# Enhancing the Effectiveness of Online Tutorial for Economics Education Final Assignment to Improve Student Mastery

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Subtheme
Research and Innovative ODL Practices in Student Learning Support

Universitas Terbuka (UT), higher education institution in Indonesia fully implemented distance education system, provides online tutorial (tuton) for Final Project Course (FPC) in Economics Education Program (EEP) to improve learning quality of its student who had almost completed the Program. Materials for tuton were parts of those written in the modules and the tuton developed according to the needs of students in order to master the course. To improve the effectiveness of the FPC's tuton, it is necessary to improve the tuton implementation so that students could gain positive results. To achieve this objective, this study was conducted to identify barriers to student participation in the FPC's tuton as well as to evaluate relationship between students' activities in FPC EEP's tuton with student mastery of the materials as reflected in the students' final scores. Results from the study are expected to enrich learning theory, especially with regard to the provision of learning support in distance education system. Subjects in this study were 38 out of 41 registered-students in the FPC's tuton in the first semester of 2013. This study employed document study and survey. In general, factors that support students engagement in the FPC's tuton are easy access to computers and the Internet, familiarity with computers and the Internet, understanding the benefits of technology in learning process, and ability as well as willingness to implement self-study. On the other hand, respondents voiced barriers associated with their limited activities in the FPC's tuton which include limited access to the Internet, low perception of the roles of media in learning process, limited time, as well as limited ability to operate computers and the Internet. Statistically, only quality of assignment uploaded has a relatively high correlation with  final score  (P=0.76).  Other correlation fall below 0.50 in Pearson correlation score. Pearson correlation between students' final score with number of days' log-in, opening initial materials, quality in discussions were 0.36; 0.47; 0.44 respectively.  Correlation between initiation materials looked-at with  number and quality of discussions enganged were 0,47 and 0,44.  Base on these findings, it is reccomended that some discussions should be replaced by assignment.  It is also reccomended to provide easy access to computer and the Internet and familiarity students with the use of computers and the Internet.  In addition, it is also reccomended to enhancing the tuton by complying materials in the tuton with materials in the modules and increasing congruency of topics in discussion with materials on the modules.

Keywords:  Economics Education Program, learning support, online tutorial, Universitas Terbuka

## 1. Background

Students' learning outcomes for Final Project (FP) Course in Economic Education Program (EEP) at Universitas Terbuka (UT)  is relatively low as reflected in the low GPA, which revolves around the value of two.  Just enough to meet the minimum requirements to graduate (UT Catalog 2014). This low GPA, although qualified for graduate, shows the

limited competence of graduates. In other words, graduates have only a minimal competence in performing the role of economic education teacher. From a teacher who only has minimum competency, it is hard to expect optimal learning process. In other words, lack of teacher's competence will in turn affect student learning outcomes.

As distance education institution, UT uses media to facilitate learning process. Printed learning materials, known as modules, are used as primary means to deliver learning materials. To improve the quality of students, since the first semester of 2010, UT provides learning facilities in the form of on-line tutorial (tuton). Tuton is expected to improve the quality of student learning. One of tuton provided is for FP course. Students eligible for the FP course are those who have completed a minimum of (N-19) course credits with a GPA of at least 2. The tuton takes eight weeks to complete. Data showed that the majority of students (69%) loged-in less than 17 days during the tuton period reflecting that, in average, students loged-in 2 days per week. During logs-in, students are expected to download the initiation material to be learned and mastered as well as to post on discussion forums in accordance with the discussion topics that had been prepared by tutors. Discussions are replacements for interaction between students as well as between students and tutors.
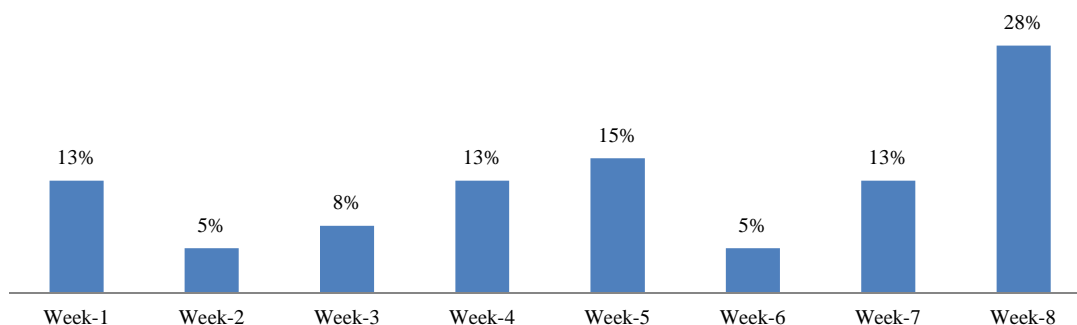


Fig. 1. Distribution of Respondents based on Their Total Log in in EEP Tuton (N=41)

Active engagement in tuton are expected to escalate students performance because of some reasons such as, among other things, flexibility, less expensive than face-to-face learning, and easy for tutors to update and revise the material (Hopey & Ginsburg, 1996; Kilian, 1997; Owston, 1997). Nevertheless, online learning also has constraints derived from situation, epistemology, psychology, pedagogy, technical, and cultural aspects (Espinoza, et. al., 1996; Garland, 1993; Galusha, Kaye & Rumble, 1991; Lewis and Romiszowski, 1996; Sherritt, 1992; Sherry, 1996; Shklanaka, 1990; Spodick, 1996). Details of each aspect are elaborated in Table 1. Constraints in online learning could only a result of one aspect or combination of several aspects.

Aware of the existence of these constraints and obstacles students may face during their tuton activities, UT has included certain approaches to make sure that students could get full benefit from the tuton. These approaches include providing initiation materials either materials from the modules and/or aditional material where students could enrich their readings, discussions where students are given opportunities to exercise their mastery by

expressing their analysis on certain topics, and assignments where students could be assessed of their mastery of the learning materials. To some extend, the assignments are developed using students' real-life contexts and experiences in accordance with Learning Theory that suggests that learning is promoted or enhanced in when these two conditions are involved in the learning process (Driscoll, 2002).

Table 1. Constraints in Online Learning

| Aspects | Constraints |
| --- | --- |
| Situation | • Limitation of formal agreement on the program |
| Epistemology | • Non-educational issues take over educational issues |
| Psychology | • Faceless learning |
| Pedagogy | • In adequate ability to self-directed learning |
| Technical | • Lack of time to implement online courses<br>• Lack of learning resources (including the library)<br>• High cost of developing learning materials<br>• The absence of a national policy, funding priorities, and policy leadership<br>• The more advanced the technology used, the greater the likelihood of errors<br>• Lack of technology assistance<br>• Time needed to implement online learning |
| Cultural | • Concerns of shifting role from teaching to computer<br>• Shifting in traditional values attached to the process of obtaining a degree<br>• Instructors' culture<br>• Resistance to change |

Students register in FP course are automatically registered in the FP course's tuton. The tuton can be acccessed through UT website (www.ut.ac.id). The students have to activate their tuton account where they will be given user name and password (Fig. 2). Only then, the students could engage in the tuton. To make sure that students could maximize their interaction in tuton, students are asked to read 'Online Tutorial Guidance for Students' which consists of explanation about the tuton such as roles of students and tutors, activities, duration and deadlines in the online tutorials (Fig. 3). Tutorial sessions to familiarize students with system used in the online tutorial were also provided.

Tuton as one type of learning support UT provided for students is aimed at increasing students' mastery. This research analysis the relation between EEP students' activities in tuton with their level of mastery in FP course in the first semester of 2013. Students engagement in tuton were approached from students' activities in term of frequency of opening initiation materials, frequency and quality of discussions, as well as frequency and quality of assignments uploaded in the FP course tuton. Meanwhile, final scores for FP course were used to measure students' mastery of the course.
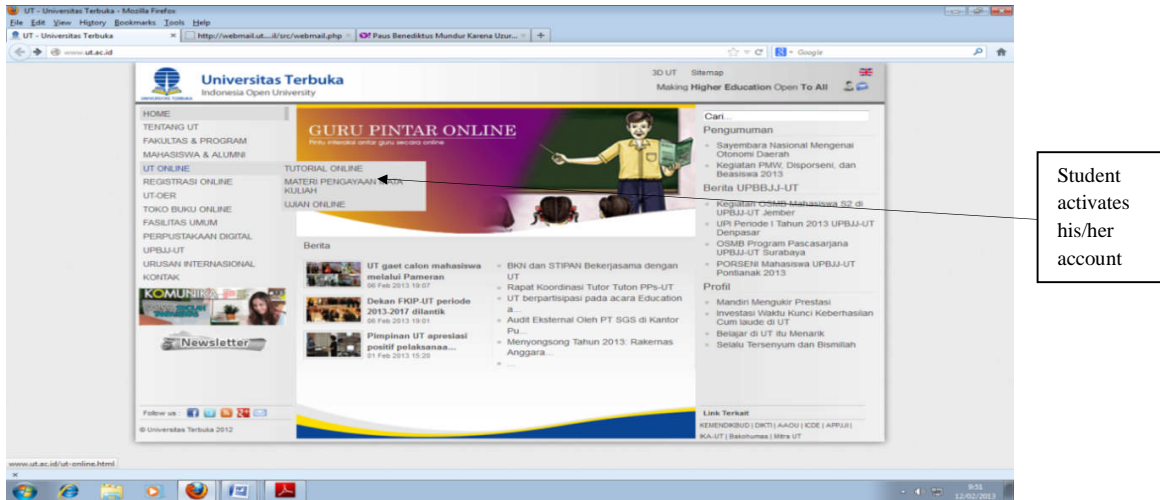
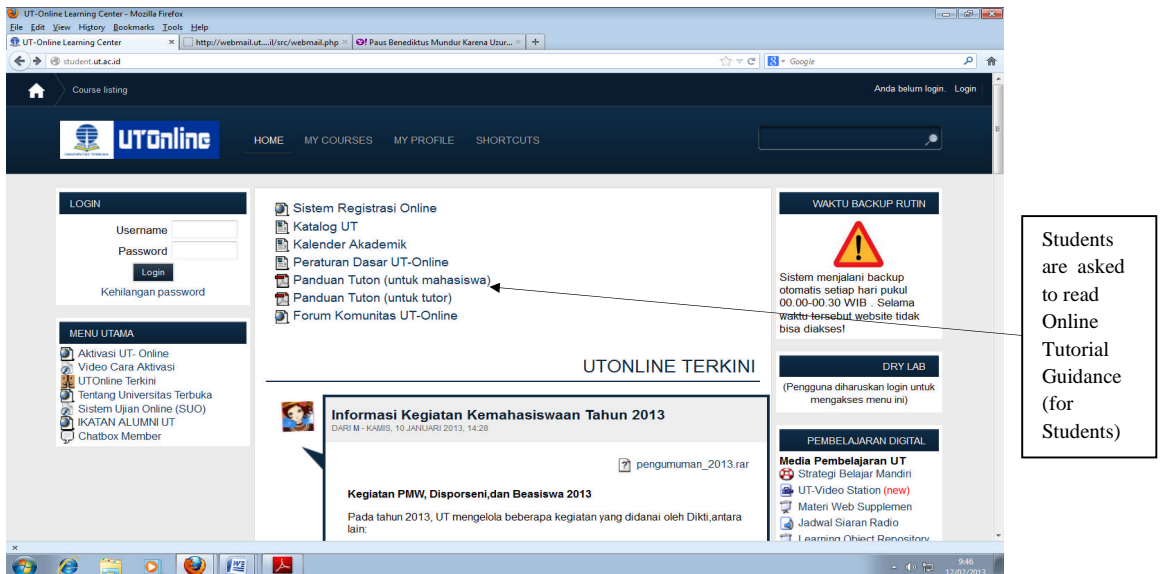Fig. 2. Student Sctivates His/her Account in this Page



Fig. 3.  Students are Asked to Read the Tutorial Guidance (For Students) in this Page

Data were collected by sending questionnaires via e-mail and mail to all students participating in 2013 tuton  in FP course. First round of e-emails were send in April-May 2013 to all 41 registered-students with 12 students returned the completed questionnaires. Second round of e-mails were send to 29 students who had not returned the questionnaires in the first round.  A number of 6 students returned the filled-out questionnaires.  Finally, questionnaires were send to home addresses of 23 students who had not returned questionnaires form the first dan second rounds of e-mailed questionnaires with 20 students returned the filled-out questionnaires.   Therefore, there were 38 respondents in this research, 78% women and 28% men. The majority of respondents (38%) aged between 25-44 years.

## 2. Findings & discussions

### 2.1. Factors Affecting Student to Register in FP Course

Experts say that the availability of technology, flexibility, easy to use, as well as relatively cheaper  than face-to-face learning are some of the factors that favor the utilization of educational media (Hopey & Ginsbur, 1996; Kilian, 1997; Owston, 1997). Most respondents agreed with some of the these. However, contrary to what experts say, some respondents perceived that access to computer and the Internet as constraints to their learning.  Yes, respondents agreed that computers and the Internet could be beneficial for learning process but since they had difficulties to access computer and the Internet, the respondents found it hard to take advantage of computer and the Internet.  This perception could be rooted from relatively low Internet penetration where only 15% of Indonesia population have access to the Internet (Millward, 2014).

Almost all (96%) of the respondents who are teachers in junior and senior secondary schools had known the Internet for more than 5 years.  As much as 85% of the respondents said they need the Internet to facilitate their work. Spesifically, 96% of the respondents stated that they used the Internet to search for news and only 25% of them used the Internet to browse for learning material that can be used to add or enrich teaching materials in their classrooms. Notwithstanding, only 4% of the respondents were aware that they can utilize the Internet as learning resources for their study at UT.  The fact that 96% of the respondents used the Internet to browse for news but only 4% of them used the Internet as learning resources for their study at UT should be used as entry point to familiarize students with website related to course contents.  Respondents had already known that they could browse many things in the Internet, UT just has to provide links related to courses' content.

Reasons of respondents to register in FP course, which completed with tuton, are (1) requirement to finish their study (93%), (2) using technology for learning enhancement (36%), (3) opportunity to enrich their knowledge and skills (29%), as well as (4) opportunity to discuss topics related to the course (12%). In order to graduate from the EEP, student has to pass FP course.  Therefore, it is understanble that almost all of the respondents stated that they registered in the FP course in order to fulfill the graduation requirements.  Meanwhile, more than one-third of the respondents stated that they register for the FP course because they wanted to experience using technology (in this case the Internet)  in learning process.  They knew the consequence of using the technology (familiarity with computer and the Internet).  Notwithstanding, the majority (92%) of respondents had been using computers more than 6 years and none of the respondents mentioned their inconvinience in using computers or the Internet. This condition could be exploited to optimize the utilization of FP course's tuton because  Galusha (2013) found that one of the obstacles learners faced in utilizing online learning is inconvenience of using a computer or the Internet.  In this regard, some of the respondents mentioned that UT should provide trainings to operate computer and utilize the Internet.

Meanwhile, the needs to meet and discuss learning materials with other students and tutors as voiced by 12% of the respondents is facilitated by discussion forum in the tuton. However, in average only 8% of registered-students posted in the discussion forum each week. Moreover, there was no discussion posted in week 3 and 5. This research does not question reasons for low students' engagement but there are several possible reasons for this contradictions such as too-difficult topics, or no time to engage in discussion because assignments were due in week 3 and 5. Unrelated topics could be waived as a reason since more than 80% of the respondents spoke higly of the quality of topics discussed (Table 2).

### 2.2. Perception of various aspects of tuton

In general. Respondents had good perception towards varios aspects of tuton, namely benefit, tutor responses, and quality of the initiation materials. They even reccomended some improvements to the betterment of the tuton (Tabel 2). In term of benefit from tuton, almost 90% of the respondents stated that they benefitted from initiation materials, discussions, and assignments. However, they mentioned the importance to focus on learning materials that will be tested, they did not need additional materials if the materials were given as a means to broadening their insight. This findings should encourage tutors to prepare learning materials in line with course and evaluation blueprints.

Table 2. Respeondents' Perception of Various Aspects of Tuton (%, N=38)

|  | Good | Fair | Bad | NA |
|---|---|---|---|---|
| A. Benefit to mastering the learning materials |  |  |  |  |
| • Initiation materials | 89 |  |  | 11 |
| • Discussions | 86 |  |  | 14 |
| • Assignments | 96 | 4 |  |  |
| B. Tutors' Responses |  |  |  |  |
| • Correctness in answering students' questions/inquiries | 86 | 10 | 4 |  |
| • Promptness in answering students' questions/inquiries | 86 | 14 |  |  |
| • Clarity in answering students' questions | 79 | 13 | 4 | 4 |
| • Activities in discussion forum | 71 | 25 |  | 4 |
| C. Initiation Materials & Topics of Discussions |  |  |  |  |
| • Congruency | 96 | 4 |  |  |
| • Depthness | 93 | 7 |  |  |
| • Pertinence | 93 | 7 |  |  |
| • Comprehensiveness | 86 | 14 |  |  |
| D. Improvement Reccomended |  |  |  |  |
| • Enrichment in topics of discussions | 92 | 4 | 4 |  |
| • Enrichment in initiation materials | 86 | 14 |  |  |

Meanwhile, respondents also had high perceptions in terms of tutor responses except in one aspect, tutor activities in discussion forum. However, this could not be blamed solely on

tutors. Data showed that in average only 8% of students engaged in tuton weekly. This small number of posting could limit tutor comments. Hence, a chicken-and-egg situation occurs: limited postings limit tutor's activities. Nonetheless, because of the impotance of the discussions in the learning process, UT has to encourage students to be more active in duscussion and at the same time encourage tutors too. It is also in line with what Quitadamo and Brown (2001) said that discussion could create greeter student motivation and excitement for learning. Tutors could also develop authentic situations and scenarios as a stimulus for learning, representing and simulating real world problems and concepts which Quitadamo and Brown (2001) belief can provide an important structure for student thinking could. Tutors could also emphazise authentic tasks in context rather than abstract out-of-context activities to create a greater likelihood of learning for students (Driscoll and Carliner, 2005). UT has to make tutors aware of students' needs related to learning experience, engagemant and activities that enable students to analyze, synthesize, and evaluate information while constructing knowledge (Driscoll & Carliner, 2005).

These should not be difficult to achieve since respondents had highly percieved both the quality of intiation materials and topics of dicussions although at the same time, 92% of the respondents stated the necessary to enrich topics of discussions only 12% of the respondents voiced their need for discussion facilities. Notwithstanding, only 8% respondents engaged in discussions in a week. Based on these findings, UT needs to evaluate topics for discussion and how tutors motivate students to actively participate in the discussions. Nevertheless, to succss in the tuton, students need exercise their writing skills, be self-motivated, and make a time commitment to learning as states by Gollady, Prybutok, and Huff (2000) and Serwaka (2003).

Table 3. Factors Support and Inhibit Respondents Activities in FC Tuton

| Aspects* | Supporting Factors | Inhibiting factors |
|---|---|---|
| • Situation | • High access to the Internet<br>• Familiarity with computer<br>• Familiarity with the Internet | • Low access to the Internet<br>• Unfamiliarity with computer |
| • Epistemology | • Useful in learning process | • - |
| • Philosophy | • Media as a tool | • Media could not replace lecturer |
| • Pedagogy | • Willingness to self-study | • Inability to manage learning process |
| • Technical | • Relatively low-cost to learn | • Time limitation<br>• Limitation ability to operate computer<br>• Limited access<br>• Poor quality of network |
| • Cultural | • Familiarity with computer in daily chores<br>• Familiarity with the Internet for daily chores | • Not familiar with the Internet |

\* Aspecs and indicators are derived from Espinoza, et. al., 1996; Garland, 1993; Galusha, n.d.; Kaye and Rumble, 1991; Lewis and Romiszowski, 1996; Sherritt, 1992; Sherry, 1996; Shklanaka, 1990; dan Spodick, 1996

In the meantime, as detailed in Table 3, respondents seemed to be sharply split in term of their familiarity and access to computer and the Internet. On one hand, some students stated that theiy had easy access to computer and the internet as well as familiar to use them. On the other hand, some students mentioned their difficulties and limitation to access and to use computer and the Internet. Therefore computer and the Internet served both as supporing and inhibiting factors for students to be actively paticipate in tuton. UT has to bridge this by providing training for students who have not yet familiar with computer and the Internet. At the sameytime, UT could work with Internet kiosks to provide access. However, none of the respondents said anything about isolation (Brown, 1996) or frustation, anxiety, and confusion (Hara & Kling, 2000, Piccoli, Ahmad, & Ives, 2001) which commonly identify as potential problems of e-learning.

## 2.3. Correlation between activities in tuton with final score

A 0.44 in Pearson correlation between frequency and quality in discussions with final score reflects weak correlation between them. This finding contradicts to studies showing that student's active involvement in the learning process enhances learning (Benek-Rivera & Mathews, 2004; Sarason & Banbury, 2004). This could, in part, because of limited interaction between students and students and tutors as reflected in the low number of discussions. This findings also contradicts Picciano (2002) and Watkins (2005) finding that interactive instruction is resulted in positive learning outcome. Actually, as Johston, Killion, and Oomen (2005) and Pallof and Pratt (2003) found out, online coursework has the potential to create environments where students actively engage with materials and learn by doing, defining their understanding as they build new terchnology. However, the institution has to prepare facilities so that the potential could become reality.

Meanwhile, a 0.76 Pearson correlation between quality of assignment uploaded and final score shows that students who excell in assignments have high potential to get high score in final. It is possible that students have enough readings and exercises while doing the assignments. Therefore, they did not find difficulties in doing their final exam. However, frequencies of opening initial materials had low Pearson correlation with final score (0.47). It is expected that the more students open intial materials, the higher their score in final exam based on assumptions that opening initial materials could expose students to more learning materials. However, findings whoed that opening initial materials only have low relation with final score. In addition, the Pearson correlation between number of initiation materials looked at with number and quality of discussions enganged were only 0,47 and 0,44 respectively. It is, onece again, showed that initial materials only had low correlation with number and quality of discussions enganged.

## 3. Conclusion

The activity in tuton with the highest correlation with students' final scores was quality of assignment uploaded (Pearson correlation = 0,76). Meanwhile, the Pearson correlation

between number of initiation materials looked at and number and quality of discussions enganged were only 0,47 and 0,44 respectively. Based on this results, it is reccomended that some discussions should be replaced by assignment. Therefore, instread of having eight sessions/topics of discussios and three assignments, it is reccomended to have 6 discussios and four assignments. Students tend to be more serious in doing their assignments rather than engaging in discussions.

Based on respondents' assessment of their activities in tuton of the FP course, it is reccomended that UT provides students with easy access to computer and the Internet by, for example, wotks together with Internet kioks. It is also reccomended that UT conducts training for students to familiarize them computers and the Internet. Meanwhile, to enhance the benefit of tuton in FP course for students, it is reccomended that EEP Study Program making sure compliance of materials in tuton with the material in the modules and congruency of topics in discussion with materials on the modules. These could be started by conducting workshops with tuton's tutors where information of the importance to revise initial materials and topics for discussion is provided.

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