

Indigenous Counseling and Multiculture Learning at Secondary Schools in 3T Region (Left behind, Frontier, and Outermost) in Indonesia

Tohirin¹, Risnawati², Sohiron³, Dicki Hartanto⁴, Zubaidah Amir⁵, Ramon Muhandaz⁶

Universitas Islam Negeri Sultan Syarif Kasim Riau^{1,2,3,4,5,6}

Abstract: This research was initiated by the region development gap, especially at the communities in 3T areas. Whereas the aim and direction of region development policies for underdeveloped areas is to accelerate the development of disadvantaged areas by enhancing regional economic development and the quality of human resources supported by institutions and the availability of infrastructure, economy and basic services, so that disadvantaged areas can grow and develop more rapidly. The sampling technique was carried out using purposive sampling technique and analyzed using quantitative and qualitative approaches. The findings showed that the learning process of cultural mathematics in middle schools in the 3T area had not been implemented properly. The implementation of indigenous counseling for students by introducing local culture need to be well realized. The availability of human resources for guidance and counseling teachers is very important, while the real teachers are limited. Therefore, it is recommended that principals and schools need to add the needs of counseling teachers. The cooperation between counseling teachers and mathematics teachers in the preservation of local culture through counseling services and cultural mathematics learning should be done intensively.

Keywords : *Indigenous Counseling, Multiculture, Matematika*

Introduction

Local wisdom is part of the culture of a society that cannot be separated from the language of the community itself. Local wisdom is usually passed down from generation to generation through word of mouth. Local wisdom is in folklore, proverbs, songs, folk games, clothes, traditions, culture, language, and so on. Local wisdom as knowledge that is found by certain local communities through a collection of experiences in trying and integrated with an understanding of the local culture and natural conditions. In this day and age, local wisdom is not actually a barrier to progress, but as a characteristic of an area. One of the uniqueness of local wisdom can be expressed in the learning process, for example in mathematics learning which is often called Ethnomathematics.

In the context of learning mathematics, sometimes there are problems of injustice caused by cultural differences or the domination of certain cultures. In the Indonesian context, cultural domination does not always occur by the majority group, but it can be by minority groups who have superiority in some way. There is an assumption that students from lower socioeconomic classes are unlikely to be smart, so they find it difficult to learn mathematics. This will also affect the attitude of teachers who sometimes tend to be unfair to students. In this case, the upper level socio-economic groups dominate the achievement of mathematics achievement. In fact, in Indonesia the number of poor people is actually higher than the rich

¹ E-Mail: dicki.hartanto@uin-suska.ac.id

population. It is known that the Javanese are the largest ethnic group accounting for 41% of the total population of Indonesia. The findings of the American Association of University Women (Noel, 2000: 192) that male students are considered better at math than female students also create injustice when male students tend to get support to continue their studies in technology science while female students are not. Even that injustice can also arise through the assumption among students themselves that those who are good at mathematics usually behave strangely and find it difficult to get along, so they are shunned. Some math problems in the form of story problems sometimes contain racism, for example Javanese names are used more often than Balinese names, or modern Javanese names are described as shop owners, while non-modern Javanese names are described as farmer. This depiction can have a negative impact on the formation of students' self-concepts, especially for students from the inferior group. These various problems can then have an impact on the low mathematics achievement of students in the inferior group, namely students from low socioeconomic levels. Therefore, it is necessary to have an application of effective counseling techniques to deal with this multi-culture problem so that there are no differences and make local wisdom become a tool for a more interesting learning process.

The application of counseling requires the counselor to be sensitive and responsive to the presence of cultural diversity and the existence of cultural differences between one client group and another, and between the counselor himself and his client. The counselor must be aware of the implications of cultural diversity for the counseling process. The culture adopted is very likely to cause problems in human interaction in everyday life. Problems can arise due to individual interactions with their environment. It is very possible that the problem occurs in relation to cultural elements, namely the culture adopted by the individual, the culture in the individual environment, as well as other cultural demands that exist around the individual.

Indigenous counseling means counseling that is rooted in the knowledge system and practices of the local community where individuals internalize their knowledge systems and behavioral practices. This rooting of "local" does not mean ignoring the concepts of counseling, psychology concepts that are considered universal, which are usually produced by Western countries such as the United States. For example, we cannot ignore the theory of moral development put forward by Kohlberg as a universal theory, despite recent criticism of its universality. Indigenous counseling that grows from local wisdom as a solution in dealing with cultural shifts contaminated with Western culture. But in fact, at present there are still many areas that actually have the potential for local wisdom that can develop into a unique learning process, but they still cannot be exposed, explored because they are constrained by distance, namely underdeveloped, frontier, and outermost areas (3T).

Literature Review

1) Indigenous Counseling

According to the Indonesian English Dictionary indigenous means original, innate, derived from / native, while counseling in the dictionary means that it is associated with the word coun-sel which has several meanings, namely advice (to obtain counsel), advice (to give counsel), and talk (to take counsel). based on the above meaning, etymologically counseling means giving advice, suggestions, and conversations by exchanging ideas (Tohirin, 2009). Furthermore, Mortensen in Tohirin (2009) states that counseling is a process of interpersonal relationships in which one person helps another to increase understanding and ability to find problems. In this sense, it clearly shows that counseling is a situation of meeting or interpersonal relationships (counselor and counselee or client) where the counselor helps the counselee to gain understanding and the ability to find the problems they face.

Indigenous counseling according to Uswatun Marhamah et al (in the Indigenous Counseling Journal, 2015) contains the meaning of counseling which is rooted in the

knowledge system and community practice, a place where individuals internalize their knowledge system and behavioral practices. This rooting of "local" does not mean ignoring the concepts of counseling, the universally assumed psychological concepts that the United States of America generates. For example, we cannot ignore the theory of moral development put forward by Kohlberg as a universal theory, even though lately there have been many criticisms of its universality. Indigenous counseling that grows from local wisdom as a solution in dealing with cultural shifts contaminated with Western culture, such as materialism and individualism.

This indigenous counseling is closely related to local wisdom that exists in the area. This means that the counseling applied is based on the existing culture in the area, making it easier for the counselor to provide advice to clients who are experiencing existing problems. Indigenous counseling according to Berry et., Al et al (in Itsar Bolo Rangka), namely: the process of assisting individuals to deal with realities in their current social life, based on the principles and practices of their life, beliefs, ways of thinking, and local knowledge where the individual lives. and come from.

Based on the understanding of the experts, it can be understood that this indigenous is very closely related to local wisdom. This is supported by indigenous psychology. According to Kim U. & Berry (1993) Indigenous Psychology studies human behavior (or thoughts) that are innate, not transported from other areas and designed for local people. The Indigenous Psychology approach emphasizes notions that are rooted in ecological, philosophical, cultural, political, and historical contexts. The Indigenous Psychology approach seeks to document, organize, and interpret the understanding that a person has about himself and his world, how individuals and groups interact in their context. The approach to Indigenous Psychology includes indigenization from within which includes the study of issues and concepts that reflect specific cultural needs and realities.

2) Local Wisdom (Specificity of Local Culture)

The development of the concept of guidance and counseling in Indonesia needs to pay attention to the specific components of local culture. Given that Indonesia has diversity, both in terms of customs, demographics, language, socio-economic, as well as cultural backgrounds, each region has its own peculiarities. The motto of *Bhinneka Tunggal Ika* is an aspect of counseling with a cultural perspective for the Indonesian people, which develops dimensions of national insight in order to emphasize the characteristics of strong ties as the uniqueness of the nation's culture. The components that need to be considered in the development of the concept of guidance and counseling in Indonesia are focused on the orientation of cultural values which requires a harmonious and harmonious community life.

Koentjaraningrat (in Casmini) calls cultural value orientation a mentality. According to him, of the many mental components possessed by the Indonesian nation, there are four components that stand out, namely: (1) the concept of time which is circular (at that time it was "circulating" not "taking place"); (2) dependence on fate; (3) very strong kinship and mutual cooperation and (4) vertical cultural value orientation.

Local wisdom itself is two words that have different meanings, namely wisdom (wisdom) and local (local). In the Indonesian English Dictionary John M. Echols and Hasn Syadily, local means local, while wisdom is the same as wisdom. In general, local wisdom can be understood as a local idea that is wise, full of wisdom, of good value which is embedded and recognized by members of the community. Another opinion is explained by Alan Linggaharja (in Siti Irene Astuti) that wisdom is an adjective attached to a person's character which means wise and wise, while local is a condition of a place or local. However, when combined into one local wisdom, it has a very broad meaning, especially regarding matters

related to values, traditional customs, both culture and religion which become local rules and agreements (locality).

3) Multi-culture Mathematics Learning

Learning mathematics is a psychological process in the form of active activities in one's efforts to construct, understand or master mathematics material in order to achieve learning goals. Therefore Freudenthal (1993) states that mathematical concepts should not be given in a ready made product. This means that the concepts that exist in mathematics cannot be transferred directly from the teacher to the students because it contains an abstraction process, in which students must be involved in the concept discovery process. Students are required to create ideas, look for relationships to form concepts. Nikson in (Mulyardi, 2002) explains that learning mathematics is an effort to help students construct mathematical concepts or principles on their own through an internalization process so that the concept is rebuilt.

Based on this description, it can be understood that mathematics learning is a process organized by the teacher to teach students to acquire mathematical knowledge and skills. In addition, mathematics learning also constructs mathematical concepts or principles on its own through an internalization process so that the concept is rebuilt.

According to Banks (2002), multicultural education is an educational reform that aims to: 1) help each individual achieve a better self-understanding through other cultural perspectives, 2) serve students with cultural and ethnic diversity, 3) serve all students with skills, talents and the knowledge necessary to contribute to themselves and to a multicultural society, and 4) to help students master essential skills such as reading, writing and mathematics. Multicultural education includes at least the following three things: an idea or concept, an educational reform movement, and a process. What is important in multicultural education is to provide opportunities for students with certain characteristics to get a better education.

According to James A. Banks (Zamroni, 2010a), multicultural education includes five dimensions, namely: content integration, knowledge construction, pedagogical equality, prejudice reduction, and school culture empowerment. In content integration, teachers use examples and material content that comes from various cultures when teaching so that they reflect diversity. The teacher helps students understand through investigation that implied cultural assumptions in a discipline can influence the way knowledge is constructed. Equal education can be pursued through modification of teaching methods in order to facilitate students from different races, ethnicities, cultures, gender and social classes to achieve academic achievement. Suspicion between groups of students can be reduced by focusing on the characteristics of racist student behavior, then looking for ways to improve this through teaching methods and materials. Schools as miniature communities play a role in building a school culture that can empower students from different ethnic, racial and gender groups. These five dimensions are conceptualized in teacher behavior, in the selection of multicultural curricular content, in the implementation of teaching that becomes multicultural mediation, and when creating a context for class empowerment.

When the Banks model is translated into practice, the teacher helps students develop the skills, knowledge, and values needed to make decisions, actualize goals against social influences and political change. There are at least three dimensions of student orientation towards multicultural education, namely: the development of ethnic identity, interpersonal relationships, and self-empowerment. According to Sheets, these three dimensions must be operationalized as support for the five dimensions of Banks' multicultural education for social and cognitive development of students. (Zamroni, 2001a). Multicultural education arises in a variety of learning activities, school programs, and exercises or practices where educational institutions must respond to the needs and aspirations of various groups. These groups include:

girls, socioeconomic groups, ethnic minorities, religious minorities and people with disabilities. The challenge faced in multicultural education is how to help students from these various groups mediate between the culture that exists at home and the community they come from with the culture that exists in schools. The goal is for students to achieve the expected competencies, to be able to interact, communicate and participate effectively with different cultures in their countries or with different cultures in the world community.

One of the strengths that students bring to the classroom is cultural capital. Theoretically, teachers can use students' cultural capital to stimulate mathematics learning or even ignore it, actively motivating students to want to learn or even increasing the burden for achievement. This shows that teachers have a strategic role as agents of socialization. Teachers can use students' cultural backgrounds to teach mathematics. The relationship between mathematics and culture has been studied through ethnomathematics studies. Starting from the history of the emergence of a mathematical theorem to mathematical symbols, it is known that they are related to certain cultural backgrounds, for example Roman numerals, Arabic numerals, the Pythagorean theorem (Greece) and the solution to the quadratic equation of Al Khwarizmi (Iraq).

Mathematical ideas have been used in all cultures in historical and contemporary contexts. Some examples include integrating the ethno-mathematical context in the daily life of the successful society to help students understand mathematics as well as to understand the community (Averill, et al: 2009). Another example that shows the relationship between mathematics and culture is Gerdes (1988) who shows how to develop the idea of Euclidean geometry using geometric constructions developed from traditional Mozambican culture. Indonesia itself has a rich and colorful culture, therefore it is possible to explore the ethnomathematics contained therein. Mathematics learning based on multicultural education is developed based on the five dimensions of James Banks multicultural education. The framework for developing a multicultural education-based mathematics learning model is presented in the following scheme.

According to Sri (2012), a mathematics topic is taught in the context of various regional cultures in Indonesia through ethnomathematics. Exploration of the content of mathematical concepts in cultural views can foster students' knowledge and awareness that they too can contribute to mathematical discoveries, because mathematics is not dominated by a particular culture. It is hoped that the use of students' regional cultures as illustrations of mathematical concepts or principles will make it easier for students to understand them. In addition to their own regional culture, students also learn the same mathematics topics through other regional cultural contexts. This aims to increase students' appreciation of other regional cultures in Indonesia. In addition to cultural views as an illustration of mathematical concepts or principles, contextual mathematical problems can be used as a tool to generate social values. Mathematical problems that contain issues of inequality or injustice can be a material for discussion to provoke students to think critically and to grow awareness.

Based on the definitions and explanations that have been presented, it is clear that learning multicultural mathematics is very important to overcome the difficulties of learning mathematics, especially with the various local peculiarities.

4) 3T Regions (Disadvantaged, Frontier, and Outermost)

In the National Strategy Document for the Acceleration of Development of Disadvantaged Regions (STRANAS PPDT) as stated in the Regulation of the State Minister for the Development of Disadvantaged Areas Number 07 / PER / M-PDT / III / 2007, it is stated that what is meant by disadvantaged areas are regencies with relative communities and territories. less developed than other regions on a national scale.

It is hoped that this 3T education equality program is able to make education evenly distributed throughout Indonesia, so that our country will have quality Human Resources (HR) who are able to manage existing Natural Resources (SDA) and even our country can become a country that is Up. To overcome the problems that occur due to unequal education in Indonesia, it is necessary to pay special attention to and improve education in underdeveloped, frontier and underdeveloped areas. Broadly speaking, there are several ways, namely:

- The government is obliged to carry out equitable distribution in the field of education, both in cities and in 3T areas as stated in the Law.
- Education does not have to be built at a high cost, but schools can create business charities that become the spirit / operational costs of education even more without involving funding to students. Even if students are charged the fee must be adjusted according to the income level of the parents.
- The government should be committed to distributing educational assistance (imbal swadaya, block grants, etc.) to schools according to the amount disbursed and not to stop the assistance provided by the government at the bureaucratic level.
- The government provides attractive rewards in order to motivate professional teachers to be able to teach in remote areas because they are very instrumental in equitable education and reduce dropout rates.
- It is better if students studying at the faculty of education who will later become teachers are willing to be placed in remote areas in order to improve their education there.

5) Relationship between Indigenous Counseling and Multi-culture Learning

Multicultural mathematics learning in the regions is very diverse according to each region. In the context of this multicultural mathematics learning process, it must cause difficulties in delivering the material provided by the mathematics teacher. Therefore, it needs to be supported by the existence of counseling that is in accordance with the characteristics of their area so that they are able to overcome the difficulties experienced by students in learning mathematics. One of the counseling techniques in this multi-culture is indigenous counseling technique. In accordance with the definition of indigenous counseling, namely counseling that is rooted in the knowledge system and community practice, a place where individuals internalize their knowledge system and behavior practices.

Indigenous counseling can overcome these difficulties, because this type of counseling is rooted in the local community making it easier for the counselor to provide direction and advice to clients. So in this study also want to see how counseling guidance teachers work together in overcoming multicultural mathematics learning difficulties and at the same time introduce to students that with a culture they can learn mathematics easily.

6) Conceptual Framework

Multicultural mathematics learning is mathematical ideas that are expressed in the form of local wisdom in their respective areas so that in its implementation there needs to be special techniques so that students understand mathematical concepts. Multicultural mathematics learning certainly has many obstacles that are experienced by mathematics teachers. Therefore, it is necessary to collaborate with counselors as advisors who are experts in psychology to overcome these problems. The counselor has a special technique to overcome the difficulties of learning multicultural mathematics, namely indigenous counseling techniques. This indigenous counseling technique utilizes local wisdom as a tool or instrument in overcoming mathematics learning difficulties.

Research Methods

This study used a qualitative approach. This approach was chosen because of the compatibility with the characteristics of the problem under study. Through this study, the researcher wanted to describe and analyze indigenous counseling to overcome difficulties in learning multicultural mathematics. The research method used was a descriptive analytic method, which is chosen because it can describe systematically the facts and characteristics of the object and subject under study accurately.

The research was conducted at secondary schools in areas including the 3T (Disadvantaged, Frontier, and Outermost) areas, namely Batam (Riau Islands), Pesisir Selatan (West Sumatra) and Madura (East Java). The research time was carried out from September - October 2018.

As for the qualitative data, the instruments are the researchers themselves and the members of the researchers. To support the instrument, it is necessary to have secondary instruments, namely, interview guides, and observation sheets. Data were collected by purposive and quota sampling. Then, data collection techniques were non-participant observation, in-depth interviews with research subjects, documentation study, and questionnaires.

Qualitative data analysis in this study is in accordance with Miles and Huberman (Sugiyono, 2014), which is carried out interactively through a process of data reduction, data display and verification. and the analysis of the research is also carried out by means of analysis of cultural themes. According to Sugiyono (2014) the data validity test in the study includes tests: 1) internal validity, 2) external validity, 3) reliability, 4) objectivity. In this study, the data validity test technique used by researchers was to increase persistence, triangulation, discussion with peers, FGD and using member checks.

Finding and Discussion

1) Findings

From the results of questionnaires distributed to students regarding the need for preservation of local cultural values through counseling services in schools and madrasahs in the 3T area, it can be seen from the following table recapitulation:

Table 1
Local Cultural Values Need to be Preserved and Developed in school

| Region | Percentage | Category |
|---------------------------------|-------------------|-----------------------|
| Sampang Madura (East Java) | 94,4% | Strongly Agree |
| Batam (Riau Archipelagoes) | 99,5% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 100,0% | Strongly Agree |
| Average | 98,0% | Strongly Agree |

Source : Research Data, 2018

Based on table 1 above about the need for local cultural values to be preserved and developed through counseling services in schools, it can be seen that the average student in Sampang Madura strongly agrees with the percentage of 94.4%, while in Batam it is 99.5% and in Pesisir Selatan 100%. On average, respondents in the three regions stated that they strongly agreed with the percentage reaching 98.8%.

The above table revealed that most of the students agreed that the local cultures in each region should be saved and the school can help the cultures preservation by conducting school festivals, competitions and other activities.

Table 2
**Students in School Have a Moral Responsibility for
 Developing and Preserving Local Culture**

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 93,9% | Strongly Agree |
| Batam (Riau Archipelagoes) | 96,9% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 98,6% | Strongly Agree |
| Average | 96,5% | Strongly Agree |

Source : Research Data, 2018

Regarding students 'understanding of students' moral responsibility to develop and preserve local culture, the table above shows that the average student strongly agrees with the percentage of 93.9% in the Sampang (Madura) area, while in Batam strongly agrees with the percentage of 96.9 % and in the South Coast of West Sumatra 98.6%. On average, respondents in the three regions stated that they strongly agreed with the percentage reaching 96.5%.

The above data revealed that most of the students strongly agreed that the students in each region should have moral responsibility to preserve local culture. To implement moral responsibility, the teachers in school can educate their students' moral that can be done by providing the knowledges in the class and by giving examples how to have good moral in cultures preservation activities.

Table 3
Local Cultural Values Need to be Developed in Counseling Services in school

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 86,7% | Strongly Agree |
| Batam (Riau Archipelagoes) | 94,3% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 94,1% | Strongly Agree |
| Average | 91,7% | Strongly Agree |

Source : Research Data, 2018

Students' understanding of local cultural values needs to be developed in BK services in schools from the table above shows that the average student strongly agrees with a percentage of 86.7% in the Sampang (Madura) area, while in Batam strongly agrees with a percentage of 94.3 % and in Pesisir Selatan (West Sumatra) 94.1%. The average of respondents in the three regions stated that they strongly agreed with a percentage of 91.7%.

The table as above showed that most of the students also strongly agreed that the values of local cultures in each region need to be applied in counseling services in the school. To apply these activities, counseling teachers can give this service to the students. The teachers in school can also educate the importance of local culture values during teaching the class.

Table 4
**Local Cultural Values Need To Be Informed And Disseminated
 in Schools Through Counseling Guidance Services**

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 89,4% | Strongly Agree |
| Batam (Riau Archipelagoes) | 95,3% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 95,1% | Strongly Agree |
| Average | 93,3% | Strongly Agree |

Source : Research Data, 2018

Based on table 4, it can be seen that students understand if local cultural values need to be informed and socialized in schools through counseling guidance services. The table above shows that the average student strongly agrees with the percentage of 89.4% in Sampang

Madura, while in Batam strongly agrees with the percentage of 95.3% and Pesisir Selatan, Sumbar also strongly agrees or equal to 95.1%. On average, respondents in the three regions stated that they strongly agreed with the percentage of 93.3%.

Most of the students also strongly agree that the values of local cultures should be informed and disseminated, particularly in each school by maximizing the roles of counseling guidance teachers. The school also should provide enough facilities to support these.

Table 5
Counseling Teachers in Schools Need to Program Counseling Services for the Development of Local Cultural Values

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 91,1% | Strongly Agree |
| Batam (Riau Archipelagoes) | 94,3% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 94,1% | Strongly Agree |
| Average | 93,2% | Strongly Agree |

Source : Research Data, 2018

Students' understanding that BK teachers in schools need to program BK services for the development of local cultural values from the table above shows that the average student strongly agrees with the percentage of 91.1% in the Sampang Madura area, while in Batam it is 94.3% and in Pesisir Selatan, Sumbar at 94.1%. On average, respondents in the three regions stated that they strongly agreed with the percentage of 93.2%.

Table 6
Counseling Teachers in Schools Need to Develop Local Cultural Values through Guidance and Counseling Services

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 86,7% | Strongly Agree |
| Batam (Riau Archipelagoes) | 93,8% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 95,3,7% | Strongly Agree |
| Average | 91,9% | Strongly Agree |

Source : Research Data, 2018

Students' understanding that there is a need for BK teachers in schools needs to develop local cultural values through guidance and counseling services from the table above shows that the average student strongly agrees with a percentage of 86.7% in the Sampang Madura area, while in Batam 93, 8% and on the South Coast of 95.3%. The average of respondents in the three regions stated that they strongly agreed with the percentage of 91.9%.

Table 7
Counseling teachers should regularly conduct socialization related to the preservation of local cultural values through services Guidance and counseling

| Region | Percentage | Category |
|--------------------------|--------------|-----------------------|
| Sampang (Madura) | 85,6% | Strongly Agree |
| Batam | 87,0% | Strongly Agree |
| Pesisir Selatan (Sumbar) | 89,1% | Strongly Agree |
| Average | 87,2% | Strongly Agree |

Source : Research Data, 2018

Students' understanding that guidance and counseling teachers in schools should routinely conduct socialization related to the preservation of local cultural values through guidance and counseling services from the table above shows that the average student strongly agrees with

a percentage of 85.6% in the Sampang (Madura) area. while in Batam it was 87.0% and in Pesisir Selatan (West Sumatra) it was 89.1%. The average of respondents in the three regions stated that they strongly agreed with the percentage of 87.2%.

Table 8
The Development of Local Cultural Values in Schools Need to Be Involved Other Teachers, Especially Mathematics Teachers (Ethnomathematics)

| Region | Percentage | Category |
|---------------------------------|--------------|--------------|
| Sampang Madura (East Java) | 75,6% | Agree |
| Batam (Riau Archipelagoes) | 82,3% | Agree |
| Pesisir Selatan (West Sumatera) | 78,1% | Agree |
| Average | 78,7% | Agree |

Source : Research Data, 2018

According to students, in the development of local cultural values in schools, it is necessary to involve other teachers, especially mathematics (ethnomathematics) teachers. while in Batam it was 82.3% and in Pesisir Selatan (West Sumatra) it was 78.1%. The average of respondents in the three regions agreed with a percentage of 78.7%.

Table 9
The Need for the Support of Principals and School Stakeholders (School Committees) in the Framework of Preserving and Developing Values Local Culture in Schools

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 93,3% | Strongly Agree |
| Batam (Riau Archipelagoes) | 99,0% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 97,0% | Strongly Agree |
| Average | 96,4% | Strongly Agree |

Source : Research Data, 2018

According to students, the need for support from school principals and school stakeholders (school committee) in the context of preserving and developing local cultural values in schools. The table above shows that the average student agrees with the percentage of 93.3 % in the Sampang Madura area, while in Batam it is 99.0% and in Pesisir Selatan it is 97.0%. On average, respondents in the three regions agreed with the percentage of 96.4%.

Table 10
Parents Also Need To Support Counseling Teachers in Developing and Preserving Local Cultural Values in Schools

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 87,8% | Strongly Agree |
| Batam (Riau Archipelagoes) | 95,8% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 91,5% | Strongly Agree |
| Average | 91,7% | Strongly Agree |

Source : Research Data, 2018

According to students, the need for parental support also needs to support counseling teachers in developing and preserving local cultural values in schools through BK services. From the table above, it can be seen that the average student agrees with a percentage of 87.8% in the Sampang Madura area (East Java), 95.8% in Batam and 91.5% in Pesisir Selatan. The average of respondents in the three regions agreed with the percentage of 91.7%.

Table 11
Surrounding Communities Also Need To Encourage Schools and Counseling Teachers in Efforts to Preserve and Develop Values Local Culture

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 89,4% | Strongly Agree |
| Batam (Riau Archipelagoes) | 92,2% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 96,2% | Strongly Agree |
| Average | 92,6% | Strongly Agree |

Source : Research Data, 2018

According to students, the surrounding community also needs to encourage school and counseling teachers in an effort to preserve and develop local cultural values through BK services. The table above shows that the average student strongly agrees with the percentage of 89.4% in the Sampang Madura area (East Java), while in Batam it is 92.2% and in Pesisir Selatan it is 96.2%. On average, respondents in the three regions stated that they agreed with a percentage of 92.6%.

Table 12
Mathematics Teachers Need To Introduce Local Culture (Ethnomathematics) in Classroom Learning

| Region | Percentage | Category |
|---------------------------------|--------------|--------------|
| Sampang Madura (East Java) | 67,8% | Less Agree |
| Batam (Riau Archipelagoes) | 79,2% | Agree |
| Pesisir Selatan (West Sumatera) | 78,0% | Agree |
| Average | 75,0% | Agree |

Source : Research Data, 2018

According to students, mathematics teachers need to introduce local culture in mathematics learning in the classroom. The table above shows that the average student agrees with a percentage of 67.8% in the Sampang Madura area (East Java), while in Batam 79.2% and in Pesisir Selatan agree with a percentage of 78.0%. On average, respondents in the three regions agreed with a percentage of 75.0%.

Table 13
Folk games such as Setatak and other forms of play can be used as a medium for introduction of Mathematics Basics by Teachers

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 80,6% | Agree |
| Batam (Riau Archipelagoes) | 94,3% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 83,2% | Agree |
| Average | 86,0% | Strongly Agree |

Source : Research Data, 2018

Regarding students' understanding that folk games such as Setatak and other forms of games can be used as a medium for the introduction of the basics of mathematics by Mathematics teachers. The table above shows that the average student agrees with a percentage of 80.6% in the Sampang Madura area (East Java), while in Batam strongly agrees with the percentage of 94.3% and in Pesisir Selatan (West Sumatra) states agree with a percentage of 83, 2%. The average of respondents in the three regions stated that they strongly agreed with the percentage of 86.0%.

Table 14
Introduction to Numbers Needs to Be Introduced Through Tradition
Or Local Culture by Mathematics Teachers

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 83,3% | Strongly Agree |
| Batam (Riau Archipelagoes) | 88,5% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 90,1% | Strongly Agree |
| Average | 87,3% | Strongly Agree |

Source : Research Data, 2018

Furthermore, related to the need for numbers to be introduced through tradition or local culture by Mathematics teachers from the table above shows that the average student strongly agrees with a percentage of 83.3% in the Sampang Madura area, while in Batam strongly agrees with a percentage of 88.5% and Pesisir Selatan (West Sumatra) states strongly agree with a percentage of 90.1%. On average, respondents in the three regions stated that they strongly agreed with the percentage of 87.3%.

Table 15
Recapitulation of the Need for Indigenous Counseling and Mathematics Culture in
Secondary Schools in the 3T Area (Disadvantaged, Frontier and Outermost) in
Indonesia

| Region | Percentage | Category |
|---------------------------------|--------------|-----------------------|
| Sampang Madura (East Java) | 86,1% | Strongly Agree |
| Batam (Riau Archipelagoes) | 92,3% | Strongly Agree |
| Pesisir Selatan (West Sumatera) | 91,5% | Strongly Agree |
| Average | 90,0% | Strongly Agree |

Source : Research Data, 2018

The results of the recapitulation of the need for Indigenous Counseling and Cultural Mathematics in secondary schools in the 3T (Disadvantaged, Frontier and Outermost) Areas in Indonesia from the table above show that the average student strongly agrees with a percentage of 86.1% in the Sampang Madura area (East Java), while in Batam strongly agree with a percentage of 92.5% and in Pesisir Selatan (West Sumatra) they strongly agree with a percentage of 91.5%. The average of respondents in the three regions stated that they strongly agreed with the percentage of 90.03%.

Thus it can be seen that indigenous counseling and cultural mathematics really need to be applied in middle schools in the 3T (Disadvantaged, Frontier and Outermost) areas. The activities of indigenous counseling and cultural mathematics from 3 regions are described in the following discussions.

2) Discussions

Multiculture Mathematics Learning Process in Middle Schools in the 3T Region

The multicultural learning process in the 3T area from the results of an open questionnaire to students in Pesisir Selatan, the learning process carried out in general has not used a local cultural approach in learning mathematics. Even if there is an introduction to games such as arrogant games, long sticks, football, dice games, arrogance and tug of war, these are still the games commonly played by students in their respective home environments. As is well known, arrogant is one of the games in the context of introducing the basics of mathematics which can be used as learning material in class. From their ethnic and cultural

backgrounds in Pesisir Selatan, they generally come from the south coast and are of Minang ethnicity and the majority of religion is Muslim.

Meanwhile, in middle schools in Batam, it was revealed that teachers generally have not used ethno-mathematics in the learning process in the classroom, because it is still difficult in its application, even if there are some games introduced by the teacher such as the game of Congklak, in practice it is still carried out by students in the neighborhood they. Habits or those that are cultivated in school, such as the existence of 15 minutes of literacy at the beginning of the lesson and the five K program (Cleanliness, Beauty, Order, Health and Discipline). However, what is interesting about the students' backgrounds is that they come from several ethnic groups such as Malay, Javanese, Minang, Bugis and Chinese and different religions such as Islam, Christianity, Hinduism and Buddhism. Even though they have different ethnic and cultural backgrounds such as in Batam, in their daily interactions they are quite close and familiar and even decades before, their existence with different ethnic groups and cultures is integrated with the local community who are Malay and Muslim.

Likewise in Sampang, Madura where the use of ethno-mathematics in classroom learning is almost never done. However, sometimes there are teachers who introduce local culture in the learning process such as *Congklak* games, *Petak Umpet*, *Grobak Sodor* and especially *Karapan Sapi*, which is a typical culture in Madura. However, as in Pesisir Selatan, in Sampang Madura, generally the students come from the Madurese ethnic group and also East Java in general. This is because in the Sampang area, Madura, in general, immigrants rarely come to the area.

Picture 1. Research Activities in Batam, Sampang and Pesisir Selatan





Ethno-mathematic Activities in the 3T Region

From the results of an open questionnaire with students, it was revealed that the ethno-mathematical forms they had done in school and the surrounding environment and each region had differences. The students at SMAN in Pesisir Selatan mentioned that there were games of *Galuh, Randai, Congkak, Enggrang, Karet Gelang, Sipak Tekong, Main Andi, Main Gambar (playing drawing card), Tengkelek, Balap Karung and Main Dadu (Dice Games)*. The results of the ethno-mathematical activities played by students in Batam include *Patok Lele, Batu Tujuh, Buaya-buayaan, Batu Lima, Kotak Pos, Suit Pukul, Kuda Panjang, Congklak, Lompat Karet, Balap Karung, Gasing, Layang-layang, Lempar Sendal, Lompat Tali, Tempurung and Jengket*.

Meanwhile, the types of math games played by children or the community in Sampang, Madura include *Layanan, Kelereng, Bejeng, Petak Umpat, Karapan Sapi, Gobak Soro, Dhakon, Lompat Tali, Setatak, Enggrang, Dolip, Benteng Cak Enjing, Bekel, Pukul Periuk, Sapi Sosok, Bakiak and Selodor*.

In general, it can be seen that the various types of ethno-mathematical games in the three 3T regions show significant diversity, although there are some that use the same local terms and types of games. However, even though this game is played by students and the general public in the 3T environment or area, in the practice of learning in schools, this game has not been realized in the form of learning special materials during mathematics learning, although there are some examples such as superficial games. Therefore, it is not an exaggeration if this research activity also provides benefits in the context of ethno-mathematical socialization and indigenous counseling conducted through FGDs for BK and mathematics teachers in SMA and MA in the 3T area which are still quite far from the center of government or the capital in each province.

Indigenous Counseling for High School Students in the 3T Area

In general, counseling teachers have not introduced local culture to students through counseling services. In Pesisir Selatan, counseling teachers have provided motivation to students so that students can participate in the preservation and development of local culture. In another school in Pesisir Selatan, the local cultural forms introduced by counseling teachers to students are in the form of folk songs and dances. In general, guidance and counseling teachers only apply a good attitude and have a social spirit to our everyday environment in the culture in the school environment. Although it is not common for counseling teachers to do this, there are counseling teachers who introduce several forms of local culture that the

counseling teacher teaches students, for example introducing dances, folk songs, and some community games in the regions.

Counseling teachers in Batam generally have not introduced local culture or indigenous counseling to students in schools. Even if the introduction of local culture or games is sometimes introduced, namely top, *Jengket*, *Congklak* and *Batu lima*. However, the introduction of this culture is still rarely done in the counseling service process in schools.

As is the case in the Pesisir Selatan and Batam areas, from the results of research in the form of questionnaires and interviews with BK teachers, it is concluded that generally BK teachers in secondary schools in Sampang Madura (East Java) have also not programmed indigenous counseling in providing BK services in schools. However, there are some local cultures that are sometimes introduced by BK teachers, such as the game of *Congklak*, *Gobak Sodor*, *Dakon*, as well as *Karapan Sapi*. However, this introduction was not specifically linked to the counseling sessions and mathematics learning in schools.

Indigenous Counseling Process to Overcome Multicultural Mathematics Learning Problems in the 3T Region

From the results of the research conducted, it is known that the indigenous counseling process has not been carried out massively in the counseling process and mathematics learning in schools. However, in providing counseling services in schools, especially group guidance services and information services, teachers have introduced students to local culture. In Pesisir Selatan, it is through the introduction of regional dances, in Batam through *Congklak* games and in Sampang Madura through the culture of *Karapan Sapi*. However, local cultures introduced to the counseling process through this local cultural approach have not been specifically carried out, only general introduction.

Apart from not being programmed massively yet, indigenous counseling and cultural mathematics learning have not been linked to learning mathematics. Until in the end, the implementation of indigenous counseling by counseling teachers did not contribute to overcoming problems in mathematics learning in schools. However, with the research and FGD conducted by researchers in schools in Batam, Pesisir Selatan and Sampang, Madura, the socialization of indigenous counseling and ethnomatematics was introduced to counseling and Mathematics teachers in senior secondary schools in the third place. the 3T area.

The Collaboration of Mathematics and Counseling Teachers in implementing Multicultural Classroom Learning in the 3T Region

Research carried out in 3 areas of the 3T (Disadvantaged, Outermost and Frontier) area in Indonesia, namely Sampang Madura (East Java), Batam, Riau Islands and Pesisir Selatan (West Sumatra) resulted in the conclusion that the implementation of indigenous counseling and cultural mathematics in secondary schools in the 3T area (lagging behind) , The Frontier and the Outermost) in Indonesia it seems very necessary to apply where from the results of the respondents' assessment that the average student considered strongly agreed or very necessary with a percentage of 91.5% in the Pesisir Selatan area, while in Batam it was very necessary with a percentage of 92.5% and in Sampang, Madura is also included in the very necessary category with a percentage of 86.1% with an average of 90.03% indicating the results of implementation are very necessary.

Conclusion and Summary

1) Conclusion

The results of the study revealed that the learning process of Cultural Mathematics in Middle Schools in the 3T (Disadvantaged, Frontier and Outermost) areas has not been realized properly. Therefore, implementation of Indigenous counseling for students by introducing local culture is required.

The availability of human resources for guidance and counseling teachers is inadequate plus the differences in the culture of counseling teachers with local culture are an obstacle to realizing this. The limited understanding of mathematics teachers about the potential of local culture that can be used for cultural mathematics learning is also an obstacle to realizing it in the learning process.

The cooperation between counseling teachers and Mathematics teachers in the preservation of local culture through counseling services and cultural mathematics learning has also not been formally realized; however, in terms of conveying information about the importance of preserving local culture, it has been realized.

2) Suggestions

The need to introduce local culture such as ethnomathematics and indigenous counseling in mathematics learning and BK services in secondary schools in the 3T area. This is important so that local culture can continue to exist and be sustainable and future generations will not lose their original culture (lost culture).

The role of counseling teachers is necessary to carry out Indigenous counseling for students in providing counseling services to them. Likewise, mathematics teachers in multicultural mathematics learning by introducing local culture and various forms of games that are appropriate and are still being carried out by people in the 3T area.

It is necessary to involve the community directly and other stakeholders in maintaining or preserving local wisdom (indigenous counseling) through BK services and multicultural mathematics learning in secondary schools in the 3T area.

The government also needs to support through guidance to schools related to the importance of maintaining local culture through counseling services and learning in schools in the 3T area.

Bibliography

- Adhiputra, Anak Agung Ngurah. 2013. *Konseling Lintas Budaya*. Yogyakarta: Graha Ilmu.
- Averill, et al. (2009). Culturally Responsive Teaching of Mathematics: Three Models from Linked Studies. *Jurnal for Research in Mathematics Education*. Vol 40 No 2, hal 157-186.
- BAPPENAS / PPN. 2015. Daftar Daerah Tertinggal dan Perbatasan Direktorat Kawasan Khusus dan Daerah Tertinggal, Kementerian Perencanaan Pembangunan Nasional (PPN)/Badan Perencanaan Pembangunan Nasional (BAPPENAS). Rujukan tersebut berdasarkan Surat No 2421/Dt.7.2/04/2015 Tanggal 21 April 2015.
- Banks, James A. (2002). *An Introduction To Multicultural Education*. Boston: Allyn and Bacon.
- Berry W. J., dkk.1999. *Psikologi Lintas Budaya: Riset dan Aplikasi*. Jakarta: PT Gramedia Pustaka Utama
- Danoebroto, Sri Wulandari. 2012. *Model Pembelajaran Matematika Berbasis Pendidikan Multikultural*. Yogyakarta: P4TK Matematika (Jurnal Pembangunan Pendidikan:Fondasi dan Aplikasi).

- Hakim, Lukman Nul. 2014. *Ulasan Konsep: Pendekatan Psikologis Indijinus* dalam Jurnal Aspirasi Volume 5 No. 2, Desember 2014. Halaman 166-172.
- Marhamah, Uswatun dkk. 2015. *Indigenous Konseling (Studi Pemikiran Kearifan Lokal Ki Ageng Suryomentaram dalam Kawruh Jiwa)*. Semarang: UNNES (Jurnal Bimbingan Konseling).
- Muliyardi. 2002. *Strategi Pembelajaran Matematika*. Padang: FMIPA UNP
- Sugiyono. 2014. *Metode Penelitian Pendidikan*. Bandung: Alfabeta.
- Tohirin. 2007. *Bimbingan dan Konseling di Sekolah dan Madrasah Berbasis Integrasi*, Jakarta: Raja Grafindo Persada
- Yaya S. Kusumah. (2011). *Mathematical literacy. Proceedings 1st International Symposium on Mathematics Education*.
- Zamroni. (2010a). *The implementation of Multicultural Education: A Reader*. Yogyakarta: The Graduate Program The State University of Yogyakarta.

About the Author:

| Chief Researcher |
|---|
| Tohirin <i>Universitas Islam Negeri Sultan Syarif Kasim Riau</i> |
| Researcher Member |
| Risnawati <i>Universitas Islam Negeri Sultan Syarif Kasim Riau</i> |
| Sohiron <i>Universitas Islam Negeri Sultan Syarif Kasim Riau</i> |
| Dicki Hartanto <i>Universitas Islam Negeri Sultan Syarif Kasim Riau</i> |
| Zubaidah Amir <i>Universitas Islam Negeri Sultan Syarif Kasim Riau</i> |
| Ramon Muhandaz <i>Universitas Islam Negeri Sultan Syarif Kasim Riau</i> |