PROMOTING UNITY AWARENESS IN STATISTIC AMONG YEAR SIX STUDENTS: A STUDY IN MALAYSIA PRIMARY SCHOOL, KUALA LUMPUR.

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ABSTRACT: *Global Citizenship Education (GCE) was developed by UNESCO related to challenges faced by humans that impact peace and sustainability. Global Citizenship Education (GCE) was developed by UNESCO related to challenges faced by humans that impact peace and sustainability. The study aims to identify the student's awareness of unity through statistics via mathematics lessons from the pre and post-survey, gender, and post-survey. The study uses a quantitative approach and DDR research design. ADDIE Model was adapted to design and develop the lesson plan on statistics in unity. The participants of the research included 25 Year Six students. A questionnaire that consists of 12 items about unity was given to collect data. A descriptive, independent sample t-test and paired sample t-test were used to analyze the data using SPSS version 26. Based on the finding, there is a significant difference between pre and post the survey on awareness of unity with a t-value as [t (24) = -3.126, p < 0.05]. This study also shows that there is no significant difference between gender and post-survey among the participants. The result shows that students' understanding levels of unity in statistics have increased after the lesson. Hence, preparing new lessons on GCE via mathematical subjects can create a unified community aware of global issues.*

Keywords: Unity, Global Citizenship Education (GCE), Mathematics, Statistic

1. INTRODUCTION

Global Citizenship Education (GCE) was developed by UNESCO related to challenges faced by humans that impact peace and sustainability [1]. As people became more conscious of global citizenship, they began to pay more attention to the global dimension of citizenship education and its implications for policy, curriculum, teaching, and learning. According to Oxfam [2], GCE is a framework that may be used to teach students how to critically and actively interact with life's difficulties and possibilities in a fast-paced, integrated world. This study is being undertaken to emphasize global civic awareness of unity among our primary school pupils through statistics in mathematics lessons. It can assist students to comprehend how Mathematics can be utilized to address and enlighten real-world problems if it is taught from a global perspective.

Unity is one of the global issues because many people are now facing an increase in racial discrimination (United Nations) [3]. Therefore, education has become a basic mode to promote awareness of national unity [4]. When it comes to making lesson plans separately for GCE, schools confront various concerns and issues due to time. Primary school students require a strong, solid pedagogical technique to help them understand global issues through mathematics, divided into four domains: number and operation, measurement and geometry, relationships and algebra, statistics, and probability. Hence, statistics are chosen to teach GCE students because it is easy to define global issues, especially unity, through data handling. This study focuses on (a) identifying the student's awareness of unity through mathematic lessons between pre-survey and post-survey among Year Six students and (b) based on gender with post-survey.

Research Hypothesis

Based on the objectives and research question, the hypothesis is constructed as below;

H01: There is a significant difference between Pre and Post Survey in promoting unity awareness through mathematics among Year Six students.

H02: There is a significant difference in promoting unity awareness through mathematics among Year Six students based on gender and post-survey.

2. LITERATURE REVIEW

The main idea of GCE is shared by Saperstein [5], saying that the concept of "global citizenship" has gained traction in academic circles in recent years, spawning a new discipline known as Global Citizenship Education (GCE). GCE is one theoretical framework that can inform global citizenship education, and research on the use of reflection in transformative learning, precisely the rational cognitive approach, has been conducted [6]. Traditional citizenship or civic education is based on unitary national citizenship, whereas GCE is not. Instead, GCE emphasizes cross-cultural awareness, the development of personal traits such as empathy, and the tolerance of ambiguity.

GCE In Mathematics

The concept of globalization is a new revolution of the world as an integrated structure supports GCE's carried out effectively and efficiently. According to Myers [7] the GCE is in higher demand in all disciplines, including mathematics. In England, Ofsted [8] has urged more real-life settings in math teaching in schools and an emphasis on developing pupils' confidence in data analysis. The demand for a mathematical education relevant to global challenges has not gone unnoticed in mathematics education [9]. The importance of mathematics in supporting conservative principles is discussed, and how issues that may arise on applications of mathematics have contributed to the global economic crisis [10]

3. METHODOLOGY

Research Design

Design and Development Research (DDR) is used in this study to design and develop a lesson plan to convey Global Citizenship Education through the mathematics lesson. DDR is one of the research designs used in developing models to enhance and explore the module's effectiveness. A lesson plan was designed and developed accordingly to include Global Citizenship Education (GCE) in Statistics in this study. The ADDIE model is adapted, which involves five

processes: analysis, design, development, implementation, and evaluation to design and develop the lesson plan.[11]. The questionnaire was given to the students before and after an intervention to identify the module's effectiveness designed on GCE in Statistics.

Population and Sample

The main population of the data was 400 primary school students. In this study, 25 Year Six students out of 400 students were chosen as the sample data. The convenient sampling approach is used in collecting the samples since the study was done based on their expertise and experience. Year Six students were targeted in this study as the sample data. Convenience sampling is a non-random sampling, where the study targets the respondents' accessibility, availability at a specific time, or willingness to participate in the study [12].

Table 1:Gender distribution

Gender	No. of students
Female	14
Male	11
Total	25

Instruments

Instrument development can initiate in many ways. One of the ways to develop an instrument is by looking into the module developed for a study. Twelve items are developed to measure the students' awareness of Global Citizenship Education in mathematics, education context. Students were asked to give an opinion on the extent to which they agreed with the statement in the form of a Likert scale of 5 points which the options are 1 (strongly disagree) to 5 (strongly agree). These items provide input about the student's awareness of Global Citizenship Education in the context of unity.

Validation of Instrument

The students' awareness of Global Citizenship Education in the unity questionnaire was validated by two experts in Global Citizenship Education and Mathematics Education. The items were revised according to experts' suggestions and comments and accepted with some minor amendments. The items are in the following table.

Table 2: Students Awareness on Unity in Statistics; A Study in Kuala Lumpur

Pilot Study

The pilot test of the instrument was conducted by distributing 50 questionnaires to primary and secondary school mathematics students by simple random sampling from the Perak state in Malaysia. Cronbach's alpha coefficient approach is utilized in the current investigation to calculate the sum of measurement error in the test. Cronbach's coefficient has a lower permissible limit of 0.72 in general. Both constructs of this study (pilot test) are stable, as shown below in Table 3

Table 2: Students Awareness on Unity in Statistics; A Study in Kuala Lumpur

Code	items
U1	I know the importance of unity in my country.
U2	Mathematics teachers always emphasize unity in a mathematics lesson
U3	I used to ask my other races friend when facing any difficulties in solving mathematics problems.
U4	I like to do group tasks with multi-race members to solve any mathematics task.
U5	My teachers encourage me to discuss in the group with multiracial members in the group.
U6	I always help my friend to solve mathematical problems without concerning the races.
U7	The group task during mathematics lessons makes us unity
U8	During mathematics lessons, we help each other to get a better understanding.
U9	I appreciate costumes of other races through examples in a mathematics lesson.
U10	I appreciate food from other races through examples in a mathematics lesson.
U11	I respect my friend's ideas during discussions in a mathematics lesson.
U12	Mathematics lesson always makes me united with my friends.

Table 3: Reliability of Mathematics Homework Engagement constructs in the pilot test

Global Citizenship Education	Number of items	Coefficient Alpha
Unity	12	0.914

Table 4 indicates the rotated component matrix. The findings show that there are four factors and all loading factors are more than 0.5. As a result, there is no issue about the convergent validity of the pilot test' constructs.

Table 4: Rotated Component Matrix.

Items	Global Citizenship Education U
U2	.953
U4	.937
U5	.933
U1	.921
U12	.918
U3	.874
U8	.867
U9	.852
U7	.842
U10	.830
U6	.811
U11	.793

Overall, the alpha reliability coefficients for all of the items were satisfactory in the pilot study. As a result, all of these elements were kept in the main study. As a result, the questionnaire could be sent to the selected group.

4. FINDINGS AND DISCUSSION

This section explains how the data was analyzed and gives a relevant interpretation. In Table 5, the student profile is shown. Twenty-five students were chosen from the Year Six class, with 14 females (56%) and 11 males (44%). The mathematics lessons have been conducted to study the student's awareness of unity through Statistics. This topic is chosen among Year Six students to enhance their understanding of the statistics they learned since the lower primary.

Table 5: Profile of respondents

Respondent's Profile	Number of Respondents	Percentage of Respondents, %
Female	14	56
Male	11	44

Research Question 1: Does mathematics lessons able to create awareness of unity among the year six students?

Table 6: Mean Differences of Pre-Survey and Post-Survey

Paired Samples Statistics					
	Mean	N	Std. Deviation	Std. Error Mean	
Pair 1	Pre-survey	3.8333	25	.90555	.18111
	Post-survey	4.5333	25	.51257	.10251

There was a significant difference in scores between pre-survey (M=3.833, SD= 0.91) and post-survey (M= 4.53, SD=0.51) conditions; [t (24) = -3.126, p =0.005]. According to table 6 above, the mean value of the post-survey (M = 4.53) is greater than the mean value of the pre-survey (M =3.83). The research hypothesis is accepted since the significance value is 0.005, which is lower than the alpha value, $\alpha = 0.05$. As a result, there is a significant difference between the Pre and Post Survey in promoting unity awareness among the year six students through mathematics. It demonstrates that the GCE lesson was effective among the students.

Research Question 2: Is there any significant difference between gender and post-survey on students' awareness of unity?

Table 7: Mean Differences of Gender-Post survey

Group Statistics (Post-survey)				
Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	11	4.6364	.63604	.19177
Female	14	4.5714	.64621	.17271

There was no significant difference in scores for male (M=4.63, SD = 0.64) and female (M=4.57, SD=0,65) conditions; [t (23) = 0.251, p = 0.870]. The null hypothesis is rejected because the significance value is higher than the alpha value. According to Table 7, the mean value for male students (M = 4.63) is greater than the mean value for female students (M = 4.57). According to the mean value, male students have a higher level of understanding than female students. Emerullah 13] supported this statement by demonstrating that male students perform well than female students in mathematical skills, particularly mathematical reasoning abilities.

5. IMPLICATION

Implementation of GCE in the education system could enhance the efficiency of the system and the quality of students to create unified global citizens. This study also shows that proper designing and developing a lesson plan could enhance the efficiency of the lesson and could increase the students' development level on critical thinking. This study could be guidance for the teachers on how to introduce GCE in their mathematic lesson and eventually improve their teaching method to make the lesson attractive and adequate to the students. Preparing new lessons on GCE via mathematical subjects can be used as a sample for the Ministry of Education (MOE) to create a module that teachers can use. It can be a guideline for teachers on how to implement GCE in mathematics subjects. Hence, it can create a unified community that is aware of global issues and prepares itself to face global competency [14].

6. SUMMARY

This research shows that the implementation of GCE in a Mathematic lesson would enhance students' awareness of global issues and prepare them to face global competency. Via this study, students can be united with others and respect one another. Introducing GCE in lessons is a new pedagogical skill that every teacher should practice to teach students about the global crisis and mathematics lessons. In future studies, the other three domains of Mathematics, Numbers and Operations, Measurement and Geometry, Relationship and Algebra, can be analyzed to implement GCE into the lesson.

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