

NEED ASSESSMENT ON LEARNING TO TEACH IN EDUCATION 4.0 FOR THE 21st CENTURY STUDENTS' LEARNING IN ENGLISH CLASSROOM

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Abstract

Many studies have addressed the notion that students' achievement is encouraged by the effect of teachers' professional development. But translating professional development into students' achievement rarely involves the needs of students. Since there is no one method of need assessment on learning to teach that could fit all situations, picturing students' point of view of what an English teacher should have would contribute to the needs of teacher professional development. Therefore, this study attempted to reveal the essential issue on engineering students' perception towards the learning to teach in Education 4.0 that teacher should comply. A descriptive study with qualitative approach was conducted to describe and analyze the need of teacher professional development (TPD) for the students' learning in the 21st century from students' point of view. Validity and reliability test were conducted to the question items of interview and questioner before they were implemented to complete the objective of the study. The data collected which was gathered from 90 students as the population sample were analyzed using statistical analysis. Based on the finding, this current study clarifies that teacher professional development, especially for English teachers in occupying 21st century students' learning need to meet the competency of pedagogic, professional, personality, and social. The finding also showed that professional competence need to be better considered before teacher professional development. The result obtained in this study is expected to contribute to the existing literature on professional development of ELT teachers for engineering students and especially for the ESP ones.

Keywords: Learning to Teach, Teachers' Professional Development (TPD), Need Assessment, Education 4.0

INTRODUCTION

The present context of Industrial Revolution 4.0 has inspired the emergence of Education 4.0. Education 4.0 itself, which focuses on innovation and maximizes the use of technology application, conveys a new paradigm in education that demand teachers to change the way to teach, from the old style to the modern one. The demand is promoted because teaching and learning method in Education 4.0 are changing and developing faster due to the development of the technology. In addition to that, teachers need to be able to adapt to the condition in order to meet the need of students. Therefore, being professional teachers become an essential issue in this 21st century students' learning.

Over the past 14 years, Indonesian government has concerned in the effort to develop teachers' skills in education. The Act of Republic of Indonesia no 14 of 2005 pays special attention to the Indonesian education of professional teachers to possess four competencies that require professional education, expertise, skills, and skills that meet certain quality standards or norms, namely: professional competence, pedagogical competence, social competence, and personal competence. Various programs of government and non-government have been conducted as the effort to improve the teachers' professionalism. In these programs, teachers are required to be able to follow new innovations, improve teaching skill and knowledge, share ideas and experiences with their colleagues, and reflect on their performance through professional development programs. But how do these programs effect the educational improvement, especially for students' achievement? In this case, an assessment study is essential before planning teacher professional development programs.

Many studies such as Greenleaf et al. (2011), Heller et al. (2012), and Allen et al. (2011) showed that students' achievement is encouraged by the effect of teacher professional development. Greenleaf et al. claimed that California high school biology teachers who participated in professional development program of integrating academic literacy and biology instruction through a program called Reading Apprenticeship could improve student

science learning. Similar result is showed by Buczynski and Hansen (2010) that described how the 4th - 6th graders learned science through the use of science kits as the result of teachers' practices after participating in "constructivist, hands-on experiences". While Heller et al. (2012) found that incorporating role-playing as a part of teachers' strategy in implementing lessons with their peers contributed to the students' better understanding in learning. Technology-facilitated professional development program could also be effective in improving students' achievement (Allen et al., 2011). He found that program such as the online web-mediated coaching program could foster collaboration and improve early literacy outcomes for students. Although those studies show the wide range of professional and personal competencies of teachers, but translating professional development into students' achievement rarely involves the needs of students. Since there is no one method of need assessment on learning to teach that could fit all situations, picturing students' point of view of what a teacher should have would contribute to the needs of teacher professional development. Therefore, this study intends to investigate the learning to teach in Education 4.0 for the 21st students' learning in English classroom from the students' perspective.

LITERATURE REVIEW

Teachers Professional Development can be defined as a process of improving and increasing capabilities of teachers through access of education, training opportunities and advanced professional learning. It is a kind of substantive reform that requires a calculated initiative change that is coherently planned, organized, implemented, and which include related parties. In many ways the professional development is also linked to the design and implementation of education reforms that connect directly to the teachers as the subjects who play an important role in education, and to the students as the objects who receive the learning activities.

The Act of the Republic of Indonesia no 14 of 2005 which gives special attention to the Indonesian education professional teachers' competencies. The four competencies that the teachers

must possess are professional education, expertise, skills, and skills that meet certain quality standards or norms, namely: professional competence, pedagogic competence, social competence, and personal competence. Various programs of government and non-government have been conducted as the effort to improve the teachers' professionalism and this becomes the proof that Indonesian government has concerned in the effort to develop teachers' skills in education.

Whereas, the complexity of questions such as "whether professional learning change the way the teachers teach and the effect to what students learn" has become a debate in many studies and arisen pros and cons in the area of teacher professional development (Guskey, 2009). Douglas (2011) found that out of more than 1,300 studies, there are only nine of them show the empirical evidence on the effect of professional development on the students' achievement. This finding shows that there are also contradictions to the professional development programs conducted such as training, workshop, seminar, and other professional learning. The opponent of professional development mostly believe that many teacher professional development programs are: (1) not connected straightforwardly to the everyday practice of teaching, (2) unrelated to curriculum or to the specific instructional problems teachers face, and (3) usually implemented as one-shot event which have no continuation (DeMonte, 2013). They considered that many programs of teacher professional development did not touch the need of students in teaching and learning process.

Currently, however, the notion towards teacher professional development has greatly changed. Educators, stakeholders, and policymakers have come up with the notion that improving teaching practice or learning to teach does not come from long-time teaching, but by learning and improving upon the skills, competence, knowledge and strategies of teaching (Tucker, 2013). Teacher professional development programs provide ongoing opportunities for teachers to improve their knowledge and skills (Hayes, 2010) which could promote the students' achievement. Porche, Pallante, and Catherine Snow (2012), on their study, found that the students

of teachers participating in the Collaborative Language and Literacy Instruction Project (CLLIP) program showed greater learning gains than students whose teachers were not in the program. A similar result on the students' achievement was found previously by the investigation of Walpole, Sharon et. all (2010) into the relationship between several professional-development activities and specific teaching practices related to early-reading instruction. The result found that there was a relationship between what teachers had learned and how they taught in later time.

Although there are pros and cons on professional development programs to the effect of educational improvement, especially for the students' achievement, still it becomes one of essential process of performance improvements in education. High-quality in professional development programs is a fundamental element for better education (Guskey, 2002). Villegas-Reimers (2003, p.11) defines that professional development in a broad sense refers to the development of a person in his or her professional role. The professionalism develops as a result of gaining increased experience and examining teaching in a systematic way. Therefore, the result of teacher professional development must generate the three hierarchical levels: (1) teachers learn new knowledge and skills because of their participation; (2) teachers use what they have learned to improve teaching and leadership; and (3) students' learning and achievement increase because the teachers use their knowledge of professional development (Hayes, 2010). In the context of Education 4.0, the challenge is not only on the professional programs chosen but on how the professional programs could contribute to students' achievement, and meet the needs of the students' characteristic in this modern era. Because today's students are digital native who are very familiar with technology, teachers professional development must utilize technology and adjust the needs of students in the teaching and learning process. Therefore, assessment studies are essential before planning teacher professional development programs.

RESEARCH METHOD

This study used descriptive qualitative approach to investigate teachers professional development programs (TDP) that occupy the 21st century students' learning from students' point of view. Interview and questioner were implemented to complete the objective of the study. Validity and reliability test were conducted on the questions about what a teacher needs to possess and does in teaching and learning English before they were distributed to the students. The data collected which was gathered from 90 students as the population sample were analyzed into statistical analysis using SPSS16. The subjects which consisted of male and female engineering students with the ages range from 19 – 22 years were chosen randomly from 14 Study Programs. The data analysis was initially done by classifying 40 statements of question items into 4 (four) competencies. Then the values of the four components were extracted by using factor analysis of component matrix^a to reveal the essential issue on engineering students' perception toward the learning to teach in Education 4.0 that teacher should comply.

FINDINGS AND DISCUSSION

Teachers are the heart of the learning process. They are also believed to be professional agents of change in education. For that reason, teachers need to go beyond the classroom or workplace practice and come up with innovation in teaching and learning process. Teachers need to bring new set of competences that aligns with the 21st century students' learning. Therefore, teacher professional development programs need to be adjusted with the core of Education 4.0, which focuses on innovation and maximizes the use of technology. Professional development programs must also recognize the needs of students. The professional development should also be able to contribute to the teachers competency in their teaching and learning process.

Based on the result of interview and questionnaire, it was found that what a teacher should have in teaching and learning process could be pictured from students' point of view of competence that a teacher needs to possess. The competency itself

is an underlying characteristic of a person related to the effectiveness of individual performance in the workplace or at certain situation (Spencer, 1993). The data of questionnaire and interview on analysis factor using component Matrix^a showed that the 40 items of statements were classified into 4 classifications of competencies as follow:

Table 1. Classification Items of Statements

Classification	Number of Item
Pedagogical Competence	12
Professional Competence	10
Personality Competence	10
Social Competence	8

The data on the table above shows that there are 12 items of statement classified into Pedagogical Competence. The competence refers to educational, and teaching and learning issues that use pedagogical concepts of learning management. In relation to that, students demand teachers to have some abilities such as: preparing lecture and work practice, creating lesson plan, looking for reference books, preparing teaching materials, organizing good time management, be able to explain material systematically, using creative and inspirational teaching methods, using English or bilingual language for communication in class, be able to encourage students to participate in the lesson given, be able to direct discussion in class, and be able to engage students in creating an interesting classroom environment. Furthermore, the other 10 items were classified into Professional Competence related to adequate educational qualification, competency of related field for duty, communication skill and the role to improve the quality of education. This competence requires teachers to possess knowledge of the current issues related to the field of teaching, to possess basic knowledge of technical materials, to be able to use any information technology application, to be able to explain the correlation of the

material to industries or workplaces, to be able to communicate with students on their level, and to have professional certificates.

There were 10 items of statements classified into Personality Competence. The items of statements related with independence action and work ethic including the virtue of norms as an educator (Hakim, 2015). Students demand their teachers to have personality competence as well as having teaching confidence, empathy and compassion, awareness to give assistance, consistency in deciding rules, sense of humor, self-control, dedication and discipline, and ability to give positive influence. In term of Social Competence, base on the responses on the interview and questionnaire, engineering students expect their teachers to build good professional relation with students and be able to treat them without any discrimination, having tolerance to **diver** students, having achievement to help students improve their knowledge better, and having good communication and coordination inside and outside of the classroom. Those statements were classified into the same competence that teachers need to possess because this is correlated with social, emotional, cognitive and behavior needs for successful social adaptation in education.

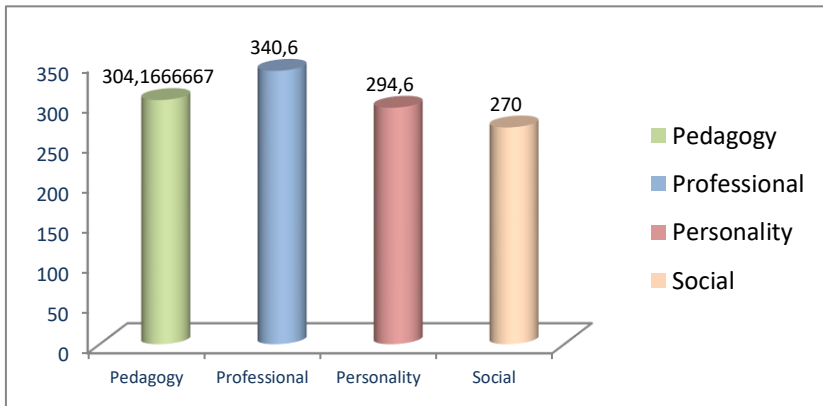


Figure 1. Classification of Teachers' Competency

Based on the average value of competence, the need assessment from students' perspective on teachers' professional developments, the teachers' competence is classified from the

highest to the lowest value: (1) Professional Competence, (2) Pedagogical Competence, (3) Personality Competence, and (4) Social Competence. Figure 1 shows that Professional Competence has the highest value at 340.6. This means, students expect teachers to have professional competence more than the other three competences.

Professional competence that teachers need to possess reflects the needs of adequate educational qualification which was shown on the items of questionnaire and interview questions in that whether teachers need to have professional certificates or not. The competence of related field of duty was shown by the questions “whether teachers need to possess knowledge of the current issues related to the field of teaching, knowledge of the subject matter, basic knowledge of technical materials, ability to explain the correlation between the material and the industries or workplaces, and give relevant example of the concept taught”. Professional competence that teachers need to possess reflects the needs of communication skill which was shown by the question “whether teachers are able to communicate with students base on their level and have deep discussion on a specific case”. And the needs of the role to improve the quality of education in the 21st century students’ learning was shown by the question item “whether teachers are always open to the changes and be able to use any information on technology application.

Based on the explanation above, need assessment on learning to teach from students’ perspective revealed that teachers and educational stakeholders need to have significant consideration on professional competence before selecting or conducting teacher professional development programs. In other words, teacher professional developments that occupy the 21st century students’ learning must focus more on Professional Competence. This is in line with Trilling and Fadel (2009) who state that the 21st century learning focuses on the formation of an ICT-based digital lifestyle, learning ability and innovation, and development of life skills. They clarified that the learning done by the teachers must be oriented to the development of four core skills: critical thinking and problem-

solving skill, communication skill, collaboration skill, and creativity (the ability to create new things). Regulation of the Minister of National Education No. 16. 2007, also clarifies that professional competence would allow a teacher to do reflective action because this contributes to the measurement of the shortcomings and weaknesses of the corrective action. Indicators used to measure the level of professional competence also includes understanding of the teaching materials, appropriate curriculum, understanding on the concepts and linkages of other sciences, as well as mastering the steps in the research and critical analysis to explore teaching materials (Hakim, 2015).

In the context of Education 4.0, the development of technology plays an essential role in the implementation of educational process. The implementation of blended learning in teaching and learning process, digital library with computer connected to internet, daring curriculum, equipped classrooms with ICT tools, and paperless educational administrative have become encouraging factors on how teachers could adapt to technology in Education 4.0. As platform and application become more widely available, understanding on how to integrate this technology into learning environments in the most effective way has become the primary concern of the teachers and policymakers as it is a difficult task to achieve (Markovac, Bakić-Tomić, & Mateljan, 2007). This new learning environment demands new teaching and learning skills accompanied by innovation and maximization the use of technology. Teachers need to be ready to all changes because they are part of educational process who play an essential role in transforming students to be better in developing their knowledge, skill, and attitude to prepare their life in the future. In this case, teachers are expected to take up as many opportunities as possible to develop their professional competence with the recent technological advancement and digitalization that could develop the 21st century students' competencies.

IMPLICATIONS AND CONCLUSION

An assessment study is essential before planning teacher professional development programs. Since there is no one method

of need assessment on learning to teach that could fit all situations, picturing students' point of view of what a teacher should have would contribute to the needs of teacher professional development. The professional development should be able to contribute to teachers' competence in their teaching and learning process. Professional development programs must also accommodate the needs of students.

Based on the result of the current study, need assessment on learning to teach from students' perspective revealed that teachers and educational stakeholders need to have significant consideration on teachers' professional competence before selecting or conducting teacher professional development programs. According to the students' perspective, the priority of teacher professional development programs should first target the area of Professional Competence then followed by other competencies – Pedagogical Competence, Personality Competence, and Social Competence. In other words, teacher professional development that occupy the 21st century students' learning must focus on Professional Competence, that is the competence that relate with adequate educational qualification, competence of related field of duty, communication skill, and role to improve the quality of education. Finally, base on the result obtained, it is expected that this study could contribute to institution and related parties, especially English teachers in considering the teacher professional development programs conducted or selected to meet teachers' professionalism.

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