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Contextualized Teaching in Mathematics, Perceptions and Attitudes towards Problem-Solving

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***Abstract*—** This study aimed to review an evidence of contextualization defined as an instructional approach with its two degrees, localization and indigenization processes and its impact to the students' perceptions and attitudes towards problem solving in mathematics. It sought to determine as to how it can create an impact to the thriving negative influence on the students' perceptions and attitudes towards problem solving. This descriptive-correlational survey design was conducted at Molave Vocational Technical School (MVTS) A.Y. 2018-2019 with Senior High School students being surveyed considering their exposure to contextualized teaching. The study utilized a validated self-formulated questionnaire and the adapted and modified Perceptions and Attitudes towards Problem Solving in Mathematics Scales (PTMS) and (ATMS) in gathering necessary data to determine its statistical significant relationships. The results revealed that students have high exposure to contextualization. In addition, it has influenced very high perceptions and high attitudes towards problem solving in mathematics. Also, it is manifested statistically the evident correlation between the aforementioned variables despite its methodological limitations. Contextualization is viewed by students as an aid in connecting situations and problems, promote critical thinking and deeper understanding and perform real-world activities. Further, it is implied that contextualization has the potential to accelerate the progress of underprepared students towards a more globally competitive higher education forum. Teachers are highly encouraged in the utilization of the contextualization process.

***Keywords*—** contextualization, localization, indigenization, Perceptions and Attitudes towards Problem Solving in Mathematics Scales (PTMS) and (ATMS).

INTRODUCTION

Contextualized teaching pertains to the educational process of associating the curriculum to a particular setting, situation or area of application to brand the competencies relevant, useful and meaningful to the learners. The classroom and real-world connection is highlighted by contextualization of word problems (Perin, 2011; Miller, 2006) to guarantee that students are familiar with the context and for them to activate their knowledge base (Bond, 2004).

On the other hand, Localization and Indigenization, being the degrees of contextualization, are the processes of linking learning content specified in the curriculum to local information and materials from the community of the learners. "With these processes, teachers can share the lesson in a more meaningful and relevant context connecting on the learners' previous experiences and real-life situations" Torres (2015). It could be one of the ways to help students when they are engaged in a problem solving scene especially in Mathematics subject. This is supported by Schoenfeld (1992) that "each contextualized mathematical problem solving impacts one's perception of what satisfies its purpose.

Problem solving in mathematics is a process of operating through details to orbit into the solution. It is a necessary skill with a notion that it can set up students to adapt to the rapidly changing world assessed by the instructors and teachers in both levels from basic to higher education.

Word-problem solving is remarkably used to aid students relate mathematical knowledge to real-life states (Davis & Mckillip, 1980). It is a skill in Mathematics that has accepted considerable attention from researchers all around the world.

However, word problems are considered by students as difficult, partly because it demands both basic calculations and semantic reasoning processes, and because word problems present in textbooks are oftentimes abstract or uncontextualized for the students' easy comprehension (Lopez & Sullivan, 1992; Weaver & Kintsch, 1992).

Despite the attempts of the teacher thoroughly elaborating a multitude of examples, there still remains obstacles that make problem solving imperatively challenging to learn. There is one important component that is argued to have a significant effect on the problem

assessment and that is 'context' (Bond, 2004; Huang, 2004; Perin, 2011).

Meanwhile, large number of students were reported to face difficulties in mathematics worldwide specially in mathematics problem solving (Heong, 2005; Tarzimah, 2005; Zalina, 2005). Globally, large numbers of students have not acquired the basic skills essential in mathematics (Nizam & Rosaznisham 2004; Berch & Mazzocco 2007).

In the Trends in International Mathematics and Science Study (TIMSS) in 2003, last time that the Philippines have participated in this assessment scored 378 and ranked 43rd of 46 countries in Science and 34th of 38 in Math.

It was also seen that Filipino students stand out in knowledge acquisition but are considerably lower in lessons that requires higher order thinking skills. This low understanding level paired by discouraging performances of the students in Mathematics has become a ground of great concern in our country and has bothered seriously the educationists.

In order to address this problem, a Republic Act No. 10533 which is referred as the K to 12 program requires teachers to present the lessons through Contextualization. This principle is clearly mentioned in the 1987 Philippine Constitution of Article XIV Section 14 in particular. Likewise same mandate is reflected in the DepEd's Mission. It is believed that learning happens when students breakdown new information or knowledge in such a way that it makes meaning to them from their own frames of reference that is their own inner worlds of memory, response and experience (K to 12 Toolkit, 2012).

In Molave Vocational Technical School (MVTS) where the researcher chose to conduct the study, the teachers are encouraged to contextualize teaching especially in Mathematics. Thus, the researcher is very eager to find out as to how the contextualization approach in teaching Mathematics affects the students' attitude and perception towards problem solving.

II. CONCEPTUAL FRAMEWORK

Problem-solving is imperative in mathematics education because it is often a powerful genre to teach students the importance of mathematical skills and knowledge for real-life situations (Davis & Mckillip, 1980; Hiebert, 1996).

Conversely, the absence of relevant and meaningful contexts may add the difficulty of complex problem solving resulting to limiting the problems' familiarity and sensed relevance.

A good problem solver in mathematics takes two complementary abilities to bear on problems pertaining quantitative relationships: the ability to decontextualize—to breakdown a situation given and correspond it symbolically and manipulate the representing symbols as if they have their own life, without necessarily attending to their referents—and the ability to contextualize, to process as needed during the manipulation in order to probe into the referents for the symbols entangled. (NGAC, CCSSO, 2010,p. 6)

Thus, one approach to improve word-problem solving skills may be to provide rich, meaningful contexts that pose both problems and the related mathematical operations in familiar contexts.

As shown in the diagram, this study is all about assessing the contextualization (independent variable) approach in teaching mathematics which is measured according to its Localization and Indigenization level. It also assesses the perception and attitude of students towards problem solving in math (dependent variable). These two variables will be correlated as to how each variable impacts one another.

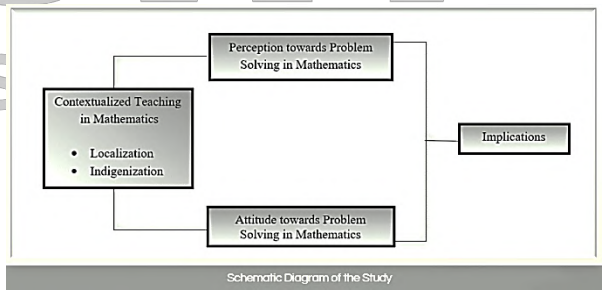

Figure 1. *Schematic Diagram of the Study*

III. RESEARCH METHODOLOGY

This study employed a descriptive–correlation survey design to collect realistic information on the contextualized teaching in mathematics and the students' attitude and perception towards problem solving. Stangor (2011) states that descriptive–correlation survey design will help sight the relationships among variables and consent the prediction of future events from present knowledge.

This study was conducted at Molave Vocational Technical School (MVTS). It's where the highest enrollees of Senior High School students are present.

The respondents of the study were the 101 Senior High School students studying in Molave Vocational Technical School from the school year 2018-2019. The study used random sampling. It is a method of selecting a sample size from a universe such that each member of the population has an equal chance of being included in the sample and all possible combinations have an equal chance of being selected as the sample. This strategy is known as the best procedure for sampling. The instruments used to collect the data were the researcher-constructed survey questionnaire to assess contextualized teaching approach in mathematics. This has gone validation from experts in the teaching field. The questionnaires that aimed to assess students' perceptions and attitudes were adopted and modified from W. Code et al.(2016) The Mathematics Attitudes and Perceptions Survey: An Instrument to Assess Expert-Like Views and Dispositions among Undergraduate Mathematics Students - International Journal of Mathematical Education in Science and Technology, v47 n6 p917-937 2016 and Y.F. Zakariya (2017) Development of Attitudes towards Mathematics Scale (ATMS) using Nigerian Data – Factor Analysis as a Determinant of Attitude Subcategories. International Journal of Progressive Education respectively.

IV. RESULTS AND DISCUSSION

The table 1 below shows that students are exposed to localized teaching in mathematics. Out of ten statement indicators, students have very high agreement on indicator 8, The teacher utilizes locally available materials in making instructional aids/ instruments as practiced by their mathematics teacher. It is followed by indicator 9, The teacher translates some problem-solving exercises using the community dialect. However, the least rating falls on statement indicator 2, The teacher mentions prominent/ known names in the locality in the lessons' examples. With an overall mean average of 3.17, this has construed to a positive exposure of the students to localized method of teaching math. This manifests that students are engaged with an instruction that is drawn from a local context. They have been exposed to localization during the lesson discussion, different form of assessments and other classroom activities.

This result is aligned with the study of Wyatt (2016) that contextualization is a process where students' prior knowledge from home, school, and community with the teaching-learning content and process is associated and reinforced.

Table 1. *Status of contextualized teaching in athematics in terms of localization*

ITEMS	Weighted Mean	Interpretation
1. The teacher uses examples that are evident in the locality.	3.26	Very High
2. The teacher mentions prominent/ known names in the locality in the lessons' examples.	2.92	High
3. The teacher incorporates local situations/ events during the lesson discussion.	3.24	High
4. The teacher includes the school setting in the lessons' example.	3.15	High
5. The teacher incorporates local stories during the lesson discussion.	2.95	High
6. The teacher uses local situations in constructing test questions or in the problem solving exercises.	3.31	Very High
7. The teacher incorporates local stories in constructing test questions or in the problem solving exercises.	2.98	High
8. The teacher utilizes locally available materials in making instructional aids/ instruments.	3.33	Very High
9. The teacher translates some problem-solving exercises using the community dialect.	3.31	Very High
10. The teacher encourages the students to answer questions in local context.	3.22	High
Overall Mean Response	3.17	High

Hypothetical Mean Range: 1.00–1.75= Very Low; 1.76–2.5 = Low; 2.51–3.25 = High; 3.26–4.00= Very High

Table 2 shows the status of contextualized teaching in mathematics in terms of indigenization. The highest item which the students agreed the most is on indicator 5, The teacher handles students in a child-friendly and culturally unbiased learning environment followed by indicator 7, The teacher respects the differences of the locally diverged culture and values of the students. Meanwhile, indicator 1, The teacher develops endemic materials as instructional aid has the lowest rating among all indicators which is least practiced by their math teachers.

The overall result is interpreted as very high to how teaching in mathematics is being indigenized by their teachers. It suggests that teachers are exercising specifications on the teaching-learning process. This means that the transfer of knowledge is appropriate and applicable to the learners real life situation. There is a consideration in the learners' community including their culture and local set up going through their inner selves in recognizing each role.

The result is coherent to Dupuis et, al. (2008) emphasizing that learning should be related directly to the contexts and interests of the learner. In addition, learning occurs in a specific context as the individuals concentrate into practice, which is driven by the physical, social and cultural context (Brown, Collins and Duguid, 1989). Thus, it is essential to align the context to the real world situations and locality of the students during the process of instruction.

Table 2. *Status of contextualized teaching in mathematics in terms of indigenization*

ITEMS	Weighted Mean	Interpretation
1. The teacher develops endemic materials as instructional aid.	3.16	High
2. The teacher uses integrative teaching approach.	3.29	Very High
3. The teacher employs differentiated instruction to address different students' learning needs.	3.26	Very High
4. The teacher facilitates learning in a culture-responsive and culture-sensitive manner.	3.38	Very High
5. The teacher handles students in a child-friendly and culturally unbiased learning environment.	3.61	Very High
6. The teacher tends to be flexible in dealing with the diverse learners.	3.35	Very High
7. The teacher respects the differences of the locally diverged culture and values of the students.	3.60	Very High
8. The teacher immerses student to learning environment where they can apply and enhance their specialized skills.	3.45	Very High
9. The teacher emphasizes the students' roles in the development of their respective community.	3.30	Very High
10. The teacher encourages students to elicit information through local examples that are relevant to the subject matter.	3.24	High
Overall Mean Response	3.36	Very High

Hypothetical Mean Range: 1.00–1.75= Very Low; 1.76–2.5 = Low; 2.51–3.25 = High; 3.26–4.00= Very High

Perception towards problem solving in mathematics

The table below reflects the students' perception towards problem solving in mathematics. Among the items, indicator 8, I can learn math if the teacher explains things well in class is the highest rated as interpreted very high which means that learning math best happens through the teachers' factor. When the teacher has its well elaboration upon the discussion and when the exact strategy are being practiced then bigger transfer rate of knowledge takes place. Generally, learning environment and teacher's factor are two factors that need the institutions' special consideration in producing students with positive perception towards mathematics (Siti, Binti, & Effandi 2010).

The second indicator which is also classified as very high is 9, I do expect math formulas to help my understanding of the ideas, and for doing calculations. They regard math formulas as an aid in solving different problems. In addition, third highest rating falls on indicator 4, Knowledge in math consists of many connected topics. This has confirmed that these students are aware on the interconnectedness as a

requirement in full understanding mathematical concepts. Hence, it shows their strong inclination to problem solving as confirmed by the overall mean of 3.30 interpreted as very high. This goes to show that most of them like to be involved into it.

These results can be anchored into another study that positive perception towards mathematics will result to a good impact on students achievement and can be seen from their effort and dedications in learning (Kanafiah & Jumadi 2013).

Table 3. *Perception of students towards problem solving in mathematics*

ITEMS	Weighted Mean	Interpretation
1. A challenge to learning math is to understand the necessary information to be used for other problem.	3.52	Very High
2. It is useful for me to do lots and lots of problems when learning math.	3.26	Very High
3. After I study a topic in math and feel that I understand it, I feel challenged solving problems on the same topic.	3.44	Very High
4. Knowledge in math consists of many connected topics.	3.61	Very High
5. I find that reading the text in detail is a helpful way for me to learn math.	3.41	Very High
6. There are lots of possible correct approach to solving a math problem.	3.50	Very High
7. I'm satisfied if I can do the exercises for a math topic.	3.41	Very High
8. I can learn math if the teacher explains things well in class.	3.72	Very High
9. I do expect math formulas to help my understanding of the ideas, and for doing calculations.	3.65	Very High
10. I study math to learn things that will be useful in my life outside of school.	3.27	Very High
11. If I get stuck on a math problem on my first try, I usually try to figure out a different way that works.	3.26	Very High
12. Nearly everyone is capable of understanding math if they work at it.	3.54	Very High
13. Understanding math means being able to recall something you've read or been shown.	3.24	High
14. To understand math I talk about it with friends and other students.	3.36	Very High
15. In math, it is important for me to make sense out of formulas and procedures before I can use them correctly.	3.44	Very High
16. Mathematical formulas express meaningful relationships among measurable things or amounts.	3.39	Very High
17. Learning math deepen my ideas about how the world works.	3.09	High
18. To learn math, I only need to understand the key concepts sample problems and apply it to the new given.	3.16	High
19. Reasoning skills used to understand math can be helpful to me in my everyday life.	3.27	High
20. I find my time worth-it to understand where math formulas come from.	3.12	High
21. I find carefully analyzing only a few problems in detail is a good way for me to learn math.	3.03	High
22. I can usually figure out a way to solve math problems.	2.74	High
23. School mathematics has helped a lot with what I experience in the real world.	3.04	High
24. Being good in math does not require talent.	3.20	High
25. To understand math, I sometimes relate my personal experiences to the topic being studied.	2.71	High
26. When I am solving a math problem, if I can see a formula that applies, I tend to understand about the underlying concepts.	3.08	High
27.If I get stuck on a math problem, there is chance that I will figure it out onmy own if I keep on repeating.	3.25	High

28. When learning something new in math, I relate it to what I already know rather than just memorizing it the way it is presented.	3.30	Very High
29. To prepare for a math test, I need to understand solutions to examples.	3.58	Very High
30. I think it is challenging to solve a math problem that is not similar to any example given in class or the textbook, as long as the topic has been covered in the course.	3.45	Very High
Overall Mean Response	3.30	Very High

Hypothetical Mean Range: 1.00–1.75= Very Low; 1.76–2.5 = Low; 2.51–3.25 = High; 3.26–4.00= Very High

Attitude towards problem solving

The table 4 below shows attitude of the students towards problem solving in mathematics. It can be seen that most students believe that math could have a big impact in their future. They see math as of one the significant subjects that will help them prepare for a greater competition which will be involving numerical literacy. These has justified as indicators 11, Doing well in math is important for my future and 12, Math are useful and necessary in areas of life rated on top respectively. It is also observed that most of them adhere that learning math is easy when it is associated with much effort and commitment as confirmed on indicator 14, If I exert much effort to some cases, I can understand math which is interpreted as high.

On the other hand, among the statement indicators, 27% have been rated as low. Specifically, on indicator 24, When a woman has to solve a math problem, she should not ask a man for help, their ratings mean that when a woman has to solve math problems, they should ask help from a man. This result is in contrast to Dwyer & Johnson, (2009) research that girls earn better grades in mathematics courses than boys through the end of high school.

The overall mean response is however high as finally assessed where it is still a fair attitude towards problem solving in math. Besides their low ratings on some items, it is obvious that they are still into mathematics.

This results have inclined to the 2011 TIMMS report on classroom instruction that, overall, students with positive attitudes towards mathematics have higher achievement, but these attitudes have declined over time (Mullis, Martin, Foy, & Arora, 2012).

Table 4. *Attitude of students towards problem solving in mathematics*

ITEMS	Weighted Mean	Interpretation
1. Math is easy for me.	2.33	Low
2. I see math as something I can use often when I get out of secondary school.	3.08	High
3. Taking math is a time well-spent.	3.09	High
4. I like to ask questions in math class.	2.94	High
5. Usually I find solving math easy.	2.48	Low
6. I like studying math up to the easiest parts.	2.98	High
7. Math is important to me in my life's work.	3.09	High
8. It's easy to get math teachers that respect me.	2.99	High
9. Math problems do not confuse me.	2.35	Low
10. I am always at ease in math problem solving.	2.43	Low
11. Doing well in math is important for my future.	3.24	High
12. Math are useful and necessary in areas of life.	3.22	High
13. In problem solving, it's easy for me to decide what I have to do.	2.73	High
14. If I exert much effort to some cases, I can understand math.	3.20	High
15. My teachers think advanced math is not a waste of time for me.	2.97	High
16. I feel that math teachers are considerate when I try to talk about something serious.	2.99	High
17. I always get high grades in math when much of my focus is into it.	2.99	High
18. I know how to study Math especially in solving.	2.76	High
19. Math should be present incorporated in all subjects.	2.73	High

20. In math problem solving, I like to find other ways in solving it.	2.79	High
21. I always have the guts on learning math.	2.76	High
22. I feel comfortable studying math problems like I feel with other subjects.	2.59	High
23. My teachers think I'm the kind of person who could do well in math.	2.40	Low
24. When a woman has to solve a math problem, she should not ask a man for help.	2.31	Low
25. Usually I am challenged to solve mathematical problems.	2.91	High
26. Math is one of my most favorite subjects.	2.62	High
27. I think I could handle more difficult math.	2.37	Low
28. I'm the type to do well in math problem solving.	2.50	Low
29. I'm one of those people who were born to learn math.	2.62	High
30. I believe that a female could be a genius in math.	3.14	High
Overall Mean Response	2.79	High

Hypothetical Mean Range: 1.00–1.75= Very Low; 1.76–2.5 = Low; 2.51–3.25 = High; 3.26–4.00= Very High

The table 5 below presents the test of significant relationship between the contextualized teaching in mathematics and the perception of students towards problem solving. It can be seen that contextualizing with a combination of localizing and indigenizing gains a good rating which is high. This gives an idea that students are really exposed to contextualized teaching in math. On the other hand, while testing statistically, it is found to be highly significant as shown of the p-value that it is lesser than 0.05 level of significance. Thus, this result suggests an idea that there exist a correlation of the two mentioned variables as manifested with the r-value of 0.514 which is interpreted as moderate correlation. Contextualized teaching in mathematics could statistically affect the perception of the students towards problem solving.

Research studies supported this result such as of Perin (2011) that contextualization has a potential in improving performance of students by making learning more active and meaningful. The familiarity of the terms, concepts, and situation that were embedded in the problem solving questions can facilitate in the activation of the knowledge (Bond, 2004) explicitly studied during contextual teaching. This is corroborating also to the study of Schoenfeld (1992) that "each contextualized mathematical problem solving impacts one's perception of what satisfies its purpose.

Table 5. *Test of significant correlation between the contextualized teaching in mathematics and the perception of students towards problem solving*

Variable	**No. of Research Participants**	**Mean**	**Pooled St. Dev.**	**r - value**	**p-value**	**Interpretation**
Contextualized Teaching in Mathematics	101	3.26	0.302	0.514*	0.00	Signi-ficant
Perception towards Mathematics	101	3.30				

*. Significant at α = 0.05 Correlation Size: .00- .30–Negligible; .31- .50–Low; .51- .70–Moderate; .71- .90–High; and .91– 1.0–Very High

Table 6 below presents the test of significant relationship between the contextualized teaching in mathematics and the attitude of students towards problem solving. As shown in the p-value which is lesser than 0.05 level of significance, it suggests that the null hypothesis be rejected. It entails statistical relationships between these two as also affirmed by the r-value of 0.312 though it is interpreted as a low correlation. Hence, there is still a correlation that students' attitude towards problem solving in mathematics is affected as to their exposure in the contextualization and it does best happen when combining both localization and indigenization.

This is in relation to Noyes (2012) that attitudes towards mathematics matter on the experiences of individual students, the significant differences can be found between one class and another and between students with the same mathematics class. In terms of the mean

scores on the problem solving activities, students who were taught using contextualized teaching through math related context had positive gains and had superior scores over those not given the intervention (Huang, students.

2004). It can also be related to the study of Obiedo and Jugar (2017) on contextualized teaching in Physics as it can improve the problem solving performance of

Table 6. *Test of significant correlation between the contextualized teaching in mathematics and the attitude of students towards problem solving*

Variable	No. of Research Participants	Mean	Pooled St. Dev.	r - value	p-value	Inter-pretation
Contextualized Teaching in Mathematics	101	3.26	0.313	0.312*	0.002	Significant
Attitude towards Mathematics	101	2.79				

*. Significant at α = 0.05 Correlation Size: .00- .30–Negligible; .31- .50–Low; .51- .70–Moderate; .71- .90–High; and .91– 1.0–Very High

Implications

The very good results as stipulated by the previous discussions have manifested to a sincere adherence of contextualized teaching in mathematics by using either localizing and indigenizing approach. It is attributed to the goal of contextualization that is to create conditions for more efficient learning, expressed in finer skills, higher grades and rate of retention in different courses, and progression to a more sophisticated course work. Whether instruction is localized or indigenized, the connection of prior skills instruction to applications and life goals is concordant with constructivism, which places students' interests and needs at the center of education (Dowden, 2007).

The study revealed the potential of contextualization in teaching using the context of localization and indigenization in improving the perceptions and attitudes towards problem solving in mathematics. It has also strengthened the claims of some researches over the superiority of contextualized teaching versus the traditional way. Linking basic skills instruction directly to authentic content area of applications that students will encounter in a disciplinary scenario may increase the likelihood that bigger rate of learning will be transferred to that very setting.

The students who were exposed to contextualized teaching found its importance to the field and to the reality of their future works. In effect, the students were able to analyze and apply the suited approach to solve mathematical problems.

However, the use of contextualized teaching specifically in mathematics problem solving is not new to the teachers who attempt to weigh whether students can transfer to the other learning areas. Meanwhile, overemphasizing this strategy may sometimes create negative impact as well to the students. So in the class, the teacher should address the reality of the students which will allow them to associate and think deeper beyond the abstract found in the textbook problems. The will of the teacher to teach and educate well should not be hindered due to the limited context of world problems in the textbook and to the novel and irrelevance to the reality of the students' life.

Thus, teachers are highly encouraged in the utilization of contextualized teaching emphasizing both localization and indigenization. Further, in the future when establishing a theoretical account that will help teachers to construct a problem from the students' meaningful setting should be observed to help improve of both the quality in teaching and in assessing problem solving.

V. CONCLUSION

The students have high exposure to contextualization. Fusing Localization and Indigenization, it has generated a score of 3.26 which is very high on the adherence of contextualization. The students exhibited high perception towards problem solving in mathematics where their ratings raise to an average of 3.30 belonging to the highest scale. They have portrayed a positive perception in mathematics. The attitude of the students towards problem solving in mathematics is fair. Though some may have low ratings, yet majority have a positive attitude towards problem solving that is manifested by 2.79 mean average, interpreted as high.

Upon testing the data, it is found out that there exist a significant relationship and moderate correlation as manifested by the Pearson 'r' of 0.514* between the contextualized Moreover, it is found out that there exist a significant relationship and low yet evident correlation as manifested by the Pearson 'r' of 0.312* between the contextualized teaching in mathematics and the students attitude towards problem solving. The results suggest the potential of contextualization in teaching mathematics using the context of localization and indigenization for improving the perceptions and attitudes towards problem solving. The students who were taught to contextually have found its importance to the field and to the reality of their future works. Thus, the students were able to analyze and apply the approach which is appropriate to solve mathematical problems.

Thus, significant relationships are found between contextualized teaching in mathematics and students' perceptions and attitudes towards problem solving. It is evident that the implementation of contextualized teaching in mathematics of the school is observed and students are exposed into it. As a result, the students' perceptions and attitudes towards problem solving in mathematics have been influenced to be positive. Hence, if these practices be sustained, it could have a positive impact to students' mathematical performance in particular to their numeracy skill.

Based on the findings a clear and well-defined system of adherence and monitoring to this contextualization strategy should be devised by the school academic personnel in order to get the full benefits it could offer. A need to sustain this teaching strategy should be observed and the focus must be on the local context that is useful to the students in their future career to maintain its positive impact specifically their inclinations towards problem solving in mathematics. Then, implementation to this teaching process may be adopted by other schools to increase students' positive perceptions and attitudes towards mathematics.

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