding of the complexities of language in mathematics (Halai, 2019). These challenges are termed as learning barriers (Schoepp, 2005).

Schoepp (2005) defined barriers as "any condition that makes it difficult to make progress or to achieve an objective". According to the Oxford Dictionary (2015), a barrier is "a fence or an obstacle that prevents movement or access". In this study, Schoepp's (2005) definition of the barrier was adapted.

One of these barriers is the language barrier (Muhammed and Hakki, 2022; Ashifa, 2021; Da Costa, 2021). Language proficiency becomes essential in comprehending the mathematics tasks, more so because mathematical abstractions become dependent upon the understanding of the language in which it is put forth (Halai, 2009). Hence, when students learn mathematics other than their language of comfort, they need to learn both mathematics in a language which can result in learning of poor quality. In the understanding of the mathematical ideas and concepts, one has to be able to understand the instruction language (Maluleke, 2019) which means if the instruction language is foreign to the learner, then it becomes a double task to learning, hence, a need to use the first language of the learner (Atac, et. al, 2020). Language medium has an essential role in the teaching process (Jaber et. Al. 2020).

In the Philippine setting particularly in the Meranao community, as cited by Apolonio (2012) from Department Oder No. 16, s. 2012, the use of Meranao language is one of the twelve chief local dialects to be utilized as the language of instruction. However, researches have been conducted on the use of first language as a medium of instruction to the teaching and learning process and still a contradicting result had been found. Besa (2013) asserted a positive outcome in learning in a high school, but with the use of code switching between L1 and L2. Walter and Dekker (2011) also found students who were involved in MTB-MLE performed significantly better than those who were not, although they believe that some of the success may have been due to the quality of the teachers. Furthermore, results from the study of Burton (2013) indicated that teachers' and parents' views of MTB-MLE focused on the short-term benefits of the policy and the long-term disadvantages. While both groups were overwhelmingly satisfied with the increase in student understanding, they expressed concern about the future implications for learning. To Ghorbani (2019), teaching and learning in a secondary language is a challenging task. (Atac, et. Al, 2020) asserted that the use of first language

is necessary but undesired. In the study of Rosales (2020), the use of first language is a useful learning tool used by instructors to establish class rapport, help convey meaning, and clarify task instructions.

Dutcher (2001) outlines five major reasons why the use of first language should be promoted from speech by Luis Enrique López. First, with the use of first language of the learners, young learners develop strong first language competencies. Those learners perform well in all subjects. They develop a higher level of self-esteem. They develop a solid foundation on which all additional languages can be built if the students want to learn an additional language. Last, the use of first language promotes more participation of the parents and community in the school activities.

As Bailey et al. (2008) stated: "like water for the fish, language is so fundamental in classroom settings that it becomes transparent". Thus, this study delved on the use of Meranao language on the conceptual understanding of the Grade 7 students of MSU – University Training Center. Although the use of first language is a prominent part of learning experiences in educational domain most particularly in kindergarten to grade 3, relatively little research has examined how it influenced conceptual understanding of the students on junior high schools.

With regards to this situation, teachers have a significant role to play in explicit teaching to help the students deal with the complexities of language in mathematics (Meiers and Trevitt, 2010). Dealing with potential difficulties related to understanding the nature of language in mathematics classroom enables the teachers to support the learning of the students. He is responsible for providing the scaffolding in the teaching-learning process so that learning will easily take place (Knight, 2006) as cited by (Coronado, 2011). And, the scaffolding in this study is to use Maranao dialect as an instruction to teaching mathematics.

In consequence, the study aimed at determining the perception of the students on the use of Meranao language instruction on the conceptual understanding of the Grade 7 students of MSU – University Training Center. Specifically, this sought to address the following:

1. What is the level of conceptual understanding of the students?
2. What is the level of language barrier of the students?
3. Is there a significant relationship between the students' language barrier to their conceptual understanding?

2. METHODOLOGY

Upon the approval of the school head, a written consent form was given to the students to ensure maximum participation of the conduct of the study. A survey was carried out to the randomly selected 133 grade 7 students of the Mindanao State University – University Training Center. A fifteen (15) item self-made questionnaire which undergone content validity was also given to the students to measure their level of conceptual understanding. This self-made questionnaire for conceptual understanding has a Cronbach Alpha of 0.76. Furthermore, an adapted and modified questionnaire from Muhammed et. al (2022) was distributed to the students to determine their perception on the use of Meranao language instruction. This is a Likert scale questions comprises of a eleven (11) items statement ranging from (1) Strongly Disagree, (2) Disagree, (3) Undecided, (4) Agree and (5) Strongly Agree. These set of questionnaires were translated into Meranao, the first language of the students by a Meranao Linguist. After all the information from the students were gathered, the researcher tabulated the data for interpretation. Ultimately, the findings and results served as the basis for conclusions.

3. KEY FINDINGS

This part deals with the presentation, analysis, and interpretation of the results of the different statistical treatments of data gathered in this study. The key findings are presented below.

From 133 students, 28.6% are male and 71.4% are female with majority, 77.4%, were in the age group between 12 – 13 years old and 99.2% are Meranao in ethnicity.

Table 1. Frequency and percentage distribution of the students' proficiency level

Proficiency Level	**Conceptual Understanding**	
	Frequency	**Percentage**
Beginning	0	0.0%
Developing	8	6.0%
Approaching Proficiency	51	38.3%
Proficient	59	44.4%
Advanced	15	11.3%
Mean	**8.26**	**Approaching Proficiency**

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Generally, the students conceptual understanding in mathematics are in the approaching proficiency level with a mean of 8.26 with a standard deviation of 2.90. Specifically, in the students conceptual understanding in mathematics, 59 or 44.4% are proficient, 51 or 38.3% are approaching proficiency, 15 or 11.3% are advanced, 8 or 6.0% are developing and none are in the beginning level.

The table 2 below emphasized on the perception of the students towards the use of Meranao Language. From the table it can be seen that the students prefer English instrument ($\bar{x} = 3.55; SD = 1.08$) and perceived it to be more effective than in Meranao instruction ($\bar{x} = 1.93; SD = 1.02$) and "undecided" to prefer Meranao instrument ($\bar{x} = 2.71; SD = 0.35$)Furthermore, they "disagree" on the statement that Meranao instrument allows them to answer the questions ($\bar{x} = 2.14; SD = 1.21$) and that they can easily grasp the idea of the question in Meranao instrument ($\bar{x} = 2.47; SD = 0.91$). Meanwhile, the students remain "undecided" on whether using Meranao instrument is useful ($\bar{x} = 3.20; SD = 1.32$) and helps them in understanding what is asked in the question ($\bar{x} = 3.38; SD = 1.15$). They are "undecided" on whether they have poor Maranao ($\bar{x} = 2.96; SD = 1.21$) or English ($\bar{x} = 2.93; SD = 1.06$) vocabulary. In addition to that, the students were "undecided" whether they have difficulty understanding the terminologies in Meranao instrument ($\bar{x} = 2.69; SD = 1.07$ and are not confident enough ($\bar{x} = 2.77; SD = 1.38$). Generally, the students perception on the use of Meranao language remains "undecided" with a grand mean of 2.79 and a standard deviation of 0.41.

Table 1. Perception of the students towards the use of Meranao Language.

Statements	Mean $\bar{x}$	Standard Deviation	Qualitative Description	Rank
Meranao instruction is more effective than English instrument. *(Mas pekhasabotan so Meranao a baso English a katiro).*	1.93	1.02	Disagree	**11**
Using Meranao instrument helps me in understanding what is asked in the question. *(So kataro sa Meranao na pekhaogopan ako niyan kasabotan sa mga paka-isa).*	3.38	1.15	Undecided	**2**
I prefer Meranao instrument. *(Mas tomoon aken sa katiro sa Meranao).*	2.71	1.35	Undecided	**7**
I prefer English instrument. *(Mas tomoon aken sa katiro sa English).*	3.55	1.08	Agree	**1**
Meranao instrument allows me to answer the questions. *(Mas phaka sembag ako igira Meranao a kataro).*	2.14	1.21	Disagree	**10**
Meranao instrument is perceived as useful in answering questions. *(So kagamit sa Meranao na pekaogopan ako niyan ka asnweran so paka-isa).*	3.20	1.32	Undecided	**3**
I have poor English vocabulary. *(Maito a tanto so katawan aken a mga kataro sa English).*	2.93	1.06	Undecided	**5**
I have poor Meranao vocabulary. *(Maito a tanto so katawan aken a mga kataro sa Maranao).*	2.96	1.21	Undecided	**4**
I have difficulty understanding the terminologies In Meranao instrument. *(Pekharegenan ako masabot sa mga kataro sa Meranao).*	2.69	1.07	Undecided	**8**
I can easily grasp the idea of the question in Meranao instrument. *(Mas pekhsabotan aken so phaka-isa a Meranao).*	2.47	0.91	Disagree	**9**
I am confident in answering items using Meranao instrument. *(Mas aden a sarig aken sa ginawa aken igira pinggamit ako sa kataro sa Maranao).*	2.77	1.38	Undecided	**6**
Grand Mean	**2.79**	**0.41**	**Undecided**	

Students with proficient level tend to prefer English language instruction however it would be better if it would be for discussion of concepts only with the use of code switching as Besa (2013) also referred to that led to positive outcome in learning in a high school. However, below average students preferred the use of Meranao language instruction.

Table 3. Significant relationship between the students conceptual understanding and their perception to the use of Meranao language instruction.

Variable	Correlation Coefficient	P-value (Sig-2 tailed)	Description
Conceptual understanding vs. **Perception to Meranao Language**	0.199	0.022	Significant

The table above display a positive weak correlation between the two variables with Pearson r of 0.199. A positive correlation means that there is a direct proportion between the conceptual understanding and the perception of the students on the use of Meranao language instruction. Also, at 0.05 level of significance, there exist a significant relationship between the conceptual understanding and the perception of the students to the use of Meranao language. This conveys that there is a statistically significant connection between students' conceptual understanding and their perception of the use of Meranao language in instruction. This finding underscores the importance of considering students' attitudes and opinions about language use in the educational context, as it appears to be linked to their academic performance and comprehension of concepts. It also provides a foundation for further exploration into the nuanced relationship between language, perception, and learning outcomes. This is also consistent with the result of Bernardo (2014), Besa (2103), Espada (2012) and Water and Decker (2011).

4. CONCLUSION

Based from the findings that were obtained from the study, the students conceptual understanding falls on approaching proficiency level and remain undecided on the use of Meranao language instruction and prefer the use of English language instruction. Furthermore, there is a positive significant association exists between the students conceptual understanding and their perception towards Meranao language instruction. To this end, the success of the use of first language will highly depend on the change in attitude towards languages (Mahboob & Cruz, 2013).

With these, it is recommended to:

1. Conduct further research to delve into the factors affecting students' conceptual understanding and identify specific areas where students may be facing challenges and develop targeted interventions to enhance their proficiency level.
2. Organize awareness programs and workshops to inform students about the benefits and advantages of Meranao language instruction. Highlight how using the first language can contribute to a deeper understanding of concepts and improved academic performance.
3. Consider a balanced approach that combines both Meranao and English language instruction. This can be tailored to suit the needs and preferences of different students. Providing a flexible instructional environment may help bridge the gap between language preferences and conceptual understanding.
4. Provide training for teachers on effective methods of incorporating Meranao language instruction into the curriculum. Equip teachers with the skills and strategies needed to create a supportive and engaging language-learning environment.
5. Work towards a shift in the overall attitude towards language use in education. Encourage a mindset that values and embraces the use of the first language as a means to enhance conceptual understanding and academic success.
6. Promote cross-cultural understanding among students, teachers, and the community. Create initiatives that celebrate and appreciate the diversity of languages and cultures within the educational setting. This can contribute to a more inclusive and supportive learning environment.

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