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Doi: <https://doi.org/0.22236/ie.v1i1.113>

English Pre-Service Teachers' Perception of the Use of Just-in-Time Teaching Method in ELT and Instructional Media Learning Context

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ABSTRACT

This small-scale research investigated the English pre-service teachers' perception of the use of Just-in-Time Teaching method (2 times trial) as the potential way to stimulate English Pre-Service Teachers' learning Engagement; in this context their activeness and motivation when learning the materials about English Language Teaching (ELT) theory and Instructional Media. Just-in-Time Teaching (JiT) method is a method that was pioneered for the first time by Novak, Gavrinn, Patterson, and Christian (1990) using feedback loop system between the use of web based technology (online) outside the classroom and teaching in the inside classroom. This research took 35 respondents of English pre-service teachers using the close-ended questionnaire (quantitative) and added with open-ended questionnaire (qualitative). The question of this research is: Does Just-in-Time Teaching or JiTT Method stimulate English Pre-Service Teachers' ELT and Instructional Media learning engagement, particularly their activeness and motivation? The result showed there were positive experiences from English pre-service teachers in the 2 times trial of the use JiTT method. They felt more active, and got a lot motivation after they learned some materials of English Language Teaching theory and Instructional Media using this method. The English Pre-Service Teachers' perception towards JiTT method may open the opportunity to apply this method continuously that can support them with better concept of theory and practice of ELT and instructional media context for teaching their students in future.

Keywords: Teacher perception, Just in time, ELT

INTRODUCTION

Pre-service teachers or also called by students' teachers or teacher candidates are known as undergraduate students who are undertaking course in pedagogy, content specialty, or technology but they have not yet entered the teaching activities (See Cohan & Honigsfeld, 2011; Kafyulilo, 2012). At this stage, pre-service teachers are still in progress to learn everything they need to support their future teacher profession. In the context of English Language Teaching (ELT), being a good English teacher can be very hard and complicated. The English teacher's candidate must know the standard for teaching English for their students. They need to master not just on the English content or subject matter knowledge, but also they need to comprehend the English teaching skills (See Richards, 2007). What it means by English content or subject matter knowledge is how the English teacher's candidate masters the concepts and disciplines of English (skills, discourse, linguistics, pedagogy relevant materials, and etc). Meanwhile, English teaching skills are more on understanding the ELT theory, method, strategy, Instructional media, and etc that will support their teaching performance. Thus, English pre-service teachers must aware for having and achieving those English teaching standards.

In the case of Indonesia English pre-service teachers, they may have no trouble with the English content or subject matter knowledge, but in the area of English teaching skills (ELT theory, method, strategy, instructional media, and etc), they may get problems of it. Indonesia English pre-service teachers are going to teach English as foreign language for their students, either at primary or secondary school, so they need to prepare, to acquire, to use the best teaching technique, method, strategy, and media for teaching their future pupils. However, to make English pre-service teachers understand and master the English Language Teaching (ELT) theory, method, strategy, instructional media, and etc is surely not easy. They often feel bored or not interested much due to the lots of theory and concept they need to learn. Moreover, commonly, they are passive, and they really depend on the teachers or lecturer (See Meyer, 2014). It is difficult to create "a learning engagement; activeness and motivation" for Indonesia English pre-service teachers. This issue is crucial, and it needs to be highlighted.

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Therefore, this study explores the English pre-Service teachers' perception of the use of Just-in-Time Teaching method to create their learning engagement (activeness and motivation). The researchers state question; Does Just-in-Time Teaching or JiTT Method stimulate English Pre-Service Teachers' ELT and Instructional Media learning engagement, particularly their activeness and motivation? This research can reveal whether or not JiTT method is positive to boost English Pre-Service Teachers' learning Engagement known from their perception.

Literature Review

What it means by a learning engagement; activeness and motivation is a synergic interaction between those variables which create the engaging learning, in this case when learners are seen involving a lot into the learning activities, they use active thoughts towards materials given by the teacher or lecturer as one as gaining learners' motivation or known as changing the interest of students (internal and external), expectations, and values to be achieved by learners (See Matshusita, 2017). Students' learning engagement is a term that closely related to activeness and motivation. (Fredericks, Blumenfeld, & Paris, 2004) tend to call the involvement of students with the concept of "school engagement" which has three specifications, known as behavioral engagement, emotional engagement, and cognitive engagement. The activeness can be seen from the learner's behavioral engagement (participate or be actively involved in the learning given, such as following rules, concentration, attention, effort to engage in discussions, or want to ask questions) and learner's cognitive engagement (solving problems, understanding complex knowledge, or mastering the skills taught). Meanwhile, motivation can be seen in learner's emotional engagement (the psychological side where students react positively and negatively to learning, such as being interested, bored, anxious, happy, like, or sad). Christenson, Reschly, and Wylie (2012) asserted that motivation is the outward manifestation; a display of active involvement of students when participating in a lesson. The main point of pushing Indonesia English pre-service teachers' learning engagement; their activeness and motivation is to make them to be interested or taking part related to materials. Shernoff (2013) explained that students can be said to be actively involved if students are given the opportunity and time to complete a task, they concentrate on the quality of their work, they are committed, participatory, and influence the values they want to achieve. Of course, the main goal of creating, in this case Indonesia English pre-service teachers' learning engagement; their activeness and motivation is to support them to achieve the standards and goal of learning that they need and expected to have; in this context mastering the English Language Teaching (ELT) theory, method, strategy, instructional media, and etc. Hence, there must be a proper way to solve this learning engagement issue.

One of method that may help Indonesia English pre-service teachers to boost their ELT theory, method, strategy, instructional media, and etc learning engagement; activeness and motivation is the implementation of Just-in-Time Teaching (JiTT) method. Today is the rise of technology era of information communication and technology (ICT) or even tend to move to what it is called by the disruption era or often noticed by Industry revolution 4.0. Indonesia English pre-service teachers can be taught to use Just-in-Time Teaching method as parts of their ELT theory, method, strategy, and instructional media learning. Just-in-Time Teaching (JiTT) method is a method that was pioneered for the first time by Novak, Gavrin, Patterson, and Christian in 1990 to teach physics using feedback loop system between the use of web based technology (online) outside the classroom and teaching in the inside classroom (face to face) (Marrs & Novak, 2004). The idea is simple by asking students to do tasks (utilizing website) that must be learned, done, and collected several hours before class starts (just in time), to then be assessed and examined by the teacher (Cookman, Mandel, & Lyons, 2006).

Gravin (2007) pointed out that by applying the web-based technology, students could be very well-prepared to learn the material that are going to be delivered by teachers in class, and it can make them actively involved in learning (by reading the materials first, identifying themes, and answering questions) before entering the classroom. Simkins and Maier (2010) added that the concept of JiTT method can make the students do warm-up learning (outside the classroom) towards material and course that will be given as well as make them to practice by themselves first (formative assessment given inside the web), while in the classroom, the focus of the teacher or lecturer is easier to just do the analysis of student learning outcomes on the web learning (reinforcement). Therefore, the JiTT method can provide great benefits to the achievement of learning objectives because the provision of learning material is done not only in the classroom, but student learning is also carried out in classroom activities by accessing material and answering online exercises determined by the teacher or lecturer.

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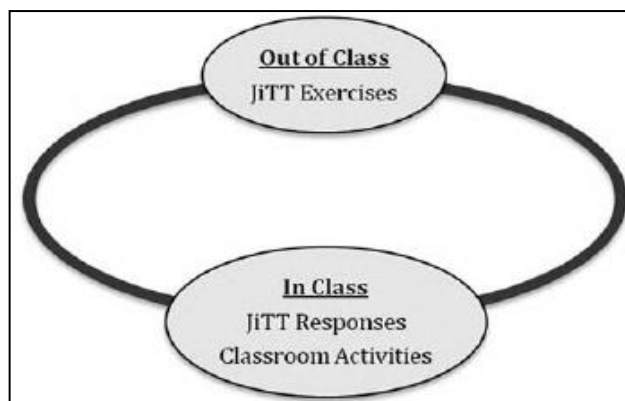


Figure 1. by Marrs and Novak (2004)

Many literatures have pointed out the advantages of implementing the Just-in-Time Teaching method such as Odums (2014) who conducted an experimental comparison of research methods between Just-in-time teaching and conventional methods. His research focused on critical assessment in the field of business science in Nigeria. Wanner (2015) examined students' engagement using the Just-in-time teaching method collaborated with the use of PowerPoint software in the field of educational technology in Australia. In the area of education specifically related to teaching English, research using the Just-in-Time Teaching method had been done by Abreu and Stephanie (2014) with a focus on research on foreign language studies of higher education. Then, Chantoem and Rattanavich (2016) who studied the Just-in-Time Teaching method for Thai vocational students to improve reading and writing skills. While in Indonesia, research with the use of Just-in-Time Teaching method have not been done much, such as from Wati, Maridi and Ramli (2017) who explored JiTT method in Biology education area. Especially in English language research, ELT, or instructional media, it is still rare.

RESEARCH METHOD

This study was conducted in Private University of Muhammadiyah Prof. Dr. Hamka, Jakarta, and the researchers used small scale participants which selected and took 1 classes of ELT theory and Instructional media courses (4th semester on 2017/2018 Academic Year) with total 35 respondents. The researchers used close-ended questioners' instrument by Likert's ordinal scale from 1= Strongly disagree (SD), 2= Disagree (D), 3= Neither agree nor disagree (Neutral /N), 4= Agree (A), and 5= Strongly agree (SA), and added by open-ended questioners; instrument. The result of close-ended questioner lead to quantitative measurement needed to recap the participants' respond, meanwhile open-ended questioner lead to qualitative description. These instruments were adapted, developed, and modified based on Cookman, Mandel, and Lyons (2006) questionnaires that suit to find the English Pre-Service Teachers' perception of the use of Just-in-Time Teaching method in ELT and Instructional Media learning at class.

For the procedures, researchers first asked the English pre-service teachers to study about ELT theory and Instructional media using Just-in-Time Teaching method (experiencing learning using JiTT method only for 2 meetings). The materials, the practice, and the formative assessment were given in website, thus English pre-service teachers can study it by themselves first (at night before meeting held). Next in the class, the lecturer did check, analyzed, discussed towards ELT theory and Instructional media materials they have learned. After all activities had been done, the English pre-service teachers were given open-ended and close-ended questioners' instrument to figure out their perception towards JiTT method and students' learning engagement of activeness and motivation.

RESULTS AND DISCUSSION

In this section, the data of questioners were showed first as results of this study, and then the discussion were elaborated afterwards.

English pre-service teachers' perception of JiTT method and its impact to their learning engagement; activeness.

Table 1: The Close Questioner of JiTT Method and Students' Activeness

Questions	\bar{X}	SA	A	N	D	SD
Students' learning engagement; activeness after experiencing JiTT method (Outside - Inside Class Activities)						
1. I always read ELT Theory and Instructional media material presented on the website before the lecture begins.	4.4	14 (40%)	21 (60%)	0 (0%)	0 (0%)	0 (0%)
2. I can understand every material on the website quickly and easily.	4.3	9 (26%)	26 (74%)	0 (0%)	0 (0%)	0 (0%)
3. I become more prepare for material that will be studied with the help of the website.	4.5	16 (46%)	19 (54%)	0 (0%)	0 (0%)	0 (0%)
4. If there is material that is poorly understood, I immediately ask in the website comments column.	4.5	19 (54%)	16 (46%)	0 (0%)	0 (0%)	0 (0%)
5. I follow and do the formative assessment on the website.	4.8	27 (77%)	8 (23)	0 (0%)	0 (0%)	0 (0%)
6. When I was in class, I focused on listening and paying attention to the lecturers' explanations regarding the material being studied.	4.5	19 (54%)	16 (46%)	0 (0%)	0 (0%)	0 (0%)
7. I feel active and responsive by asking the lecturer regarding material that I still not understand.	3.5	7 (20%)	21 (60%)	6 (17%)	1 (3%)	0 (0%)
8. I also try to actively discuss with friends related to the material being studied.	4.4	15 (43%)	20 (57%)	0 (0%)	0 (0%)	0 (0%)
9. While discussion session, I am able to provide an argument or explanation regarding the material being studied.	4.1	7 (20%)	26 (74%)	2 (6%)	0 (0%)	0 (0%)
10. I feel more concentrated and fully involved in the discussion about the material in class.	4.4	13 (37%)	22 (63%)	0 (0%)	0 (0%)	0 (0%)
Total		146 41%	195 56%	8 2%	1 1%	0 0%

Based on 10 items shown from the table 4.1 above, it can be seen that there were total 341 responds or 97% students who confirmed strongly agree (146 responds or 42%) and agree (195 responds or 56%) about becoming more active and involved when learning ELT theory and instructional media through JiTT method. Meanwhile, it was only found small number of students who responded neutral (8 responds or 2%) and disagree (1 respond or 1%) from the questioner given. Below is the visualization of English pre-service students' average score from item number 1 up to 10 that showed their responses after experiencing JiTT method (2 times trial):

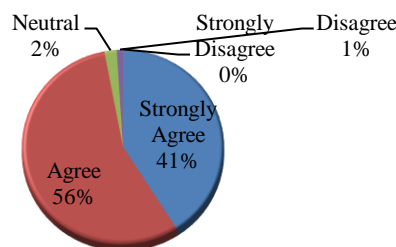


Figure 2. The Average Score of JiTT Method and Students' Activeness

English pre-service teachers' perception of JiTT method and its impact to their learning engagement; motivation.

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Table 2: The Close Questioner of JiTT Method and Students' Motivation

Questions	\bar{X}	SA	A	N	D	SD
Students' learning engagement: motivation after experiencing JiTT method Outside - Inside Class Activities						
1. JiTT method motivates me to read ELT theory and Instructional media material before the meeting.	4.7	23 (66%)	12 (34%)	0 (0%)	0 (0%)	0 (0%)
2. JiTT methods helps me to be able to study independently.	4.7	26 (74%)	9 (26%)	0 (0%)	0 (0%)	0 (0%)
3. With the obligation to do the formative assessment on website, I become more ready in learning.	4.9	33 (94%)	2 (6%)	0 (0%)	0 (0%)	0 (0%)
4. The JiTT method adds my motivation and enthusiasm, such as asking material that is quite difficult to understand in website comment column.	4.4	15 (43%)	20 (57%)	0 (0%)	0 (0%)	0 (0%)
5. I like and enjoy the JiTT learning method applied in class.	4.8	28 (80%)	7 (20%)	0 (0%)	0 (0%)	0 (0%)
6. The JiTT method adds motivation and enthusiasm while question-answer session with lecturer in class.	3.9	7 (20%)	27 (77%)	1 (3%)	0 (0%)	0 (0%)
7. The JiTT method adds motivation and enthusiasm for me to discuss with friends when studying in class.	4.3	17 (48%)	16 (46%)	2 (6%)	0 (0%)	0 (0%)
8. The JiTT method isn't bore me when applied in class.	4.3	30 (86%)	5 (14%)	0 (0%)	0 (0%)	0 (0%)
9. I became more serious about studying ELT theory and Instructional media material in class.	3.3	9 (26%)	26 (74%)	0 (0%)	0 (0%)	0 (0%)
10. I fully concentrate while following the learning process in class.	3.7	5 (14%)	20 (57%)	9 (26%)	1 (3%)	0 (0%)
Total		193 55%	144 41%	12 3%	1 1%	0 0%

Based on 10 items shown from the table 4.2 above, it can be seen that there were total 338 responds or 96% students who confirmed strongly agree (193 responds or 55%) and agree (144 responds or 41%) about becoming more motivated in learning ELT theory and instructional media using JiTT method. Again, it was also found small number of students who responded neutral (12 responds or 3%) and disagree (1 respond or 1%) from the questioner given. Below is the visualization of English pre-service students' average score from item number 11 up to 20 that showed their responses after experiencing JiTT method (2 times trial):

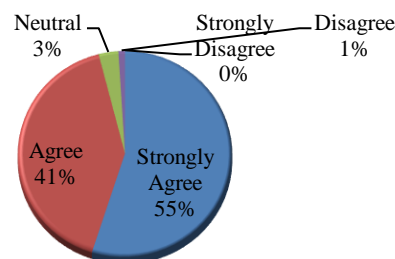


Figure 3. The Average Score of JiTT Method and Students' Motivation

From 2 result points above (a) and (b), it can be known that English pre-service teachers truly felt active and motivated in learning ELT theory and instructional media using JiTT method (2 times trial). To strengthen and validate the results from previous close-ended questioner, researchers gave deeper question (open-ended) to the respondents (two samples) as follows:

Table 3: The Open Questioner of JiTT Method and Students' Learning Engagements

Question	Answer
<p>1. Give your feedback regarding to the use of the Just-in-Time Teaching (JiTT) method in class! Do you feel more active and motivated to learn ELT theory and instructional media? Elaborate the reason!</p>	<p>- Respondent 1: <i>I feel so happy. I can learn more active at home because the method encourages me to study at home through the website first. Exciting, new experience.</i></p> <p>- Respondent 2: <i>This method is good. I am motivated to learn, I have a better preparation. At home, I read the materials on website first, then working on the questions, and discussed the next day in class.</i></p>

Based on the 2 respondents shown from table 4.3 above, it can be known that English pre-service teachers stated positively when they were asked about their experiences using JiTT method in learning ELT theory and instructional media. Respondent 1 clearly stated their happiness and excited feeling, and Respondent 2 evidently confirmed about the motivation rising in learning ELT theory and instructional media through JiTT method.

Discussion

Due to the findings of the study presented previously, it can be proved that the 35 respondents of English pre-service teachers indeed confirmed that the use of JiTT method in learning ELT theory and instructional media stimulates their learning engagement: activeness and motivation known from 97% and 96% students who responded strongly agree and agree in the close-ended questioner (no.1-20). The researchers believed that this positive experiences are based on the concept of Just-in-Time Teaching Method which combines the outside and inside activities, especially the use of website (online learning) that ease students to learn individually without any border. Cole (2001:66) strongly stated that web based technology has a significant and dominant role in the field of pedagogy or education in this century.

Besides, JiTT method gives opportunity for the students to prepare themselves of ELT and instructional media materials that they will study in classroom. Simkins dan Maier (2010:7-8) highlighted 5 benefits for studying using JiTT method: 1) Preparing for a discussion of a complex, possibly controversial topic (Discussion Preparation), 2) Getting beyond memorization (Applying Concepts), 3) Reconstructing ideas and concepts (Personalizing Knowledge), 4) Developing a need to know (Building Curiosity), and 5) Reflecting on their learning (Developing Metacognition). This 5 benefits are truly experienced by respondents of this research from their questioner's responds.

Lastly, JiTT method provides continuous English pre-service teachers' learning engagement: highly active and motivated. As it is proved and supported from Cookman, Mandel, and Lyons, (2006:15) who concluded students cannot postpone the reading and learning until the night before a high-stakes exam. It makes them to stimulate themselves to read, to answer formative questions which lead to encourage the cognitive skills as one as creating motivation and engagement. To sum up, it can be claimed that all experts and studies mentioned above had supported about JiTT method that can stimulate English pre-service teachers' learning engagement: in this case, their activeness and motivation.

CONCLUSIONS

The findings of this study support the idea that JiTT method can create benefits to English pre-service teachers' learning engagement: mainly, their activeness and motivation. By experiencing only 2 meetings of using JiTT method and conducted in small-scale area, the respondents can give positive perception toward the use of JiTT method and its relation to stimulate ELT theory and instructional media learning engagement; activeness and motivation.

As this study is very limited to a certain institution, it is highly recommended for other researchers who might interest in exploring JiTT method preferably in area of English as Foreign Language (EFL) Research at any levels. Also, the further study might discover the impact of JiTT method not only to confirm with learning engagement: activeness or motivation issue (by using questioner), but also it can be treated and compared fully by using quasi-experimental design, thus its advantages can be known

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more detail. Last, the results of this research hopefully can be a good reference to enrich the results and evidence for other researches in the other field of study.

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