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PPR IMPLEMENTATION IN MICRO TEACHING COURSE TO IMPROVE STUDENTS' CONFIDENCE AND COMPASSION

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Abstract
This research aims to describe the implementation of Paradigm of Reflective Pedagogy (PPR) in Micro Teaching course by providing experiences to students to facilitate learning with more compassion and careful time management for effective learning. By implementing PPR in Micro Teaching course, students are expected to have Competence (the ability to perform basic teaching skills), Conscience (confidence in performing the basic teaching skills), and Compassion (concern to the students' responses in the learning process). The implementation results showed that out of 22 students, as many as 16 students (72.73%) got A's and 6 students (27.27%) got B's. The average score on Competence aspect was 82, 89 on Conscience aspect and 84 on Compassion aspect.

Keywords: paradigm of reflective pedagogy, basic teaching skills, confidence, compassion

Introduction
Mathematics student teachers are required to master four teaching competencies, namely pedagogical competence, professional competence, personal competence and social competence. The four competencies are sharpened during their study at the undergraduate level. Achievement of competence begins with the mastery of various subjects, either related to the science of mathematics and mathematics learning. Comprehensive student competencies are examined when they follow PPL (Field Experience Program) activity. The last experience before PPL related to the mastery of the four competencies is Micro Teaching course. Through micro teaching, students are trained to master the competencies of opening and closing the lesson, explaining and providing stimulus, asking questions and providing reinforcement, as well as integrating all competencies in learning. Mastery of these competencies also include mastery of the materials, the use of learning strategies, the selection of relevant media, learning that engages students, appearance and time management, classroom management, and the use of language and writing system. It is expected that the mastery of those competencies can equip students to be ready for the PPL

activity. In this case, ready means minimizing complaints from PPL teachers at school stating that the students did not master the materials, were unable to control classes, and gave less attention to the students in general. Therefore, PPR implementation provides a learning experience that gives more emphasis on the mastery of learning materials, classroom management with more compassion when engaging students in learning, and careful time management for effective learning.

Paradigm of Reflective Pedagogy (PPR)

Lectures given by lecturers should continuously seek ways to help students to develop into a whole human being. This is in line with Rohandi's opinion (2015: 6) who said that the essence of education is a conscious effort to do any form of quality and sincere action in educating that is based on compassion and generosity. Paradigm of Reflective Pedagogy (PPR) is seen to help students develop into a whole human being. Suparno (2015: 18) said that PPR is a way for lecturers to assist students so that students develop themselves into whole human beings. Students' transformation into whole human beings means that students develop into competent people in their field, have a right conscience and have compassion which grows from their concern of others. It was stated by Kolvenbach (in Subagya, 2012: 23). The learning process is designed for a student-centered learning, so that students are able to live conscientiously to gain knowledge and live in true conscience and concerns for others with full responsibility.

According to Suparno (2015: 28), there are five stages in implementing PPR in learning, namely: context, experience, reflection, action and evaluation. Those stages are presented in the following diagram.
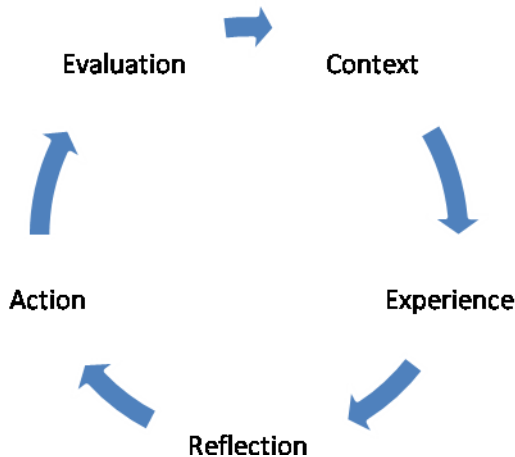
Context

Context is interpreted as the learning context that includes students, the environment, and universities. Students' context include all situations related to students, such as family background, social environment, religion, ideals or life goals, readiness to learn, the pre-conceived concept, and students' learning styles. Lecturers utilize an understanding of the students' context to choose relevant

teaching methods to facilitate the learning goals achievement for students. Environmental context includes all situations related either directly or indirectly with the students' activities such as: socio-economics and politics, culture, media and elements that can serve as learning sources. Wherever possible, lecturers should make use of the environment as a learning source so that students can feel the contextual learning in order to ease the students in achieving their learning goals. University environment context that houses the students include; academic atmosphere, friendship / brotherhood, moral values, work ethics, institutional organizations as well as student organizations. Lecturers monitor the students to live up to these values to achieve success in learning.

Experience

Lecturers have a role in designing experiences so that students experience for themselves how to use the materials, persevere, struggle and reap the meaning of learning so that the experience become theirs. Experience in learning is facilitated by the learning model used. Lecturers choose learning models that can explore the students' active participation. Students are expected to be physically and mentally active, so that students experience the process of designing materials and draw meaning for their lives from the process.

Reflection

Reflection is a process of drawing meaning from experience. This is done by tapping into past lived experiences deeply in order to draw meaning for personal life, living together, and social life. The experience in designing the materials using a variety of methods facilitated by the lecturers is reviewed in order to seek meaning for everyday life. Reflection is not an easy task for students. Therefore, it should be guided by lecturers through the reflective questions which guide students to dig deeper into their experience and interpret it.

Action

Action is either mental or psychomotor action that is performed after the students discover the meaning of their learning experience. Action is a follow-up activity of reflection. Action is manifested in better attitudes and real action that can be perceived by other people or the environment.

Evaluation

Evaluation is the giving an assessment to the experience, reflection, and action on whether they have been running well so that students become more competent in their field of knowledge, have a right conscience, and a sensitivity to the needs of others.

PPR implementation on this course is believed to help students optimally in terms of competence aspect, namely: performing basic teaching skills (opening and closing the lesson, explaining and providing stimulus, as well as asking questions and providing reinforcement); preparing lesson plans (RPP) in accordance with applicable school curriculum; and implementing the lesson plans that had been developed. In terms of conscience, namely: developing confidence in performing the basic teaching skills (confident because they believe in the accuracy of the method chosen for teaching the topics), increasing enthusiasm in performing the basic teaching skills of opening and closing the lesson (enthusiastic because they believe in the importance of opening and closing

correctly), careful attitude in performing the skills of explaining and providing stimulus (carefully because they believe in the importance of details from the aspects of explaining and providing a stimulus for the materials mastery by the students), and a creative attitude in performing skills of asking questions and providing reinforcement (creative because they believe in the importance of formulating questions and providing various stimulus for the creation of learning that is not boring for the students). In terms of compassion, namely: building a responsiveness to the students' responses in learning and caring attitude towards students' responses in the learning undertaken as the embodiment of compassion for the students who follow the lessons. PPR implementation in Micro Teaching is expected to help achieve the vision and mission of the study program, in which the vision is to forge humanist and professional mathematics teacher candidates. Meanwhile, one of its missions is to prepare students to become mathematics teacher candidates who have pedagogic competence, professional competence, personal competence and social competence, who have empathy towards the problems faced by the students and to respect plurality.

Method

This study was a descriptive study aiming to describe the phenomenon factually and accurately (Ibnu Hajar, 1996: 274). The phenomenon referred to in this research was the learning activities which implemented PPR in the Micro Teaching course. The description of the phenomenon was presented quantitatively. The research subjects were 22 sixth semester students of Mathematics Education Study Program in Sanata Dharma University who were enrolled in Micro Teaching course. The object of this research was the implementation of PPR in Micro Teaching course. The data obtained in this research were 1) quantitative data in the form of observation score on the mastery of the materials (competence), confidence (conscience), and concern for students (compassion) and 2) qualitative data in the form of reflection and students' action at the end of a cycle. Data were obtained by 1) observing the teaching practice conducted for each teaching skill in each cycle and 2) filling out the questionnaire for reflection and students' action after performing teaching practices. Instruments used for data collection were in the form of observation guidelines and reflection questionnaires developed by Faculty of Teachers Training and Education's team of Sanata Dharma University. The questionnaire developed by the team was a reflection questionnaire, but one of the question items can be used as a question for action.

Findings and Discussion
First Cycle

Context of the students enrolled in Micro Teaching course is the sixth semester students who have passed the pre-requisite courses of this course, namely: Junior High School Mathematics Learning, Senior High School Mathematics Learning, Mathematics Learning Planning and Mathematics Learning Evaluation in addition to courses related to mathematics materials in middle school. Through the Junior High School Mathematics Learning and Senior

High School Mathematics Learning courses, students have the opportunity to observe the mathematics learning process in junior and senior high schools, so they have understood what mathematics learning situation in junior or senior high schools is like. Furthermore, students also have already experienced teaching their friends in the teaching simulation as well as a group of junior and senior high school students, so that they already have a sense of teaching. Through Mathematics Learning Planning course, students have the opportunity to design learning with various methods and learning media, so they can conduct their teaching preparation in Micro Teaching more smoothly. Through Mathematics Learning Evaluation course, students have the opportunity to design various types / forms of assessment and testing them to junior or senior high school students. Through the courses related to mathematics materials in middle schools, the students receive materials reinforcement, so it is expected that there will be no problems related to the materials during Micro Teaching.

Experience that is given in the first cycle begins by giving an example of basic teaching skills practice models of opening and closing the learning. Students are given the opportunity to observe a video showing teacher candidates doing teaching practice, and then students criticize the teaching practice conducted and propose improvement measures for the teaching practice based on the theoretical knowledge that they have obtained previously. In the next stage, the students get the opportunity to practice opening and closing the lessons. The topics / basic competence (KD) which become the subject of learning are mathematics topics / KD in the junior / senior high school which are chosen by the students with the requirement that each student chooses a different topic / KD. Practices are carried out in 15 minutes. Practices are set in several meetings, in which 5 students get the opportunity to perform the practice each meeting. A student's practice is set by a supervisor who is in charge of checking the students who serve as observers (1 verbal observer and 1 written observer), delivering topics that will be taught by the practitioner to other students who serve as students, and setting the process of delivering the verbal evaluation from the verbal observer and from the supervisor to the practitioner. It is repeated again using the same procedure for the second basic teaching skills (explaining and providing stimulus) and the third teaching (asking questions and providing reinforcement).

Reflection on the practice that has been conducted is done individually by the practicing students immediately after completing the learning practice. Students feel happy because they can carry out the basic teaching skills practice according to what they expect, and they also feel relieved to have completed the first cycle by practicing the three basic teaching skills. Some students are still not satisfied with their teaching practice performance.

Action is formulated in writing in every practitioner's reflection sheet. Action is made based on the reflection that has been done by the students. Actions are in the form of intention to minimize errors / flaws when they practice the integrated teaching skills. Integrated teaching skills will be implemented in cycle 2.

Evaluation of the activities in the first cycle is conducted during the integrated teaching skills practice, so it is conducted during the process. Students

evaluate their teaching practices. The results of the process evaluation are: some students still find it difficult to find / create examples in everyday life related to the topics / KD practiced in order to motivate students; some students still find it difficult to find the idea of the media / teaching aids that should be used to explain specific topics / KD; difficulties in managing the time; they often use informal language; they make mistakes in explaining the subject matter; they still have not done all aspects of closing the lesson completely due to limited time. The evaluation results of the competence, conscience and compassion aspects can be seen in Table 1 below.

Table 1. Assessment on competence, conscience and compassion aspects in limited basic teaching skills

Cycle 1	
Aspect	Limited basic teaching skills
Competence	91
Conscience	97
Compassion	86

The scores shown in Table 1 are the average score from the three limited basic teaching skills performed. The students choose topics or basic competence that can be optimized to explore the skills of opening and closing the lesson, explaining and providing stimulus, as well as asking questions and giving reinforcement.

Second Cycle

Context of the students of the course are still the same students from the previous cycle, but they have increased their competence in basic teaching skills of opening and closing the lesson, explaining and giving stimulus, as well as asking questions and giving reinforcement separately.

Experience given in the second cycle is the experience that strengthens the experience in the first cycle, which is done by integrating basic teaching skills. Students are given the opportunity to observe a video showing teacher candidates doing integrated teaching skills practice, and then students criticize the practice of learning conducted and propose ways to improve the teaching practice based on the guidelines of the learning observation. Students get the opportunity to practice integrated teaching skills. Topics / basic competence (KD) that become the subject of learning are mathematics topics / KD in junior high school level which are chosen by the students provided that each student chooses a different topic / KD. Practices are carried out in 30 minutes. Practices are set in several meetings, in which three students have the opportunity to practice each meeting. The role divisions in the practice activities are the same as those in the first cycle, namely: supervisor, verbal observer, written observer, and students.

Reflection is done by every practicing student immediately after completing the integrated teaching practice. Students feel happy and confident when they successfully practice the integrated teaching skills. Furthermore, they feel excited

/ enthusiastic in finding ways / methods to deliver the materials that can ease the students in understanding the materials.

Action is done based on the reflection that has been done individually by the students and based on the feedback from the lecturer and the observers. Actions taken are formulating intention to minimize errors / failings when they practice the last integrated teaching skills practice. The last integrated teaching skills practice will be conducted in cycle 3.

Evaluation of the activities in the second cycle is conducted during the integrated teaching skills practice. The results of the process evaluation are some students still find it difficult to find / give real-life examples related to the topic / KD that will be practiced in order to motivate students; some students still find it difficult to find the idea of the media / teaching aids that should be used to explain certain topics / KD; some students still have difficulties in managing the time; some students often use informal language; some students still make mistakes in explaining the subject matter. Students make fewer mistakes than in the first cycle. The evaluation results of the competence, conscience and compassion aspects can be seen in Table 2 below.

Table 2. Assessment on competence, conscience and compassion aspects in integrated teaching skills for mathematics topic in Junior High School

Cycle 2	
Aspect	Integrated teaching skills
Competence	91
Conscience	88
Compassion	90

The scores shown in the above table are the average score from the competence, conscience and compassion indicators. The students choose Junior High School mathematics topics or basic competence that can be optimized to explore integrated basic teaching skills.

Third Cycle

Context The context of the students are still the same students from the students in cycle I and II, but they have acquired the competence of: opening and closing the lesson, explaining and giving stimulus, as well as asking questions and giving reinforcement integrated. The material trained in the learning is mathematics in Senior High School level.

Experience given in the third cycle is the integrated teaching skills practice using mathematics materials in Senior High School level. This is trained so that students can master the teaching skills integrated (because it has been done twice) and increase their materials mastery in the Senior High School level. Topics / basic competence (KD) that become the subject of learning are mathematics topics / KD in senior high school level which are chosen by the students with a requirement that each student chooses a different topic / KD. Practices are carried out in 45 minutes which is in accordance with the implementation of 1 (one) contact hour in senior high schools. Practices are set in several meetings, in which

two students get the opportunity to perform the practice each meeting. The role divisions in the practice activities are the same as those in the second cycle, namely: supervisor, verbal observer, written observer, and students.

Reflection is done by every practicing student immediately after completing the integrated teaching practice. Students feel happy and more confident in teaching. Furthermore, they feel more enthusiastic in following the learning process conducted by their fellow practicing students because they can be involved in the implementation of various methods to deliver the materials. Students find meaning from this integrated teaching skills practice to truly prepare themselves to be mathematics teachers. Students also come to awareness that mathematics is a subject that is considered difficult by the students so they have to try to make mathematics easy for the students. The implication is that students have to be creative in finding ways / methods and media that can help them do that.

Action is made based on the reflection that has been done individually by the students and based on the feedback from the lecturer and the observers. The actions included formulating intention to minimize errors / flaws when they do the teaching practices at schools, which is when they do the Field Experience Program (PPL) at schools in the next semester.

Evaluation of the activities in the third cycle is conducted when the students perform their second integrated teaching skills practice. The evaluation is conducted by the lecturer and the students who act as observers. The evaluation results on the aspects of competence, conscience and compassion can be seen in Table 3 below.

Table 3. Assessment on competence, conscience and compassion aspects in integrated teaching skills for mathematics topic in Senior High School

Cycle 3	
Aspect	Integrated teaching skills
Competence	94
Conscience	89
Compassion	94

The scores shown in the above table are the average score from the competence, conscience and compassion indicators. The students choose Senior High School mathematics topics or basic competence that can be optimized to explore integrated basic teaching skills. Students' competence achievement from cycle 1 until cycle 3 can be seen in diagram 1 below.
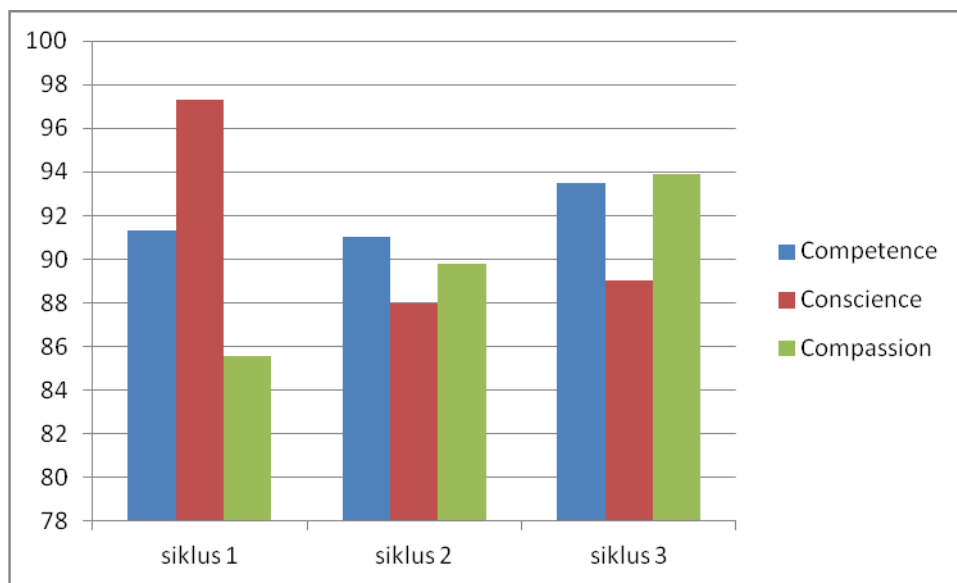
Diagram 1. Competence achievement from Cycle 1, 2 and 3

The competence achievement at the end of cycle 3 is the accumulation of competence achievement in cycle 1 and 2. This happens because in cycle 1, the trained teaching skills are still limited. In cycle 2, they begin to train integrated teaching skills using Junior High School mathematics topics and continues to cycle 3 which also trains integrated teaching skills using Senior High School mathematic topics. If the achievement of competence in cycle 1 appears to be higher than cycles 2 and 3, it is natural since the training is still limited. Limited training is certainly easier to do than integrated skills training.

The ultimate achievement of the course showed that out of 22 students, as many as 16 people (72.73%) got an A and 6 people (27.27%) obtained a B. The average score was 82 for the competence aspect, 89 for the conscience aspect, and 84 for the compassion aspect.

Conclusions

Learning outcomes can be seen from the achievement of competence aspect with an average score of 82, conscience aspect with an average score of 89, and compassion aspect with an average score of 84. Competence aspect includes: 1) the ability to practice the skills of opening and closing the lesson; 2) the ability to practice the skills of explaining and providing stimulus; 3) the ability to practice the skills of asking questions and providing reinforcement; 4) the ability to draft lesson plans (RPP) in accordance with applicable school curriculum; and 5) the ability to implement the lesson plans that had been prepared. Conscience aspect includes: 1) confidence in practicing the basic teaching skills; 2) enthusiasm in practicing opening and closing the lesson skills; 3) a careful attitude in practicing skills to explain and provide stimulus; 4) creativity in practicing skills in asking questions and providing reinforcement; and 5) the attitude that shows high spirit in implementing mathematics learning. Compassion aspect includes: 1)

responsiveness to the students' responses in the learning and 2) a caring attitude towards the students' responses in the learning performed.

It is recommended to carry out learning with PPR approach continuously so that students are more aware of the true nature of education which is to develop the students (and lecturers) into a whole human being in terms of competence, conscience and compassion. The implication of the implementation of PPR is mathematics teacher candidates who master the materials well, have a good conscience, and have a high concern for the students to participate in learning.

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THE SOCIAL PERSONALITY AUTONOMY COMPETENCE AMONG JUNIOR HIGH-SCHOOL STUDENTS

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Abstract
The autonomy competence in the social personality of the adolescents became one of the development aspects which must be urgently acquired by adolescents. Failure to be autonomous in the social personality during the adolescence period would have bad impact in the subsequent ages. The aims of the research were (1) to describe the level of autonomy competence of social personality in one of private Junior High schools, (2) to identify the items of the Inventory of Adolescent Social Personality Autonomy Competence (IASPAC) in the low and very low categories as the base to propose the topics of social personality guidance in one of the private junior high schools in Yogyakarta. The research subjects were the 141 students in grades VII, VIII, and IX. The research instrument was Inventory of Adolescent Social Personality Autonomy Competence (IASPAC) numbering 39 items which were composed by the researcher on the ground of the autonomy competence standards in the American School Counselor Association (ASCA) model, at the reliability value of 0.935. The data analysis was descriptive analysis with the categorization of the average numbers. The research result showed that as a whole the autonomy competence in the social personality of the students in one of the private junior high-schools in Yogyakarta was categorized as 'autonomous', with the following details, 18 students (12.7%) were categorized as 'very high', 104 students (73.7%) were categorized as 'high', 19 students (13.48%) were categorized as 'medium', and none of the students were categorized as 'low' and 'very low'. There were many differences in the average of the social personality autonomy competence among the grade VII, VIII, and IX students. The grade VII students' level of social personality autonomy competence was higher than that of the grade VIII and IX students. The other finding was that there were 10 items of the IASPAC with the lowest scores. These items would be used as the basis to propose topics for classical guidance of the social personality.

Keywords: autonomy competence, social personality, classical guidance

Introduction

The adolescence period, one of the phases in human development, is a period with peculiar characteristics. In the developmental process, there are a number of influential factors, namely congenital and environmental factors. The adolescent is individual whose age is outspread between the end of childhood and the beginning of adulthood.

In the developmental period, adolescents carry the developmental tasks. The developmental tasks cover attitudes, behavior, and skills which should be acquired and accomplished in every phase of the developmental ages. According to Havighurts (Danim, Sudarman and Khairil, 2011), developmental tasks come from three sources: (1) physical maturity; (2) socio-cultural and cultural strengths; (3) cultural values and aspirations.

Psychologically, adolescence is a period full of potentials, vitality, and dynamics, albeit unstable. According to Erik Erikson (in Kail, Robert V and Cavanaugh, John C, 2007: 340), "adolescents face a crisis between identity and role confusion". It means that adolescence is the period of identity crisis and role confusion. In this phase, adolescents set up the balance by trying many chances and fulfill many kinds of need independently, but they did not explore many of their own alternative identities (Kail. Robert V and Cavanaugh, John C, 2007)

The success of adolescents in going through their adolescence is influenced by the changes of family life patterns, economic-cultural-social conditions, and the global situation. An adolescent who is able to accomplish his or her developmental tasks well will have healthy personality and develop optimally. Healthy personality and optimal development can be seen from adolescents' behavior and achievement.

One of the dimensions of adolescent development is social personality development. Yusuf (2006) said, the social development was the maturity achievement in the social relation and could be interpreted as the learning process to adapt themselves to the group norms, morals, and traditions; to melt themselves into one unity, to communicate to each other, and to work together.

Furthermore, Yusuf (2006) said that in the adolescent ages, there were developmental tasks and social personality competence which should be acquired by the adolescents. At this age, adolescents should have gained the competencies: 1) knowledge, attitude, and interpersonal skill to help them understand and respect themselves and others, and 2) the ability to make decision to establish goals and to take actions needed to achieve the goals. However, some adolescents' autonomy competence in social personality is still low. On the contrary, there are adolescents who have problems in social personality. The problems are potential to harm their lives.

The phenomena of adolescents having personal and social problems, such as not accepting themselves, not being able to socialize with the environment, getting involved in brawls, abusing drugs, bullying and being bullied, getting involved in robbery, getting involved in prostitution, and other personal problems, are alarming. Almost every day, juvenile delinquency is reported in the media, both in mass media and electronic media.

To cite one example, the result of a research implemented to 180 adolescents in Kudus District indicated that 94% of the subjects said they have treated others unkindly. The bad treatments include mocking and calling names. The targets, the victims of their bad treatments, were 50 % the classmates, 16 % their juniors, 14 % other school students, 7 % their seniors, 5 % the teachers and 8 % (Mahardayani, 2010).

The broader research was carried out by SEJIWA, Plan Indonesia and University of Indonesia involving around 1233 students of elementary schools, junior high-schools, and senior high-schools in Jakarta, Yogyakarta, and Surabaya. The result of the research showed that the violence among students in junior high-schools happened in Yogyakarta (77.5%), Jakarta (61.1%), and Surabaya (59.8%) consecutively. Violence in senior high-schools mostly happened in Jakarta (72.7%), followed by Surabaya (67.2%), and the last in Yogyakarta (63.8%) (www.Sejiwa.org).

Starting from the background of this study, a clear and valid description of the level of junior high-school students' social personality autonomy competence must be made. Does the level of junior high-school students' social personality autonomy competence reflect the present condition of adolescents? This research aimed at describing the high/low levels of students' social personality autonomy competence in one of the private junior high-schools in Yogyakarta, in the academic year of 2014/2015. Besides, this research identified items of Inventory of Adolescent Social Personality Autonomy Competence (IASPAC) of which intensity is low in shaping students' social personality autonomy competence in one of the private junior high-schools as the basis to propose topics of social personality guidance.

The Autonomy Competence Standards (ACS) are the students' achievement covering the effort of development and realizing the students' self-potentials as a whole in personal, social, learning, and career aspects. In the Regulation of the Minister of Education Number 23 of 2006 on the Graduate Competence Standards for Elementary and Secondary Education, it is elaborated that the graduate competence should be achieved by the students through learning various lessons.

In the context of guidance and counseling, the graduate competence is known as the Autonomy Competence Standards (ACS), which covers ten aspects of individual (elementary and secondary students) development. The Directorate General of Quality Improvement for Teachers and Education Personnel's, Minister of National Education (2007) formulated ten aspects of the development as follows: (1) Foundation of Religious Life; (2) Foundation of Ethical Behavior; (3) Emotional Maturity; (4) Intellectual Maturity; (5) Sense of Social Responsibility; (6) Gender Awareness; (7) Self-development; (8) Entrepreneurship Behavior (the autonomy of economical behavior); (9) Insight and Preparedness for the Career; (10) Maturity of Relationship to friends of the same age.

Each aspect has three goal dimensions, namely: (1) recognition/awareness (getting the knowledge and understanding about the developmental aspects and tasks/competence standards that should be mastered); (2) accommodation

(obtaining meaning and internalization of developmental aspects and tasks/competence standards to be mastered), and: (3) action (the actual behavior in the daily life of developmental aspects and tasks/competence standards to be mastered).

The developmental aspects and the dimensions had seemingly been composed in such a way to follow and be aligned with the principles, norms, and the developmental aspects and tasks that should be achieved by the individuals. Table 1 is the formulation of Autonomy Competence Standards for the Students in Junior High-schools (Kartadinata, *et. al*, 2002).

Table 1. The Developmental Aspects and Dimensions
In Junior High-school

No	Developmental Aspects	Goal Level/Internalization		
		Recognition	Accommodation	Action
1	Foundation of Religious Life	Recognizing the meaning and the goal of worship	Being interested in learning the meaning and the goal of worship	Implementing many kinds of worshiping on their own will
2	Foundation of Ethical Behavior	Knowing the reason to necessarily obey the rules/norms to behave	Understanding the variety of the rules/norms to behave in the context of culture	Acting on their personal consideration of the valid norms
3	Emotional Maturity	Recognizing the ways to express the feeling normally	Understanding the variety of expressions of themselves and others	Expressing the feeling based on the contextual consideration
4	Intellectual Maturity	Learning the ways for decision making and problem solving	Realizing the risk as consequence of the decision making	Making decision based on the consideration of potential risk
5	Sense of Social Responsibility	Learning the ways to obtain the rights and to carry on duties in the daily life environment	Appreciating the values of friendship and harmony in the daily life	Interacting with other people based on the values of friendship and life harmony
6	Gender Awareness	Recognizing the social roles as males or females	Appreciating the roles of themselves and others as the males or the females in the daily life	Interacting with the opposite sex in collaborative way in playing sex roles
7	Self-development	Recognizing their personal ability and will	Accepting personal condition positively	Believing their personal uniqueness as the asset that should be developed harmoniously in the daily life
8	Entrepreneurship Behavior (the autonomy of economical behavior);	Knowing the values of saving behavior, real tough and competitive in the daily life	Realizing the use of saving behavior, real tough and competitive in the daily life	Habituating themselves to live economically, really tough and competitive in the daily life
9	Insight and Preparedness for the Career	Expressing the varieties of jobs, education, and activities using their personal ability	Realizing the variety of values and conditions and activities requiring certain ability	Identifying the varieties of the alternatives of job, educations, and activities containing the relevance to their

No	Developmental Aspects	Goal Level/Internalization		
		Recognition	**Accommodation**	**Action**
				personal ability.
10	Maturity of Relationship of friends of the same age.	Learning the norms of intercommunication with friends of the same age from various back grounds	Realizing the various backgrounds of the friends of the same age that underlie the intercommunication	Working together with the friend of the same age from various back grounds

In the document of *ASCA National Standards for Students* (2004), three (3) fields of guidance, namely academic, career, and social personality are elaborated. Each field consists of some competence standards. Each competence standard consists of a number of competencies. Every competence consists of a number of indicators.

The academic field consists of 3 (three) competencies, namely:

1) students will acquire the attitudes, knowledge and skills that contribute to effective learning in school and across the life span, 2) students will complete school with the academic preparation essential to choose from a wide range of substantial post-secondary option, including college, 3) students will understand the relationship of academics to the world of work and to life at home and in the community.

In the career field, there are 3 (three) competence standards, namely;

1) Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions, 2) students will employ strategies to achieve future career goals with success and satisfaction, 3) students will understand the relationship between personal qualities, education, training and the world of work.

Meanwhile in the social personality field, there are also 3 (three) basic competencies. *Firstly*, the students acquire the knowledge, attitudes, and interpersonal skills to help them understand and respect themselves and others. This competence standard consists of 2 (two) competencies, namely, acquiring self knowledge and interpersonal skills. *Secondly*, the students are able to make decision to set goals, and take necessary action to achieve the goals. This competence standard consists of one competence, namely being able to apply self-knowledge. *Thirdly*, the students are able to understand the safety and survival skills. This competence standard consists of one competence, namely, acquiring personal safety skill.

From the three competencies in the social personality which was developed by ASCA Model, there are three competence levels, namely, knowledge, attitude, and skill. Of the three competence levels, if they are elaborated in the field of human ability, the knowledge level is included in the field of cognition ability, the level of attitude is included in the field of affective ability, and the level of skill is included in the field of psychomotor ability or the will (*conation)*.

The social personality competence encompasses various activities that help students develop their interpersonal skills individually and in groups. This field was based on students' goal to achieve the academic, career, and life success, and also the development of strong positive self-concept (Rusmana, 2009).

The social personality guidance is an effort to help individuals cope with their mental situation and overcome the inner conflict, manage themselves in the

fields of religion, physical treatment, the leisure time fulfillment, channeling the sexual desire, and effort to help individual establish the social relations in many environment or association (Winkel, 1997). In other words, social personality guidance is a field of service that helps the students in understanding and evaluating and developing the effective and healthy social relation ability with the friends of the same age, family members, and the people in the wider social environment. The social personality guidance is a guidance to assist individuals to solve their personal problems. The social personality guidance is also understood as the guidance to help students in developing self-potentials and social relation ability and to solve social personality problems (Yusuf, 2006). The problems that are categorized into the social personality problem are the problems of the relation among friends, understanding personal characters and ability, self adaptation to the environment and society where they live in, and also the conflict resolution.

Social personality guidance is a process to facilitate students to be able to develop understanding and the skill to get engage in social interaction, and to solve their social problems. Social personality guidance covers the development of: (a) the understanding of the diversity of tribes and cultures; (b) social attitudes (empathy, altruistic, tolerant, and cooperative); and (c) the ability to socially communicate in a positive manner (Yusuf, 2009).

Furthermore, (Yusuf, 2009) explained that social personality guidance was aimed at establishing personality and developing individual ability in handling their own problem. This guidance is the service directed to obtain balanced personal achievement regarding the uniqueness of characteristic and also the various problems faced by the individuals. Social personality guidance is given by creating conducive environment, friendly educational interaction, developing the system for self-understanding and positive attitudes, and appropriate social skills.

Prayitno (1997:66) said, "In the context of social personality guidance, the guidance is aimed at assisting the students to know and communicate with their social environment on the ground of the noble character, social and national responsibility. Moreover, Prayitno mentioned the principles of social guidance, they are: (a) establishment of effective communication skill, both written and oral; (b) establishment of accepting and expressing opinion and arguing dynamically and productively; (c) establishment of ability to behave and communicate socially, at home, in school, and in wider society by upholding ethics, politeness, and religious values, customs, law, science and the prevailing habits; (d) establishment of dynamic, harmonious, and productive relation with friends of the same age, at the same school, at other schools, outside schools, or in the society in general; (e) establishment of the understanding and the responsibility; and (f) the orientation of family life.

Social personality guidance aims at helping students to be able to develop their competence in the following manners: (a) respecting and appreciating other people; (b) be responsible and committed to the duties, social roles; (c) to be able to relate socially (human relationship); (d) to have good communication skill, both verbal and non-verbal; (e) to have the ability of self-adjustment.

In a specific way, the objective of guidance in relation to the SP is that the students: (a) have the strong commitment to practice the faith values and the

devotion to the God almighty, in the personal life, family, the association with friends of the same age, at school/madrasah, work place, or the society in general; (b) have the attitudes of tolerance to other religious people, by respecting and maintaining the rights and duties one to each other; (c) have the understanding of life rhythm that is fluctuating between joy (gifts) and sorrow (misfortune), and be able to respond in positive way according to the religious teaching they adhere; (d) have the self-knowledge and self-acceptance objectively and constructively, both in relation to the strengths and weaknesses; both physically and psychologically; (e) have positive attitudes or respect to themselves or to other people; (f) have the ability to make a choice elegantly; (g) respect other people, honor or appreciate other people, not harassing their dignity; (h) have a sense of responsibility which is realized in the form of commitment to the tasks or duties; (i) have the ability to interact socially (human relationship), which is realized in the forms of friendship relation, family ties, hospitality to one another; (j) have the ability to resolve conflict (problems), both internally and externally; and (k) have the ability to make decision effectively.

From table 1, the process of absolving the students in achieving personal and social competence as one of the goals of guidance and counseling is clearly stated. In order for the students to have autonomy in the field of social personality, the service of guidance and counseling is present to give assistance in many kinds of services (Yusuf, 2009**).** In those kinds of services, the goals of services are designed in sequence and phases which are called internalization phase, starting from recognition, accommodation, and finally action. The achievement of the three phases of internalization shows the students' autonomy level.

Nurihsan and Sudianto (2005) mention that the goals of the social personality guidance at the end help individuals to achieve: (a) personal happiness in life as God's creation; (b) productive and effective life in the society: (c) living together with other individuals; and (d) harmony between their idols and the acquired ability.

If seen from the point of view of comprehensive guidance and counseling, the social personality guidance is given through the basic service component or guidance curriculum. The basic service component is the process of giving assistance to all counselees through the activities of preparing the structured experience classically or in groups which is presented systematically in terms of developing the long-term behaviors in accordance to the developmental phases and tasks (which are elaborated as the autonomy competence standards) that are needed in developing the ability to choose and make decision in living their lives. The basic services are expected to be able to facilitate the improvement of certain knowledge, attitude, and skill inside the students that is appropriate and suitable to the developmental phase.

There are at least three functions of guidance, namely: (1) the function of development, that is, the guidance function in developing all individuals' potentials and strengths; (2) the function of channeling, that is, guidance function to help the individuals choose and determine the mastery of career or job in accordance to the interest, talent, expertise, and other personal characteristics; (3)

the function of adaptation, that is, guidance function to help the individuals find self-adaptation and development optimally (Nurihsan, 2006).

The adolescence period is a transitional period. The term adolescence is not simply that the individual grows toward adulthood that is prepared to make reproduction. It means that it does not see maturity from the physical factor only but it covers mental, emotional, and social maturity (Hurlock, 2004). The age of adolescents is around 13 to 16 years or it is commonly called desolate teenage. In this age, adolescents experience physical, psychological, and social changes. Harold Alberty (Makmun, 2003: 130) stated that, "the adolescence period can be defined in general as a period in the development which is experienced by individual ranging from the end of childhood period until the beginning of adulthood."

Piaget (Hurlock, 2004) mentions that psychologically, the adolescence period is the individual age to integrate with the adult society, the age when the child does not feel being under the level of older people but they are at the same level, at least in the matter of rights. When an adolescent integrates to the society (adult people) there are changes in the affective aspect and the striking intellectual changes. The unique intellectual transformation from the adolescent way of thinking enables him or her to reach the integration to the social relationship to the adults of which, the reality becomes the common unique characteristics of the developmental period.

In the western thoughts, adolescence is seen as a transitional process to autonomy. In this period, certain characteristics appear like inappropriate behaviors, changes of mental situation, challenges of the customs and values regularly. A number of adolescent characteristics show the phase of adolescent developments.

Erikson (Hurlock, 2004), in his study, see the adolescent life as the identity crisis period. It means that the phase that the youngsters should create coherent identity and overcome the feeling of identity diffusion. The adolescents should make a big decision today in almost all fields of life, and each involves the crisis and needs to defeat the loss of identity. There are four things that influence this attitude. First, fear of intimacy, commitment and full involvement in close personal relation causes the loss of self and personal identity. Many adolescents need more time to be able to establish relation to others before they fully trust others in that relation. Second, the need to fight. Adolescents get into troubles to plan the future. There is ambivalence of the promising future possibilities: on one hand, they believe that time will bring changes, on the other hand, there are worries in those changes. The third is the industrial diffusion where the adolescent feel difficult to utilize the resources in a realistic manner, either in the practical job or study. This is the powerless and redundant condition, the inability to concentrate or being preoccupied with a single activity and ignoring all other things. The fourth is that there is an attractiveness to create a negative identity, which contradict with what the adult or older people prefers. The will to oppose the process finds the true identity. It is stated as the denial to dislike the role which is said to be respectful and appropriate for the family or community.

According to Havighurts (Hurlock, 2004), the developmental tasks appear at the time or around one certain period of individual life, of which if it is successful, it can give happiness and bring the direction toward the success in doing the next tasks. However, if it fails to execute the task, it will cause the unhappiness and troubles in facing the next tasks. Generally, the developmental tasks in every human developmental phase arise as a result of the physical maturity, the presence of cultural stresses from the society, and the individual values and aspiration which come up at the same time.

Further, Hurlock (2004:9) explains that the developmental task have the goals: 1) giving the indicators to the individual to find what the society expect from them at the certain ages, 2) giving motivation to each individual to do what the social group expect from them at certain age in their life span, 3) indicating each individual what they will face and what actions expected from them when they reach the next development level.

According to Huvighurst (Hurlock, 2004), there are 8 (eight) developmental task in the period of adolescence, namely 1) achieving the new and more matured relation with friends of the same age, both male and female, 2) achieving the male and female social roles, 3) accepting the physical condition and using their bodies effectively, 4) expecting and achieving the responsible social behavior, 5) achieving the emotional autonomy from the parents and other adults, 6) preparing economic career, 7) preparing marriage and family, and 8) acquiring a set of values and ethical system as the guide to act developing the ideology

Method

The approach used in this research was quantitative approach in the form of survey. The quantitative approach was used to describe the social personality autonomy competence level faced by the students in one of the private junior high-schools in Yogyakarta in the academic year 2014/2015. The sampling technique was purposive sampling, namely, determining a certain sample on the ground of certain consideration (Sugiyono, 2010). The consideration to determine the sample was the representativeness of each class. The detail of the research subjects is shown in the table below.

Table 2. The Number of Research Subject

No	Grade	Total
1	Grade VII	34 students
2	Grade VIII	67 students
3	Grade IX	40 students
	Total	141 students

The research instrument was the Inventory of Adolescent Social Personality Autonomy Competence (IASPAC) in the form of a scale. IASPAC was developed by the researcher based on the social personality autonomy competence standards which was design by the *American School Counselor Association* (ASCA). IASPAC referred to the principles of Likert Scale. The stimulus of the instruments

items was the junior high-school perception that described the achievement of social personality autonomy competence. The responses of the stimulus were to choose the answers which were provided in four alternative answers, namely Very Appropriate (VA), Appropriate (A), Indecisive (I), and Inappropriate (IA). The number of the IASPAC items before testing was 56.

Before testing the instrument, the readability testing was implemented to provide the feedback for the researcher concerning the description of easiness or difficulties which might be found by the population and the sample in understanding the given research instrument. The readability testing was done to 2 (two) students of grade VIII. Based on the readability testing, the instruments could be understood by the subjects of the readability testing.

After the readability testing, the instruments were tested to obtain the validity coefficient or internal consistency using the correlation testing of Pearson Product Moment (Azwar, 2005:59). The determination of item validity was based on the total-item correlation with the limit of $r_{ix} \geq 0.30$. All items that achieved minimum correlation coefficient 0.30, the discriminating power was assumed to be satisfying, while the items with the correlation coefficient less than 0.30, the discriminating power was assumed to be low (Azwar 2005;65). IASPAC was tested to the samples that had the same characteristic with the research respondents. The data calculation for validity testing used the computer program of SSPS version 16.0 (*Statistical Program for Social Windows*). The result of validity testing indicated empirically that 39 items had the correlation coefficient equal to or bigger than 0.30. It means that the items were declared valid to be used as the research item. 17 items were declared invalid and inappropriate to be used as research instrument items.

The value of instrument RC was calculated using the product moment. RC could be considered as the indicator for measurement stability of the test from time to time (stability over time) (Azwar, 2013). The value of instrument RC was 0.935. It was categorized as very high. It means that this instrument was very reliable to be used as the research instrument.

The data analysis technique used to obtain the description of the level of social personality autonomy competence faced by the students in one of private junior high-schools in Yogyakarta in the academic year of 2014/2015 was the categorization using the normal distribution by calculating the mean and the deviation based on the theoretical data. The categories were Very High, High, Low, and Very Low. To see the discrimination of the level of social personality autonomy competence between classes was also done descriptively using the value of the mean of each class.

Findings and Discussion

Based on the analyzed research data, it could be found that the level of social personality autonomy competence of the students in one of private junior high-schools in Yogyakarta in academic year 2014/2015, as follows
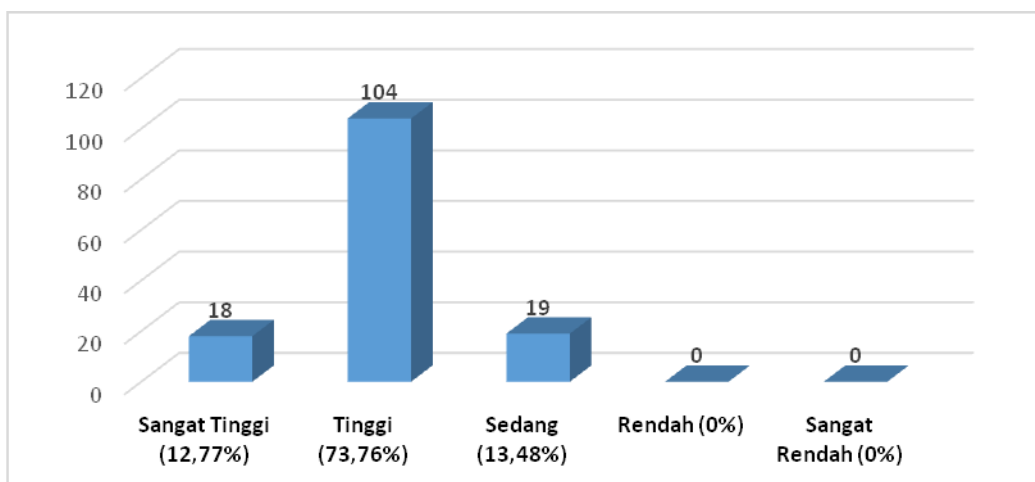
Table 3. Level of social personality autonomy competence in one of private junior high-schools in Yogyakarta

Range of score	Category	Grade IX		Grade VIII		Grade VII		Total	
		f	%	f	%	f	%	f	%
164-195	Very High	6	15.00	4	5.97	8	23.53	18	12.77
133-163	High	29	72.50	54	80.60	21	61.76	104	73.76
111-132	Medium	5	12.50	9	13.43	5	14.71	19	13.48
70-110	Low	0	0.00	0	0	0	0	0	0
39-69	Very Low	0	0.00	0	0	0	0	0	0
		40		67		34		141	

From the table above, it can be identified:

1. The level of students' social personality autonomy competence in one of the private junior high-schools in Yogyakarta, in the category "very high", the number was 18 students (12.77%). If seen in each class, the number of Grade VII students in the category "very high" was 8 students (23.53%), higher than in Grade VII as many as 4 students (5.97%), and in Grade IX as many as 6 students (15%).

2. There were 104 students (73.76%) of 141 students in one of the private junior high-schools in Yogyakarta in the category "high". If seen in each class, the number of the students in the category "high" was higher in Grade VIII reaching 54 students (80.60%) compared with the Grade IX with 29 students (72.505) and in Grade VII as many as 21 students (61.76%),

3. There were 19 students (13.48%) of 141 students in one of the private junior high-schools in Yogyakarta in the category "medium". In each class, the highest percentage of the students in this category was the students in Grade VII, namely 5 students (14.71%) followed by the Grade VIII as many as 9 students (13.43%), and next in Grade IX as many as 5 students (12.50%).

In general, the level of students' social personality autonomy competence in one of the private junior high-schools in Yogyakarta was in the category "high" and none of the students with the autonomy level in the category "low" and "very low". It means that the students in one of the private junior high-schools in Yogyakarta possessed the knowledge and awareness of development and realizing the students' self-potential as a whole in the aspect of social personality. Visually, the profile of the level of students' social personality autonomy competence in one of the private junior high-schools in Yogyakarta, the academic year of 2014/2015 was shown in the following picture.

Picture 1: The Histogram of the Level of students' social personality autonomy competence in one of the private junior high-schools in Yogyakarta Academic year 2014/2015

Based on the item analysis of IASPAC which was analyzed on the ground of the mean value 423 (n=141), there were not any IASPAC items below the mean value. It means that all IASPAC items were intensely understood, realized, and executed by the student of the junior high-school SMP Pangudi Luhur Yogyakarta. From the 10 items with the lowest scores, it could be obtained 10 items of the instrument with the lowest score as follows:

Table 4. Ten Items of IASPAC with lowest Scores

No	Item No	Item	Score
1	Item 34	I can express my feeling that I am experiencing.	488
2	Item 21	I do not have any alternative solution every time I get into troubles.	493
3	Item 28	I always communicate with other people in words that are not hurting other people's feeling.	500
4	Item 25	I do not know at all how to apply the skills to find the solution to the problems that have not been well solved.	501
5	Item 23	I am confused to whom should I ask for help if I face problems.	502
6	Item 26	I do not know what kind of friendship situation that influences me to make decision in solving the problem.	504
7	Item 19	I solve the problem without any careful consideration	505
8	Item 29	I recognize the values that I believe in my life.	507

No	Item No	Item	Score
9	Item 18	I always apply the right way to control myself in my life	512
10	Item 35	In solving the problems I always make decision that is safe for myself	514

Based on the above table, there were 10 items of IASPAC with the lowest scores. Each item was, then, determined as the base to compose the guidance topics to improve the students' social personality autonomy competence in junior high-schools, especially in relation to the content of that instrument.

Based on the research result, generally the level of students' social personality autonomy competence in one of the private junior high-schools in Yogyakarta was in the category "high", and there were not any students in the category "Low" and "Very Low". It means that the students in one of the private junior high-schools in Yogyakarta were successful in establishing social personality autonomy competence as a part of the developmental tasks, both in the level of knowledge and in the level of behavior.

It was different from the research by Permana (2011: 75-78) in the state junior high-schools SMPN 3 Margahayu, Grade VII describing that there were 127 students whose level of autonomy was not yet optimal and 31 students having optimal level of autonomy. The research result by Permana was in line with the research result by Sadiyah (2008: 57) that described the level of autonomy of 150 Grade XI students in Senior High-school SMA Negeri 1 Soreang with 10% were in the category "very high', 63% in the category "high", and 27% in the category "medium". From that research, 27% of the students' autonomy was not yet optimal. This means that the school factors with all aspects influence the shaping of the autonomy of students (Ali, M and Asrori, M, 2009: 118). This one of the private junior high-schools in Yogyakarta was presumed to have the curriculum that realized in many kinds of activities. That curriculum provides focus on shaping the students' autonomy.

According Steinberg (1993), the indicators of adolescents who have autonomy in behavior (1) having the ability to make decision that is indicated by: realizing the risk as a consequence of their behavior, choosing the alternative solution based on personal and other people's consideration and being responsible for the consequence of the decision they make; (2) having the strengths to prevent the influence from other people that is marked by: being hard to get influenced in a situation they require conformity, being not easy to get influenced with the pressures from the peers or parents when making decision, and integrating the social group without any pressure; and (3) having confidence which is indicated by: being able to carry out responsibility at home and at school, being able to fulfill the daily needs at home and at school, being able to solve the problems by themselves, and be brave to express the ideas.

The autonomy is the most significant part of the adolescent developmental tasks (Daddies and Smetana, 2006). Salzman (Yusuf, 2008) states that the

adolescence is indicated with (1) the rise of dependent behavior to their parent to being independent, (2) sexual interest , and (3) tendency to ponder or pay attention to themselves, ethical values, and moral issues.

In achieving the autonomy, one of this is autonomy in social personality; the adolescents often have different opinion from their parents so it is possible that the conflict happens between the adolescent and their parents. This is in line with Thornburg's opinion (Aprilia, 2011) which elaborate that in the effort to achieve the autonomy, the adolescents sometimes oppose, debate, argue, and criticize the parents' attitudes very hard. The autonomy for adolescents is a very important thing. Starting from the importance of achieving the autonomy in the adolescence period, just as explained above, it is necessary to take action, both preventive and curative to follow up that idea.

The most intense topics of autonomy in social personality based on the item analysis is ten (10) items. The low intense topics of autonomy in social personality is linked to the problem solving, self-control, knowledge of life values, friendship, first aid, communicating with others, and expressing the feeling, self-control, knowledge of the value of life, friendship, first aids amidst problems, problem solving, communication skills, and expressing feelings. These findings correspond to the findings by Barus (2012) in his research on the disclosure of the socio-psychological problems of the elementary school students. In the aspect of social personality, the most intense problem the grade 2-4 elementary school students face, among others: being afraid of telling/acting honestly, being impolite/unkind, violating the school regulation, doing bad things, being less respect to adults, being less responsible, and being not committed to the promises. It means that the problems of autonomy in the social personality lie more in the relation to other people.

Examining the composition of the distribution of rank value of the item intensity in the social personality identified in this research, it is very possible to compose the topics of classical or in group guidance services which is preventive for the junior high-schools students. Classical or in group guidance services is one of the basic service strategies which are directly given to the students in the comprehensive guidance and counseling which preventive to all students (ASCA, 2012). Hence it is needed to consider some methods or approaches to classical or in group guidance to help student improve the autonomy in the aspect of social personality, for example, experiential learning based group guidance services (Sinaga, 2013).

Conclusions

Some conclusions that can be drawn from this research are as follows. First, most (73.7%) students in one of the private junior high-schools in Yogyakarta had social personality autonomy competence in the category "high". Few (12.7%) were in the category "very high", and 13.4% were in the category "medium". Second, there is a discrimination of the level of social personality autonomy competence among Grades VII, VIII, and IX. The level of social personality autonomy competence of the Grade VII students was better compared with Grade VIII and IX students. Finally, it had been identified that there were ten

items of IASPAC with the lowest scores showing that the students in one of the private junior high schools in Yogyakarta with low intensity of autonomy in the aspect of social personality in the 10 items of that instrument. The ten items of the instrument were, then, determined as the base to compose the guidance topics that are preventive to improve the autonomy in social personality aspects.

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FERTILIZING BARE LAND AND EX- MINES AS A WAY TO EDUCATE STUDENTS TO LOVE THE EARTH

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Abstract
Ecological destruction is very real today. It is increasing day by day along with many causes. Deforestation and mining are two of them, which truly threaten not only humans but also the environment and biodiversity. To gain awareness and knowledge about ecological destruction and to achieve ecological conversion, action and research study is needed. Related to this concern everyone, including students, must be involved. The aim of this article is to offer a methodical study which is based on research study. Its study is also integrated toward Arbuscular Mycorrhiza Fungi (AMF) which is associated toward pioneer plant like Koro Hijau (*Macrotyloma uniflorm*) as a unique technology to fertilize bare land and ex-mining. This study can be applied toward senior high school students specifically grade X related to microbiology subject or grade XII related to the growth and development of plants subject. The approach of this study is best applied in practicum class after students have received basic understanding on its subject in theoretical class. AMF application toward pioneer plants to solve bare land and ex-lime mine problems is one of the research studies which is applicable toward education method in school level. Following its method, students are not only able to gain their theoretical and practical knowledge but also able to empower their passion and preference to love and care about environment and earth.

Keywords: research, koro hijau, AMF, fertility, education, environment, growth, development

Introduction
Deforestation and mining are two of many causes of environmental destruction nowadays. Deforestation in Indonesia as a developing country does not only contribute to emission of greenhouse gases and loss of biodiversity of tropical forest but also left a wide range of bare lands (Margono, 2014). Unlike deforestation, mining is more dangerous. While the deforestation can be restored by planting vegetables or plants which are needed, mining has different treatment on renewing environment destruction. It is related to soil condition which is very important for vegetation.

The destructions cause by mining have a significant level of difficulty, specifically on its land restoration. Materials of ex-mining which are taken are not renewable and it applies on many types of mining. Lime stone mining is one of mining which is operating in Indonesia. It is commonly done in karst region. Karst region in Indonesia spreads throughout every major island like, Sumatra, Java, Bali, East Nusa, Kalimantan, Sulawesi, Maluku Island and Papua (Anonymous, 2013). In Java Island itself there are many areas which have become karst mining, for example in Gunungkidul, Yogyakarta. There are more than 20 areas of lime mining in Gunungkidul (Pribad, 2013).

Destructions caused by deforestation and mining do not only destroy environment but also soil quality. In Indonesia some efforts for reforestation and reclamation are still very low. In fact, bare land and ex-lime mine could be restored to be more productive and economic land that useful to revive the biodiversity that may have existed. In contrary, abandoning bare land and ex-lime mine potentially cause greater levels of environmental damages. For instance, a bad threat to the quality and quantity of water can occur in both bare land and ex-lime mine territories. On the ex-lime mining, the threat potentially leads to the existence of underground water pollution, the enclosure of limestone pores as water absorption which reduces the quantity of water sources, erosion between karst and non karst territory, loss of top soil in the karst region that threatens the biodiversity of the surrounding environment, and still many other effects (William, 2001).

Decision must be made to restore and maintain the destruction of our environment. It is not only responsibility for those who have role on destroying our environment but everyone may also have a same kind of responsibility since every person is living in the same environment as their home. Some efforts can be made in different fields and levels. In the level of education, it is possible to promote education methods which directly become solution for encountering the environment destruction cause by deforestation and mining. One of possible method is by applying research and application of Arbuscular Mycorrhiza Fungi (AMF) for pioneer plant.

In order to rehabilitate bare land and ex-mining the presence of AMF association with pioneer plant is needed. The application of AMF association toward pioneer plant can be done by applying some treatment for example different time of giving AMF or different amount of AMF toward pioneer plant. This research can be integrated in the process of studying in schools like in senior high school, manly while they are learning about microbiology or the growth and development of plant in grade X or XII. Further step of this methodological study can be continued by applying experimental research in practicum class. By applying this experimental research, students are not only expected understand about scientific method, the result and the benefit of their experiment, but also eager to love and care more about their environment.

Theory Application

Effect of time's giving of AMF for Koro Hijau (*Macrotyloma uniflorm*) growth as pioneer plants for soil fertility of ex-lime mine reclamation was one of

the researches which had done. The research was conducted to identify the influence of time's giving of AMF for the growth of Koro Hijau and examine its symbiosis mutualism, as well as examine the effect of giving AMF for Koro Hijau's growth compared to control plants (without AMF). This research was an experimental research. The research was conducted to 24 plant samples which consisted of 3 treatments and 1 control which were designed using one factor Anova as its statistical analysis became one factor research that was examining the effectiveness of giving AMF fertilizer in different time. AMF was given in three different time sequences with one-week interval as three different application treatments by spreading around near its roots plant. The data was collected in every 5 days for 50 days by measuring the length of the stem, number of leaves and stem diameter. Root length and its AMF infection rate were measured at the end of the experiment. The results showed that the time giving of AMF was significantly affected the growth of Koro Hijau and the first week (M1) had proven most effective in mutualistic symbiosis with the host plant and the effect of growth was greater compared to control plants (K).

Based on data from the average growth of Koro hijau shows that treatment of M1 has the best growth rate compared to the growth rate of M2 and M3. Treatments M1, M2 and M3 have rates below and the same (especially in mean diameter stem) compared to K as a negative control (Table 1). Based on the observations of AMF on root infection, M1 and M2 treatments have 52.4% and 59.8% which are categorized high rate of infection and M3 treatment has 30.6% infection which is categorized has a moderate infection rates.
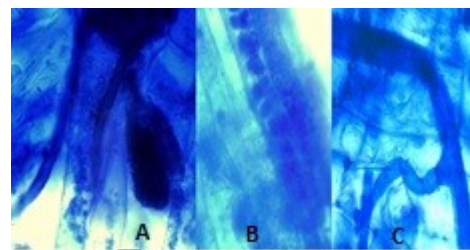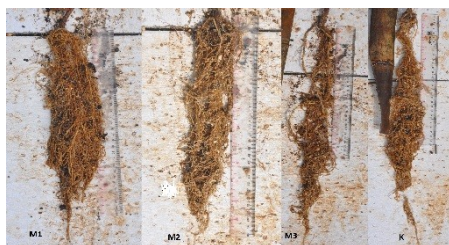
Figure 1 (Root morphology M1, M2, M3 and K)

Figure 2 (AMF Morphology: A. Arsbuskular, B: Vesicle, C. Hyphae)

Table 1. Mean's Growth of Stem Length, Leaf Number, Stem Diameter and AMF Infection of Koro Hijau Root

No	Treatment and Control	Stem length (cm)	Leaf number	Stem diameter (cm)	AMF Infection %
1	M1	61.70	22	0.29	52,4
2	M2	44.30	19.75	0.21	59,8
3	M3	47.20	16	0.23	30,6
4	K	74.30	32	0.29	-

Note: M1: First week, M2: Second week, M3: Third week, K: Negative Control (without AMF).

Based on the results of mean growth, M1 treatment has higher mean compared to the mean of M2 and M3 treatments. It is related to AMF which has important roles in accelerating the definitive physiological phase and increasing the durability of the plant at the beginning of planting. Hanafiah 2014 also reported that the growth of Koro hijau as legume is dependent with the association of AMF.

The influence of time giving of AMF for Koro hijau could also be seen by observing the root morphology and its length compared to the level of AMF infection. The thickness of the roots shows the level of mutuality between the roots of host plants with AMF. AMF will form a blanket outside and inside the roots, in the interstellar between cells of the epidermis and cortex (Salisbury, 1992). Furthermore, the AMF also intensively will produce external hyphae on the roots of host plants (figure 2). It is directly will optimize the process of photosynthesis; adsorb water and nutrients from the soil. From the results, M1 treatment has the thickness roots level compared with M2 and M3 treatments as well as negative control (figure 1). The level of thickness and length of the roots cannot be separated from the rate of AMF infection. Based on the development of roots, treatment of M3 has the greatest root length. However, it does not show the characteristic form of mutualism between the AMF and host plant. Good root growth enables plant roots to absorb nutrients around the roots. AMF works by covering the exterior root near the top root and the hyphae work like a coat. It is even able to spread up to 8 m (Soenartiningsih, 2013). Another hypha will penetrate between the host plant root cell membrane to form a network of nutrient absorption. Based on the characteristics of the development of AMF root infections, the early development of AMF symbiosis with the host plant showed a negative relation to geotropism (Khasa, 2009).

Application of AMF for the growth of plants is a simple technology which can be practiced not only for the students but also for farmers who live around damage environmental. For the students itself AMF technology can be applied while they are learning about the growth and development of plants. Technology is better to be practiced during practicum class. However, before the students learn about this technology, basic understanding about every factor of the growth and development of plants must be studied in theoretical class.

Based on actual research above, students are able to make research and development about AMF association in a more simple way. This research will be better practiced in a group so that the observation and data collection would be easier. Better understanding of the students about growth and development of plant can be obtained by following all the research process. Below are the worksheet and guidelines which can possibly use for AMF research and study by a group of students.

Student Worksheet
EXTERNAL FACTORS OF PLANT'S GROWTH AND DEVELOPMENT

Name   :
Group   :
Class   :

1. Objectives Learning
   a. Following observation students understand about external factors for Koro Hijau's growth and its development.
   b. Through data collections students understand every external factor which influences the growth and development of Koro Hijau.
   c. After finish making written report, students understand external factors which influence the growth and development of Koro Hijau.
   d. After oral presentation, students understand dominant external factors which influence the growth and development of plants.

2. Tools and Materials
   Tools
   a. Ruler
   b. Pen
   c. Pencil
   d. *Log book*
   e. Polybag diameter 5 cm
   f. Camera
   g. Hygrometer
   h. pH meter

Figure 3: Koro Hijau (*Macrotyloma*

   Materials
   a. Water
   b. Soil
   c. AMF fertilizer
   d. *Macrotyloma uniflorm* seed

Figure 4: *Macrotyloma uniflorm* seed

3. Method
   a. Prepare 12 polybags which contain soil media.
   b. Soak Koro Hijau seeds in water and sort the seeds which float on water.
   c. Choose 12 Koro Hijau seeds to be grown in polybags.
   d. Prepare AMF fertilizer as much as 10 grams for each polybag.
   e. Place Koro Hijau's seeds at the center of the polybag and pour soft soil for cover.
   f. For treatment 1, place Koro Hijau seeds at the center of the polybag and sprinkle the AMF fertilizer around the seeds on the first day of planting.

For treatment 2, sprinkle AMF fertilizer on the 3rd day after planting. For treatment 3, sprinkle AMF fertilizer on the fifth day after planting.

g. The negative control is not given AMF fertilizer.
h. Observe each treatment and record every change, growth and development processes that occur on the log book.
i. Write down the length of the stem and the number of leaves in the table that is provided for data collection in every two days.
j. Record pH measurement on each treatment in a table which is provided.
k. Record temperature and humidity in a table which is provided.
l. Write a group report on your research result.

Table 1. Research Table of Stem's Length and Leaf's Numbers Observation

Growth Indicator	Treatment and Control											
	Treatment 1			Treatment 2			Treatment 3			Negative Control		
	P1	P2	P3	P1	P2	P3	P1	P2	P3	K1	K2	K3
Stem's length												
Leaf's numbers												

Note: P1-P3: Repetition and K1-K3: Control

Table 2. Results of pH, Temperature and Humidity Observation

External Factors	Treatment 1	Treatment 2	Treatment 3	Negative Control
pH				
Temperature				
Humidity				

4. Discussion Questions
   a. Based on the observation results, which treatments have the best growth rate?
   b. Compared to control, the treatments which are given AMF fertilizer is better?
   c. Which one is the external factor that the most influential toward the growth of Koro Hijau?
   d. Is group hypothesis proven on this research?

5. Conclusion (Karnedi, 2017).
   …………………………………………………………………………………
   …………………………………………………………………………………
   …………….............................

There is a wide range of possibilities of treatment and research design which can be applied toward AMF application. Research application which is presented here is one of them. Data analyzing can be chosen whether using complex or simple one. *Anova* one factor test can be used as complex or detail data analysis or descriptive data analysis for simple one. For senior high school students, descriptive data analysis is recommended. By using this data analysis students would be able to find and distinguish every external factor which influences the growth and development of plants and its relation to environment.

To deepen the learning process of this research study, students can be asked to do discussion, write a group report and do an oral presentation. In addition, this process of learning is also a good way to motivate student learning center. At the end of practicum process, point of reflections can be asked to every group of students. At this point, question reflection about their option to love earth and care about damage environmental can be asked. Eventually, some conclusions can be made from this research application.

Based on the learning process above, it is hoped that students also learn about another objectives learning. Inspired by the possibility of young students who want to invent new world based on a fair relationship with creation, education institution must be involved to promote experimental learning atmosphere where students are involved into real situation of environmental problems and issues. It is also hope that they will able to find applicable solution for environmental problems and issues based on experience (Alvarez, 2012).

AMF application and its association with pioneer plant are not only the good way for reforestation and reclamation efforts but also for technological farming advance. It will economically help farmers increase the production of their cultivated plants. At the same time, planting plant as much they can will also increase the soil quality. Soil quality improvement will directly improve the ability of environment to sustain life and biodiversity on earth.

Conclusions

Loving mother earth can be done in many ways. It can also be done by everyone, especially by students. Caring environment by paying serious attention toward environmental damages through education level is an essential way. AMF application toward pioneer plants to solve bare land and ex-lime mine problems is one of research studies which is applicable toward education method in school level. Following its method, students are not only able to gain their theoretical and practical knowledge, but also able to empower their passion and preference to love and care about the environment and the earth.

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CROSSCUTTING RELIGIOUS EDUCATION FOR A BETTER SELF-UNDERSTANDING AS A RESPONSE TO RELIGIOUS EXTREMISM

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Abstract

Interreligious education has been recognized as alternative for mono-religious and multi-religious education in the Western World since 1990's. This model underscores plurality both as a part of departure and as a possible result of religious education and at the same time it avoids a purely objective approach to the multitude of religions. However, there has been hardly any trace of interreligious education in Indonesia and in fact, even some people agree to abolish mono-religious education in the schools, which is considered to be vulnerable to favouritism and communal tensions. This study proposes a certain way of learning called cross-cutting religious education which may be applied within mono-religious model. The main concern is the following research questions: To what extent can crosscutting religious education lead to moderation and how can it provide cognitive, affective, and attitudinal dimensions which are required to restrain the tendency of religious extremism? The author argues that a crosscutting religious education in high schools through religious literature provides a better self-understanding which in the long term reduces the tendency of religious extremism. Thus, the study shows a method of hermeneutics which results in a better self-understanding of certain religious tradition based on the reading of different religious tradition texts.

Keywords: interreligious learning, mono-religious model, hermeneutics, religious extremism, cross-cutting

Introduction

At first glance, most people assume that poverty and ignorance are two overriding answers to the question about what drives someone to become a religious extremist. However, Haroon K. Ullah, a senior State Department advisor and a foreign policy professor at Georgetown University, found something intriguing when he observed how Islamist extremist group spread their influence in Pakistan. The people recruited by this group are well-fed and well-read. Thus, poverty and ignorance have almost nothing to do with what drives people to Islamic extremism. Haroon proposes two answers to explain how people are easily recruited by extremist group: (1) a desire for meaning and for order and (2) a desire for change (Ullah, 2015).

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He describes that "Places like Pakistan are submerged in chaos and corruption. Islamists promise clear cut solutions to every problem: here is how things will change if you follow these rules. And only these rules." Meanwhile, "The old corrupt order… must be overthrown, and that can only happen through violent action. Again, it is Islamists that step in, with a promise to create a new form of government. Then throw in a strong sense of victimhood – we are not responsible for the sorry state of our country; others have brought us down – and you have a toxic brew that many willingly imbibe. These, of course, are the same easy answers that tyrants and demagogues – from Lenin to Mussolini to Hitler to bin Laden – have always offered their followers" (Ullah, 2015).

The desire for meaning and change is, in fact, a matter of religious dimension which nowadays is closely related with pop-culture and one acknowledges that "beyond the symbolic content of the advertising spectacle, a significant part in aggrandizing the culture force of advertising is attributed to the way in which it succeeds to contain religious dimensions in its mechanisms, such as sacramentality, divine mediator, ultimate concern, and the passion for the impossible" (Grad, 2014). Thus, religious values play an important role in the production of meaning through mass media.

Since the production of meaning through media culture does not depend on a single religion, conflict of interpretations is unavoidable. This conflict cannot be satisfactorily managed without interreligious dialogue and there is no interreligious dialogue without interreligious encounter (Fisoni, 2005). This interreligious encounter has implications for religious education, regardless its diverse understandings, thus its ambiguities, and approaches (Jackson, 2016), which in turn determines how religious materials will be delivered. It is assumed here that there are three models of religious education: (1) mono-religious education as a method of learning in a certain religious environment, (2) multi-religious education as a method of learning about religions, and (3) interreligious education as a method of learning from religions (Ziebertz, 1993) and that the last model is a legitimate critique and alternative for two other models which has been developed since 1990s (Pollefeyt, 2007).

Unfortunately, it is clear that in Indonesia the preferred type of religious education is mono-religious model. This preference was coined by the Education Law No. 2/1989 and the current law, that is No. 20/2003, has strengthened it. This preference for mono-religious education has received some critiques as lacking of the spirit of moderation that is being vulnerable to religious favouritism and communal tensions. Moreover, mono-religious model could lead to ethnocentrism and religiocentrism as well as the risk of strengthening positive in-group attitudes and, at the same time, negative attitudes towards religious out-groups (Yusuf & Sterkens, 2015).

However, this legal preference for mono-religious model should not be considered as great barrier for dialogue. This study proposes an interreligious learning within mono-religious education which may be called crosscutting religious education. The word 'crosscutting' here is taken from political studies to underline the importance of moderation in plural societies. "According to the theory of crosscutting or overlapping memberships… crosscutting entails cross-

pressures that make for moderate attitudes and actions" (Lijphart, 1977). The purpose of crosscutting religious education is basically in line with the aim of mono-religious education outlined by the Education Law, namely, "creating a religious community, where a deep, extensive and even critical understanding of religion is nurtured" (Amin, 2013). In spite of it, crosscutting religious education attends "to the particular words, images, and behaviors through which the other represents himself" (Berling, 2004). Thus, crosscutting religious education is theoretically dual-purpose, that is, inculcation of religious values as well as moderation for peaceful co-existence. There are certainly some requirements to attain that dual-purpose.

Theory

The foundation for crosscutting religious education is precisely the goal idealized by mono-religious model, that is, appropriation of a particular religion (Sterkens, 2001). One who appropriates his or her religion will understand the meaning of his or her religion, live it out, express, or articulate it within his or her life. As a consequence, as said by The Pope John Paul II, "a faith which does not become culture is a faith which has not been fully received, not thoroughly thought through, not fully lived out" (Gallagher, 2003). Therefore, a true faith should be expressed through culture and crosscutting religious education takes expressions of other faith (or religion) as a point of departure, not the sources of faith (scriptures, tradition, magisterium, for instances). The possibility of taking other's sources of faith for a genuine dialogue is neglected here.

There are two reasons for this. Firstly, interreligious dialogue, for which interreligious learning is bound, is best understood as a way to better self-understanding, not primarily better understanding of other religions, by departing not from one's own religion, but from other's. Considering Ward's observation on Karl Barth's theological itinerary (Ward, 2005), besides the issue of incommensurability (Ruth, 1997), it is clear that one cannot speak theologically out of experience that is not part of his or her beliefs. Moslems or Jews, for example, cannot speak theologically on the basis of their belief of the risen Christ. Secondly, considering Paul Ricoeur's concepts of distanciation and appropriation in his hermeneutical theory (Ricoeur, 1976), this point of departure serves as a moment of dispossession of the egoistic and narcissistic ego. Methodologically one does not hold his or her own religious heritage, but make a distance from it and taking expression of other's faith becomes a means of distanciation. Here the possibility of shifting perspective from auto-interpretation to allo-interpretation and vice versa (Sterkens, 2001) has its place.

However, there are some conditions for faith's expression as a point of departure: (1) its textual characteristics and (2) its openness to cultural hermeneutics. First, the material object should be something that can be treated as a discourse, which is fulfilling four characteristics as analyzed by Ricoeur. To put it briefly, the medium for crosscutting religious education should be a written discourse, that is, a text. The medium may be also an action provided that the action fulfils textual characteristics (Ricoeur, 1991).

Second, the text is not necessarily at random. Taking Ward's conception of culture as symbolic world-view into consideration and admitting the dynamic character of cultures (Gallagher, 2003; Ward, 2005), this study suggests the text be other than Scriptures or any kind of treatises on specific teachings in the context of a certain faith. One criterion for distinguishing which text can be included as medium for crosscutting religious education is in regard with the congruency between real reader and implied reader. If the structure of the text does not allow separation between the real reader and the implied reader, then that text cannot be used as medium for crosscutting religious education.

Therefore, crosscutting religious education takes a text whose implied reader belongs to other faith or belief without violating the text. Violation happens if the real reader reads and interprets the text while it is properly read through the eyes of other faith. That is why crosscutting religious education cannot take the textual sources of faith that is Scriptures as a whole. What kind of text, then, can be treated as medium if it has to be an expression of faith but it can be understood through interpretation of other faith?

Strictly speaking, the answer is religious literature that has a narrative structure. One can express his faith through literature and other person who belongs to other faith may interpret it without dropping his own faith. Another question may arise: Is it not another kind of violation, that is, of treating a text subjectively so the reader falls into an arbitrary relativism? To answer this question the author owes Ricoeur's hermeneutical theory to explain the procedure of doing crosscutting religious education, instead of merely relying on common sense.

Hermeneutics in Ricoeur's discourse is a way of self-understanding through a text. Hermeneutics has a character of phenomenological and existential (and critical as well). It is existential to the extent that hermeneutical knowledge functions not only as cognitive process, but also a way of being. Through hermeneutics, one can better understand himself. Whereas the phenomenological dimension of hermeneutics gives a place for intentionality. Here understanding is a reciprocal relationship between subject and object. As a consequence, interpretation is not only determined by internal dynamics of the interpreter, but also by the grammar and syntax of the text.

Practically a text can make sign and symbol more extensive but at the same time this mediation breaks off the intersubjective dialogue between writer and reader. The writer is not present when the text is read and the reader was not present when the text was written. If Schleiermacher pays his attention to the intention of the writer, then Ricoeur distinguishes himself by arguing that the task of hermeneutics cannot simply be defined as an effort to find the intention of the writer, but it must be becoming a route to self-understanding as human being (Simms, 2003).

For the sake of a better self-understanding, considering four constitutive elements of discourse, Ricoeur proposes four hermeneutical categories (Ricoeur, 1991; Haryatmoko, 2016). The first category is distanciation to the object of hermeneutics through its structure. It means that the object of hermeneutics should be fixated on written form. This is a condition for autonomy of the text so that

distanciation happens: it becomes autonomous to the author's intention, to the cultural and sociological backgrounds, and also to original reader, original addressee, or implied reader (Ricoeur, 1991). The second category is objectivation through the structure of the text. Here is the place for observation to the logic of relationship among elements within the structure of the text. This second category does not allow a notion that text's meaning depends on subjective dynamic of the interpreter because text has its "own world" which may exceed even the author's world. Both categories (distanciation and objectivation) are objective pole of interpretation. This shows that text has an immanent structure which can be understood by way of structural approach but at the same time refers to external entity passing over linguistic and philosophy of language, which is the world of the text. Here it is the trajectory which cannot be accommodated by the intentionality of both writer and reader.

The third category is the world of the text, that is, the main message. It is not a world limited by the intention of the author, but it is a world disclosed based on the constitutive elements of the text. The world of the text becomes a term of reference, an orientation to the readers. In other words, the interpretation of the reader is oriented toward a world constituted by the text. Therefore, the world of the text cannot be intentional prejudices or interests of the reader. The fourth category is self-understanding or appropriation. The world of the text is meaningful insofar it is internalized within the life of the reader, that is, if it is related to concrete situation of the reader or interpreter. This encounter between the world of the text and the world of the reader may be called a fusion of horizons which in turn will change the world of the reader by way of appropriation (Ricoeur, 1976).

The appropriation here is actually a distanciation too, not from the author, but from the reader. The reader must uncover his or her unconscious ideologies which have been instilled by respective religion. This distanciation can be developed through a critique of ideology and deconstruction, besides creative imaginations (Haryatmoko, 2016). The first two models are negative in their forms in the sense that they challenge any ideology or teachings subconsciously held by the reader. In fact, they have a positive role to purify the reader's understanding of his or her beliefs. The same thing applies to creative imaginations, which may open new possibilities in living out the reader's belief, related to the world of the text, through arts performance or experiences. Thus, the third and fourth categories of hermeneutics are subjective pole, which are closer to the internal dynamics of the reader. It is in this subjective pole that the reader has a chance to understand himself better in the sense that his or her horizons are broadened or purified within his or her context of life.

These two poles of hermeneutics will not permit crosscutting religious education to violate the text because the reader has to face objective dimensions of the text. On the other hand, crosscutting religious education provides enough space for the reader to develop his or her personal involvement in the real world connected to the world of the text.
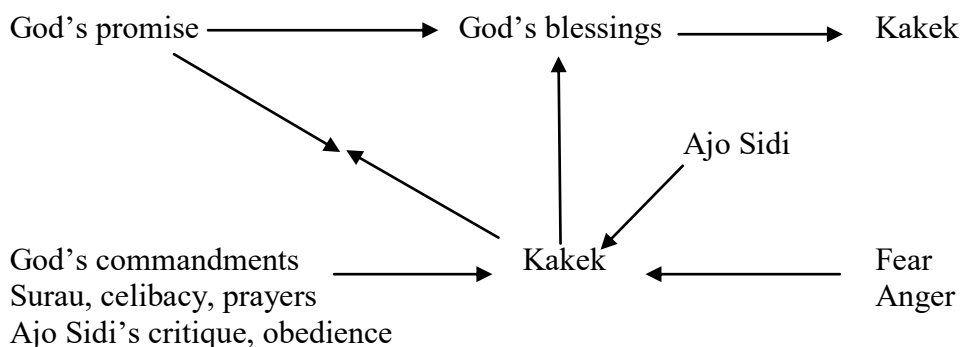
Theory Application

Based on this theoretical framework, a crosscutting religious education may be delivered with following steps. Firstly, students take a literature written by a real author who belongs to other faith or belief, assuming two things: (1) it will imply to existence of *implied author* and *implied reader* of the same faith or belief with the real author; (2) it contains standpoints of other faith or belief. They read the literature and after finish, they are asked to give their impressions toward the story. Here the students identify their own feelings while they were reading and after they finish reading and their opinions about the literature. Secondly, students do a close reading, observing the literature with the help of narrative analysis procedure, that is, to find fundamental elements of the story (protagonist-antagonist, time-place, plot, narrator, reader, point of view, etc.). This step will help the students to get the surface meaning of the story (Powell, 1990).
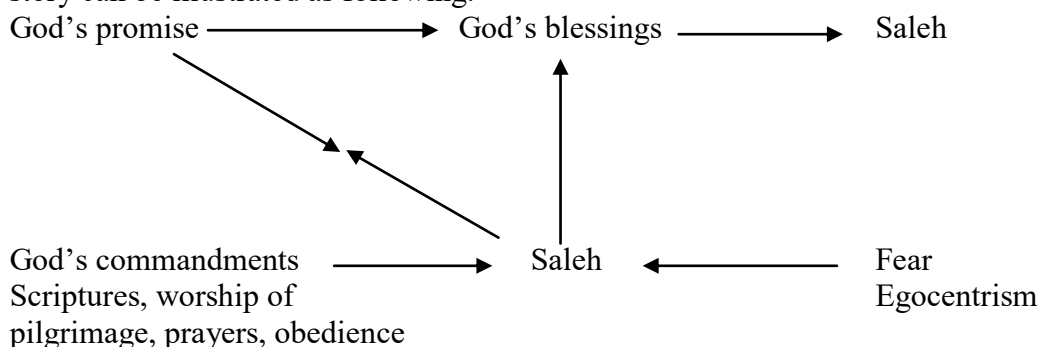
Following that observation is structural analysis which may help students to go into detail in order to find *the grammar of literature*. The structural analysis unfolded by Greimas and Barthes may be a great help here. Through careful observation on these narrative and structural analyses students may find the world of the text, which will be term of reference for the next analysis. It can be said here a hypothesis that the world of the text is to be found in the intersection between communication axis (sender-receiver) and desire (or project) axis (subject-object) in actantial model. As a part of this structural analysis students may list values lived by the subject in a form of binary opposition. It will also help students to explain the world of the text and formulate some deep meanings based on the world of the text. The next step is appropriation to the world of the text by way of some methods of distanciation: critique of ideology, deconstruction, and creative imagination.

An example is given here by studying a short story written by Ali Akbar Navis, a Moslem writer, entitled "Robohnya Surau Kami" (The Fall of Our Local Mosque), assuming here the students as its real readers are Catholics. It is a story about Kakek, a caretaker of the surau (a small mosque), who committed a suicide after Ajo Sidi, a very busy man, likened him to fictional character with hajj title named Saleh (means pious). Ajo Sidi told Kakek how God almighty chased Saleh away to hell after his death even though Saleh had observed all God's commandments and dedicated his whole life to worship God. He was late to realize that God wanted his people to live in fellowship. Logically, Saleh's struggle for entering heaven became Kakek's struggle as well but Kakek ended his struggle with suicidal action so that the surau, as a symbol of holiness, is on the verge of collapse.

After a close reading to the text, students may find all important actants (sender, subject, object, receiver, helper, opponent, and anti-subject) as illustrated below.

God's promise ——————→ God's blessings ——————→ Kakek

Ajo Sidi

God's commandments ——————→ Kakek ←—————— Fear
Surau, celibacy, prayers   Anger
Ajo Sidi's critique, obedience

Because Ajo Sidi likened Kakek to Saleh, another actantial model of Saleh's story can be illustrated as following.

God's promise ——————→ God's blessings ——————→ Saleh

God's commandments ——————→ Saleh ←—————— Fear
Scriptures, worship of   Egocentrism
pilgrimage, prayers, obedience

Students may understand from the story that both Kakek and Saleh were bound to God's promise written in the Scripture, which serves as sender in actantial model: *"Maka…kami menuntut agar hukuman yang Kaujatuhkan kepada kami ke surga sebagaimana yang Engkau janjikan dalam Kitab-Mu"* (Navis, 2010). It is showed here that Saleh and his followers insist God to review His sentence on them and to send them to heaven, instead of hell, as God has promised in His Scriptures.

To meet God's promise (heavenly life), they tried to seize God's blessings but unfortunately they failed: *"Tahulah mereka sekarang apa jalan yang diridai Allah di dunia"* (Navis, 2010). Here is the object of Saleh's quest, that is, God's blessings, what was really approved by God. They apparently did not know what really pleased God during their earthly life. The same object is pursued by Kakek. *"Akan dikutuki-Nya aku kalau selama hidupku aku mengabdi kepada-Nya? Tapi kini aku dikatakan manusia terkutuk"* (Navis, 2010). This inner turmoil shows Kakek's concern whether God would curse on him if he dedicated his life to Him and his worries that instead of getting God's blessings, he is called a godforsaken man.

Along with this observation, students should pay attention to values brought by the subject in a form of binary opposition and sorting them according to level of dominance in the text. God's blessings vs God's curse is the most dominant opposition and it serves as the object of Kakek's pursuit. Some other binary oppositions may be said here: piety-impiety, worship-work, egocentric-altruistic. It seems, on the outside, that the opposition between worship and work is so

dominant because there is a great portion of discourse during Saleh's trial about his work in the earthly life (which is nothing but worship) and even in the end of the story it is clearly mentioned what Ajo Sidi did while other people would join the funeral religious service: *Yes, he's going to work.* Ajo Sidi brought a value of work more than worship.

It should be noted here that since Ajo Sidi was anti-subject who wanted to criticize Kakek by likening him to Saleh, the name Saleh here was not trivial. The story tells how Ajo Sidi had labelled a leader as frog before finally people called him frog leader. Saleh, then, became appropriate label for Kakek given by Ajo Sidi. It means, piety is the value brought by Kakek in his search for God's blessings and he lived that value by putting worship far ahead of work just as Ajo Sidi described in the story of Saleh.

Since the world of the text is to be found in the intersection between desire axis and communication axis, considering the failure of the subject to get his object, and taking the highest value brought by the subject into consideration, it can be said that the world of the text rolled out by "Robohnya Surau Kami" is the world of a piety that is not legitimized by God's blessings. Students may explain further about this world of the text by posing general questions (5W + 1H) to reveal semantic meanings based on the relationships among actants according to the logics of the story. For instance, God's blessings cannot be found by an observance of God's commandments accompanied by fear. The fear (of hell) corrupts any worship to earn God's promise (opponent-helper-sender). Thus, external religious observance does not guarantee God's blessings. Besides, a piety oriented to a private interest (considering the absolute similarity between subject and receiver) is not legitimized by God's blessings, neither is worship that deprives man of social responsibility.

After elaborating the world of the text, students should make appropriation of it by considering any critique of their own religion and recalling any false belief they hold. In high schools, students will need help of their teacher to discuss some theological issues in accordance with the world of the text. Those issues might be elaborated with Scriptures (*For I desired mercy, and not sacrifice; and the knowledge of God more than burnt offerings*, Hos 6:6 KJV; *Not everyone who says to Me, 'Lord, Lord,' will enter the kingdom of heaven; but he who does the will of My Father who is in heaven*, Mat 7:21 NAS), or Tradition that is related with social responsibility (sacrament of reconciliation), or Catholics teachings on nurturing the trafficked mother earth (*Laudato Si'*, for instance) in such a way that the students might open their perspective and thence they deepen their cognitive knowledge, to some extents, about Catholic identity. Appropriation can also be made by triggering creative imaginations whether in reflecting students' experiences or in devising an action or art performance inspired by the world of a piety that is not legitimized by God's blessings.

After the whole process of this interreligious learning, students must reflect on their internal dynamics, that is, their affective, cognitive, and attitudinal dimensions before and after the process. Students should compare their feelings and attitudes toward Moslem world before they were requested to read Moslem short story and after they finished the cognitive process of hermeneutics. They

may collect new information about Moslem world, but more important is a new insight or awareness of their own Catholic identity. To this point, crosscutting religious education helps students to understand their Catholicity better than before by interpreting Moslem faith expressed in Moslem literatures.

Conclusions

It can be stated here that crosscutting religious education is an interreligious learning within mono-religious education model. It will certainly not function in religious extremism setting because this model of learning, from the very beginning, assumes moderate attitude. Catholic extremists, for instance, would not read Moslem novels or short stories in order to learn from them. They would read them Crosscutting religious education imposes Catholic students to learn from Moslem or other religious literatures. Therefore, religious literature as other faith's expression is not merely a medium. It is the medium of crosscutting religious education without which mono-religious model remains detached from dialogue with other religious values and attached to the risk of being vulnerable to religious favouritism and communal tensions.

The moderation happens not only in the beginning, but also during the process of hermeneutics. Students cannot impose their opinions or pre-understandings (their own religious prejudices and beliefs) over the text. The objective pole of hermeneutics forces students to do a close reading and to be so faithful to the text that they can find the world of the text which is freed from both their own religious prejudices and the real author's ones. The moderation can also be expected from the result of the study when students realize that other religious text offers values that enrich and broaden their perspectives to deepen their understanding of their own faith. This finding will not allow them to exclude other perspectives to get meanings because, as a matter of fact, those meanings derive from a process involving other religious beliefs. Such a moderation will restrain the tendency of religious extremism.

Without crosscutting religious education, Catholic students may also learn from literature written by a Catholic author and Moslem students from Moslem author. They may involve affective, cognitive, attitudinal, and even volitional dimensions, but other religious beliefs are absent and no moderation can be expected. This interreligious learning within crosscutting religious education gives reason to maintain mono-religious model confidently without any fear of being criticized to be vulnerable to favouritism and communal tensions. They who practice crosscutting religious education respect other religious beliefs since the beginning and learn from them as well in order to nurture broader identity, that is, nationality and humanity.

It certainly demands religious teachers to have an adequate knowledge of both literature and basic theology, besides an openness to a possibility of learning from other religions. Such religious teachers do not necessarily have much knowledge of other religious traditions, though the competence of this area will be very helpful and fruitful, since the aim of crosscutting religious education is appropriation of a particular religion, that is, a better self-understanding. In this case, the role of religious teachers is very important and crosscutting religious

education might be an appropriate alternative for upgrading their competence of interreligious learning.

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DEMOCRATIC EDUCATION THROUGH HISTORY LEARNING USING SOCIAL HISTORY TEACHING MATERIALS

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Abstract

The democracy practice could grow when the nation's generation had history awareness and be a good citizen. So the democratic education should be developed, one of the ways was through history learning in schools. Social history teaching materials, especially regarding women and ethnic was full of democratic values, there were freedom and egalitarian. Various experiences and problems of democracy could not be separated from society life since ancient era. By understanding the social dynamics through history learning, the young generation was expected to be wise in determining the democracy continuity for nation's future.

Keywords: democratic education, history learning, teaching materials, social history

Introduction

Education plays a fundamental role in personal and societal development. It must be realized that education is not just a brain matter, but also value implantation for character building. One of the universal values that deserve attention is democracy. Let alone, there are efforts that could potentially threaten the democracy development in Indonesia until now. So the democratic attitudes must continuously develop, especially on young generation through education.

Implantation of democratic values in education has explicitly regulated by Law No. 20 of 2003 on the National Education System (Sisdiknas) in Article 3 which states that

> National education has function to develop the ability, character building and nation's civilization that were dignified in the context of enrich the nation's life, aimed at developing students' potentials in order to be a people that are faith and fear of God Almighty, noble, healthy, knowledgeable, skilled, creative, independent and be a democratic and responsible citizens.

Still in that law, democratic education is reinforced in Article 4 Paragraph (1) that reads "Education should be implemented democratically, fair and not discriminate to uphold human rights, religious values, cultural values, and the nation's diversity". Realizing the nation's diversity, tolerance and mutual respect

attitudes become mutual needs. This is the essential role of democratic education. Pancasila and Citizenship Education (PPKn) are the most relevant subjects as a means of democratic education in learning at school, but most likely also through history subjects.

History learning can be done by using appropriate teaching materials. Teaching materials are developed more in-depth by instilling democratic education. Teaching materials are helpful to achieve the learning objectives and also a means to achieve a high level understanding for students. The teacher as a facilitator in the learning activities must have a good understanding about the teaching materials so they can internalize the value of students properly.

History learning should be able to develop students' thinking ability, so the use of teaching materials as much as possible provides space for students to be active and critical. Students are challenged to find sources of learning to gather information independently and critically reviewed. One of the ways is by applying constructivist history learning. It will give a freedom for students to gain experience in direct and meaningful learning. Therefore, it does not only implant the democratic values, but also the democratic nuanced learning process.

This paper discusses democratic education through history learning by using teaching materials contained social history. Social history topics contained democratizing value, especially freedom and egalitarian, emphasized on women's history and ethnic minority history in Indonesia. These two topics review communities who experience marginalization and rarely take a place on national history. Both of them are expected to grow democracy passion in pluralistic society daily lives.

Theory
Democracy and Democratic Education

Democracy is etymologically derived from the Greek *demos* meaning people and *kratos/cratein* meaning governance. From this sense, it appears that democracy in the narrow sense is closely related to the state affairs and power. In the development, democracy is not only as a form of government or political system but also has become a life attitude. Dahl (2001: 68, 70) mentions that "democracy essentially is also a system of rights. ... Democracy guarantees a wider personal freedom for citizens". Democracy is expected not only to fulfill the civil and political rights, but also include economic, social, and cultural systems in broader sense (Herdiawanto and Hamdayama, 2010: 82).

Latif (2011: 383) affirms that the United Nations from multicultural nationality like Indonesia can survive if there is a balance in the fulfillment of liberty, equality, and fraternity principles among nation's elements. It's not only individual rights and society (collective rights) fulfillment, but also the obligation to develop social solidarity (mutual cooperation) for the nation's benefit. Civil society can be realized through the democratic process.

Democracy basically acknowledges each person as a unique, typical individual, and different from each other. In a democracy, every person is given freedom to implement and develop their potential. Democracy has 10 pillars,

namely (1) popular sovereignty, (2) government based on the consent of the governed, (3) majority's power (the election results), (4) minority rights guarantee, (5) human rights guarantee, (6) equality before the law, (7) fair legal process, (8) governmental power limitation through the constitution, (9) pluralism of social, economic and politic, and (10) the development of tolerance, pragmatism, cooperation, and agreement values (Ubaedillah & Rozak, 2003: 71).

The growth of democratic value can be done through democratic education. Democratic education puts students as different and unique individuals to develop the existing potentials maximally. The essence of democratic education is to develop the human existing through equality of dignity, mutual trust, tolerance, mutual respect and honor, active participation in various aspects of social life, and freedom (Citizenship Education Lecturer National Team, 2010: 139). The content of the various values is expected to be internalized through history learning by using social history materials.

Democratic education cannot be separated from the democratic learning process. The learning process that takes place in the classroom is dynamic. The dynamic learning process in the classroom seen by the interaction between teachers and students, students and other students, students and sources and teaching materials available. These interactions led by the teacher as a facilitator and motivator. Student-friendly learning and putting student as a study subject became the start of democratic learning realization.

Democratic learning will create a fun learning environment. Teachers are expected to lead the students to learn mutual respect, support, and provide opportunities to each other. If students obtained meaningful learning experiences with the democratic nuances, the learning objectives can be achieved more leverage. Democratic values will also be more easily internalized in students.

Democratic value cultivation can be done by constructivist learning approach. Suparno (1997: 62) explains that by using it, students are given a freedom to build knowledge independently by finding significance. Further Suparno (1997: 66) explains that the teacher as facilitator and mediator must provide learning experiences for students, provide activities that stimulate students' curiosity, monitor and evaluate the knowledge building by the student at the same time. So teachers should be prepared and mastered teaching material both formal (contained in textbooks) and informal (outside textbooks or materials development).

In democratic education, students and teachers can discuss and review the topics raised by teachers or students when learning takes place. Therefore the lesson should not be exactly the same as teacher's planning in the learning media. Teachers should be prepared to make teaching materials development that can also support the democratic values cultivation to students.

Social History Teaching Materials for Democratic Education

According to Ibrahim and Syaodih (2002: 100), teaching materials are something served by teacher and then processed and understood by students in order to achieve instructional objectives have been set. Teaching material consists of facts, generalizations, concepts, laws or rules, etc. contained in the subjects. Dakir (2004: 14) also explains on developing teaching materials, teacher should

pay attention to the following (1) pedagogical; (2) psychological, interests and students' needs; (3) easily taught; (4) sociological or in accordance with the surrounding community situation; and (5) not contrary to the various provisions of the applicable legislations.

Development of teaching materials becomes important in the context of democratic learning nuances. It is aimed to give more space to develop students' critical thinking skills as expected in Curriculum 2013. In line with Article 4 Paragraph (1) of Law Number 20 Year 2003 on National Education System, the teaching materials development are also made on basic education that are democratic, fair and not discriminative by uphold human rights, religiosity, cultural and national diversity. History teaching materials are full of these values. This is what makes the history teaching materials development needs to be done within the democratic education framework.

History teaching materials according to Djoko Suryo in Aman (2011: 97) may start from some study fields: (1) history of thought and religious philosophy, (2) history of civilization and culture, (3) national and local history, (4) social or society history, and (5) Indonesia's constitutional history that gives democracy understanding and civil society formation. The idea of history teaching materials development is in line with the outlined of National Education System Law regarding democratic education.

This paper offered several proposals of history teaching materials development that teachers can do. The proposal presented focuses on social history theme or society history and then reviews the democratic values content in it. These materials are expected to be integrated into the basic competence in accordance with Indonesian History syllabus (required) in Curriculum 2013 for high school (SMA/MA/SMK). It is focused on Indonesian history considering that this subject focuses on the value implantation to all students of all specializations.

History learning had been dominated by political themes all this time. Political discussions can't be separated from the 'ruling class' problem, a minority that holds power in every society and the state over people(Onghokham, 1991: 100). Even though society social structure also needs attention in history, from the elite, aristocrats, merchants, farmers, laborers, artist, the poor, the homeless, and the criminals (Suhartono, 2010: 68). This is examined by social history as history from below centered on particular groups and the underprivileged that will complete the dynamics overview and Indonesian society development widely, completely and continuously (Aman, 2011: 98).

Kartodirdjo (1992: 158) describes the social history as a history of various social movements, including the movement of peasants, workers, students, protest, etc. Social history can also include demographic history such as population growth and migration. Social history also includes the social group's development and their lifestyles from elite class to underdog (marginal groups).

The peasant movement in the colonial period included Banten peasant rebellion in 1888, the peasant movement in Ciomas in 1886, 'Entong Gendut' rebellion in Tanjung Oast in 1916, etc. Moreover, the appearance of 'Ratu Adil' movement that was messianic by expecting the arrival of Ratu Adil (Imam Mahdi/ Savior), Religious Sects Movement, and the Islamic Sarikat Movement in the

countryside. These social movements can be presented on the materials of resistance against colonial rule.

Prijaji's lifestyle and Indies cultural development also be a study of social history associated to Dutch colonization influence. Soekiman (2000: 27-28) explains that the Indo (crossbreed between native and Dutch) attempted to create their own culture and even social class called Indies. The Indo felt caught between two social-culture spheres, Dutch and natives. Indies' social and cultural group they created also accommodated the social struggle faced by the Javanese prijaji. This material can be a description how feudalistic elements that restrict the democracy are so exalted even today.

On the national movements' materials, movements doing by various groups of society such as women, ethnic, or religious beliefs also include the study of social history. Discussion about these groups is not as much as the discussion about nationalists. Sartono Kartodirdjo in Mulyana and Darmiasti (2009: 5) explains that the Indonesian history should be a "history from the inside", that reveals the activity of various society groups, and lead to the nation's integration. So, history teaching materials should contain the dynamics of various societies, not just the dominance of certain groups.

For example, a place for social history that examines the life dynamics of various societies from the elite to underdog is a part of democratic education. In the development of nation's history, at least three social issues are important to note as the study of democratic education, there are women, ethnic and religious. Religious groups have gotten sufficient and balanced portions so far. However, the role of women and ethnic minorities is still less addressed. These two focuses can encourage democratic awareness, especially freedom and equality so harmonious society will be created.

Theory Application
Women's History

History had long been dominated by men. Suhartono (2010: 93) says the history tends to be androcentric because it talks a lot about power, government, war, politics, the military, etc. Women only became the object and the secondary sex. Around the 20th century, a gender movement that wants to fight for the position and dignity of women emerged. The dichotomy between men and women inadvertently had made the subordination of women by men. As a result of this binary opposition, men were more exposed in the public sector, while women were in the domestic sector.

There are many women history's themes that can be developed from oppression and discrimination problems until the emergence of female warrior figures. Long before colonialism came to rule, Javanese women were treated as 'kanca wingking', a status which placed women as merely men's companion in private areas. A wife's fate totally depended on her husband. The term was *swarga nunut, neraka katut* (Sarwono, 2004: xi) or "to heaven or to hell, a wife follows her husband either way". The coming of Dutch colonialism dragged women to the concubinage practice that increasingly demeaned women (Hellwig,

2007; Baay, 2010). Reviewing women's position in the historical dynamics can raise the awareness of the importance of equality between men and women.

The role of women figures in the Indonesian history is actually quite significant and some of them have taken place in history teaching materials. For example are Ratu Sima, the famous ruler of Kalinga kingdom that was fair and firm, the bravery of Queen Kalinyamat Queen from Demak, till the struggle of R.A. Kartini presumably familiar to be given. But there are many women fighters that should be studied such as Cut Nyak Dien, Cut Meutia, Martha Christina Tiahahu, Maria Walanda Maramis, Dewi Sartika, Rohana Kudus, and others.

Women also played a role in the independence period, for example Soerastri Karma Trimurti, a three period journalist who became the Minister of Labour during the Old Order; Maria Ulfah Santoso, BPUPKI (Independence Preparation Body) members who became the Minister of Social Affairs in Sjahrir's Cabinet; and others. The 1965 incident that dragged Gerwani made women in the New Order tended to be apolitical and experiencing de-radicalization. Then women were accommodated in organizations such as Family Welfare Guidance or *Pembinaan Kesejahteraan Keluarga* (PKK/Family Welfare Supervision), Dharma Wanita, Dharma Pertiwi, and others that were formed as a result of the existence or their husbands' status. The ups and downs need to be studied to grow the spirit of freedom and gender equality importance.

Ethnic History

Suhartono (2010: 92) mentions the ethnic history as ethnohistory. The scope of etnic history concerns social, economic, cultural, trust relations, and social change aspects. Indonesia is very diverse society made up of various tribes who had always live together. Before the state forming, the Indonesian people had existed. It was formally stated in the Youth Pledge or *Sumpah Pemuda* on October 28, 1928. Anderson (2001: 8) describes the nation as an imagined community because their members do not recognize most of the other members, not face to face, do not even hear about the other members, but in the mind of every nation's member living a shadow about their togetherness.

According to Kartodirdjo (1995: 4), national history truly is a unit consisting of the complexity of ethnic, linguistic, religious, cultural, judicial elements, etc. manifested as a unity through historical development process. Including ethnic groups considered as newcomers such as Chinese, Arabic, Indian, and so on have a role in the Indonesian national history. One of the very rarely mentioned is the Chinese. Even though Chinese is the most numerous newcomers scattered in various regions of Indonesia and became the most frequent citizens who fall victims to any political and cultural conflicts.

According to Setiono (2008: 21), the Chinese began to come to the archipelago in the 9th century, during the Tang Dynasty. They came to look for a better life by trading or farming. Kong (2005: 1-12) even mentions the majority of the Indonesian people came from Yunnan in the southwest of China. They spread into Proto-Malays and Malays Deutro so there was blood relation between the Chinese and most of Indonesian tribes. Actually, the problem of being indigenious or not indigenious, natives-non-natives is not very relevant to be discussed. Anthropologically, Indonesian residents today are non-natives. The difference is

only the time of their ancestors began arriving to inhabit the archipelago (Setiono, 2008: 16).

Chinese Ethnics in Indonesia had a long history. Long before the Dutch came, the Chinese people had traded and established business relationship in the archipelago. The Chinese also took a role in the Islamic development, for example in the Admiral Zheng He's story. This material can be taught on 'the coming and development of Islam in Indonesia' subject. In the Dutch colonial period, the Chinese's motion was narrowed on trading by the zoning stay (wijkenstelsel) that was a Chinatown and the passes system (passenstelsel). The massacre tragedy happened on Chinese in Muara Angke in 1740 also needs to be studied. These events impacted on the outbreak of Geger Pacinan in 1740-1743 when Java's irregulars merging with the Chinese against the Netherlands.

At the Indonesian national movement era, the Chinese also had a role. In 1900 in Batavia, Bogor, Sukabumi, and other cities emerged Jong Chineesche Beweging movement or Chinese Youth Movement that had never been told. In the Youth Pledge or Sumpah Pemuda dated October 28, 1928, some Chinese were also present in the pledge. They were Kwee Thiam Hong (David Budiman), Khai Ong Siang, Jong Liauw Tjoan Hok, Tjio Jin Kwee, and Muhammad Chai (Setiono, 2008: 504).

Starting from the nationalism spirit, the Chinese people also rose to fight for their fate as a result of Dutch colonialism by establishing Tiong Hoa Hwee Koan (THHK) and Sin Po Newspapers. THHK formed in March 17, 1900 played a major role in education in Indonesia by establishing schools (there were 54 schools in 1908 and reached 450 schools in 1934). There was Chung Hua Hui (CHH) group that more oriented to the Dutch East Indies by entering into the Volksraad. Indonesian national awareness was growing among the Chinese's descendant, and then they stood Indonesian Chinese Party or Partai Tionghoa Indonesia (PTI) that were determined to fight for the people fate together with the other nationalist organizations and fought for Indonesia's independence.

In preparing for the Indonesia's independence, some of Chinese also played a role. There were four Chinese figures became BPUPKI members namely Liem Koen Hian, Oei Tiang Tjoei, Oei Tjong Hauw and Eng Tan Hoa. In PPKI also recorded name Tjwan Bing Yap. In the Old Order, some Chinese politicians played a role in government such as Oei Tjoe Tat, Siauw Giok Tjhan, till Rear Admiral (Ret) John Lie Tjeng Tjoan, alias Jahja Daniel Dharma. John Lie became the first national hero from Chinese community for his services to quell the separatists from South Maluku Republic (RMS) and the PRRI / Permesta.

In the New order, this case was never raised. Even, discriminatory practice against Chinese ethnic groups is rampant even until today. Reformasi era was a turning point for the Chinese ethnic groups to re-participate in many facets of life including politics. By studying the history of Chinese people, students are expected to cultivate mutual respect and accept the existence of Chinese ethnic groups as part of Indonesian peoples. This is important in the democratic education framework that develops egalitarian spirits for the younger generation and avoids inter-ethnic conflicts at once.

Conclusions

Democratic education is closely related to the students' character building. It is expected to realize a multicultural society that leads to the civil society formation. If lately there were attempts from certain parties that lead to the democracy deterioration, it was certainly unfortunate. The attitudes threaten the democracy should not be happened when this nation's generation has history awareness and good citizen attitude. Observing this fact, democratic education is increasingly important and urgent to be implemented.

Democratic education through history learning teaches various democratic experiences in the past with various problems. It can be done by teaching materials development of social history or society history that contains democracy value. Especially on the study of women's history and ethnic groups that have tended to be discredited as marginal group. It will boost awareness that democracy requires a long struggle and not an easy process. Later, the younger generations are expected to be wise in determining democracy.

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THE CONTEXTS OF THE STUDENT TAKING
THE MICRO TEACHING CLASS

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Abstract

In this paper, the researcher would only present the results obtained by the researcher related to the context of students. To find out the context of the students who took this course, the researcher did the taking: (1) find the students' hometown data and the students' GPA from the Sanata Dharma Academic Information System (SDAIS), and (2) make a questionnaire consisting of four questions filled by students at the first meeting. The results of this research was as follows: (1) ten students came from Java Island and nine students came from outside Java Island, (2) six students had GPA above 3.00 and thirteen students had GPA below 3.00, (3) eleven students said that their vocation was to be a teacher when they first chose this program, (4) there were 13 students who experience change of vocation, and (5) there were eighteen students who stated that their obstacles in taking this lecture were "I had not "settled" with myself," while one other student said that "mastering teaching materials was my obstacle in taking this lecture."

Keywords: Reflective Pedagogy Paradigm (RPP), context, experience, action, reflection, and evaluation

Introduction

The course was aimed to equip students with basic teaching skills, such as opening and closing lessons, explaining and varying stimulus skills, and asking and strengthening skills, and equipping students with the skills to apply a particular learning approach / model. This course was the pre-requisite subject for the *Program Pengalaman Lapangan* course. From the researcher's experience in this course, there were some aspects that needed to be improved, namely:

1. Students' enthusiasm in managing learning. Some students were not enthusiastic in managing learning because the students taught the other students who took this lecture were not the real learners. This causes the learning process that occurs was not dynamic.

2. When preparing the lesson plan (RPP), students were not critical in looking at the relationship between basic competencies, indicators, and evaluation questions provided to learners. Students were also not critical in looking at the relationship between learning methods and learning activities.

3. Because the role of students was their own partner, the concern and love of learners could not be built optimally.

These things would be improved by the researcher in this year's micro teaching school.

The formulation of the research question to be answered in this paper was how the profile of students who took the Micro Teaching course?

Komunitas Studi dan Pengembang PPR Yogyakarta defined the pedagogy as the effort made by teachers in assisting students in their growth and development (Komunitas Studi, 2012). According to Komunitas Studi dan Pengembang PPR Yogyakarta, pedagogy was closely related with the teachers' beliefs and vision about a personal ideal figure to be formed through a teaching and learning process (Komunitas Studi, 2012). According to Father Arrupe, the goal of the Jesuit education was to construct men and women for others (Komunitas Studi, 2012). Father Kolvenbach formulated that the aim of the Jesuit education was to form leaders of ministry, men and women who were competent in their fields, have a conscience that was true, and has a compassion that grew out of love to others (Komunitas Studi, 2012). According to Preis and Stauder, the Jesuit education would achieve all Jesuit university core values to seek other forms of assistance for students called *cura personalis* approach which means caring for each individual must be consistent with the character and potential of each individual (Preis & Stauder, 2014).

There were five educational principles in the RPP (Metts, 1995; Suparno, 2015; & Preis & Stauder, 2014), namely:

1. Context

According Preis and Stauder, the students' contexts were the things that the teacher need to know about their learners (Preis & Stauder, 2014). In preparing the teaching and learning process with the RPP, a teacher needed to recognize with the context of their students, include: the context of individual students, the initial concept and knowledge of the students, the context of the economic, social, political, cultural, and media, the college environment, and educational context in Indonesia (Komunitas Studi, 2012 & Suparno, 2015). Why recognize the initial concept and knowledge of the students was important for a teacher? Skemp said a scheme had three functions, namely: (1) integrate existing knowledge; (2) a tool for learning; and (3) make someone understand something (Skemp, 2009). Therefore, if a teacher knew about the initial concept and knowledge of their students, then the teacher was expected to create appropriate learning path for their students, and plan the appropriate scaffolding for their students (Skemp, 2009).

2. Experience

On the experience elements, the teacher need to create situations that could make the students to gather and remember their experience. These experience used by them to sift the facts, feelings, values, understanding, and intuition that knew by them and to make a connection with what they were learning (Komunitas Studi, 2012). According to Preis and Stauder, the experience was the best effort that could be done by the teacher in using all the students' potential to achieve the learning objectives (Preis & Stauder, 2014).

3. Reflection

In the reflection element, students were helped to dig their experiences owned by the students in-depth and extensive, and to take the meaning for their personal life, and others [Suparno, 2015]. In the reflection, memory, understanding, imagination and feeling were used to grasp the basic meaning and values from the material being studied by them [Komunitas Studi, 2012]. According to Preis and Stauder, a reflection was the efforts done by the teacher that made their learners to explore their experiences in greater depth (Preis & Stauder, 2014).

4. Action

In the action element, students were helped to do good actions which were at the mind level or the physical activity level after they reflected on their learning experience [Suparno, 2015]. According to Paul Suparno, an action might be a changing attitude that was better than before, and a real action which was directed out of themselves that could be seen and felt by others [Suparno, 2015]. According Preis and Stauder, the action was the effort made by the teacher encouraged their students to move from knowledge into a concrete action (Preis & Stauder, 2014).

5. Evaluation

The evaluation element could help the teacher to understand that the element of experience, reflection, and action has been available well in the teaching learning process or not. The purpose of the evaluation was to look thoroughly whether the learning process with the RPP has occurred or not and whether the learning process could help students to develop their competence, conscience, and compassion for others or not. The evaluation was also to see whether the scaffolding provided by the teacher during the learning could develop the students or not [Suparno, 2015]. According Preis and Stauder, evaluation was an attempt used by the teacher to assess the learners progress in competence, conscience, and compassion for others (Preis & Stauder, 2014).

Method

In a qualitative study, the researcher sought to describe a phenomenon that occurs in a natural situation and not make a quantification of the phenomenon (Merriam, 2009 & Miles & Huberman, 1994). This research was classified in qualitative research, because in this study the researcher sought to describe a phenomenon that occurs in a natural situation and not make a quantification of the phenomenon. The natural phenomenon that seeks described in this study was the context of students taking the Micro Teaching and Learning Class.

The subject of this research was all the students taking Micro Teaching and Learning Class on Class C. There were 19 students who were the subject of this research consisted of six male students and 13 female students.

The study consisted of five cycles. Each cycle consists of four main elements, namely experience, action, reflection, and evaluation. The learning process in the first cycle was to construct the skills to open and close the lesson. The learning process in the second cycle was to construct skills to explain and vary the stimulus. The learning process in the third cycle was to construct the

skills to ask questions and provide reinforcement. The learning process in the fourth and fifth cycles were to construct integrating skill on the skills of opening and closing the lessons, the skills of explaining and varying the stimulus, and the skill of asking and providing reinforcement. This cyclical process was preceded by the researcher with students' context recognition activities. In this paper, the researcher would only present the results obtained by the researcher related to the context of students in the first cycle.

Findings and Discussion

The student's home area by province, namely:
1. There were three students who came from the Bangka Belitung province.
2. There was one student who came from the Lampung province.
3. There were two students who came from the Banten province.
4. There was one student who came from the West Java province.
5. There was one student who came from the Yogyakarta province
6. There were six students who came from the Central Java province.
7. There were four students who came from the West Kalimantan province.
8. There was one student who came from the East Nusa Tenggara province.

The GPA achieved by students up to the fifth semester may be classified as follows:
1. There were six students who had the GPA between 3.00 and 3.49.
2. There were eight students who had the GPA between 2.50 and 2.99.
3. There were three students who had the GPA between 2.00 and 2.49.
4. There were two students who had the GPA between 0.00 and 1.99.

To know the context of students who took this lecture in more depth, the researcher made a questionnaire with four questions. The questionnaire was given to students on the first meeting. Four questions given by the researcher to the students were as follows:
1. Is my life goal to become a teacher? Why did you choose a life goal to be a teacher?
   a. At first I chose this program.
   b. Currently.
   c. What things / events changed me?
   d. Why did it change me?
2. What does being a teacher as a life goal mean to me?
3. What abilities did I want to develop through this lecture? Why did I want to develop it?
4. What was my obstacle to join this course? Why could it be an obstacle? Have I already had a solution? What solution do I have?

The first question of the questionnaire was to explore the context of the students related to (a) their motivation into the mathematics course, (b) there was a change of motivation or not after they enrolled in this program for 5 semesters, and (c) if there was a change of motivation what causes the student to experience a change in motivation, and (d) if there was a change of motivation, why it can change their motivation. The second question of the questionnaire was to explore the context of the students related to the meaning of the teaching profession for

them. This information was important for the researcher to see what the student's vision of life was related to the teaching profession. The third question was intended to explore the context of students related to the things they want to develop in this course in order to become a professional teacher and what skills were generally still felt less than the students who attend this course. The fourth question was to explore the context of the barriers that students had and what solutions they had to overcome these obstacles. An answer to this question would assist the lecturer in identifying the barriers most students had in taking the lecture.

Answers to the four questions above would be described as follows:

1. Is my life goal to become a teacher? Why did you choose a life goal to be a teacher?

    a. Eleven students said that their vocation was to become a teacher when they first chose this program. Seven students said that their vocation was not to be a teacher when they first chose this program. One student said that he was hesitant to choose a vocation as a teacher when they first chose this program.

    The reasons for those who answered that their vocation was to become a teacher when they first chose this program were as follows:

    1) The reason given by five students was one of the parents was a teacher.
    2) The reason given by the three students was that "I love the exact sciences", "I want to share knowledge with others, and became role models for my students."
    3) The reason given by one student was "I would be easier in finding a job."
    4) The reason given by one student was the teacher helped the creation of all professions and characters.
    5) The reason given by one student was that "I want to omit the assertion that mathematics was difficult, and I want to help my students to look and feel that mathematics was beautiful."

    The reasons those who answered that their vocation was not to be a teacher when they first chose this program were as follows:

    1) The reason given by three students was the parents who asked them to choose this program.
    2) The reason given by the two students was that they did not have a vocation as a teacher.
    3) The reason given by the two students was "I could not afford to study in this program."
    4) The reason given by one student was because it was not accepted in other study program.

    The reason for the students who answered that they were hesitant to choose a vocation as a teacher when they first chose this program was because they want to share to others.

    b. Fifteen students said that their current vocation was to become a teacher. Four students said that currently they were hesitant to choose a vocation as a teacher.

The reasons for those who responded that their current vocational life to be teachers were as follows:

1) Four students said their reason was "at the moment I believe I could be a good teacher."
2) Three students said their reason was "I want to share my knowledge with those in need."
3) Two students said their reason was they want to educate the nation's future generation by improving the quality of education.
4) One student said my reason was because "at this time I understand more about mathematics."
5) One student said "my reason was because my parents were teachers and they want their children to follow their footsteps."
6) One student said "my reason was I have a desire to build a positive character in students, so they can grow and develop positively."
7) Three students did not give a reason.

The reasons by those who answered that they were currently hesitant to choose a vocation as a teacher were as follows:

1) Two students said their reason was "I am plagued with some courses that I could not understand."
2) Two students said their reason was because "I am still confused by the job of being a teacher."

c. There were 13 students who experienced a change of vocation. Two students experienced a change in motivation, originally extrinsic motivation now turned into intrinsic motivation. The thing that caused change was the opportunity to do activities in school.

d. Eight students experienced a change of vocation, in the earlier they did not want to become a teacher, but now they want to be a teacher. Things that caused change:

1) Three students said the reason for the change was because of the opportunity to do activities in school.
2) Two students said the reason for the change was because they saw the surrounding environment that there were still many who need the existence of teachers.
3) One student said the reason for the change was that "I was afraid to disappoint the parents."
4) One student said the reason for the change was that my parents were teachers.

e. One student experienced a change of vocation, in the earlier she hesitantly wanted to become a teacher, but now she wants to become a teacher. The thing that "caused me to change was the opportunity to do activities in school."

f. Two students experienced a change of the vocation. At first, they wanted to be a teacher, but then they were hesitant to become a teacher. The things that caused them to change were (1) I was not confident to teach in front of the class. Because I was not yet sure of my ability; (2) I know from the

course that the administration that the teacher needs to be prepared was quite a lot and heavy.

2. What does to have a life goal as a teacher for you?
   a. There were six students who answered that the teacher was a teacher and an educator for learners.
   b. There were four students who answered the teacher to be a determinant of the development of the nation because the teacher becomes the root for the young people, "food" for the development of young people.
   c. There were three students who answered that the teacher was a leader and role model for learners.
   d. There were three students who answered that the teacher was a science developer.
   e. There were three students who answered the teacher was a waiter for the students.

3. What abilities did I want to develop through this lecture? Why did I want to develop it? Things I want to develop through this lecture:
   a. The ability to deliver materials.
   b. The ability to become a qualified and humanist teacher.
   c. The ability to manage my class.
   d. Teaching skills.
   e. The ability to teach in front of class.
   f. The ability to communicate.
   g. A courage and self confidence.
   h. The ability to know the difficulties faced by students.
      My reasons were:
   a. Because the teacher was the creator of all professions and characters.
   b. In order to create a conducive and active class.
   c. Because my skills in teaching were still minimal and still groggy when teaching.
   d. Because my ability in communication still needs to be improved.
   e. My courage and self-esteem were still lacking, especially when I teach in front of the class.
   f. To be a good teacher.
   g. In order to provide the right solutions for student difficulties.

4. What was your obstacle to take this course? Why could it be an obstacle? Did you already have a solution? What solution do you have?
   My obstacles were:
   a. I have not "settled" with myself, suppose I was not confident, I was afraid, I was lazy, I was not disciplined. There were eighteen students who have obstacles in this regard.
   b. I did not master the material that I taught. There was one student who had obstacles in this regard.
   My solutions were:
   a. I practiced communicating with other people. There were eight students who chose this solution.

b. I thought positively to myself that I could. There were four students who chose this solution.

c. I often repeat in studying the lecture materials that I've studied. There was one student who chose this solution.

d. I made a time table. There was one student who chose this solution.

From the previous explanation, the researcher saw that one of the factors that was quite proposing in changing the student motivation so that they had the life goal as a teacher was the activity in the school, especially their interaction with the students. Therefore, in the teaching and learning process in this course, the researcher planned to ask students to teach at least one school for one lesson. When the students taught in the real class, then the researcher would accompany them in the classroom. If students had difficulty, then the researcher could provide guidance directly to them. The existence of this process made that students experience learning by doing teaching learning process.

The mentoring process was also intended by the researcher to improve students' courage and confidence. The researcher assumed with the researcher in the classroom, it will made them feel "safe" and "comfortable" when doing the learning process. Because if they had difficulties when they manage the learning process, they could discuss with the researcher to find ways to overcome the difficulty.

One of the expectations of students who attended this lecture was that they can develop skills in managing learning. From the previous teaching and learning experience, the researcher got the fact that the knowledge and skill of the students in managing learning with particular learning models were very less. For these two reasons, the researcher planed in the learning process of micro teaching lesson this year, the researcher would invite the students to deepen their knowledge and skill in managing the learning with certain learning models. The learning models chosen by the researcher to be studied this year were cooperative learning model, problem based learning model, learning model with scientific method, and learning model with realistic mathematics education approach.

The students' knowledge of the models is enhanced in the taking ways: (1) students were divided into groups consist of 2 - 3 students, (2) each group got a task to study a learning model and make a paper related to the learning model that they were studying, (3) each group presented their outcomes to the other students, and (4) the researcher gave a reflection question to make the students explore each learning model. The students' skills in managing learning using these models were improved in the taking ways: (1) ask students to make lesson plans for a particular subject using the learning model they previously held, (2) the students were given the opportunity to consult (3) students were asked to practice their lesson plans in the school and accompanied by the researcher, and (4) students made reflections on the implementation of the learning management they have done.

Conclusions

From the previous explanation, there were some things that could be concluded by the researcher about the contexts of students who took the micro teaching course in class C. First, 10 students came from Java Island and nine

students came from outside Java Island. Second, six students had a GPA above 3.00; while 13 students had a GPA below 3.00. Third, 11 students said that their vocation was to be a teacher when they first chose this program. Fourth, there were 13 students who experienced change of vocation. The factors that made the most change were due to the opportunity to do activities at school and interact with students at school. Finally, there were 18 students who stated that their obstacles in taking this lecture were I had not "settled" with myself, while one other student said that mastering teaching materials was my obstacle in taking this lecture.

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THE IMPROVEMENT OF TRUTH, JUSTICE, DIVERSITY, AND HUMAN DIGNITY VALUES TROUGH PPKMB PROGRAM ON PHYSICS EDUCATION STUDENTS

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Abstract
Sanata Dharma University Physics students are supposed to improve Sanata Dharma main values: truth, justice, diversity, and human dignity. The improvement is done through PPKMB program, a character building program in one semester. This research wants to see whether this program succeeded or not. The research used 42 physics students as sample. The PPKMB program is used as a treatment. The research applied some instruments such as questionnaires, field notes, and student report on their project. Data were analyzed quantitatively and qualitatively. The results show that the truth, justice, and diversity values improved, the human dignity value was not significantly different, and according to the students this program was useful and successful.

Keywords: truth, justice, diversity, and human dignity, PPKMB program, physics students

Introduction

Beginning the school years 2015-2016, USD (Sanata Dharma University) organized a character building program for new students that is integrated in one academic year. This program is called the PPKMB, consisting of two stages. PPKMB1 is conducted in the first semester and PPKMB2 is done in the second semester. PPKMB1 helps new students to know who they are. They reflect on their strengths, weaknesses, and are helped to accept themselves happily. While the PPKMB2 more helps students to understand and live up to the core spirit of the USD.

The goal of the PPKMB2 program is to help students recognize, explore, and try to live up the USD's four core values, namely: (1) love the truth, (2) fight for Justice, (3) appreciate diversity, and (4) uphold the human dignity (Sarkim, et al., 2016). With this four values, students can eventually develop as a human person who loves the truth, likes to fight for justice, appreciates diversity, and respects human dignity. When students really live up to those values in their lives, they would really be more humanist person.

As a Jesuit University, USD is expected to seek the truth in its entire educational process. In developing science or knowledge, it should also be based

on the search of truth, honesty, and integrity. Through research, through the excavation of the matter in depth, the value of the truth becomes more approachable. It is expected that students can reach to the real truth i.e. God himself.

In accordance with the characteristics of Jesuit education in the institutions of education (NN., 1987), USD is expected to help each student to be man and woman with and for others. It means that all university members, especially the students, should be supported to be people who appreciate others as a creation of God, be fair to all people and creation. This spirit must clearly manifest in their willingness to live and work with people from diverse backgrounds.

The four core values that are developed in USD will prepare students to actively improve Indonesia as a strong State and nation. Now, Indonesia still has many problems such as corruption, injustice, conflict among citizens, discrimination, and abuse of human dignity. This situation definitely needs people who have the spirit of loving the truth, being fair, appreciating diversity, and upholding human dignity. With this attitude the nation will be more united, and its people will help each other, and respect each other.

In the previous years, the character education program was held for a week outside the campus. But beginning of the year 2016, the PPKMB2 program has been held for one semester, in the regular course hours, i.e. two hours per week. With regular meeting once a week, students can slowly deepen, inculcate, and absorb the character, so that it can better influence students' lives. Because they digest in a long time with the material, hopefully they can learn more smoothly. Moreover, students become more acquainted with their friends closer because every week they have a meeting and collaborate.

This PPKMB2 program is a character building program, generally containing two activities. *First,* students are helped to learn the fourth values: truth, justice, diversity, and human dignity. The process is as follows: (1) The lecturer briefly explains with the help of power point presentation and videos about the four core values, then (2) students in their groups reflect together and express their result in the plenary. *Second,* students in small groups prepare and decide to build a project. The project is in accordance with the core values that are chosen by the group. In the end, they will reveal the results of the projects in the classroom and upload it on Youtube so that other students can see and benefit from that projects. At the end of the program, students write a reflection on what they have done. This method follows the reflection pedagogy that involves the cycle of experiences, reflection, and action (Duminuco, 2000; Gallagher, Marianne & Musso, Peter, 2006; NN, 2014; Suparno, 2015).

Loving the Truth

USD pushes all its members to always love the truth through teaching-learning process and scientific research that will benefit the advancement of science, human welfare and environmental sustainability. 'Loving the truth' is also shown through intellectual curiosity and imagination in order to achieve extended scientific expertise. For USD, loving the truth also establishes in the performance of a task correctly (Sarkim, et al., 2016: 9).

'Loving the truth' means that we continue to initiate the search for truth in the process of education. So, we have to be honest in searching for science and develop it. We need to maintain the integrity in science, such as not cheating, not commiting plagiarism, and not buying grades. Here, scientific honesty needs high esteem both by lecturers and students.

'Loving the truth' is also manifested in the teaching-learning process. In teaching-learning process, students and lecturers have to be honest, have critical thinking, help each other. Professors and students have to do their job properly and not to cheat or manipulate in carrying out their duties.

'Loving the truth' is also shown in scientific research. In the situation where many people are dishonest in conducting research, in writing thesis, we are invited to remain honest. Professors and students have to be aware of not commiting fraud, cheating, and plagiarism. We have to appreciate the work of others. Students from the beginning year are invited to peruse the work of others and honestly cite their names. Cultural copy paste from the internet needs to be scrutinized so that we really learn to be honest in this regard. Also, attention should be given to 'free riders' or the students who did not join the group work but his name is listed in the report of the group. Sometimes students do not dare to report here.

'Loving the truth' is the essence of the spirit of USD as a Jesuit University. Ignatian Spirituality which is used as a foundation in the life of the University, clearly says that we are invited to always seek the truth, even the highest truth of God himself (Byron, 2008:16).

Fighting for Justice

The second core value of USD is justice. The fight for Justice is a core value for the creation of a society that is dignified and equal in front of the creator. The fight for justice is realized through alignments to those who suffered injustice, especially the small, weak, poor, disabled and retired. The strong view is based on a comprehensive analysis that can be scientifically justified and in accordance with the demands of social morals.

Thomas Aquinas stated that justice is one of the core moral virtues that becomes the requirement for people who want to live in prosperity. Other virtue is wisdom, inner firmness, and simplicity. Justice is a virtue that drives people to intend and act justly on their neighbour, give what becomes their rights (Sarkim, et al., 2016: 10).

An important element of justice is orientation for others, rights and equality. The attitude of the fairness happens when people give to others the rights that are attached to it. The right is not supernatural. This is obtained because the man is a creation of sensible prudence. The right becomes the basis of the concept of human rights.

Suseno (1986, 1987) distinguishes four kinds of justice such as: commutative, distributive, legal, and social justice. Commutative justice is a justice because of an agreement. Man or woman is considered fair if he/she fulfills his/her promises on others. If he/she is promised to give the book A, he/she really gives the book A. Distributive justice is a justice of division or dividing equally. In this case a person is considered fair when he shares the flat

into the rights of others. For example, Mr. A is called fair when he divides his inheritance equally to his children. Legal justice is a justice according the law. Everyone gets the same treatment before the law. There is no difference between ordinary residents and government officials. If they steal from others, they need to be treated the same in the face of the law.

Besides those three justices, Suseno (1986) explains the existence of social justice. Social justice gives the situation, so that the three justices above can be implemented, so that everyone can exercise his right. If the basic situation does not exist, it will be difficult to carry out the right of each people. For example, people who do not know education, it would be difficult to prosecute him/her legal rights at the institute for justice. Then the government should strive to let any citizen experience education so that he/she can read and is able to demand her/his rights.

In general, social justice is a justice that must be executed by the public or the government. The government should have to regulate the use of the property of the state in the interest of the public. The state should safeguard social justice for every citizen, so that he/she can obtain justice.

If we look at our community situation, we can see some forms of injustice that happen such as: discrimination of gender, race, tribe, religion, beliefs, and ability. For example, women are prohibited to go out from her home after 9 pm, while men do allow. Some discriminations because of religion often occur, so the society situation is not peaceful yet. Employee recruitment is still rife with discrimination.

As a Jesuit University, USD is indeed expected to develop an attitude of fairness and realize justice among the students. Issues and concerns of injustice need to be addressed in the curriculum and discussed in seminars, and students are trained to act fairly and get involved in the question of defending justice in the communities (NN., 1987). The sense of being fair also is related to issues of fairness with the surrounding environment and the universe. Thus, the question of caring for the environment is also becoming a question of attitude of justice (cf. Curing a sick world, 2012). The entire USD members, both professors, students, employees and officials, should develop an attitude of fairness. The important thing is awareness and sensitivity on the small, weak, poor, and retired. This attitude should also appear in our actions out of the campus.

Valuing Diversity

Indonesia consists of a wide range of tribal, racial, religious, social, cultural backgrounds. USD also consists of a wide range of people, tribe, race, religion, societies and cultures. They are multicultural. This nation can only progress forward if the people from diverse backgrounds want to cooperate and work together. They should be willing to cooperate and live together despite their differences. To prepare for it, USD should help their members to accept and appreciate differences. Then, the attitude of valuing diversity becomes very important in USD. The attitude of valuing diversity and happily living with different people should be trained and developed.

The attitude of valuing diversity is the basis for improving the quality of human relationships for the sake of the realization of an open and democratic

society. Valuing diversity is manifested through the recognition of the diverse culture, wealth, talent, the uniqueness of each person. It is also manifested in the willingness to cultivate cooperation cross science, so an intellectual, productive, creative and critical communication will be created (Sarkim, et al., 2016: 12).

Valuing diversity means we must courageously accept and be excited by the existence of differences between us. We accept diversity and are grateful for it. We appreciate the idiosyncrasies of each of them. In this spirit of PPKMB2 students learn increasingly and recognize the specificity and their differences, and accept others as a brother. Through doing project in a group whose members are chosen differently (multicultural), students learn to accept other friends and appreciate diversity.

Upholding the Human Dignity

The fourth core value of USD is upholding the human dignity. People are God's creation with value and dignity. The value of humanity cannot be debased by anyone. We all have to develop this. The human dignity value will be seen in a person who loves the truth, fights for justice, and appreciates diversity. As students, we should be grateful because we are more educated than most of the Indonesia society. As scholars we have an obligation to embody the society to be more dignified (Sarkim, et al., 2016).

There are many ways to value human dignity, namely: respect every human person; use our talents to help others; tune in to the needs of others; be useful for the progress of others; be responsible for the progress of society; maintain the Earth in order to sustain human life; present and support a dignified society; cultivate the heart and desire blazing to manifest our dreams for a better society changes (Sarkim, et al., 2016).

As a Jesuit University, USD is expected to help and develop their students to be increasingly appreciative of the human person. They become aware that we should value anyone, as any man is of high value before God. All forms of harassment and bullying people for personal interests need to be prevented and eliminated. The main concern needs to be directed at those who are weak, poor, and helpless.

The purpose of this research is to know: (1) whether after following PPKMB2 program, the USD physics education students experience the improvement of their spirit to love the truth, to fight for justice, to appreciate diversity, and to uphold human dignity; and (2) whether the PPKMB2 program is perceived by the students as useful and successful.

Method

This research is quantitative and qualitative research. Quantitative research is used to see the students' improvement of the four core values of USD: (1) love the truth, (2) fight for Justice, (3) appreciate diversity, and (4) uphold the human dignity. Pretest is conducted before students doing the PPKMB2 program and posttest is done after they finishing PPKMB2 program. By comparing the values of the pretest and the posttest, it can be known whether students improve those core values. Qualitative data are taken from the students' report of their projects;

students and lecturers' field notes, and students' reflection. The qualitative research to understand the usefulness and benefits of this program for students.

The sample of this research was 42 second-semester students of physics education. The total number of students was 45, but three students did either the pretest only or posttest only, so their data cannot be used in the analysis.

This research was held for one semester, from February to May 2016. This research was done in USD campus and outside campus.

PPKMB2 program is used as a treatment in this study. Students conducted this program for one semester. They learned, discussed, did presentation, and reflected on the four core values. After that, they planned a project in a group of six students that wanted to be conducted over the next few weeks off-campus or on-campus. Projects were chosen by the group according to the value that they wanted to be accentuated. Each group presented the results of the projects to the class. In the end, students did reflection and evaluation on the program.

The instruments used in the study are a pretest (pre-questionnaire) and posttest (post questionnaire). The test consists of 100 items, divided in four groups: 25 items about the value of love the truth, 25 items about the fight for Justice, 25 items about valuing diversity, and 25 items about upholding human dignity. Each value is seen from the side of knowledge (cognitive), affection (attitude), and action (implementation).

In addition to the above questionnaires, researcher also uses students reports about their project; students 'evalution and reflection on this program; and fieldnotes that primarily contain students mood, attitudes, and gestures during the program.

Students' answers in the test are scored in accordance with rules such as: 4 (very good), 3 (good), 2 (less good), 1 (not good). Then they are analyzed using t-test for dependent groups between pretest and posttest score value for the four core values. By using the SPSS program it can be seen whether its increase is significant or not. The data from students' evaluation and reflection and their report on their project are analyzed qualitatively.

Findings and Discussion

The number of students who initially participated in this character building were 45 students, but ony 42 students finished the program, so in the analysis we used only the data from 42 students. Students were divided into seven groups with each group consisting of six people. There are seven projects with different values such as table 1.

Table 1. Project Name

No.	Project Name	Core Value	Places
1	Making video about Enhancing the culture of courtesy	human dignity	Campus and off-campus
2	Making video about "Live in an apartement which is less good"	human dignity	apartement near campus
3	Teaching street children about	human dignity	outside campus

	basic mathematics and English language	and truth	
4	Visit and play with the double disabled children	human dignity & diversity	disable houses
5	Live in and help a peasant family	human dignity & diversity	peasant home
6	Clean up trash on the beach	justice	Wonosari south beach
7	Water in Jogya Bay (research community)	justice	villages near Jogya bay

All the groups completed their projects and collected project reports. The majority stated that the project was successful, they were happy, and excited about the project. Two groups already uploaded videos on YouTube. The uploaded videos can be viewed by other people. They also wrote down their reflections and evaluations about their project, which can be used as additional data in this study.

Results of pretest and posttest scores

The following table (table 2) presents the result of students pretest and posttest about the four core values i.e. love the truth, fight for justice, appreciate diversity, and uphold human dignity. The score is the average value of each core values.

Table 2. The results of pretest and posttest: average of each value

No	Value	Prestest				Posttest			
		cognitive	affection	action	Total	cognitive	affection	action	Total
1	Truth	25.79	28.55	49.05	103.38	26.90	29.79	51.14	107.83
2	Justice	36.55	24.12	43.57	104.24	37.52	25.26	45.95	108.74
3	Diversity	32.45	30.45	48.00	110.90	33.40	31.81	49.45	114.67
4	Human dignity	33.12	36.83	43.36	113.31	33.43	37.17	44.45	115.05

From table 2, it appears that all posttest average is higher than that of the pretest. It indicates that the students increase their character on 4 USD core values. According to the statistical analysis, the result can be seen in table 3.

Table 3. Statistical Test results using t-test

Value	pretest Mean	posttest mean	t-value	significant	Notes
1. Truth	103.38	107.83	-2.504	0.016	significant
2. Justice	104.24	108.74	-2.683	0.010	significant
3. Diversity	110.90	114.67	-2.895	0.006	significant
4. Human dignity	113.31	115.05	-1.704	0.096	not significant

From table 3, it seems that the value of truth, justice, and the diversity are statistically significant which means that students improve their values. While the

value of the human dignity is not significant. It means that in this value, students did not improve, eventhough the posttest mean is higher that the pretest mean.

Students' reflection and evaluation about PPKMB2 Program

At the end of the program, students did a reflection by writing down what they experienced during the entire program. Students also wrote a project report about what they did with their project and how they felt and satisfied with their projects. The results are as follows:

The success of the project

Most students felt satisfied, excited, and happy with the project. They were happy because the projects were successful (90%, 85%); their group was solid, they helped each other and had good cooperation. They learned to appreciate one another, they became closer with their friends. They were also happy because they could teach other kids, were able to help the kids happy, and they were close to children. They could learn from friends who were there in the locations and also love them. They can meet directly with victims of injustice and felt touched.

Whereas some were not satisfied because they felt that an important issue (Jogya Bay) was not discussed deeply. Several students were not satisfied because of insufficient time to complete their tasks, the video was insufficient, and some felt that they were less friendly.

The impact for others

Most students felt that they were able to help other people. Their project helped some children to grow. They also learned how to listen to other people who had dificulty. They learned how to become the shoulders to cry on.

Usability for the student's own

Almost all of the students stated that the PPKMB2 program and especially the project was very useful for their lives. Some state as follows:

- Getting to know other friends, appreciating, and cooperating with them, and not discriminating friends;
- Becoming more aware to care for others, the environment, and justice, to not harm others;
- Increasingly being aware of the culture of courtesy, be aware of the bad behaviors, know better etiquette among friends and others;
- Establishing a good cooperation with friends, more familiar, closer, solid, and being open to each other;
- Becoming more thankful for their lives that were given by God, because of the help of parents;
- Learning how to live simply, not extravagant, appreciating the food, knowing how to struggle in daily life;
- Becoming more social, more helpful, fighting for Justice, equl chance for learning with nature and their fellows, mutual caring, and sharing.

The influence to the future life

Based on this project experience, in the future students want to do a better life and make more action, such as honor and respect to their fellows; help a fellow in need, do a charity program and social activities for those who are not able to; they want to avoid discrimination to choose friends, want to respect human dignity, and be fair with others.

Students also want to be more caring and sensitive on their environment, eliminate bad habits, and be polite. They also want to increasingly develop their competence in reflecting on the core values. They want to learn responsibility, discipline, and involve in organizations.

The increase of the love of truth value

The increased spirit of students in loving the truth can be seen from the comparison of the level of love the truth on pretest and posttest after students did the PPKMB2 program. From table 3 it can be seen that pretest average is *103.38* and the posttest average is *107.83*. The value *t = - 2.504*, and *p = 0.016*. Because *p* is smaller than the *α = 0.05*, then it is significant. That means the value of the posttest is better than on the pretest. In other words, students improve their love of truth value.

It can be inferred that the spirit of students to love truth is rising. This concerns both in the understanding, affection, and action. Thus it can be said that the PPKMB2 program improves students spirit in the love of the truth. With this result clearly PPKMB2 program supports students to realize, deepen, train, and develop the values of love of the truth. The values thrive in the educational process in the next semester.

It is interesting that only one grup chose this value for their project. The group teaches mathematics and English language to street children. It seems that for the students, the value of honesty or truth means more on integrity in academic field, such as not cheating, not doing plagiarism; but they do not yet realize that the value of truth concerns the entire human life including in building friendship with others openly and honestly.

Enhancement of students fight for Justice

Enhancement of students' value of fighting for Justice can be seen from the comparison of students' score of 'fight for justice' before and after doing the PPKMB2 program. In table 3, it appears that most students experience increased passion to fight for justice. This can be seen from the value *t = -2.683* with *p = 0.010*. From these results, it can be said that the program is able to help students develop their understanding, affection, and actions to fight for Justice in their lives.

There are two groups who explicitly chose to develop the core value of 'fight for justice' both on campus and in the community. The first project is researching the influence of Jogya Bay project on the shortage of water in the surrounding communities. From this project, the students are aware that development should pay attention to justice for the surrounding communities. The second project is cleaning up trash on the beach. In this project, the students realize that we should also be fair with nature and the environment.

The attitude of fighting for Justice is also experienced by students in their cooperation groups. Most of the group said that they learned how to divide the work and the burden equitably among friends.

The increase in the value of appreciating diversity

The increase in the value of appreciating diversity can be seen by comparing the pretest and posttest scores of the value of diversity. From table 3, it can be seen that the students improve their value of appreciating diversity. This can be

seen from $t = -2.895$ with $p = 0.006$, and $\alpha = 0.05$. It is significant. So, it can be concluded that the students experienced an increase in the value of appreciating diversity.

From students' project reports, most students became more able to accept and cooperate with their friends of different cultures, religions, and ethnicities. They said that they became more solid and could receive diversity among them. They regard their friends as brothers. The students from outside Java felt excited because they were accepted at the home of a Javanese family nicely and were considered as their own sons without regarding their different religious, ethnic, cultural backgrounds. That experience makes the students more aware of the importance of valuing diversity in this life.

The experience of living with different people in the project spurred students to develop the spirit of valuing diversity in their life on campus. Some students make intention for not discriminating their friends in class because all their friends can become their real friend.

In fact the value of appreciating diversity becomes even more accepted if people experience in their lives, the acceptance and good relationships with different people. This experience is more helpful for students to appreciate other people. The attitude of valuing diversity is not more on knowledge, but more on affection and action, so it needs experiences. Thus the project of living together and working together need to be more emphasized in education.

The increase of upholding human dignity value

The increase in the value of upholding human dignity after doing the PPKMB2 program can be seen by comparing the value of pretest and posttest scores of students. In Table 3, it can be seen that the mean of posttest scores is higher than pretest scores. The value of $p = 0.052$ and it is higher than $\alpha = 0.05$. So, it is non significant. From here it can be concluded that the value of upholding human dignity does not increase, except in terms of the action.

From the students' reflection on their project, mostly they appreciate human dignity, they increasingly appreciate the dignity of human beings. They are aware that every human being is precious and must be appreciated. The experience of students helping disabled children, helping street children, learning to be polite to friends and others, shows that they appreciate the value human beings.

The success and usefulness of the PPKMB2 program

From the results of students' reflection and evaluation, most of students said that the program was successful and useful for their lives. They even planned to continually develop these values after the completion of this progam. The students got excited, thrilled, and proud because this program worked well. What they have planned could indeed be executed.

One of the major use of this progam is that their brotherhood became increasingly stronger, and they came to the awareness for not discriminating against their friends in class, because anyone can be a friend. They do not marginalize among friends because of race, tribe, religion, intelligence. Instead, everyone had the same human value.

From this reflection, they wanted to let this program be sustained so that students are increasingly becoming one and really appreciate the value of a human

being. This award will be a cornerstone of us as nations, and to uphold the unity of the nation. From this side of the Indonesian nation building, this program helps students to appreciate others and to cooperate with others. From this result, it can be seen that the PPKMB2 program that used pedagogy reflection method really improve students' characters.

Conclusions

From this study, it can be inferred that several points are related to the goals of this research. First, after they experienced the PPKMB2 program, the second-semester physics education students of 2015/2016 improve their passion for the love of truth, the spirit to fight for Justice, their passion to appreciate diversity, and their spirit to uphold human dignity. Second, students thought that this PPKMB2 program was successful and very useful for their lives. They said that their program was successful because they could finish their program well and what they had prepared could be accomplished. The program is useful because they improved their core values such as to love the truth, to fight for justice, to value diversity, and to uphold human dignity. They become brothers among friends and appreciate other people.

From the findings, there are some suggestions that may be emphasized. First, this program can be continued because it is very useful for students. Second, after the project, students should be given the opportunity to experience field experience cognitively so their understanding is also evolving in tune with their field experience. Third, time setting may be needed so that their programs can be completed on time. Fourth, it is better to use a project in building character compared to lecturing.

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UTILIZING AUDACITY AUDIO-RECORDING SOFTWARE TO IMPROVE CONSECUTIVE AND SIMULTANEOUS INTERPRETING SKILLS

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Abstract
In interpreting, the biggest problem is the evaluation of students' performance in consecutive interpreting and simultaneous interpreting. The large number of students in the class leads to the small amount of time distributed to evaluate students' interpreting effectively. To overcome this problem, the Audacity audio-recording software is used to help students practice interpreting independently and to help the lecturer to conduct interpreting tests simultaneously. The classroom action research aims to find out how the teaching learning process is conducted and how the students use Audacity to improve their consecutive and simultaneous interpreting skills. This research was conducted to 25 seventh-semester students taking the Interpreting class. The research instruments were Reflection Sheet and Lecturer's Field Notes. From the students' reflection and Lecturer's Notes, most students understood the phases of interpreting and some students were still confused to differentiate between consecutive and simultaneous interpreting. The skills that they developed during the course were concentrating, listening, taking notes, paraphrasing, and public speaking. The use of Audacity was able to help them practice consecutive and simultaneous interpreting skills. An in-depth research to find out students' perception on the use of Audacity to improve their consecutive and simultaneous interpreting skills must be conducted.

Keywords: audacity voice-recording software, consecutive interpreting, simultaneous interpreting.

Introduction

Interpreting is one of the compulsory courses offered to the seventh semester students in the English Language Study Program, Sanata Dharma University. The course aims to introduce students to various modes of interpreting, types of interpreting, and principles of interpreting. During the course, students are being accustomed to practicing in order to improve their interpreting skills through experiential learning activities, language exposure and active learning. By the end of the course, students will have been able to interpret

English speeches into Indonesian and the other way around. The prerequisites for this course are *Translation* and *Critical Listening and Speaking* 2.

In the previous courses, seventh-semester students are used to reading, listening, speaking, and writing texts in various topics. Presumably, students have achieved the comfortable degree to express their ideas on various topics in English. As we have known, an interpreter must master technical skills, such as ability to concentrate, listen, take notes, summarize, paraphrase, and public speaking.

Seen from the instructional perspective, the Interpreting course aims to train students to become professional interpreters. To achieve the goals, classroom activities must provide engaging exercises which simulate the real day-to-day work of interpreters, such as planning, understanding, conversion, delivery and evaluation. The activities must also develop their listening, note-taking, paraphrasing, critical thinking, and public speaking skills. The activities may vary from role plays, individual recording, peer evaluation, skits, discussion, question and answer, to interpreting modes simulation such as consecutive, simultaneous, sight translation, out-of-booth, and whispered interpreting.

The biggest problem in the Interpreting course is the inavailability of an Interpreting laboratory which facilitates evaluation for the simultaneous interpreting. Simultaneous interpreting is interpreting speeches to target readers at the same time when the interpreter is listening to the speeches in the source language. Simultaneous interpreting is commonly done during meetings or important hearings such as conferences, seminars, or general assembly meeting. To promote the successful performance of simultaneous interpreting, some technical equipment must be installed, such as sound-proof booths, headphones, earphones, microphones, amplifier, and a voice engineer. However, due to the lack of interpreting laboratory, students cannot practice interpreting skills maximally. To evaluate consecutive and simultaneous interpreting skills was time-consuming and tiring as students had to wait for their turn during the interpreting tests for hours. To overcome this obstacle, Audacity voice-recording software is utilized to facilitate students who will practice simultaneous interpreting. Using Audacity, students can practice consecutive and simultaneous interpreting skills independently and evaluate their own interpreting autonomously or collaboratively with some friends. The lecturer can save more time and energy to evaluate the students' interpreting results.

To achieve the Interpreting learning outcomes, a digital lesson plan is designed to facilitate students in sharpening their consecutive and simultaneous interpreting skills using the Audacity voice-recording software which is prepared digitally. The Interpreting course will use the Exelsa Moodle portal developed by *Pusat Pengembangan dan Penjaminan Mutu Pendidikan* (P3MP/Center for Development and Quality Assurance in Education), or now PIP (Center for Education Innovations), Sanata Dharma University. The course assignments and exercises are uploaded in the Exelsa Moodle portal in the form of PowerPoint slides, videos, audio tracks, handouts and links related to the topics being learned in a given week. Students use Audacity to record their interpreting of a certain text, audio or video and then upload it in the Exelsa portal.

Through these activities and assignments, students are expected to sharpen their interpreting skills independently and the lecturer plays her role to monitor the students' improvement in understanding the messages in the Source Language and transferring the message to the Target Language audience using Audacity. Students will get instant feedback from their peers and from the lecturer so that they will be motivated to keep sharpening their interpreting skill. The time and energy spent by the students and the lecturer will be more focused on the improvement of students' consecutive and simultaneous interpreting skills.

To achieve this, the objective of the classroom action research is to find out whether the use of Audacity Voice-recording Software really helps the students to improve their consecutive and simultaneous interpreting skills.

Theory

Interpreting is "to transfer orally a text from a language into another" (Ginori & Scimone, 2001: 11). The language of origin is called source language (SL), the language into which the text is to be transferred is called target language (TL). "Communication has remained the main purpose of interpreting. By eliminating language barrier that separates people, the interpreter plays role as instrument of mutual understanding between them, thus performing an intermediary function of conveying a message by means of the spoken word" (Ginori & Scimone, 2001: 10).

The process of interpreting consists of three phases according to Ginori and Scimone (2001: 33), namely, 1) Understanding of the source language text, 2) Conversion of the SL text into the TL text, and 3) Delivery of the TL text. In the real world, interpreters or oral translators work in multicultural settings to mediate the cross-cultural communication in the efforts to create social justice and world peace. To play their roles, interpreters must have certain great qualities. According to Ginori and Scimone (2001: 11), they must have an innate ability to become proficient in two or more languages. Furthermore, since interpreting is a real-time event, interpreters must have promptness of speech and mind because the communication requires quick and spontaneous responses.

Interpreters should also have resistance as they work long hours under pressure. Most importantly, interpreters must have strong memory and power of concentration to focus on the message and reproduce it in the target language equivalents. In addition, to maintain confidentiality and impartiality, interpreters must possess high moral standards and a sense of responsibility. Finally, they must have wide culture and be well-versed in all current issues; both in national and international level, such as the areas of history, geography, economics, politics, sciences, law, government organization and public administration. In addition, they must understand the current issues and concerns of the world, such as wars, terrorism, gender movement, and human rights protection.

Due to its nature, interpreting tasks require a high degree of autonomy and excellent communicative and public speaking skills. Students are expected to practice inside and outside of class. Interpreting needs a high degree of learning autonomy and very good skills in communicating and public speaking. Benson (2001, p.47) defined "autonomy" as "the capacity to control one's own learning."

The word "capacity", according to Benson, refers to various kinds of abilities involved to control over the day-to-day management of learning, control over the mental processes involved in second language learning and control over the content of learning.

The learning model in the course is experiential learning involving students to experience a more meaningful learning process. Students do not only learn the materials and theories of interpreting, but also experience first-hand to become an interpreter. The learning model does not only focus on the cognitive aspects, but also on the socio-affective and psychomotor. The knowledge built from this model integrates the understanding and transformation of experiences (Kolb, 1984:38). Experiential Learning Theory (ELT) underlies the experiential learning model developed by David Kolb. This model emphasizes on the holistic learning in the educational process. Experiences play a central role in the learning process.

Experiential learning is defined as an action to achieve something based on the experiences which are continuously modified to increase the effectiveness of the learning outcomes. Since communication is the ultimate purpose of interpreting, lecturer and students are often involved in dialogs, not only to teach new materials, but also to engage students in the communication practices. Communication practices, according to Ur (1988:9) in Richards and Renandya (2002:168), refer to various types of information-gap activities which demand students to actively engage themselves in authentic communication and at the same time "observe the language structure being manipulated in the communication process." Thus, course activities and course assignments provide ample opportunities for students to extensive practice of spoken communication skills focusing on special conversation, discussion, presentation skills in various settings, such as non-formal conversations, round-table discussions, forum, seminar and conferences. They train their skills in listening to the source language texts, anticipating what comes next, taking notes, paraphrasing, and using the target language expressions in re-expressing the source language message in the target language expressions without changing the meaning intended by the speaker of the source language.

Technology used to facilitate the simultaneous interpreting is *Audacity voice-recording software*. Audacity is a free, easy-to-use, multi-track audio-editor and recorder for Windows, Mac OS X, GNU/Linux and other word operating systems. Audacity records live audio tracks, computer playback on any Windows Vista and the later machine, convert tapes and records into digital recordings or CDs, edit WAV, AIFF, FLAC, MP2, MP3, WMA, and other formats (http://www.audacityteam.org/about/). Using Audacity, students can record their voices and while listening to speeches and lectures in the video at the same time.

The learning management system is called Exelsa Moodle developed by P3MP, Sanata Dharma University. Exelsa allows lecturer and students to communicate through the portal where lecturer uploads materials, give feedback to students' performance, and students download materials and upload assignments.

Method

This research is a classroom action research which aims to find out the students' understanding of the interpreting processes and modes to increase their consecutive and simultaneous interpreting skills through the use of Audacity audio-recording software. This research is intended to measure how students have understood the concepts and put them into practice.

The research subjects were 25 seventh-semester students taking Interpreting course in the academic year of 2015/2016. The data gathering technique used in this research is filling out the Reflection Sheet and Lecturer's Field Notes. Reflection Sheet is a type of open-ended questionnaire to allow the students (respondents) to say what he or she thinks, in his or her own words to evaluate the learning process.

The Reflection Sheet consists of open-ended questions on the interpreting process, modes of interpreting, interpreting skills, and new skills they want to learn in the interpreting course. The students filled out the Reflection Sheet on September 28, 2016, in the middle of the semester to see the progress the students had made, to evaluate the process and to fix the existing problems. The results of the analysis are presented in a form of description.

Field notes have come with the territory of contextual-qualitative curriculum study which is concerned to see educational actions in their socio-cultural settings and milieu (McKernan, 2003: 93). Field notes often provide clues to fundamental issues of importance and group dynamics for the actors involved. Field notes are not rigidly structured so that they are open for unexpected turns of events. Lecturer makes field notes weekly to evaluate the learning process. The field notes mostly contain information on students' progress, comments on the classroom activities, linguistic and non-linguistic problems in interpreting, and so on. It also contains some insights to execute in the following meetings.

Findings and Discussion

Based on the students' Reflection Sheet and Lecturer's Field Notes, some linguistic and non-linguistic problems in interpreting were identified. Students understood the three processes of interpreting, namely understanding the source text, conversion of the source language text to the target language text. Challenges that students encountered during this phase were poor ability to listen to messages in the audio tracks, videos or texts due to limited English vocabulary, limited background knowledge of the topics being discussed, limited vocabulary and knowledge of the specific fields (health, environment, and social and cultural issues). In addition to linguistic matters, some non-linguistic matters hindered the understanding of the source language texts during the interpreting process. The non-linguistic challenges include unfavorable mood, noisy classroom atmosphere, poor health conditions (cough and cold). Their strategies to understand the source language text were relating the new texts to the prior knowledge (intertextuality), focusing on the main ideas and focusing on the message, instead of on the detail information.

For the second phase of interpreting, namely conversion of source language text to target language text, the challenges that students face were specific

terminology related to the topics being discussed. The role of memory and vocabulary is very important in this stage and the students admitted to have understood 70-80% of the messages they heard, but they were unable to think of the response quick enough. They still needed the help from the online dictionary and relevant websites to help them translate. The other problem encountered during this phase was the different level of formality of the source language and target language. Hence, students only tried to grasp the main ideas and improvised to add the details. In this exercise, students were actually trained to think fast and rely on themselves. When they work as interpreters, they must rely on their memory and the stock of vocabulary. They will have no time to consult to the dictionary, internet or other people.

For the third phase, i.e. the delivery of target language text, students found difficulties such as low self-confidence in delivering the interpretation result, inability to focus on the main ideas and to deliver the whole message completely, slow responses in delivering the target language texts, and poor grammar. The success of an interpreter is evaluated from the wholeness of the message being delivered orally to a group of audience. Therefore, the public speaking skill is helpful and pivotal in supporting the delivery of the message.

In terms of modes of interpreting, consecutive interpreting was considered as easier than simultaneous interpreting. Consecutive interpreting was deemed easier because of the delayed response which allowed the interpreter to prepare for the response and to make sentences. However, interpreters must have a good memory because they must remember long stretches of sentences. On the contrary, students thought that simultaneous interpreting was the most difficult mode since they had to listen and speak at the same time. This mode allowed them no time to think and required them to concentrate 100% on the tasks at hand. Students' anxiety deals with their inability to understand the sentences correctly and thus render them incorrectly. Despite the fact that most of the students stated that consecutive interpreting was easier than simultaneous interpreting, there were 3 students who did not understand the difference between consecutive and simultaneous interpreting.

To interpret well, there are some skills that interpreters must have, namely concentrating and focusing on the message, listening, note-taking, paraphrasing, and public speaking. The exercises that students did independently helped them to tune in and focus on the message despite the noises, both internal and external noises, which hindered concentration. To listen carefully, limited vocabulary knowledge and access to the speaker's ideas were the problems. In interpreting consecutively, the skill of note-taking played a very important role. Students took notes using pictures, mind map, and shapes to represent ideas. The obstacles they faced include their inability to multitask, to read their own notes, or because the notes were too detailed. Through the exercises, students had ways to distinguish main ideas and details during note-taking by using margins. In addition, students used surrounding objects to trigger the retrieval from memory. Further, students' ability to paraphrase the sentences improved, although hesitantly.

Other skills that the students need to develop were the public speaking skills. Interpreting is the ultimate test for language skill and oral proficiency in

which the success of an interpreter is evaluated. Thus, students are trained to deliver a message orally in front of public. The biggest obstacle students experienced when they were speaking in public was nervousness, lack of self-confidence, which affected their posture and gesture. They had a panicky attack upon being requested to speak in public. Therefore, they felt that they still needed to train themselves to speak loudly, clearly and confidently.

To help students improve their consecutive and simultaneous interpreting skills, an audio-recording software was used, namely Audacity. Students felt that the use of Audacity helped them to improve their consecutive and simultaneous interpreting skills. Audacity was easy to use and allowed them to listen to their recorded speech, evaluate and learn from their mistakes. The problems they faced regarding the use of Audacity were incompatible computers or laptops which did not support Audacity, unfiltered noises caught in the recording, and incompatible headsets.

In the Interpreting course, students have understood what it takes to be competent interpreters. Since the reflection was conducted at the middle of the semester, it is expected that lecturer could fulfill the students' aspiration to learn in the interpreting course. They hoped that in Interpreting class, they would learn how to take notes efficiently, how to handle stress during interpreting, and how to improve public speaking skill, paraphrasing skill and vocabulary mastery. They wanted to know how to be competent interpreters.

From the Lecturer's Field Notes, it was known that students were excited and challenged with the interpreting tasks. Learning from the weekly activities, lecturer must prepare more activities for one-on-one practice, reduce teacher-centered teaching and prepare more teaching media (flash cards, worksheet, role cards, etc). Exercises had to be various and graded from individual, pair, group, and finally one-and-whole class. These activities were intended to train students to listen, understand, paraphrase, and speak in public.

The topics were adequate to introduce students with issues that were likely the topics of International conferences where interpreters mostly work for. Students had to be exposed to the vocabulary, texts and contexts first before embarking on an interpreting task. Students had problems in the three phases of interpreting, i.e. understanding the source language texts, conversion of the source language texts into target language texts, and delivery of the target language text. Students had problem in the first phase of interpreting, i.e. understanding the source language texts, because they have limited exposure on such texts and very limited vocabulary to understand the texts. They needed more exposure to listening in order to listen more fluently.

Students did not understand the texts because of poor grammar knowledge, such as translating noun phrases, misunderstanding of active and passive sentences. Students misunderstood some idiomatic expressions and vocabulary such as *missing out an opportunity, to make ends meet, lost in the shuffle, to see beyond your circumstances, overlook, stand with you, the door is open, devastating, break down the barriers, and role models*.

In terms of registers, students were not too familiar with terms or registers in health, environment, technology, social issues, communication and IT, etc.

Students did not keep abreast with the latest issues, such as *MEA (AEC/Asian Economic Community), Tax Amnesty, human resources, UMKM (Medium-Scale Enterprise), Tax Revenue, Triple Helix, BUMN (State-owned enterprise), DPR (House of Representatives), MRT (Mass Rapid Transportation), commuter line, IRT, etc*. In health, students were not familiar with terms, such as *prevalence, stunting, malnutrition, obesity, breast milk, health provision, labor force, adolescence education, poverty alleviation, and multiple sclerosis.*

In discussing environment, students were not familiar with terms such as *peat land, renewable energy (energy terbarukan), global climate, heat wave, nuclear power plant, carbon pollution, PLTA (Water Power Plant), mileage, Clean Air Act 1970, pollutant, EPA (Environment Protection Agency), and wildfires, Dust Bowl.*

Other terms were *demographic bonus, sustainability, angkatan kerja, PTN (public universities), PTS (private universities), World Economic Forum, KKNI (Indonesian National Curriculum Framework), national competitiveness, goods and services, slums, and Millennium Development Gold.*

In terms of grammar and vocabulary, students must expose themselves to language used in public speaking activities such as greetings, thanking, signposting, etc. Students could not interpret these words into English: *ketua, wakil ketua, anggota, yang terhormat, sebangsa dan setanah air, Assalamualaikum, insya Allah,* and *dengan tanpa mengurangi rasa hormat.* Students' inadequate knowledge of grammar was shown in their inability to understand the sentence construction using appositive, gerund and past participle phrases, tenses, and conditional sentences type 3.

In terms of prior knowledge, students could not understand the content of the speech because of the lack of intertextual prior knowledge underlying the new texts/speeches. The examples were *Magna Charta, Mulberry School for Girls, Peace Corps, Malala Yousafzai, Hurricane Sandy, national problems, such as poverty, unemployment, and social injustice*. This failure to understand the text due to limited prior knowledge was mainly caused by students' poor reading habit. In the class, students admitted that they never read news, watch news on TV, or read articles on the assigned topics (health, environment, IT, Culture, and Religion, for example). This explains why they are not familiar with the terminology or the contexts.

Conclusions

From this activity, it can be concluded that Interpreting course is the ultimate application of all the language knowledge and skills learned during the previous semesters. The use of Exelsa to upload and download learning materials and course assignments is considered to be effective as it helped the successful implementation of the course. The use of Audacity to record students' speeches helped the lecturer and students to evaluate and provide feedback to improve students' learning progress in terms of three phases of interpreting. The use of Multimedia laboratory to conduct the course was conducive for the students to do research before doing interpreting tasks. By integrating collaborative learning and

independent studies, students are expected to master the skills gradually so that they could become competent and confident interpreters in the long run.

The students' Reflection Sheet and the Lecturer's Field Notes highlighted the linguistic and non-linguistic problems in interpreting and ways to solve the problems. The linguistic problems in interpreting deal with grammar, vocabulary, specific terminology (registers), and idioms. The non-linguistic problems in interpreting deal with prior knowledge, public speaking skills, memory span, technical problems related to computers, connectivity and software compatibility.

Hopefully, this research can help Interpreting lecturers to provide more classroom activities and assignments to help students overcome their problems in interpreting. It is recommended that a more in-depth research should be done to investigate students' perception on the use of Audacity to improve their consecutive and simultaneous interpreting skills.

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FOSTERING LEARNING AUTONOMY THROUGH THE IMPLEMENTATION OF FLIPPED LEARNING IN LANGUAGE TEACHING MEDIA COURSE

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Abstract
Dealing with millennial generations, it is essential that educators adjust the educational paradigm in order to adapt to the needs of students in the digital age as it is today. This research studied about the implementation of flipped classroom learning model in Language Teaching Media (LTM) to foster fifth semester students' learning autonomy in English Teacher Education Study Program, Sanata Dharma University. Through the implementation of flipped classroom using Learning Management System (LMS), it is expected to model innovative teaching strategies, such as flipped classrooms, in an effort to prepare preservice teachers for 21st century education. Findings from this research indicated positive perception towards flipped classroom in fostering learning autonomy in terms of planning, classroom engagement and self-evaluation.

Keywords: flipped classroom, Moodle, Language Teaching Media

Introduction

The integration of technology in higher education provides an opportunity to transform traditional pedagogy in order to achieve the needs of the millennial generation. Millennial are those born in 1982-2002 and make technology a part of their everyday lives (Wilson & Gerber, 2008). In teachers training program at the university level, a learning model that focuses on the use of this technology can equip preservice teachers with the pedagogical skills and strategies they will need to address the next generation—the generation that will become their future students.

Preservice teachers should be introduced to innovative learning models that integrate traditional learning with technology. One of the learning models that offer novelty and pedagogical innovation is flipped learning or flipped classroom. In the flipped classroom, the presentation of the material is given not in the classroom, but outside the classroom by means of learning management system (LMS) platform or educational website. Learning materials in form of video, pdf files, presentation files, online quizzes or other forms of digital content are uploaded on LMS and accessible to students without time and space boundaries. Flipped learning exchanges a process that traditionally represents the portion of

teacher teaching into a portion of student learning independently before face-to-face meetings take place (Flipped Learning Network, 2013). With that concept, students can adjust to the learning ability of each individual to grasp better understanding of the content knowledge. The availability of material in form of video gives students the freedom to stop or repeat the material anytime in areas they still consider hard to understand. Then, when students attend the classroom meetings, students are expected to participate in the activities of implementing the material they have watched or read before (Tucker, 2012). This learning model not only provides an opportunity for students to have responsibility for their own learning, but also gives more time in the classroom to explore the materials more broadly and deeply.

The preservice teacher students were the target audience for this model as it was decided that they would benefit most from hands-on experience of the innovative teaching strategy. The students taking this course are in their third year of teachers training program and have either recently decided to be teachers. One of the most effective ways to teach preservice students how to engage their students is by engaging them through their own coursework (Vaughan, 2014). It is essential not only to provide students with a rich experience in the teacher development program, but also to make university teachers in the faculty of teacher training remain aware of the changing nature of education and prepare students accordingly.

In response to that, Sanata Dharma University (USD) has made various attempts to continuously improve the quality of learning. Therefore, through the Center for Development and Learning Quality Assurance, USD develops Exelsa, which is an internet-based platform based on Moodle as a digital learning resource, for its academic community which can be accessed through http://exelsa2012.usd.ac.id/. Lecturers and students can establish synchronous or asynchronous computer-mediated communication through Exelsa. Lecturers can present teaching materials and tasks online, while students can easily access and review teaching materials through Exelsa independently. So, it is expected that they can self-regulate their own learning process and foster their autonomous learning skills.

Being an autonomous learner means the students have the capacity to manage their own learning process, started from choosing the most suitable learning method, selecting the media that can give them better understanding, and conducting self-evaluation method to measure whether the learning process meets the goals they have set previously. This way, learners are able to develop not only knowledge but also other skills like critical thinking, problem solving, and even personal skills such as responsibility, honesty, and integrity. Through the integration of technology, it is expected to produce autonomous learners that are able to plan, monitor, and evaluate their own learning process. The purpose of this study is to investigate how this learning model is implemented and perceived. The facts mentioned above raise awareness and necessity in conducting a research by utilizing Exelsa in the Language Teaching Media (LTM) course as the initial step to achieve what is aspired by Sanata Dharma University: shaping independent academic community who are capable of becoming agents of change in the future.

Theory

Flipped Classroom is a learning model that reverses traditional methods, where materials are usually given in class and students do homework assignments. The Flipped Classroom concept includes active learning, student engagement, and podcasting (Vaughan, 2014). In the flipped classroom, the material is given in advance through the instructional videos that students must watch in their homes. In contrast, classroom learning sessions are used for group discussions and work on assignments (Flipped Learning Network, 2013).
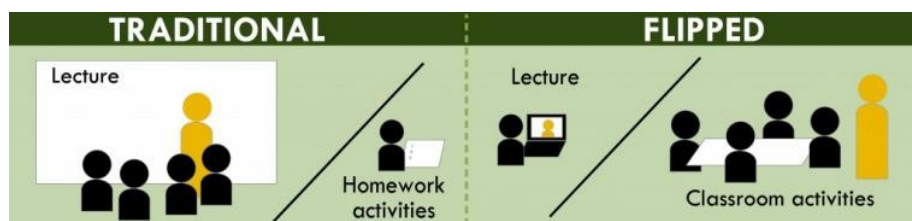
Figure 1. The difference between traditional classroom and flipped classroom

Several researches that examine the effect of flipped classroom on student achievement have been conducted. Benefits such as increased student engagement, increased feedback between teacher-students and among students, as well as the degree of student independence have been documented in several literatures (Goodwin & Miller, 2013; Roehl, Reddy, & Shannon, 2013; Sadhaghiani, 2012). Although the benefits have been widely studied, not many have applied to teacher training programs since most of the application of flipped classrooms is done in the field of science (Sadaghiani, 2012). Meanwhile, providing innovative and creative learning models should be the foundation of teacher training programs, because optimal learning is done by having a hands-on experience. This can be seen in Dale's Cone of Experience (Dale, 1946) which describes how learning process can affect the level of students' understanding. At Dale's Cone of Experience, the model of a real experience gets the largest share in contributing to a person's level of understanding.
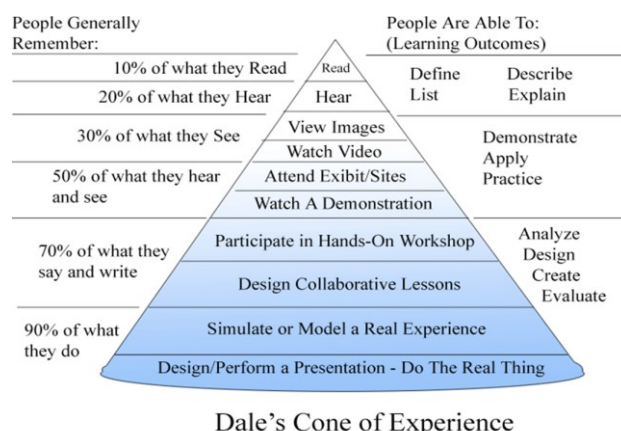

Dale's Cone of Experience

Figure 2. Dale's Cone of Experience

However, despite having many advantages, flipped classroom requires careful preparation in order to run optimally. Flipping the classroom involves much more than adding technology and out-of-class video activities to your lessons; it requires both teachers and students to "flip" the way they fundamentally view education (Webb, Doman, Pusey, 2014). Teachers should certainly invest time to provide learning with interesting, quality, and comprehensible digital content. While students, on the other hand, should have access to a reliable internet connection and a high level of learning autonomy.

In the teacher training program, it is essential to encourage students to be autonomous. Before encouraging their future students to be autonomous learners, they have to become one themselves. Subsequently, they can be facilitator for their students, not to feed them knowledge but to help providing supportive learning environment. As Thanasoulas (2000) said, this can be done by performing some activities such as asking them to write learning diaries where they can set and evaluate their goals, make portfolio where teachers can give feedbacks to motivate the students, encourage students to use technology to enrich their knowledge, and some activities that require students to discuss and perform critical thinking. If it is done continuously, the attitude of autonomous learner will be eventually developed. The autonomous learning skill need to be trained, so that they can become individuals who always develop, improve, and renew their knowledge throughout their lives.

Brookfield (2009) emphasizes that independent students take responsibility for their own learning processes cognitively, metacognitively, and affectively. Furthermore, Nunan (1996) reveals that independent learners refer to students who are self-motivated, responsible, and actively able to enrich themselves with any knowledge related to the learning process being undertaken. The ability to be responsible for the learning process is manifested in the student's ability to plan, monitor and evaluate him (Brookfield, 2009).

Departing from the definition of autonomous learning, it can be concluded that autonomous learning is the willingness of students to conduct learning activities that rest on the activities (planning, monitoring, evaluating) driven by the force within themselves in an effort to achieve goals that are considered valuable and useful. With the flipped classroom model, it is expected to encourage and train students who are preservice teachers to become independent learners.

Method

This investigation was a survey study set in Yogyakarta, Indonesia. English language classes at the university where the research was undertaken were held in the English Language Education Study Program (ELESP), a department within the Faculty of Education and Teachers Training. All enrolled students were required to take 4 year-long English language courses as part of their requirements to gain an S.Pd. (BA in Education), so they were considered as preservice teachers or teacher candidates. This research employed questionnaire instrument to answer two problem formulations:

1) What is the student's perception of the implementation of flipped learning model?
2) To what extent flipped learning is able to foster students' autonomous learning skills?

The questionnaire was developed using Google Form which consists of 2 parts, that is close-ended and open-ended. The questionnaire was embedded on Exelsa. The survey was conducted at the end of the 2016/2017 fall semester to 50 respondents from 2 Language Teaching Media (LTM) classes (Class A and E) in the Sanata Dharma University. Respondents were students of class of 2012-2014, aged 19-29 years and consist of 76% women and 24% men. In addition to the survey, discussion forum notes, reflections, and observations were reviewed and coded according to the categories of planning, engagement and self-evaluation. This method was applied to increase validity of the data and avoid bias (Maxwell, 2005).
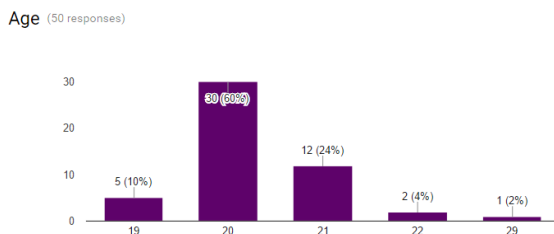
Age (50 responses)

Figure 3. Demographic chart of the research participants
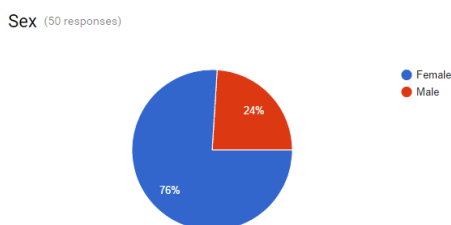
Sex (50 responses)

Figure 4. Demographic data of research participants

The final report describes the results of a numerical survey (from close-ended questions) and descriptive (from open-ended questions) to flipped learning implementation in LTM course and students' perceptions of flipped classroom learning model.

Findings and Discussion

The survey results show positive perceptions of students that can be seen from how students plan lessons, engage in the classroom, and evaluate learning independently.

Autonomous learning starts from the planning stage where students prepare themselves before they enter into the learning process. According to Grieve

(2003) autonomous learning is a personal attribute, the psychological readiness of a person in controlling or responsible in the learning process. Thus, a person who is independently ready can identify his needs and the purpose of why he should learn something. In the learning autonomy, the individual learns about his own interests, makes plans and takes action. They also think about the processes they will undergo, solutions to problems and strategies for developing their abilities.

The researcher, who in this case also acts as a teacher, uploads instructional materials in form of videos, assigned readings, individual quizzes and presentations to be previewed by students before the actual face-to-face meetings take place. This strategy is applied so that students attend the class with their prepared minds and ready to apply the knowledge they have gained from the uploaded materials. This meant that every chapter covered for LTM course would be "at-home" activity and every class that students attended face-to-face would be an active learning experience. Therefore, discussion and collaboration on projects would take up the bulk of classroom time. By flipping the entire semester, the model would truly be executed and the students would have a rich lesson in experimenting with innovative teaching. The following is the result of the questionnaire on planning stage.
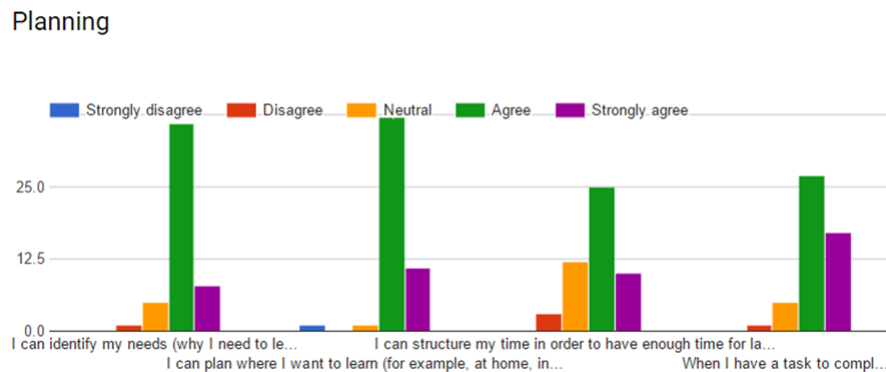
Planning

Figure 5. The result of the questionnaire in the planning stage

The bar chart above shows that the majority of respondents (16% strongly agree and 72% agree) stated that with flipped classroom model, they can identify their learning needs, they can set the place and time to complete a task, and they can preview the materials. The Moodle-based materials help the teacher to provide students with sufficient information on the importance of learning a material to be taught. The information provided by the teacher is accessible to students and it can encourage them to make sense of what they will learn. This is supported by the results of their open-ended questionnaire:

S135- "[…] I try to read the material before the class begins, and that really helps me to understand the material better."
S127-"Flipped classroom helps me to learn individually before I start learning in the class. I can read several references about certain topics. It helps me to prepare and have background knowledge first."

Nevertheless, there are still a small number of students (10% neutral, and 2% disagree) who say that flipped classroom has no effect on their learning plans. It can be caused by some factors such as the choice of learning methods or internet facilities.

> S132- "I don't have internet connection at home. I usually come to class earlier to read or watch the videos posted by the teacher before the class started."
> S125- "I prefer listening to my lecturer rather than reading a material posted on Exelsa. Maybe that's just my choice."

In addition to students' awareness of learning needs, autonomous learning can also be seen from how students regulate themselves in terms of time and place. With flipped classroom, learning materials can be accessed without time and space restrictions. Students can access the material uploaded into Exelsa from anywhere as long as they are connected to the internet network, such as in the student hall, Self-Access Center, or in their respective homes. From the data above, 96% of respondents agreed that they can structure their time and place of study independently. Meanwhile, only 4% said they disagreed. It shows that flipped learning provides flexibility for students to be able to access learning materials at the time and place that is most convenient for them. This can be seen from the student comments below:

> S146- "[...] using Exelsa is really helpful for us because we can be independent learners anywhere and anytime. We know what to do when the lecturer gave us an assignment. I can review all the material from my boarding house or SAC."
> S003-"This course gave me an easy access to recall the last material that we have learned by using Exelsa. So that, when I want to learn more about it outside the class, I can open it easily."

Autonomous learning can also be seen from how they will complete the tasks. An autonomous learner can plan goals, design the right time and place to complete a task, and plan the steps to be undertaken. There are 88% of respondents said they can do planning for task completion. In the LTM course, there are several projects that they need to complete either individually or in groups. Projects cover the creation of media, both technical and conventional. Once, they have completed a media, the next stage is to do a teaching simulation. The simulation is essential to evaluate whether the media they have created can be effectively implemented in the classroom. Some videos and journal articles are uploaded into Exelsa to guide them in the task completion, and all students can do and get it done well.

Figure 6. Screenshot of LTM Moodle-based material on Exelsa

The actual challenge of a teacher was to engage students in authentic and meaningful activities. Teachers' role includes providing activities that deepen their understanding of both content and pedagogy knowledge, such as discussions, presentations, and teaching simulations. Using flipped learning, in-class activities can also provide a space for teachers to clarify misconceptions encountered by students in "at-home" activities. Here is the result of the survey about student engagement.
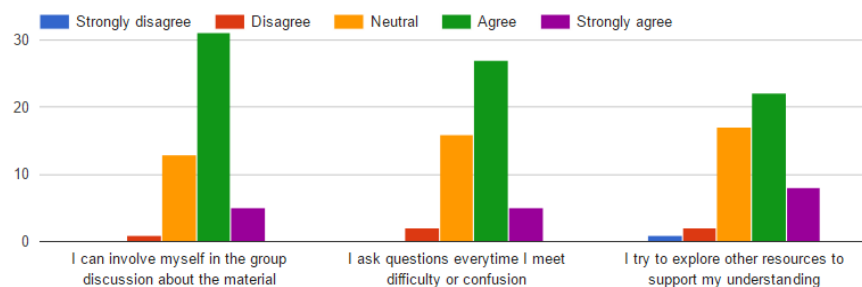

Figure 7. The chart of students' engagement in class

On the chart above, it was shown that 72% of students stated that they were able to be actively involved in group discussions. It can be said that a majority of students felt that the flipped classrooms were helpful, and they agreed that the additional time spent in class working on problem-solving activities greatly enhanced their understanding of the concepts, for instance when they learned about presentation media. The teacher gave students some choices of presentation media, such as Microsoft PowerPoint and Prezi. After studying the two, students then come to the classroom by preparing arguments for their choice. They explain the advantages and disadvantages of each media and determine the best. The discussion was very well executed, since every student had understood the concept of each media by reviewing some references before coming to class. This is a major advantage of using the flipped classroom.

Through the process of self-paced learning they had done prior to class, misconceptions were sometimes inevitable. Teachers should emphasize that

asking questions in class was essential in the learning process to avoid misconceptions. From the chart, it was displayed that 64% of participants asked questions when encountering difficulties in their understanding of the materials. Based on the observation, the questions were expressed in class discussion forums as well as in group discussion forums. In the flipped classroom, they asked more questions about what was "allowed and not allowed". This activity illustrates the increased depth in the outcome occurred when students understand and reflect on the content prior to class.

Besides aiming to provide opportunities for students to understand teaching materials prior to face-to-face meetings, the flipped classroom also aims to allow more time to explore broader references to the varied of language teaching media. In the course, students were expected to know myriad choices of language teaching media. In one in-class meeting, the teacher cannot explain all types and functions of the teaching media, instead expecting students to explore by themselves. Based on the data, 60% of students explore other references outside the class. For example when the students were assigned to create an explainer video, it can be created using different types of applications such as Windows Movie Maker, *Powtoon*, or *Stopmotion*. They will discuss their choice with their teammates in order to get their project done.

S127- "[...] When we are assigned to make an explainer video, I try to browse software mastery lessons on YouTube. I am very enthusiastic in producing media in this class."

S114- "[...] We had a problem when creating an explainer video. We couldn't make the voiceover sounds perfectly. So, we browsed how to edit and produce perfect voiceover for our video from YouTube videos. We're very happy because we finally made it!"

As explained above, the students searched for more information through YouTube videos to solve problems they encountered in the process of completing certain project. It sharpened the students' critical and creative thinking skills they might need as future teachers. It will also increase their digital literacy skill, because in the attempts of finding the best references, they would try to find the most reliable sources.
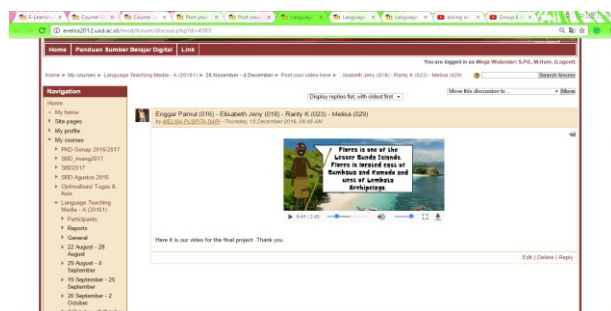

Figure 8. Explainer video created by LTM students

Another essential aspect in the coursework is evaluation. Evaluation is one of the important components and stages that must be taken by students to know the effectiveness of the learning they have been through. Essentially, evaluation is a systematic and continuous process to determine the quality (value and meaning) of the learning process. Self-evaluation can be done in-class or out-class. For example, after watching the videos, students were also given different opportunities to show that they understood the content of the video either by responding to the video with an oral or written comment, creating their own video response, participating in an Exelsa forum discussion on the topic, or by answering questions on a handout or online quiz. The survey showed that flipped classroom, which was presented in the Moodle-based platform called Exelsa, gave them opportunity to be autonomous learners by performing self-evaluation. The following chart is the result of the survey.
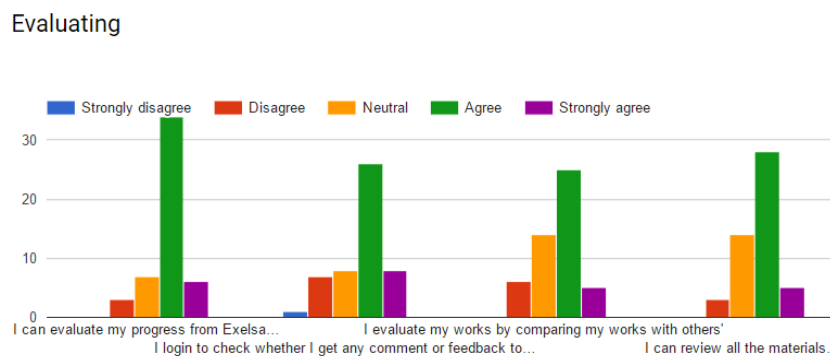

Figure 9. The chart of self-evaluation

Evaluation can be done by monitoring comments / feedback given on the post task, and also by comparing with the work of others. From the bar chart above, it shows that 80% of students regularly monitor the results of their scores obtained through the scoring record feature on Exelsa. 68% of respondents accessed Exelsa to see if there were any comments or feedbacks they received for the work they uploaded on Exelsa. In additions, 60% of respondents said they compared the results of their classmates' postings to evaluate whether they had performed to achieve the desired results. Furthermore, 66% of respondents also read feedbacks on their classmates' products to see whether they were in accordance with the criteria specified. By learning from others, they can gain more meaningful knowledge and try to avoid pitfalls on the next project. Despite this, some suggestions were also given by the students related to feature of Exelsa.

S011-"I personally think that Exelsa is already decent enough for us to support our learning. However, it would be great if there is a kind of mobile application that we can install . So, we can get direct notification when somebody's giving us comments on our postings."
S025-"The communication between the lecturers and the students will be better if Exelsa has online chatting. So, when students wanted to ask something, we can directly reach our lecturer."

S021-"[...]This course also fosters my independent learning through self-evaluation and also by comparing my work with my classmates' works. It makes me develop myself much because I have to find my own learning style that suits me best."

By conducting independent evaluation, students are expected to be able to boost their motivation to complete tasks more optimally and also develop themselves professionally as future teachers. By being autonomous learners who set their own goals, they can also explore things as they desire, because they also develop their own curiosity and eagerness to learn. Moreover, they can manage the most suitable learning method or media for them so their learning will be more effective.

Conclusions

The flipped classroom model constructed on the Exelsa platform has contributed to learning process in the Language Teaching Media course especially in fostering their autonomous learning skill. That includes instructional preparation, active learning engagement in the classroom, as well as the opportunity to evaluate independently. In additions, the flipped classroom learning model can train students' ability to be independent so they can be individuals who always develop, improve, and renew their knowledge throughout their lives.

Though findings from this research indicated positive perception towards flipped classroom in fostering learning autonomy in the coursework in terms of planning, classroom engagement and self-evaluation, several drawbacks from the research were also noted. The survey in this course did not serve as sufficient evidence to detail students' attitudes towards the flipped model in the EFL context. The researchers of this study suggest carefully defining the measurement of the data, and putting these constructs into definite SPSS measurement in order to ensure validity. The survey results presented in this study were not analyzed for such factors, which would have otherwise increased the reliability of the survey results.

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JUNIOR HIGH SCHOOL STUDENTS' ABILITY TO APPLY ALGEBRA IN REAL-WORLD PROBLEMS

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Abstract
In accordance with the 2013 curriculum that uses Scientific Approach where students learn using the 7M method (Observing, Questioning, Trying, Gathering Information, Reasoning, Concluding, and Communicating), the real problem is a tool which is considered fairly important to be used in learning. Mathematical modeling is an approach in which students bring real problems into mathematical problems. Algebra is an important tool used in modeling a real problem into a mathematical problem. Students are asked to observe the environment around them and then asked to make their mathematical model in an algebraic form. The subjects in this study were 21 eighth-grade students of Pangudi Luhur Junior High School in Srumbung, Magelang, Central Java, Indonesia. This research uses Qualitative Approach. The result of this study found that most students are able to create algebraic forms from the environment they have observed, but there are still difficulties. Some groups still need quite a lot of help from teachers but some also need a little help from teachers.

Keywords: algebra, mathematical modeling, environment

Introduction

Math learning still poses a constant problem. The frequently recurring problem is how to put mathematics in the students' perspectives. It is expected that when the teaching of mathematics is applied in daily lives, the meaningfulness of learning mathematics among the students can be fostered. As other branches of science, mathematics requires a laboratory for the process of meaning-making. However, the idea to build a mathematical laboratory is pictured is a sophisticated equipment, which not all schools can afford to do it. For that purpose, we need a creativity to initiate a mathematical laboratory that does not require high cost. One of the answers to the problem is to use the natural surroundings and environment as a natural laboratory to serve as a means for the students to learn and process.

The implementation of Curriculum 2013 invites all parties to be more enthusiastic and optimistic about achieving a better education. Curriculum 2013 puts more emphasis on modern pedagogic dimension using scientific approach in the process of learning. A scientific approach is believed to be one of the best

bridges to enhance the development and development of attitudes. In addition, the learners' skills and knowledge in work processes that meet these scientific criteria will be fostered. In the concept of scientific approach presented by the Ministry of Education and Culture, there are at least seven criteria.

1. Learning materials based on facts or phenomena that can be explained by certain logic or reasoning; Not merely imagination, fantasy, legend, or myths.
2. Teacher's explanations, student responses, and teacher-student educational interactions are free from the immediate prejudice, subjective thinking, or reasoning that diverges from the logical thinking flow.
3. Encourage and inspire students to think critically, analytically and precisely in identifying, understanding, solving problems, and applying learning materials.
4. Encourage and inspire students to think hypothetically in viewing differences, similarities, and links between one learning material to another.
5. Encourage and inspire students to understand, apply, and develop rational and objective thinking patterns in responding to learning materials.
6. Based on concepts, theories, and empirical facts that can be accounted for.
7. The purpose of learning is formulated in a simple and clear, but interesting system of presentation.

The learning process using the scientific approach is a blend of learning process that was originally focused on exploration, elaboration, and confirmation equipped with observing, asking, reasoning, trying, and communicating (Kemendikbud, 2013). Some people develop these processes into to observe, question, collect data, process data, communicate, innovate and create. However, the purpose of some learning processes that must exist in the same scientific study is to emphasize that learning does not only occur in the classroom, but also in the school and community. In addition, the teacher simply acts as a facilitator when children / students / learners experience difficulties. Moreover, teachers are not the only source of learning. Attitude is not only taught verbally, but through examples and examples.

In the learning process students are expected to find meaning and understand what is actually learned. By taking the background of the real problems that can be captured by the senses coupled with the experience of each individual and collaborated in a group work, it is expected to provide more sufficient supplies for their life skills.

What are the different learning activities where students are invited to apply mathematic concepts in real life through the activities of teaching instructions in which teacher realizes math? When teachers use guided question techniques and try to teach mathematics to serve some useful purposes, they rarely try to sort out why other sensible ideas are less useful for a particular situation and purpose. They rarely make connections between networks of ideas taken from different topic areas. They rarely emphasize the modeling capabilities required when complex artifacts are produced using a design-test-revision cycle. However, this high level of understanding and modeling capabilities is needed for success

outside of school (Lesh, 2003). When a problem is used to create a symbolic description of a meaningful situation, the processes and capabilities required also tend to be almost inverse of the calculating skills that are emphasized in most story problems (Lesh, Cramer, Doerr, Post & Zawojewski, 2003 in Lesh, 2003)

The process of meaning-making in the use of real problem can be realized by, among others, using learning which encourages problem solving. The problem-based learning model can develop students' ability to understand the problem, the ability to plan the solution, the ability to execute the solution plan, and the ability to recheck (Siti Mawaddah & Yulianti, 2014). The process of incorporating real-world problems into math problems often invites problems of their own. The process of bringing real problems into existing symbols or in mathematical terms associated with algebraic material is a skill or ability that does not automatically developed among the students. This is what often makes teachers think that algebra learning seems to have many obstacles.

If this can be well developed, it is not impossible for students to be able to solve real problems with mathematics or so-called mathematical modeling is applied. Mathematical Modeling by Haines and Crouch (2007) posits that the characteristics of mathematical modeling is a process cycle of real-life problems translated into the language of mathematics, solved by using the rules in mathematics, and the solution is returned or tested to see whether to the real problem is appropriate or not. This research attempts to see the ability of junior high school students in interpreting the symbols in algebra based on real problems raised by the students themselves.

Method

This research uses a qualitative approach with a case study method. The data collected are in the form of words, images and not numbers. This is due to the application of qualitative method. The purpose of the case study is to provide a detailed picture of the background, character traits and characteristics of the case or status of the individual from which they will be made public. In this study, the researcher wanted to know the ability of the eighth grade students of SMP Pangudi Luhur Srumbung in bringing real-life problems in the surrounding environment into algebraic forms.

The subjects in this study were the eighth grade students of SMP Pangudi Luhur Srumbung, Magelang, Central Java. The eighth grade students were selected because the researchers were preparing the students to be able to create a scientific work in the field of mathematics.

The duration of the study at Pangudi Luhur Srumbung Junior High School was about 1.5 months. The research started to observe the class on August 3, 2016, when the researcher arranged the research schedule with the homeroom teacher of the eighth grade students who also happened to be the mathematics teacher at the school. It was agreed that the research time would be between August 4, 2016 and September 7, 2016 every Wednesday after school. The date was determined so that students could focus more on the scientific work they wanted to deepen. In addition, the research was conducted after school so as not to interfere with the teaching learning activities.

The research subjects were the eighth grade students of SMP Pangudi Luhur Srumbung. The target of this research was to encourage the students to bring real problems into the form of mathematics. Thus, it aims for the students to change everyday problems into algebraic forms. The stages in this study are described as follows:

1. Pre-research stage
   Asking for research permission from the Principal of SMP Pangudi Luhur Srumbung, Magelang Central Java; observing of students' processes and abilities, especially students' comprehension skills; observing the surrounding environment in Srumbung area to be a topic in making Scientific Works; conducting interviews with teachers of mathematics; and selecting classes as research subjects

2. Planning Stage
   Students are asked to form groups of five to six students and students are asked to see the environment around the school.

3. Stage of Action
   Students are asked to observe one of the objects in their surroundings; students are asked to draw objects they observe; students are asked to make inquiries from what they observe; students are asked to develop problems they make in groups; and students are required to solve the problems they make

4. Reflection Stage
   Collecting data and analyzing data.

In this study, the preliminary data were collected, i.e. observations of students of Pangudi Luhur Srumbung Junior High School. After that, the other data collected were those related to any problems they could find related to the object they chose. The last data to be obtained were the data where students chose one fairly good topic to be developed and resolved afterwards.

The instrument used in this research was the objects that exist in the environment of Pangudi Luhur Junior High School, because the objects that were mentioned by the students were found in the environment of Pangudi Luhur Junior High School. In addition, other instruments were the researcher in which he also guides and provides input to the students of SMP PL Srumbung.

The technique of data collection in this research was done in stages. First, the obtained data included the data of the selected objects. The next stage involved data on what issues could be raised and related to the topic chosen by the students. Then the last stage involved the data where students developed one of the problems with enough depth which then they solved in groups.

In this study, the technique to analyze the data used a qualitative analysis, namely to see the development of the process of students' teamwork to show their ability to bring real-life problems into algebraic forms in accordance with the problems they observed and raised. At first, they were asked to look and then look more closely at the objects they observed. After that, they were asked to observe any problems they could find. Then, they chose a problem that was quite

interesting and they were asked to develop the problem which they were then asked to solve.

The purpose is to see the process in which the eighth grade students of SMP PL bring the real problems into the forms of mathematics. This is very important because it is the basis for them to be able to make scientific work in the field of mathematics. In addition, the importance of viewing this process is to see the researcher's findings on the students' ability to bring real problems into algebraic forms, especially the obstacles found by the students in the process.

Findings and Discussion

This research began by dividing the students into groups containing five to six students each group. The obstacles that arose in the process of making the group were that the students felt uncomfortable with their group mates because they were not close personally or because they did not belong to the same "gang". Fortunately, this happened only at the first meeting because in the next process they were able to work in groups well.

After the formation of the group is completed, they were asked by researchers cum supervisors to go out of the class, where they were instructed to see objects located in the neighborhood around SMP Pangudi Luhur Srumbung. Then they specified the objects to be observed further. The selected object of the group was ceramic floor (Figure 1), water tap (Figure 2), and alkaline water containers (Figure 3).

Figure 1. Photograph of the ceramic tile observed by group one

Figure 2. Photograph of a water tap observed by group three

Figure 3.   Photograph of the alkaline water containers observed by group two

After observing the objects selected by the groups, the students were also asked to draw the objects they specified in the group. The drawings of the objects of the students' work are shown respectively in the following figures: the ceramic tiles drawn by group one (Figure 4), the water tap drawn by group three (Figure 5), and the alkaline water container drawn by group two (Figure 6).

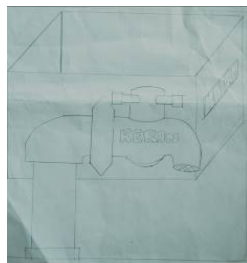Figure 4. Ceramic tiles drawn by group one

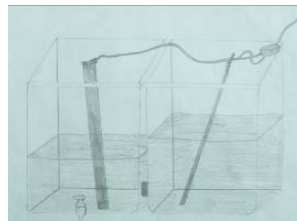Figure 5. The water tap drawn by group three

Figure 6. The Alkaline water container drawn by group two

In the following week, students were given the task by the supervisor to raise any issues in everyday life to into math-related issues. The results show that most of the problems they created were preceded with the word "how much", as shown in students' work (Figure 7 and Figure 8). This shows that the students' ability in making mathematical problems was still quite limited. In addition, it was found that the students only formulated problems that matched their abilities or in other words, they only created problems they could solve (Figure 7 and Figure 8).

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1. How long does it take to drink the water in the container?, 2. Each container is filled with 10 liters of water. If the water in the alkaline water contained is reduced by 5 liters, how much is the volume of water in the acid water container?, 3. How much voltage is needed in a month?, 4. How much water discharge is needed to fill a 200-ml glass?, 5. What is the length and width of the container?, 6. What is the weight of iron in the container?, 6. How much water is reduced on a daily basis, if there are 64 students in Pangudi Luhur Junior High School?

Figure 7. Problems formulated by the group

1. How many meters of PVC drains are needed?, 2. How much water is flowing to the pail per minute?, 3. If there are 2 drops of water per 3 seconds, how many drops of water are there in an hour?, 4. How much water is flowing?, 5. Mr. Moko has 1 fish pond. To fill up the pond, it takes 2 hours. How fast is the water flow?, 6. If it takes 2 hours to fill 1 pond, what is the volume?, 7. Bu Tiara wants to wash clothes. How much water is needed to wash clothes?

Figure 8. Problems formulated by group three

This happened because the students were worried if they were told to solve their own problems and they could not do them. Another reason is that students were reluctant to formulate complicated math problems because it would take a lot of time if to finish them.

Looking at the results obtained, the researchers agreed that for the next week students were asked to do one of the problems they chose to develop for the better. Here, the researcher played an important role in giving input on the development of problems selected by the groups. This is done because basically the students were not yet accustomed to developing the problems in more depth.

Group one was actually told to improve the questions according to the researcher's advice but failed to do so, as shown in Figure 9. This happened due to their bad habit of not taking notes of any feedback from the supervisor and researcher. Group two had tried their best but still the result was far from being satisfactory (Figure 10).

Each jar contains 10 liters of water. If everyone drinks one glass of 200 ml, is it enough for all 65 students of SMP PL?
It is known: Each jar contains 10 liters, there are 2 jars: 10 x 2 = 20 liters; number of students: 65 students; 1 cup: 200 ml; every day students drink 1 glass
Resolution/Answer:
20 l – (65 x 200 ml)　　= 20 l - (65 x 0.2) l
　　　　　　　　　　　= 20 l – 13 l
　　　　　　　　　　　= 7 l
So, the remaining water supply for 65 students = 7 l
Conclusion: So, the water supply is enough for 65 students, and the remaining is 7 liters.

Figure 9. Problems formulated and solved by group one

The classroom of the third-grade in SMP PL was not yet installed with ceramic tiles. The Principal wanted to install 40x40cm tiles in that 7x8 meter room. How many ceramic tiles are needed? Answer to the problem:
Area of the Room: 7x8
　　　　　　　$: 56\ m^2 = 560,000\ cm^2$
Area of ceramic tiles　　: 40 cm x 40 cm
　　　　　　$: 1,600\ cm^2$
　　　　　　$: 560,000 : 1,600$
　　　　　　$: 350$

Figure 10. Problems formulated and solved by group two

The results of the study initially showed that students were able to solve the problems they created but still in the common form and not into the algebraic form (Figure 10). They had learned algebraic materials in the seventh grade but no one had applied it yet. It so happened that the problem they raised was related to Function and they had not learned it yet. As a result, they finished the problems in any way they could (Figure 11). For problems which were not related to Function, they had already applied algebra in formulating problems based on the input from the researcher (see Figure 12 and Figure 13).

1 pond	Time needed:	21 hours, 18 minutes
2 ponds	Time needed:	42 hours, 36 minutes
3 ponds	Time needed:	63 hours, 54 minutes
n ponds	Time needed:	21 x n hours 18 x n minutes

Figure 11. Problem solving using algebraic math done by group three

The classroom of the third-grade in SMP PL was not yet installed with ceramic tiles. The Principal wanted to install 40x40cm tiles in that 7x8 meter room. How many ceramic tiles are needed? Answer to the problem: The room is rectangular in shape.

L.r　　= p x l　　　　　　　　　　　　　L.r. Area of the room
　　　　= 8 m x 7 m
　　　　= 56 m^2
　　　　= 560.000 cm^2
The size of the ceramic tile 40 cm x 40 cm
L.k　　= s x s　　　　　　　　　　　　　L.k. Size of the tile
　　　　= 40 x 40
　　　　= 1,600 cm^2
Finding out the number of ceramic tiles
L.r : L.k　= 560,000 : 1,600
　　　　　= 350 ceramic tiles

Figure 12. Problem solving using algebra done by group one

Grandpa Yatman has a fish pond. The water needed to fill the pond is as much as 5,000 liters. For 100 liters of water, it takes 5 minutes. Grandpa Yatman filled the pool at 6:00 am. What time is the pool full of water?
How to solve the problem:
5,000: 100　　= 50
*　　　　: 50 x 5　　　　= 250 minutes*
*　　　　　　　　　= 3 hours 10 minutes*
*　　　　: 06.00 + 03.10 = 09.10 a.m.*

Figure 13. Problem solving using Algebra done by group four

From this stage, the researcher had to wait until the mathematics teacher taught the relation between real problems related to Function, so that the students could formulate real problems into algebraic formulae and in turn, they could return them to the real world (to mathematize the world). In addition, students would gain understanding of the materials on Function because they could incorporate Function into the real-world problems they observed in the environment (Figure 14)

x = 200 ml
65 x = f (x)   = 200 ml x 65
13000 ml   = 13 l
Remaining water = 20 l – 13 l = 7 l

So, the water supply for 65 people is 13l and the remaining water is 7 liters.
It means that:
1 day   = 13 l
2 days = 26 l
3 days = 39 l
n days = 13 x n

a	y	$y = f(a) = 20a - 7a$
1 ------------	13	$f(1) = 20(1) - 7(1) = 13$
2 ------------	26	$f(2) = 20(2) - 7(2) = 26$
3 ------------	39	$f(3) = 20(3) - 7(3) = 39$
4 ------------	52	$f(4) = 20(4) - 7(4) = 52$
5 ------------	65	$f(5) = 20(5) - 7(5) = 65$
6 ------------	78	$f(6) = 20(6) - 7(6) = 78$
7 ------------	81	$f(7) = 20(7) - 7(7) = 81$

Figure 14. Problem solving using algebraic math done by group two

Conclusions

From the results of this study, it is concluded that students were basically able to bring real problems and formulate them in mathematical problems. The result of this research is that students were able to observe the environment around SMP PL and formulate the observed phenomena into math problems. In addition, students were able to interpret algebra and used it well in real-life activities. However, since this is still quite new for the students, so this habituation has not been easy. Some students still had some difficulties in changing the issues in the real world into algebraic forms. So for this research, a supervisor plays a significant role in helping the students to construct real problems into algebraic formulae in order to solve them. Problems made by the group still use the word "how much" and the complexity of the problem was still inasmuch as to be solved by the group itself.

The suggestion of this research is the need to be developed again in terms of observing the surrounding environment. Besides, the problem formulation can also be developed. If in this study, the group formulates the problem then solves it

themselves, then for further research, they can be asked to formulate problem questions made by groups who are observing but problem solving can be done by other groups. The last thing to be suggested is that the problem can be developed but students are prohibited to use the word "how" to further hone and enrich the students in matters related to mathematics that is taken from the natural environment.

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a. Introduction
b. Theory
c. Theory Application
d. Conclusion
e. Reference

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