The findings of character values are integrated in the mathematics learning process (case study in Guangxi Normal University)

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Abstract. Good character values need to be possessed by students at the University. Based on the Regulation of Rector, No. 19 Year 2016, UNNES has 12 Ethics, namely: science for truth, academic freedom, harmony, responsibility, honesty, justice, caring, exemplary, discipline, politeness, non-discrimination, and mutual respect. China is known to have a good character education from elementary school to university level. So, we need a collaboration work with a university in China, namely: Guangxi Normal University (GXNU). Partner Lecturer: Prof. Dr. Guo Yuanbing. The problem: What character values are integrated into the learning process of mathematics at GXNU? The method of research: Qualitative approach. The research subjects of Local Students of GXNU were selected. The main activities in GXNU: Observation, interviews, triangulation, and Focus Group Discussion (FGD) in GXNU, guided by Prof. Dr. Guo Yuanbing. The results (1) The character values that found and grown in GXNU were as follows: Prosperity, Democracy, Civility, Harmony, Freedom, Equality, Justice, Rule of Law, Patriotism, Dedication, Integrity, and Friendship. (2) Lecturer of Mathematics Education of GXNU was given the freedom to apply some or all of the values of character into teaching and learning activities; Character values were not explicitly added into the Lesson Plan of a Math lecturer in GXNU; Violations of the application of character values were left entirely to the lecturer concerned with the support of the institution.

1. Introduction

Background.

Students who are smart and have high values in their courses are very necessary. However, students who have a good character are also urgently needed. Courteous behavior towards lecturers and educational staff, respecting the interests of the people around them, and willing to respect and obey all the rules that exist in the institution is a mirror of the value of character that has been attached to the student self. Students who have a superior level of intelligence accompanied by good character grades too, is a very good educational product. With the joining of superior intelligence and excellent character, it is expected that the student concerned is able to overcome the problems and demands of a very complex future. Figure 1 below is a mirror of character values that cannot be emulated.
In 2017, the Ministry of Education and Culture of Indonesia held a Strengthening of Character Education (SCE) program that was socialized and applied to schools for all levels in Indonesia. There are 5 types of character values that are socialized and applied to schools, namely: religious, nationalism, independence, mutual cooperation, and integrity. Thus, the five types of character values must be learned, lived, and practiced by students in daily life. At the university level, Universitas Negeri Semarang also introduces 12 characters that need and must be owned and applied by students. The character values is introduced under the name 12 Ethics. These twelve ethical values must be known to all students of Universitas Negeri Semarang, applied in daily life both on campus and when there are no lectures wherever students are.

The research as the base of this article was conducted at Guangxi Normal University (GXNU), China. Consideration of the selection of Guangxi Normal University (GXNU), China as a research partner, because schools in China from elementary to high school are given character education lessons. In the research at GXNU, the research team invited Prof. Dr. Guo Yuanbing as a partner lecturer. Partner lecturer is expected to be able to find an Elementary School around the GXNU campus. At the Elementary School, the research team conducted classroom observations, interviews about character implementation, and Focus Group Discussion (FGD).

Problems
The problems of this study: (1) What are the character values that developed at GXNU of China? (2) How do the Mathematics Education lecturers at GXNU integrate their lecture material with character values?

Objectives
The objectives to be achieved from the study in this article are two, namely: (1) Getting discovered about the values of characters that grown in GXNU. (2) To obtain findings about the way of the Mathematics Education lecturers at GXNU to integrate their lecture material with character values.

Urgency of Studies
The urgency that expected of writing this article is as follows: (1) The researchers’ experience in revealing the way GXNU lecturers when integrating the mathematics lecture process with character values can be used as a result of a very useful comparative study. (2) The comparative study experience at GXNU is expected to be the initial reference to improve the quality of lectures at Universitas Negeri Semarang, especially in the Department of Mathematics.

Literature Review
Strengthening Character Education (SCE) carried out in Indonesia as mentioned above, there are five characters. According to [1], there are 5 character values that must be possessed by students in Indonesia. The first character value is Religious Value. By having this religious value, all students must be religious and do good behaviour in accordance with their religious guidance. The second is the value of nationalism which means students are trained to have a love for the nation and state of Indonesia. The third character value is Independence which is intended so that students in Indonesia have a character that is not easy to depend on others in completing assignments. The fourth character...
value is the mutual cooperation value. Through mutual cooperation value, students are expected to have a strong cooperative spirit to solve every problem and be able to maintain national unity. The fifth character value is Integrity. By having the value of integrity, students are expected to behave as trustworthy human beings.

In this case of Character Education, [2], [3], and [4] wrote that the success of character education can be achieved through the habit of doing good in everyday life. Specifically for character education at the University level, [5], [6], and [7] wrote that discipline is the root of every other character value. Discipline is the behaviour that every student needs to do. Discipline is not only for students, but lecturers also must have a disciplined attitude. Stated by [8], and [9], and [10], the implementation of character values with planning, systematic, full responsibility, and humility is needed so that character values become a culture that is inherent as behaviour in every day.

2. Methods
A qualitative approach is used in this collaborative research. The research subjects were 2 lecturers and 4 Local Class students at Guangxi Normal University (GXNU) in China. Retrieval of data through classroom observations, quizzes, interviews with students, interviews with the teachers of Elementary School, interviews with partner lecturer from GXNU, Focus Group Discussion (FGD) attended by partner lecturers and students who became Research Subjects. Next, the research team conducted a triangulation process. The research activities were carried out through interview with the Local Students at Guangxi Normal University, Curriculum studies, and through FGD. Data analysis: Based on [11] and [12], then this qualitative data analysis was done include: data reduction, display data, data interpretation, and conclusion/verification.

3. Results and Discussions
3.1. Character Values and Its Development in GXNU
Based on observations, interviews with Quangxi Normal University lecturers, and with local students there are 12 character values implemented in the academic community at Quangxi Normal University. The twelve character values are as follows: Dedication, Harmony, Integrity, Friendship, Prosperity, , Civility, Justice, Rule of Law, Patriotism, Freedom, Democracy, and Equality, in free order. The explanation is as follows

Dedication, taught to students so that students are prepared to sacrifice for the sake of the nation and the State, is ready to have a sincere service character. Integrity, is the value of character so that students have an honest character in everything. Friendship is given to students so they have a good sense of friendship, have thoughts of not being selfish, and can help each other. Prosperity is a character taught by lecturers to students to be able to use the maximum results of their lectures to improve welfare for themselves, their families, their communities and their countries. Democracy, is the value of character taught to every student in order to know what are their rights and obligations, while respecting opinions that may be different. Civility, is a character value that requires students to be able to think and act well in the community. Harmony, is a character value given to students so that students are always able to maintain harmony and brotherhood both on campus and off campus.

Justice, is given to students so that students know the moral truth in accordance with their culture, rights and obligations. Rule of Law, is taught to students so that students do not violate laws that apply as citizens. Patriotism, is intended so that students have a sense of pride and love for their country. Freedom is a character that is taught so that students have the freedom to think and act positively with a sense of responsibility. Equality is instilled in students so that students have legal awareness that applies to the community.

3.2. Mathematics Learning Process at GXNU of China
Character values are integrated into the mathematics learning process of at GXNU of China, can be illustrated as like this. Lecturers have the freedom to inform and apply the 12 character values to students. Furthermore, if there are students who violate the values of this character, then the provision
of punishment is left to the discretion of the lecturer involved. Furthermore, so students always remember the 12 character values developed and implemented by Quangxi Normal University, the 12 character values are written in large letters on the walls of the campus building. Consider the following picture 2:

![Picture 2](image)

**Figure 2.** The research team is under the lecture building

Based on the results of the study, there are 12 character values that are taught and developed at Quangxi Normal University. In the first character value, the character taught to students is Prosperity, so that students are able to utilize the results of their lectures so that students are able to increase prosperity in all respects. This means that students are expected to get the maximum benefit from their efforts while completing their studies. In the second character, Democracy, the university tries to bring students' thinking towards modern thinking that requires each individual to be able to appreciate differences without causing disunity.

Then for the third character value, namely Civility, through this character tries to make students aware as a member of the community, so that it is expected to be able to adapt to the culture and character of the community where students will work later. In the fourth character value, namely Harmony, students are trained to be able to maintain harmony and brotherhood both on campus and off campus. This character is very important for students to have a link to be successful. In the value of Freedom, students are trained to recognize the values of freedom that are responsible without making trouble. Free to develop creative ideas that are useful for the nation and state. On the value of Equality, students are invited to have awareness of the existence of equal human rights and obligations in society.

On the other hand, Justice needs to be given to students so that students are aware of the need for a just life for the community. Fair does not have to be the same but in accordance with the proportions. Furthermore, the eighth character value is the Rule of Law, which means students are trained to obey the rules of the game, obey the rules of society and state regulations. In the ninth character value, students are invited to have a sense of pride and love for their country through a sense of patriotism. Furthermore, in Dedication as the tenth character value, students are trained to have loyalty and service in accordance with their duties. For the Integrity character value, which is the eleventh character value, students are trained to have an honest character in everything, be honest with oneself and be honest with others. In the tenth character of Friendship, students are taught to have a sense of loyalty friends full of friendship. Friendship is needed so that students are trained to establish or build a link to other parties.

According to [13], [14], and [15], character education in Higher Education is an ongoing process that is expected to be able to change negative attitudes into good or positive attitudes. In addition, the growth of good character in students is also a benchmark for universities in producing knowledgeable and virtuous human beings.
4. Conclusion
The conclusion of this research: (1) Peneliti menemukan 12 character values yang wajib diberikan mahasiswa oleh dosen-dosen GXNU, yaitu: Civility, Harmony, Prosperity, Democracy, Integrity, Freedom, Equality, Friendship, Justice, Dedication, Patriotism, and Rule of Law. Urutan tidak diperhatikan. (2) The mathematics lecture process is integrated with the character values in GXNU, the explanation is as follows: Socialization of the 12 character values in GXNU done through the writing on the lecture building. Character values were not given by lecturer. Lecturer was given the freedom to apply in the classroom. If there is a violation, the lecturer has the authority to reprimand or take other necessary actions.

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