Students' readiness to teaching practice experience: A review from the mathematics education students' view

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Abstract

A teaching practice is an effort to improve prospective teachers' competence. Students' development in the teaching practice is the key to its successful implementation. This study aims at describing and gaining an understanding of readiness of mathematics education students in conducting teaching practices. This study is a qualitative research with a type of phenomenology. Data were obtained from an open questionnaire of students from Indonesia and Malaysia. The participants of this study were 23 seventh semester students who have implemented teaching practices for 2 months. Data were analyzed using Bogdan & Biklen approach. The result revealed that students' ability in conducting the teaching practice was good, but they still need to improve managing the classroom. The constraints experienced by the teachers were related to learning instructions and time allocations, while for the students, the learning equipment facilities, coordination, school policy, and culture became their problems. However, both students and teachers had their own various strategies in overcoming these obstacles.

Keywords: students development, teaching practice, mathematics education students

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INTRODUCTION

The development of knowledge and technology increasingly demands the readiness of the community to participate in developing competencies and competing in a wider scope. The development of society nowadays is inseparable from the role of education. In other words, education plays an important role in the development of an individual's competency in accompanying the development of a competitive era. Therefore, the implementation of education, especially in formal education should be given special attention such as on the teacher factors. Teachers are professional educators who have the primary duty to educate, to teach, to guide, to direct, to train, to assess, and to evaluate students from early childhood education to secondary education level (Presiden Republik Indonesia, 2005). Teachers have a significant impact on the education success. Anthony &

Walshaw (2009, p. 150) mentioned that the quality of teacher is directly proportional to the quality of education it produces. The effectiveness of learning process inside and outside the classroom is determined by teacher competence (Azhar, 2009). Teachers should have at least four competencies namely, pedagogical competence, professional competence, personal competence, and social competence (Presiden Republik Indonesia, 2005). A pedagogical competence is the ability that must be possessed by teachers in managing the learning process, such as designing and implementing learning and more importantly their understanding towards students in order to become a good facilitator in developing students' potential. The second competence is professional competence which means teachers' ability in mastering the learning materials in certain subjects. Teachers must understand the materials beforehand to deliver

the materials widely and deeply to students, so it will create a profound learning process and students will be confident about the teachers' ability. The third competence is the personal competence which is defined as teachers' ability to become a role model for students including steady personality, wise, a noble character, and authoritative. The last competence is a social competence. Social competence means teachers' ability to interact with students, other teachers, and the community. The four competencies must be understood and possessed by a teacher to create an effective learning which is succeed and be able to achieve maximum results (Asep & Abdul, 2008, p. 11).

The pedagogical competence, professional competence, personal competence, and social competence are not only acquired by teachers during the teaching practice, but also formed since the beginning of their education in prospective teacher program. The prospective teacher program is carried out by the Institute of Teacher Education (or in Bahasa known as *Lembaga Pendidik Tenaga Kependidikan/LPTK*) which opens a study program with specific subject studies. An LPTK is a university assigned by the government to organize teacher education programs for early childhood education on formal education, elementary education and/ or secondary education and to organize and develop educational and non-educational program (Menteri Riset Teknologi dan Pendidikan Tinggi Republik Indonesia, 2017). An LPTK does not only teach students to understand certain subject matters, but also trains teachers to have the competences which are ideal as prospective teachers during the learning process. An LPTK teaches various methods and learning approaches used in the classroom, student management, learning evaluation, and other teachers' competencies that needed by prospective teachers.

The learning process conducted by prospective teachers in LPTK is related to the components of teacher competencies and how to teach skills to students. In addition, the standards of graduates which have been determined consist of attitude, knowledge, and skills (Permenristekdikti No. 44, 2015). Skill-related competency standards described in article 5 section 1 of the constitution stated that skills in using concepts, theories, methods, materials, and/or instruments were obtained through learning, student work experience, and research and/or community services. One program for

teacher candidates organized by LPTK is micro learning. The Ministry of Research, Technology, and Higher Education (2017) stated that in the micro teaching program, prospective teachers learn about basic teaching skills such as pupils starting point, pupils' characters, competencies, materials, and it was conducted in the limited time (Menteri Riset Teknologi dan Pendidikan Tinggi Republik Indonesia, 2017). The micro teaching program also gives prospective teachers opportunity to practice various skills in teaching and learning by controlling the situation (Fatmawati, 2015, p. 211). BY joining the micro teaching program, prospective teachers will gain experiences as teachers. In addition, prospective teachers will also get constructing suggestions from lecturers or other fellow students as a peer-evaluation. Various kinds of suggestions and evaluations aimed at improving the competence of prospective teachers to implement a better learning process.

Another effort in building and improving the competence of prospective teachers is providing an opportunity for students to involve in teaching practice. The teaching practice program is a continuation component of the LPTK education program. Implementation of teaching practices provides new experience for teachers to conduct a learning process in the real environment (Kiggundu & Nayimuli, 2009, p. 345). The program is conducted through the cooperation with several schools nearby the LPTK or other schools that have made prior arrangements both in Indonesia and abroad. The teaching practice is carried out for two months or within the predetermined time. The teaching practice is also known as *the Praktik Pengalaman Lapangan* (PPL). The Ministry of Research, Technology, and Higher Education (2017) stated that teaching practice is an activity of prospective teachers to practice their ability in conducting learning process in partner schools (Menteri Riset Teknologi dan Pendidikan Tinggi Republik Indonesia, 2017). Mannathoko (2013, p. 115) mentioned that teaching practice is a continuation of teacher education, because it allows prospective teachers to apply theories into practice. In addition, Kiggundu & Nayimuli (2009, p. 348) stated that the teacher practice teaches prospective teachers to cope with various situations such as controlling and managing students and also establishing good relationships with counsellor teachers or companion lecturers. Therefore, the quality of the teaching practice is determined by several

variables such as teacher and prospective teacher, mentor, and school where teaching practice is implemented (Uçar, 2012, p. 3654). The ultimate goal of teaching practice is that students will be more familiar with the school environment, the school administrative, and an academic environment. Moreover, students will be able to apply teaching skills in real situations and gain various lessons from their experiences during the teaching practices (Sudin, 2017, p. 35).

The teaching practice is implemented in seventh semester or at the end of the semester before completing thesis. It means that the teaching practice is carried out after students get sufficient knowledge from the previous lectures. Various competencies taught by lecturers are used to build students' readiness namely pedagogical competence, professional competence, social competence, and personal competence. According to Mannathoko (2013, p. 115), the teaching practice should be planned and prepared in such a way that it suits its purpose, because the teaching practice can be a very horrible experience if students do not prepare well (Mannathoko, 2013). The Pedagogical preparation is conducted from the courses taken by students related to various forms of the learning preparation until the evaluation process. The learning preparation through various courses can help students in an efficient learning process (Mannathoko, 2013, p. 115). The learning preparation consists of the making of syllabus, lesson plan, and various learning media, while the preparation of evaluation process consists of the making of various items of evaluation in the form of multiple choice, essay, or other evaluation forms. The preparation of professional competence is conducted by deepening and expanding the understanding of a specific subject. The professional competence of a science-related teacher is not only sufficient on what material that will be taught to students, but also on the cause-effect or the development of the taught materials. The preparation of social competence relates on how social attitude reacts to the environment. The preparation of social and personal competence is closely related to the character. Therefore, LPTK provides character education either directly or indirectly to its students. The lecturing process in order to prepare the competencies of prospective teachers especially for mathematics education students is conducted through the subjects related to mathematics and edu-

cation subjects such as mathematics curriculum, mathematics learning strategies, educational psychology, assessment of mathematics learning, educational management, student development, and other related courses. Other specific preparations should also be made before conducting the teaching practice. According to Mannathoko (2013, p. 120), several things that need to be prepared for teaching practices are teaching and demonstrating the specific learning methods, knowing the subjects and materials that will be taught specifically, and making a schedule to ensure that each student get guidance from supervisors and get follow up of any guidance.

On the other hand, the implementation of a well-prepared teaching practice also has various obstacles. The obstacle such as time limitation causes students have not acquired the intended ability yet (Azhar, 2009; Uçar, 2012, p. 2654). Another obstacle is that there are some schools that are not pleased to be used as a teaching practice place (Azhar, 2009). The consideration of inavailability of schools as a place for teaching practices is that teachers who will be a supervisor have to finish the learning sessions based on the syllabus or the initial plan where limited timeis only available, in fact teachers think that teaching practices will only waste the time (Kiggundu & Nayimuli, 2009, p. 356). Azhar (2009) also stated that the obstacle includes the presence of lecturers which are not maximum in assisting students and tend to rely on the monitoring from supervisor in the school. Other obstacles in the implementation of teaching practices are the language barrier and the culture shock that affect the learning process taken by a student if he or she comes from the different area from the location of the teaching practice (Kiggundu & Nayimuli, 2009). It will also likely occur if the teaching practice is implemented abroad. Therefore, the preparation of the language and cultural aspects become important factors for students who will conduct the teaching practice in other regions or in other countries. The lack of a good initial introduction between the teaching practice team, teachers and school staffs has also been one of the obstacles for implementing the teaching practice. The obstacle that occurs is that students are uncomfortable with the atmosphere during conducted the teaching practice either between students, teachers, or other schools (Kiggundu & Nayimuli, 2009; Uçar, 2012, p. 3654). The situation has an impact on the process of the

teaching practice implementation, especially the teaching and learning process will not maximum, so will not the teacher guidance. In addition, Uçar (2012, p. 2654) also stated that other obstacles in the implementation of the teaching practice include the difference between theoretical knowledge and practice in school, schedule arrangement, laws, and regulations.

On the other hand, internal factors also affect the implementation of teaching practice. Students should practice to encounter a sufficiently a large number of students in a class with different attitudes and should be able to adapt the theories they acquire in LPTK with the school conditions (Akhmadeeva, Hindy, & Sparrey, 2013; Kiggundu & Nayimuli, 2009, p. 354). Some aspects that need to be considered is the time management in the implementation of learning using various methods or learning approaches, as well as characters and different students' abilities. The low internal motivation of students to implement the teaching practice also belongs to an obstacle in the teaching practice implementation (Azhar, 2009). Although students of teacher candidates had variety of provisions to become a professional teacher, there are students who actually prefer not to implement the teaching practice (Azhar, 2009). It will certainly affect the students in implementing the teaching practice if the implementation of teaching and learning process does not carry out thoroughly and is not maximal in accordance with the knowledge obtained from the program in LPTK. Another obstacle is the lack of confidence in using technology. Students sometimes have low confidence in using technology, even though in the 21st century teaching demands prospective teachers to utilize the technology during learning process in order to compete globally (Jansen & van der Merwe, 2015).

There are various strategies to overcome the obstacles of the implementation of teaching practices. Overcoming the lack of harmonization between students, teachers, and school can be done by conducting a good initial introduction among the teaching practice team, lecturers, teachers, and school staffs or communities, so it creates a warm atmosphere and warm welcome from the school (Kiggundu & Nayimuli, 2009, p. 352). In addition, there should also be an instruction from school that explains the roles of teacher in order to guide and support the teaching practice students. The improvement of awareness and responsibilities of each aspect is

also important and so is the training for teacher and related parties which are responsible for the implementation of teaching practice either directly or indirectly (Uçar, 2012, p. 2658). Another alternative to overcome the obstacle is that the LPTK should have data related to the internal and external conditions of schools that will be the location of the teaching practice (Kiggundu & Nayimuli, 2009, p. 357). It aims to determine whether the schools can be the locations of the teaching practice or not, and also useful as a consideration in the preparation for the teaching practice related to the language or a cultural aspect. The introduction process can be carried out by visiting prospective schools or surveys and then followed by the advises from lecturer about how to overcome the anxiety and also the use of verbal or non-verbal language in improving teaching and learning skills during the implementation of the teaching practice (Kiggundu & Nayimuli, 2009, pp. 348–349). The strategy that can be carried out to overcome schools' or teachers' disaffection at schools is to reconsider the timing of the implementation. Schools will be more willing to work with LPTK as a place of the teaching practice implementation, if it is not implemented at the end of the semester or the end of the learning year (Kiggundu & Nayimuli, 2009, p. 356), because at the end of the semester or the end of learning is a crucial time in completing materials according to syllabus or lesson plans that has been made before. In addition, Juangsih (2015, p. 82) stated that to develop the ability of prospective teachers in the teaching practice, LPTK needs to establish cooperation with universities or schools abroad in order to create prospective teachers who are able to compete in a broader scope, the international scope, as a response of the development of the current era.

The strategy to anticipate the constraints of internal factors of students is by conducting the micro teaching program (Kiggundu & Nayimuli, 2009). In micro teaching program, prospective teachers will be trained to adjust theories and the actual learning conditions at school, such as the duration, methods and learning approaches, as well as the diversity of students' characteristics. Meanwhile, to increase the students' motivation it is necessary to apply some strategies in facilitating various activities such as workshops, seminars, consultations which are conducted continuously (Wahyudi, 2016, p. 103). Various activities are also accompanied by designing and preparing an

environment that is able to form the expected character and support the preparation of the prospective teachers (Azhar, 2009; Juangsih, 2015). The strategy to overcome obstacles related to the use of technology in learning is guiding students to improve their ability in utilizing the technology which is in accordance with the development of the 21st century (Jansen & van der Merwe, 2015). Based on the description above, it is necessary to identify the readiness, constraints, and strategy in the teaching practice in order to improve the quality of prospective teachers.

METHODS

This study is a qualitative research using the phenomenology approach, because it described the readiness of mathematics education students to conduct the teaching practice. The data were obtained through an open questionnaire to students from Indonesia and Malaysia. There are two main topics of open questionnaire, that are students' readiness and students' ability in the teaching practice. Students' readiness in the teaching practice covered the pedagogical competence, professional competence readiness, social competence readiness, personality competence readiness, and the quality of lesson plan. The students' ability in the teaching practice covered students' ability to conduct learning, handle constraints in guiding teaching practice students, prepare strategies in guiding teaching practice students, and suggestions related to the teaching practice implementation. The participants of this study were 23 students in seventh semester who implemented the teaching practice for 2 months. Data were analyzed using Bogdan & Biklen approach, through reducing data, categorizing the data into many themes and sub-themes, and then making conclusions as results.

RESULT AND DISCUSSION

Result

The information about the readiness of prospective teachers in carrying out teaching practice activities was obtained through a questionnaire addressed to school teachers as supervisors as well as the teaching practice students. The result of questionnaires related to the readiness of the teacher candidates was

reduced into several sub-themes, namely the readiness of teaching practice students, the students' ability at the teaching practices, the obstacles during the teaching practices, the strategies in guiding students, the development of the teaching practice students' skills, and suggestions for the future teaching practice implementation. Students' readiness was seen from readiness in pedagogical, professional, social, personality, and the lesson plans. Students' ability was seen from the ability to open and close the teaching and learning practices. The obstacles during the teaching practice were viewed from the teacher's point of view in guiding students as well as students' constraints during the teaching practices. The development of students' ability was seen from before and after the implementation of the teaching practice program. The results of the reduction of each sub-theme is presented as follows.

The Students' Readiness in the Teaching Practices

Pedagogical Competence

The students' readiness related to the pedagogical competence could be seen from the ability of the learning process management. The management included designing and implementing the learning process and understanding the learners. The preparation of learning consisted of making syllabus, lesson plans, and various learning media. The readiness of learning implementation included mastering learning methods or learning models, while understanding students included mastering students' characteristics. Table 1 shows that students' readiness of pedagogical competence of teaching practice had been good, especially those related to the lesson plannings. However, students still need to improve the learning implementation and to understand students' characteristics.

Table 1 is the result of data reduction related to the readiness of students' pedagogical competence from teacher's point of view. Table 2 also shows the same result but from students' point of view. In conclusion, students have developed the pedagogical competence, despite the classroom management and the material management still need to be improved.

Table 1. The Readiness of Students' Pedagogical Competence (Teachers' Point of View)

Student Pedagogical Competence	Sub Theme	Verification Result
Students' pedagogical competence had been good. Students always reviewed the syllabus, made and constructed lesson plan and learning media, and consulted the learning instruction to the supervisor.	Lesson plan	The readiness of students' pedagogical competence had been good (making lesson plan and constructing instructional media). Students needed to improve the learning implementation (the mastery of learning methods) and to understand pupils' characteristics better.
Students' pedagogical competence had been good, but it was lack in the implementation of learning aspect. Mastering the learning methods was needed to be improved.	Learning implementation	
The understanding of the pupils' characteristics was still lacking Mental readiness had been good.	Understanding students' characteristics	

Table 2. The Readiness of Students' Pedagogical Competence (Students' Point of View)

Student Pedagogical Competence	Sub Theme	Verification Result
Students had prepared learning instructions such as pupils' worksheet	Lesson plan	Students have acquired the pedagogical competence. However, they found difficulties in the classroom such as classroom management and materials management
Students have not ready yet. They only mastered few learning methods Students were still unable to manage the pupils in the classroom	Learning implementation	
Students had recognized pupils' characteristics	Understanding pupils' characteristics	

Professional Competence

The prospective teachers had to develop the professional competence. Professional competence is the ability of a teacher to understand and master the learning materials based on the competencies or the subjects. A teacher must understand the material that will be taught to students in order to create a profound learning process. Students' readiness on professional competence could be developed by deepening and expanding the understanding of the subject. The professional competence of teachers cannot be attained only by knowing what material they taught, but also know how the cause and effect of the subject material which being taught. Table 3 shows that the professional readiness of most students had been good, especially in mastering subject materials. However, students still need to improve their ability in practicing questions in order to make the learning process becomes more varied.

There are various ways that students can do to develop their professional competence, such as consulting learning instructions with mentors, studying, reading various references, and preparing a large set of questions. Table 4 shows that most students had been ready for professional competence. However, there were some students who had not yet understood the materials, references to varied questions, learning methods, and learning trajectories.

Social Competence

Not only pedagogical and professional competencies, the teaching practice students also required to have a good social competence. Teachers' social competence is teachers' ability to interact with students, other teachers, or communities. The development of social competence of teaching practice students related to how social attitudes response to the surrounding. Table 5 shows that the preparation of students' social competence in general had been very good. This is the evident from the interaction between students and school staffs.

Table 3. The Readiness of Students' Professional Competence (Teachers' Point of View)

Students Professional Competence	Sub Theme	Verification Result
Students had mastered the subject materials, but they still had to improve their ability in practicing questions	The mastery of subject materials	The readiness of students' professional competence has been good, but students also need to increase the variation of practice questions and how to solve them using the simplest way.
There were still lack of ways in solving the practice questions	Practice questions	

Table 4. The Readiness of Students' Professional Competence (Students' Point of View)

Students Professional Competence	Sub Theme	Verification Result
Students had been ready based on the result of consultation with the tutor. Students had been ready because they had studied before teaching the materials in the classroom. Students had been ready because they had read various references and prepared various questions.	Professional competence in general	Students' professional competence had been ready, but they still need to deepen the subject materials and references to create various practice questions.
Students were still lacking in practicing the varied questions	Practice questions	
The materials being taught were still not deep enough.	Deepening of matters	

Table 5. The Readiness of Students' Social Competence (Teachers' Point of View)

Students, Social Competency	Sub Theme	Verification Result
Students' social competence had been good. Students were able to socialize with students and school staffs. Students' social competence had been good. It could be seen from the social relationships among students in working together. Students' social competence had been good. Students were able to communicate with teachers before the implementation of the teaching practice and express the opinions using polite expressions.	Interaction with school staffs	Students' social competence had been very good. It could be seen from the interaction between students and school staffs.

Table 6. The Readiness of Students' Social Competence (Students' Point of View)

Students' Social Competence	Sub Theme	Verification Result
Students' social competence had been developed. Students were able to communicate with other students, friends, and school community. Teaching practice students had been ready and were also able to maintain communication with students and teachers. Students had been ready to adjust to the new environment by conducted 5S (*senyum, sapa, salam, sopan, dan santun*) during the teaching practice program.	Interaction with school staffs or community.	Students' social competence had been well prepared.

Table 7. The Readiness of Students' Personality Competence (Teachers' Point of View)

Students Personality Competence	Sub Theme	Verification Result
Students were good, polite, and able to act and talk like a real teacher. Students had tried to be humble, courteous, and friendly. Students had been already confident in front of the class	The attitude as a role model	Students' personality competence had been very good.

The results in Table 5 cannot be separated from the preparation of the students before the teaching practice program. Table 6 explains that there are various preparations made by students to improve the social competence, ranging from communicating with fellow students to the school community. In triggering the communication, students practiced 5S (*senyum, sapa, salam, sopan, dan santun*) during the teaching practice program. Thus, it can be concluded that students' social competence has been develop.

Personality Competence

Aside from social competence, there is a personality competency that must also be developed by teaching practice students. Social competence and personality competence are closely related to individual's character. Essentially, teacher's personality competence is related to the teacher's ability to become a role model for students in terms of steady personality, wise, having a noble character, and authoritative. Table 7 shows that students' personality competence had been very good.

The results in Table 7 are also supported by the results in Table 8. However, there were some students who had not ready, for example they were not confidence to appear in front of the class and also feel less assertive. To put into a nutshell, students' personality competence had developed.

The Quality of Lesson Plans

Lesson plan is a requirement for teachers or prospective teachers before conducting teaching and learning process in the classroom. A good lesson plan should be structured systematically, because it will be manifested in the class full of students. Lesson plan is also related to the process of composing the subject matters, the use of instructional media, the use of the learning approach/learning method/learning model, and the assessment in a considerable time to achieve the learning objectives. Basically, the lesson plan aims at implementing the more efficient and effective learning. Table 9 explains that the quality of the students' lesson plan had been good. However, students need to add some methods or learning models to be more varied.

In designing the lesson plan, there were some difficulties experienced by teaching practice students. The difficulties were related to the preparation of learning instructions, learning activities, the use of learning methods or learning models, and also time allocation. To overcome these problems, students also used various strategies. Table 10 shows various strategies to overcome the difficulties in preparing learning instructions and learning activities. Students also consulted learning instructions with the teacher. In terms of facing difficulties using learning methods or learning approaches, students tried to find learning methods or learning models which will help pupils understand the materials.

Student Ability in Teaching Practice

Students' Ability to Implement Learning

Teachers' ability related to the learning implementation could be seen from the classroom management, the mastery of learning materials, delivering materials, facilitating pupils' needs, asking questions and answering pupils' question, so do the preparations made by students before doing the teaching practice. Table 11 also shows that some students had mastered the class. In addition, students also had been good in mastering and delivering the materials, facilitating pupils' needs, asking questions and answering pupils' question. There was also the evident of the pupils' enthusiasm during learning season. Thus, it can be said that the ability of teaching practice students in implementing learning had been good, but they still need to improve classroom management skills.

It cannot be denied that there were still difficulties experienced by professional teachers in conducting teaching and learning in the classroom, so were the teaching practice students. The dominant problem experienced by most teaching practice students was related to the classroom management as illustrated in table 12, that the difficulty was in conditioning the classroom in order to be conducive as well as the difficulty in terms of how to draw pupils' attention to concentrate to the lesson. However, teaching practice students did not remain silent about the problems encountered, there were various strategies used to manage the classroom for example rebuking some pupils to make them focus on the lesson.

Table 8. The Readiness of Students' Personality Competence (Students' Point of View)

Students Personality Competence	Sub Theme	Verification Result
Students' personality competence had been ready. Students also tried to show a good personality. For some students, the personality competence had not been ready and mature yet, and also had lack of confidence. Students personality competence had not been ready and strict yet	The attitude as a role model	Students' personality competence had been very good. However, some students were a bit of unconfidence.

Table 9. The Readiness of Students' Lesson Plan

Readiness of Students Lesson Plan	Sub Theme	Verification Result
The quality of students' lesson plan has been good, although students found difficulties in preparing lesson plan at the beginning but in the end of the teaching and learning practice program the lesson plan had been good. Lesson plan made by students was in accordance to the steps of learning	Preparation of lesson plan	In general, the quality of students' lesson plans had been good, but students need to improve the variation of learning methods and learning models
Students' lesson plan has been good, but students need to improve using various methods or models of learning	The use of learning methods or learning models	

Table 10. The Difficulties in Preparing Learning Instruction and Its Solutions

The Difficulties	Sub Theme	Verification Result
Difficulty: developing learning activities which made students understand the materials. Strategy: consulting the learning activities to the experts	Developing learning activities	In general, students found difficulties in planning the learning instructions, especially in designing students' worksheet, preparing the materials, arranging the time allocation, and developing the lesson plan. However, there were various strategies which could be applied by students to overcome these problems.
Difficulty: determining learning models and learning methods which was suitable to the pupils' characteristics Strategies: searching and implementing the learning models to help pupils understand the materials	The use of learning methods or learning models	
Difficulty: the syntaxes had to be included in the lesson plan Strategies: consulting the problems with the teacher and checking the previous lesson plan Difficulty: developing students' worksheet Strategy: consulting the problems to teacher	The development of learning instructions	
Difficulties: time allocation and developed lesson plan Strategies: allocating the considerable time to develop lesson plans including the rubrics	Time allocation	

Table 11. The Data Reduction of Students' Ability in Conducting Teaching and Learning Process

Students' Ability	Sub Theme	Verification Result
Students were able to handle the classroom well. Students were still lacking in classroom management Students' ability in conducting teaching and learning process had been good and pupils were also enthusiastic	Classroom management	Students' ability in implementing learning process had been good, but they need to improve the ability in managing the classroom.
Students had been good in mastering and delivering the learning materials, facilitating students, and answering students' question.	Mastering and delivering materials	

Table 12. The Difficulties in Managing the Classroom and Its Solutions

The Difficulties and Its Solutions	Sub Theme	Verification Data
Difficulty: conditioning the pupils Strategies: changing the seating position, giving some time to be silent, grouping pupils based on their heterogeneity, giving pupils learning medias, increasing the volume when speak in the classroom, engaging pupils in classroom activities, approaching pupils Difficulty: driving pupils' attention Strategy: managing pupils	Classroom management	Most of students were unable to manage the classroom to be in a conducive situations and drive pupils' attention to the lesson. There were various strategies to manage the classroom, while to drive pupils' attention, teacher need to rebuke them.

Table 13. The Ability to Close the Learning Session

The Ability to Close the Learning Session	Sub Theme	Verification Result
Students were able to close the session well.	The ability to close the learning session	In general, students' ability in closing the learning session, had been good, but students also need to improve the time management, so they had enough time to reflect and conclude the lesson.
Students had been good in closing the session, and also conducting reflection and drawing conclusion	Doing reflection	
Students need to improve the ability in reflecting and emphasizing on the essential concepts, and evaluation.		
Students had not concluded the material yet	Drawing conclusion	

Table 14. Difficulties in Closing the Learning Session and Its Strategies

Difficulties and Strategies	Sub Themes	Verification Result
Difficulty: time management	Time management	In general, students found difficulties in closing and conducting follow-up learning. There were some strategies in coping the difficulties.
Strategy: giving assignment		
Difficulty: unable to draw conclusion	Drawing conclusion	
Strategy: giving stimulus, drawing conclusion, giving deadline, reviewing material		
Difficulty: students were not willing to do their assignment	Evaluation	
Strategy: reviewing materials that had been studied		
Difficulties: students were lazy in working and collecting homework		
Strategy: showing assertiveness		

Table 15. The Difficulty in Guiding Students

The Difficulties in Guiding Students	Sub Theme	Verification Result
The delay in submitting the lesson plan	Learning instruction	Most of teacher did not find any difficulties in guiding students, but most of them had not enough time to guide the students
Time limitation	Time	
No obstacle	No obstacle	

Students' Ability to Close the Learning Session

Another teachers' responsibility is to be able to close the learning session. The ability to close the learning session is related to the ability on reflecting and concluding learning materials. Students also equipped with such things. Table 13 shows the evident that in general students' ability in closing the learning session had been good. However, students still need to improve the time management, so that there was enough time to reflect and draw conclusions related to learning materials together with pupils.

Table 13 shows that students' ability to close the learning session had been good. In fact, professional teachers sometimes encountered the difficulties in closing the lesson. Table 14 shows that teaching practice students were still having difficulties in closing and following up the learning. The difficulties experienced by teaching practice students included time management, drawing conclusions, and evaluation. Basically, if the time management is good, then there will be enough time to draw conclusions with the pupils at the end of the lesson.

Constraints in Guiding Teaching Practice Students

The implementation of a well-prepared teaching practice was also inseparable from various problems. Some of the problems were related to the time allocation, so that students need to develop the ability of becoming prospective teachers. It was also found by the teachers as supervisors in guiding students. Table 15 shows that some teachers had no problem in guiding the students. However, some teachers still found difficulties due to time constraints to guide students. In addition, the delay in submitting the lesson plan was also a constraint for teachers to direct students during the process of teaching and learning activities in the classroom.

Teaching practice students also experienced some obstacles during teaching practice program. Table 16 shows that most teaching practice students experienced the dominant constraints associated with the learning equipment facilities, coordination, school policy, and culture. However, there are several strategies can be taken by students related to the problem.

Table 16. Students Difficulties during Teaching Practice

Students Difficulties during Teaching Practice	Sub Theme	Verification Result
Difficulty: projectors were not available in some classes Strategy: borrowing projector or not using projector Difficulties: supporting facilities in mathematics teaching and learning were not sufficient enough, such as ruler, and Cartesian coordinate board Strategy: conducting the learning using incomplete facility	School facilities	Most of students encountered some difficulties during teaching practice program in term of learning instruments, coordination and culture. There are various strategies to overcome these difficulties.
Difficulty: lack of coordination between students and schools Strategies: preparing and improving coordination with the schools Difficulty: being a substitute teacher and teaching immediately without enough preparation Strategy: borrowing teacher's handbook and a lesson plan as a guideline during teaching process Difficulty: lack of coordination between students and their own group. Strategies: revising and improving coordination among students.	Coordination	
Difficulty: incompatibility between school's policy and reality Strategy: adjusting to the reality	School Policy	
Difficulty: the differentiation of students' culture and background. Strategy: adjusting to the new environment	Culture	

Table 17. The Strategies in Guiding Students

Strategies in Guiding Students	Sub Theme	Verification Result
Coordinating before the teaching practice program was conducted	Coordination	Various strategies were used by teachers in guiding students
Conducting evaluation in the end of learning session and giving the advices in terms of the learning implementation	Evaluation	
Discussion-Practice and Observation-Discussion (D-P-D)	Method	

Table 18. Students' Development during Teaching Practice (Teachers' Point of View)

Students' Development	Sub Theme	Verification Result
The students' ability increased after involving in teaching practices than before. Students' personal competence, social competence, professional competence, and pedagogical competence had been good. In the end of the session, all competencies had been good.	General theme	Students' classroom management skills, ability in delivering materials, communication skills, self-confidence and teaching experience had improved.
Students' classroom management were getting better.	Classroom management	
Students' ability in delivering learning materials had improved	Delivering learning material	
Students' competences were getting better, in term of articulation and self-confidence	Communication	
The increasing of learning experience.	Teaching experience	

Strategy in Guiding Teaching Practice Students

Various problems in the teaching practice implementation required various strategies to cope them. The less harmonious relationship between the teacher and the student could be overcome with a better introduction in the initial stage, and also guidances and supports from the supervisor. Those methods could be used to overcome the problem. The problem of students' anxiety and the use of verbal or nonverbal language could be overcome by asking guidances or doing consultation before the implementation of learning. It was also conducted by teachers in guiding teaching practice students. Table 17 shows that there are various strategies used by the teachers to guide students, ranging from a pre-implementation guidance, an evaluation at each teaching and learning process, and to the used of D-P-D (Discussion-Practice-Discussion) methods.

Table 19. Students' Development during Teaching Practice (Students' Point of View)

Students' Development	Sub Theme	Verification Result
Students were more confidence and mature in encountering others people who had different characteristics.	Personality competence	The students' development focused on the personal competence, professional competence, social competence, and pedagogical competence.
Students were more fluent in using the formal language.	Social competence	
Students were more capable in managing the classroom	Pedagogical competence	
Students became ready in various conditions		
Students were better in managing the learning materials and became more professional	Professional competence	
Students' ability in designing lesson plans and teacher administrations improved		
Students knew better how to design lesson plans based on the right syntaxes and students' handbook		

Table 20. Teachers' Suggestion for the Improvement of Teaching Practice

Suggestion	Verification Data
Improving classroom management	The suggestions were improving classroom management, time management, social competence among teaching practice components, as well as the preparation in term of teaching practice provision and designing learning instructions.
Improving social competence between students, teachers, and lecturers	
Improving provision from the former university	
Improving time management	
Improving the ability in designing lesson plans	
Developing the teaching practice activities from the experiences	

The Development of Teaching Practice Students' Ability (Before-After)

The implementation of teaching practice is expected to increase the pedagogical, professional, social, and student competence. This can be seen from some teachers' statements regarding to the development of student's ability before and after participating in the teaching practice program in Table 18. Table 18 shows that all students had improved their ability including the improvement in managing the classroom, delivering learning materials, communicating skills, and attaining self- confidence.

In addition, teaching practice students also experienced the development of capabilities during the teaching practice program. Table 19 shows the development of students' abilities to develop all competencies that must be possessed by a professional teacher or a prospective teacher. The development of the perceived capability of students after participating the teaching practice activities included pedagogical competence, professional competence, social competence, and personality competence.

Suggestions Related to the Teaching Practice Implementation

There were some advices given by the teachers as supervisors, namely the improvement of classroom management, the optimization of time management, the improvement of social competence, the designed of learning instructions and teaching practice provisions in order to grasp a better results of teaching practices in the future. The result of data reduction related to suggestions from teachers for the improvement of teaching practice implementation in the future is presented in Table 20.

Discussion

The teaching practice program or known as *Praktik Pengalaman Lapangan* (PPL) conducted annually by a certain level of university students are considered as an opportunity for students to apply the theories that had been learnt (Azeem, 2011, p. 308). The teaching practice program is also a time for students to evaluate their own teaching experiences through interaction with teachers and lecturers, through

self-reflection, by applying various approaches, strategies and skills with a purpose to create a meaningful learning (Komba & Kira, 2013, p. 157). In addition, the teaching practice is also considered as an important thing to do, because the teaching practice program develops teaching experiences and prepares students to the real work (Msangya, Mkoma, & Yihuan, 2016, p. 113). The teaching practice program involves many aspects namely universities, schools, and students. In addition, the teaching practice program is started from the preparation to the evaluation for example advices from related parties. Ideally, the entire teaching practice process includes classroom observation, preparation of lesson plans, actual classroom teaching, discussion with supervisors, and teaching documentation (Komba & Kira, 2013). In details, some aspects that need to be considered in the implementation of teaching practice are the students' readiness in implementing teaching practice program, the ability of teaching practice students, the constraints in guiding teaching practice students, strategies in guiding teaching practice students, the development of teaching practice student skills before and after implementing the teaching practices, and suggestions related to the implementation of teaching practices provided by the teachers as supervisors of teaching practice students at the school.

From the teachers' perspective, the students' readiness in implementing teaching practice activities included the readiness of four competencies as follows, pedagogical competence, professional competence, social competence, personality competence, and the ability in designing lesson plans. The development of pedagogical competence of teaching practice students could be seen from designing learning preparation, conducting learning implementation, and understanding students' characteristics. In general, teachers in at school said that the students' development of pedagogical competence had been good in term of designing lesson plans and constructing instructional media. However, the ability to master learning methods and understanding the students' characteristics still need to be improved. Students also expressed the same conditions. Based on the aspects of learning preparation, learning implementation, and understanding students' characteristic, students' pedagogical competence had been ready, but the improvement in conditioning the classroom and managing materials were still needed. In term of the students' difficulties in

pedagogical issues, Ogonor & Badmus (2006, p. 1) stated that the pedagogical competence tends to have higher levels of difficulty than other competencies.

The second competence is the professional competence. Professional competence relates to the mastering of subject materials as well as the mastering of practice questions. One of the objectives of teaching practice implementation is to train teachers who have professional skills (Msangya et al., 2016, p. 113). Based on the results submitted by teachers as supervisors, the students' professional competence had been good, but students still need to experience various practice questions and how to solve them using simple methods. Students also showed the same opinions about the professional competence. Students' ability in solving the practice questions and deepening the materials had been good, but some students still need to deepen the learning materials and practice more practice questions. These evidences are in line with what Perry (Azeem, 2011) said that teaching practices provides an opportunity for students to develop specific knowledge according to their field.

Another competence to be considered is the social competence. Social competence related to the interaction among school communities. The interaction between students and schools' communities could be seen from communication or socialization before the learning conducted. In general, from teachers' perspective, the development of students' social competence had been very good especially in the interaction between students and school communities. Moreover, students' perspective also showed that the development of students' social competence had been very good. In conclusion, the social competence of teaching practice students was well developed.

The last competence that must be possessed by teaching practice students is the personality competence. Personality competence related to the attitude and character of teaching practice students. According to Msangya et al. (2016, p. 113), another goal of the implementation of teaching practice is to create teachers who have an attitude and ethics which suitable to the commitment of the profession. In teachers' point of view, teaching practice students already had the attitude as a role model. In general, the development of students' personality competence had been very good. Merryfield (Azeem, 2011) stated that teaching

practice provides an opportunity for students to show a good attitude by doing a good learning process. However, a slightly different result was presented from students' point of view on the development of personality competence. Some students had been ready enough, but some others have not yet, because they thought that they were still lack of confidence, less firm and do not have a mature personality.

The learning process cannot be separated from the development of lesson plans. It also needed to be considered in the implementation of teaching practices. Based on the observation from teachers' point of view, lesson plan could be seen from two aspects, namely the preparation of lesson plan and the use of learning methods or learning models. The lesson plan made by students was good, but the variations of learning methods or learning models was still needed. Although the lesson plan made by the teaching practice students has been confirmed good, in fact some students still found it difficult to design the lesson plan along with the strategy. Some difficulties encountered by students were the learning tools preparation, learning activities, the use of learning methods or learning models, and time management. Ogonor & Badmus (2006, p. 1) mentioned that one of the obstacles encountered during teaching practice is the pressure in time management. However, various learning difficulties could be overcome by students in various ways such as the preparation of learning tools and the preparation of learning activities, can be solved by consultating with teachers. In addition, the use of various learning methods and techniques could also overcome the problems in the teaching practice implementation (Azeem, 2011, p. 308). So that, it could be inferred that students still found difficulties in planning the lessons, especially in designing lessons activities, preparing learning tools of students' worksheet, preparing learning materials, allocating time, and preparing lesson plans.

Various preparations that had been done either by students or teachers were expected to achieve the better results. The successful implementation of teaching practices could not be separated from the students' ability at teaching practice which was the core activity of annual teaching practice program. Students' ability at teaching practices could be seen from two core aspects namely, the ability to conduct and close the teaching practices. The implementation of teaching practice also could be seen from how

students managing the classroom, mastering subject materials, and delivering subject material to pupils. In general, based on teachers' point if view, students' ability in conducting the learning had been good, but they need to improve the classroom management skill. Constraints in the classroom management was perceived by teaching practice students. Most students felt difficult to create a conducive classroom and attract pupils' attention to the lesson. However, teaching practice students also applied various strategies to manage the class-room and sometimes, to get pupils' attention they also admonished them.

The learning implementation could not be separated from the closing learning session. The ability of teaching practice students in closing the learning session was also seen from how to reflect, summarize, or draw conclusions. Based on the teachers' observation, the overall ability of students in closing the learning session had been good. However, some aspects still need to be fixed in the term of managing the time allocation, so there will be enough time for reflection and conclusions. Students' point of view also showed the same result. The closing of learning session was related to managing the time allocation, drawing conclusions, and evaluating the learning process. In general, students were still having difficulties in closing session and doing the follow-up learning. However, teaching practice students also conducted various strategies to overcome problems by giving assignment, giving stimulus, giving early learning conclusion, giving deadlines, or reviewing materials that had been studied.

The successful implementation of teaching practice did not only depend on teaching practice students, but also teachers as supervisors who provided guidances and directions for the students. Being a supervisor, the teacher also experienced various obstacles in guiding students in the teaching practice program. Some obstacles were related to the learning tools and time allocation. The delay in submitting learning tools or lesson plans became problems that some teachers had to encounter. Moreover, another obstacle was the limited time in providing guidance. However, most teachers as supervisors did not experience significant constraints in guiding teaching practice students. Some constraints encountered by teachers made teachers could not provide maximum guidance to teaching practice students (Ogonor & Badmus, 2006, p. 1).

Students also experienced their own matters related to learning facilities, coordination, school policy, and culture. Those matters were faced by most of the teaching practice students. The learning facilities constraints were also submitted by Ogonor & Badmus (2006, p. 1). However, in overcoming the constraints of limited facilities, students applied various strategies for example by using available facilities or borrowing facilities from other schools. The constraints in creating a good coordination was handled by refining and improving coordination either with other students or the schools, while constraints in school policy and cultural constraints could be overcome by adjusting students to the new environment.

Various matters encountered by teachers in guiding teaching practice students were addressed by several strategies namely coordination, evaluation, and applying methods. The strategy used in the coordination constraint was to guide students before teaching practice program implemented. The strategies used to overcome evaluation constraints were by conducting evaluation at the end of the teaching and learning activities and providing suggestions related to the learning implementation. The strategy used to overcome the problems in terms of methods was by carrying out discussion-practice-discussion (D-P-D). An effective interaction between students and teachers was supported by the opinion of Kelly & Tannehill (2012, p. 48) that during the teaching practice implementation, students are in an ideal position to get direction and discuss with teachers and lecturers as well as other colleagues in school.

The teaching practice program conducted by the university certainly has a goal to improve the ability of prospective teachers before they face reality and train them to become a professional teacher. It is all because the quality of an educator is directly proportional to the quality of education produced (Anthony & Walshaw, 2009, p. 150). Therefore, teaching practice students are expected to experience significant progress after the implementation of teaching practice program. The development of students' abilities was related to the classroom management, material delivery, communication, teaching experience, and general development. Based on the data, it was found that according to teachers' perspective, students' abilities had improved, such as in managing the classroom, delivering learning materials, communicating with colleagues and teachers, increasing

teaching experience, and becoming more confidence.

Students also experienced the development of their skills after involving in the teaching practice program. Their personal competence, social competence, pedagogical competence, and professional competence had developed. Students' self-confidence and attitude also enhanced. They were able to use Bahasa more fluent, manage the classroom with various conditions, manage learning materials, and design lesson plans. Brown & Brown (Azeem, 2011) also mentioned that teaching practice program gives students opportunities to improve their competencies for example student self-confidence.

Teaching practice program is one of the qualified teacher education programs which is expected to be developed in every implementation. It is because a teacher has an important role in the formation of one's future as the next generation (Msangya et al., 2016, p. 113). The success of teaching practice implementation can be achieved if there are evaluations and suggestions submitted for future improvement. Some suggestions are provided by teachers as supervisors including improving classroom management, time management, social competence among teaching practice components, as well as teaching practice preparation and learning instructions.

CONCLUSION

The teaching practice activity began with the students' development in pedagogical competence, professional competence, social competence, personality competence, and also the quality of the lesson plan. In general, based on observations by teachers, students' ability conducting the learning during teaching practice had been good, but students still need to improve in managing the classroom. During teaching practice program either teachers or students were facing problems. The constraints experienced by the teachers were related to the learning instructions and time allocations. The problems experienced by students were related to the learning equipment facilities, coordination, school policy, and culture. However, both students and teachers had their own various strategies in overcoming these obstacles. Thus, according to the teachers, during the teaching practice, students develop the ability of managing classroom, delivering materials, communicating, becoming more confidence and

improving teaching experience. The improving abilities were also percieved by students for example increasing confidence and becoming more mature in attitude, becoming more fluent in using Bahasa, mastering various condition, managing materials, and designing lesson plans.

REFERENCES

Akhmadeeva, L., Hindy, M., & Sparrey, C. J. (2013). Overcoming obstacles to implementing an outcome-based education model: Traditional versus transformational OBE. In *Proc. 2013 Canadian Engineering Education Association (CEEA13) Conf* (pp. 1–5). Montreal, QC.

Anthony, G., & Walshaw, M. (2009). Characteristics of effective teaching of mathematics: A view from the west. *Journal of Mathematics Education*, *2*(2), 147–164.

Asep, J., & Abdul, H. (2008). *Evaluasi pembelajaran*. Yogyakarta: Multi Pressindo.

Azeem, M. (2011). Problems of prospective teachers during teaching practice. *Academic Research International*, *1*(2), 308. Retrieved from www.savap.org.pk

Azhar, A. (2009). Kondisi LPTK sebagai pencetak guru yang profesional. *Jurnal Tabularasa*, *6*(1), 1–13. Retrieved from http://jurnal.unimed.ac.id/2012/index.php/tabularasa

Fatmawati, E. (2015). Kesiapan praktek pengalaman lapangan mahasiswa program studi pendidikan teknologi informasi dan komputer IKIP PGRI Pontianak. *Jurnal Pendidikan Informatika Dan Sains*, *4*(2), 207–219.

Jansen, C., & van der Merwe, P. (2015). Teaching practice in the 21st century: Emerging trends, challenges and opportunities. *Universal Journal of Educational Research*, *3*(3), 190–199. https://doi.org/10.13189/ujer.2015.030304

Juangsih, J. (2015). Peran LPTK dalam menghasilkan guru yang profesional. *WAHANA DIDAKTIKA*, *12*(2). Retrieved from http://www.univpgri-palembang.ac.id/e_jurnal/index.php/didaktika/article/view/91

Kelly, S., & Tannehill, D. (2012). The mentoring experiences of an Irish student teacher on his physical education teaching practicum. *Graduate Journal of Sport, Exercise & Physical Education Research Graduate Journal of Sport Graduate Journal of Sport, Exercise & Physical Education Research*, *1*(1), 47–64. Retrieved from https://www.worc.ac.uk/gjseper/documents/The_mentoring_experiences_of_an_Irish_student_teacher_on_his_physical_education_teaching_practicum_2012_1_47-64.pdf

Kiggundu, E., & Nayimuli, S. (2009). Teaching practice: A make or break phase for student teachers. *South African Journal of Education*, *29*, 345–358. Retrieved from http://sajournalofeducation.co.za/index.php/saje/article/viewFile/129/160

Komba, S. C., & Kira, E. S. (2013). The effectiveness of teaching practice in improving student teachers' teaching skills in Tanzania. *Journal of Education and Practice*, *4*(1), 157–163. Retrieved from http://www.iiste.org/Journals/index.php/JEP/article/view/4058

Mannathoko, M. C. (2013). Does teaching practice effectively prepare student-teachers to teach creative and performing arts? The case of Botswana. *International Journal of Higher Education*, *2*(2), 115. https://doi.org/10.5430/ijhe.v2n2p115

Menteri Riset Teknologi dan Pendidikan Tinggi Republik Indonesia. Peraturan Menteri Riset, Teknologi, Dan Pendidikan Tinggi Republik Indonesia nomor 55 tahun 2017 tentang standar pendidikan guru, Pub. L. No. 55, Peraturan Menteri (2017).

Msangya, B. W., Mkoma, S. L., & Yihuan, W. (2016). Teaching practice experience for undergraduate student teachers: A case study of the department of education at Sokoine University of Agriculture, Tanzania. *Journal of Education and Practice* , *7*(14), 113–118.

Ogonor, B. O., & Badmus, M. M. (2006). Reflective teaching practice among student teachers: The case in a tertiary institution in Nigeria. *Australian Journal of Teacher Education Australian Journal of Teacher Education Australian Journal of Teacher Education*, *31*(2), 1–11. https://doi.org/10.14221/ajte.2006v31n2.2

Presiden Republik Indonesia. Undang-undang nomor 14 tahun 2005 tentang guru dan dosen (2005). 14. Retrieved from http://www.sjdih.depkeu.go.id/fullText/2005/14TAHUN2005UU.htm

Sudin, A. (2017). Penilaian guru pamong terhadap kemampuan mahasiswa PPL dalam melaksanakan proses pembelajaran di SD. *Mimbar Sekolah Dasar*, *4*(1), 29–42. https://doi.org/10.23819/mimbar-sd.v4i1.5594

Uçar, M. Y. (2012). A case study of how teaching practice process takes place.

Educational Sciences: Theory & Practice, *12*(4), 2654–2659. Retrieved from www.edam.com.tr/estp

Wahyudi, T. N. (2016). Peran lembaga pendidikan tenaga kependidikan (LPTK) dalam mempromosikan guru pembelajar untuk meningkatkan profesional guru. In *Seminar Nasional Pendidikan*. Surakarta: Universitas Muhammadiyah Surakarta. Retrieved from https://publikasiilmiah.ums.ac.id/handle/11617/7275.