

Constructive online feedback to enhance learning achievement of open and distance students

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Abstract

The purpose of the present study was to elaborate the effect of providing the constructive feedback to open and distant students who enrolled in the online learning program. The participants were 30 students who studied in eight sessions of the online course. They had to discuss course content in available chat forum of the Learning LMS and complete written assignments. The constructive feedback with some characteristics - specific and actionable; descriptive and helpful; showing respect; address to issues and tasks; and provide dialogue - were immediately provided by the tutors on the students' discussion and their written assignments. Pre-test and post-test sessions were implemented to get information regarding the influence of constructive feedback on students' cognitive aspects. In addition, the online interview session was also applied to gather the information concerning the impact of the constructive feedback provision on students' motivational aspects. It is therefore concluded that the provision of constructive feedback student's motivation and knowledge while they were participating in online learning program.

Keywords: Constructive feedback; online learning; learning achievement;

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1. Introduction

The growing use of internet brings many innovations in learning mode and activities. The use of online learning modes grows significantly in many open and distance learning (ODL) higher educations. It has been growing significantly in the last two decades (Allen & Seaman, 2017). The online learning is used not only to deliver the content or course substances but also to create learning interactions between the students and the tutors. The use of online learning provides both benefits and limitations in supporting the students learning process. It brings satisfaction towards students' needs on learning by active and passive ones referring to the whole outcomes (Liu, Lomovtseva, & Korobeynikova, 2020).

Some innovations in conducting the online learning have been created to enhance the positive impacts on students learning achievement. Those include strategies of particular areas including; Massive Open Online Courses (MOOC) of empirical literature (Liyaganawardena et al., 2013), Veletsianos & Shepherdson, 2016; Zhu, Sari & Lee., 2018), higher education online access (Lee, 2017), strategies of online learning (Davis et al., 2018), online education quality (Esfijani, 2018), synchronous learning (Martin et al., 2017), dropout course by online (Lee & Choi, 2011), online game based learning (Tsai & Fan, 2013), K-12 learning (Moore-Adams et al., 2016), Polychronicity (Capdeferro et al., 2014), meaningful e-learning (Tsai & Chiang, 2013), asynchronous discussion by online (Thomas, 2013), and self-regulated online learning. The successful online learning programs requires the intensive student involvement and interaction. Learning happens not only in individual context but also in social context. The students construct their knowledge and skills not only through the individual-learning but also through the involvement in deep discussion with other colleagues or peers. The digital forms of any devices bridge students' potential intellectuality in the transition of scientific works (Maslova, Burdina, & Krapotkina, 2020).

Universitas Terbuka (UT) or known as Open University, the fourth world biggest ODL institutions in terms of the amount of student body, uses the online learning mode to deliver all the course contents to its students. The students have a wide chance to access the online learning programs. It requires motivation and self-regulation to see the standard for achievement of academic to completion (Dos Santos, 2021). It is necessary for UT to ensure that the students engage intensively in the online learning process. Learning engagement and interaction in this sense are the ultimate factor of conducting the online learning program. It opens the possibility for the students to expose their thoughts anonymously which enables for teacher to do some needed modifications regarding to the teaching-learning scenario (Zheng, 2020). To add, the geographical situation and location reflect on how the instructional process running in a proportion of moving not only for the instructors but also time and space from the learners themselves (Bessong, Ubana, & Udo, 2013).

For the ODL students, the existence of the online learning program can be used as a social forum to share learned knowledge and skills. The use of online learning to deliver the learning substances provides some following benefits for the students: (1) flexible; (2) comfort; (3) look great on a resume; (4) self-paced learning; (5) lower cost (Norman, 2016).

Besides providing some benefits, the online learning also provides the negative effects that can hinder the students' learning process. The inability to have a face-to-face chat with the tutor is just one negative aspect of the online learning. The students have no chance to ask questions, and receive verbal instructions or obtain immediate feedback from their tutors (Bonnell, 2008). The online learning

frequently causes misunderstandings between the students and the tutor. This problem leads to misinterpretation of tasks.

The interaction between students and the tutor and among the students are considered as the determinant factors of the successful online learning. The program must be designed to create the dialogues both between the students and the tutor and among the students. Learning interactions that happens in online learning enhances the chance for the students to construct their own knowledge and skills (Leibold & Schwarz, 2015). This article will elaborate the use of the constructive feedback in online learning program of the Universitas Terbuka.

The purpose of the study is to elaborate the use of constructive feedback to open and distance learning students who enrolled in online learning program. Since implementing the online learning program, it is necessary for the Universitas Terbuka to explore to the proper feedback mechanism that enable to enhance the students learning achievement motivation. Feedback mechanism is considered as one of the determinant factors that trigger learning interaction between students and the tutor, and among the students (Hattie & Timperley, 2007).

1.1 The online learning

Online learning is considered as the newest and most popular form of distance education today. It is Internet-based courses offered synchronously and/or asynchronously. (Thurmond & Wambach, 2004). Within the past decade it has had a major impact on postsecondary education and the trend is only increasing. There are some reasons that influence the conducting online learning in distant education.

Study regarding some influential factors for institutions at higher education level to provide online learning (Parsad et al., 2008). It showed the characteristics and identification on students' preference on learning covering; schedules flexibility (68%), public accessibility (67%), varied courses availability (46%), and ascending number of enrolments (45%).

The online learning provides some of the advantages which include course material accessibility, flexible scheduling, more academic options, and the opportunity to build valuable skills. Online learning highly tends to develop and expand in wide range of educational aspects (Maslova et al., 2020). The review of its history clearly shows online that online learning has made progress dramatically, supported by the sophisticated technology, Internet connection, and huge number of users. To respond the dynamic development of programs in 19th to 21st century, online teaching extends itself to be well-formatted and interactive online offerings by institutional.

Online students take constructive advantages covering: (1) completing general objectives from the possibilities of dropping out students through interconnected individuals in sharing the knowledge; (2) improving on students' achievement as well their satisfactory respond to the course by means of positive relation and interaction among instructors, learners and peers; (3) encouraging those learners and peers to actively take part and work together into the course in term of support to gain more knowledge during the interactions (Yuan & Kim, 2014).

A well- structured content of a course in line with progressive interaction between well prepared instructors and learners become the main aspects to achieve effective online instruction. As the

reason above, it has no doubt that teachers hold the key factor or essential roles in online education (Sun & Chen, 2016). The online learning provides a wide opportunity for the learners to share rich content to have a learning interaction to be more intensively in participating in an online learning program (McTighe & O'Connor, 2005).

Online learning has become the main form of delivering instruction at colleges and universities (Appana, 2008). The interaction is often considered as necessary and desirable for student satisfaction and learning to occur. Instructor-student interaction in this context is a critical element to the success of the instruction.

One of the criteria used to assess the quality of online learning is the interaction between the students and the learning substances (Frydenberg, 2002). The online learning programs have to ensure intensive students' engagement in studying the online content. In addition, the students must get immediate feedback that inform their learning progress. The use of feedback in this context is essential in conducting the online learning program.

Learning through online requires the intensive interactions between the students and learning resources. The interactions can happen both in synchronous and asynchronous ways. Learning basically is an active and social process in which the students share their learned knowledge and skills to comprehend the substance. In this context the use of feedback is necessary to enhance the student involvement in the online learning process (Ahea, 2016). In this sense, it is noted that: In the context of meaningful learning, feedback is seen to be vital within environment. It happens in two sides of communication covering tutor/ teacher and student. The medium applied especially in online learning includes electronic based media as appeared in mail messaging and audio- video integrated way. It is done to meet students' expectation throughout the instructional process by receiving essential information and completing the learning goals.

Feedback is considered as one of the essential components of the online learning program. It provides constructive academic information used by the students during their learning process. The terms of feedback taken from the learners and peers are able to be presented to the learners. Students' motivation grows on the baseline of setting up goals by instructors' motivation and encouragement to be actively involved in pursuing the online learning program (Matas & Allan, 2005). In addition, the use of feedback will help the students to develop their self-efficacy and gain new knowledge.

There are six important functions of the provision feedback in the learning process (Ahea, 2016) covering:

1. Understanding the meaning of goals and proper performance;
2. Simplifying the process of learning towards its self-assessment and reflections;
3. Offering qualified information for students to learn;
4. Giving chance and space for feedback and dialogue;
5. Encouraging positive and motivational inspiration;
6. Giving chance to meet the goal and expected performance.

The use of Feedback in learning consists of any forms in responses given. It provides precious information in assisting and directing the students' during the learning process. Apart from the extrinsic value which is not included in the feedback, it contributes much on typical feelings of

“rewards” and “punishments.” Consequently, it can be functioned on its roles as motivational and informative (Tricomi & DePasque, 2016).

There are seven principles of practice on proper feedback characterized by the following criteria (Nicol & Macfarlane-Dick, 2006):

1. Facilitate to confirm on good performance (objectives, basis, projected benchmark);
2. Assisting the expand of learning self- reflection on assessment;
3. Present the reliable information on students’ learning activities;
4. Promote teachers- peers discussion towards learning matter;
5. Improve self-esteem and belief by positive motivation;
6. Offer the chance for successful completion of any obstacles occurred;
7. Supply of information access to construct teaching activities for teachers.

To serve learning, feedback must meet four criteria: It must be timely [emphasis mine], specific, understandable to the receiver, and formed to allow for self-adjustment on the student’s part (McTighe & O’connor, 2005). They consist of four requisites solely which one of them is focused on timely feedback.

To be more specific, there are four following suggestions to provide the feedback in order to facilitate the students’ learning process: (1) providing feedback to be relevant with criteria; (2) space for practice; (3) guidance to completion; (4) scale of priority (Nicol & Macfarlane-Dick, 2006).

The use of feedback must provide the guidance for the students to correct their learning process. The importance of providing corrective feedback to learners becomes main attentions of some researchers (Leibold & Schwarz, 2015). They implement the three following approaches of giving feedback to the students.

1. The “feedback sandwich” approach.
It is started by giving the participants with comments positively towards their performance, sandwich negative feedback, and positive comments as the ending.
2. The “chronological feedback” approach.
It is applied when instructors mention about their observation both in good and bad perspective by sequence order.
3. The “clinical education” approach.
It tends to be a learner-centered method by using the technique of conversational to show a corrective feedback in order to achieve the goals and planned actions as the outcomes of provided feedback.

Based on the study, it suggests the following guidance in providing feedback to enhance students learning achievement:

1. Corrective feedback must be given regularly with no need to wait at the end of the course;
2. what is stated on the corrective feedback must be balance on both sides in which should be improved and run on the right path;
3. It is crucial to know your purpose on the session before going to the feedback;
4. it opens chances and access for the learners to give inputs and comments (via drop-down lists, check-box responses and free-text form fields) dealing with the course’s assessment if it is conducted only by online;
5. Instead of highlighting the negatives (“You did not respond fully to...”), make supportive expressions to gain their positive motivation for better future result (“Next time, try to elaborate...” or “Perhaps you could have done...”);
6. To conclude, positive reinforcement is highly recommended frequently.

The power of feedback has become provision in learning (Hattie & Timperley, 2007). They noted about four main levels of effective feedback consisting of a work or product (True or false), process of works or products completion (FP), and affective competence in term of level on self-regulated skill in doing the work or task (FR), and self-performance as the sense of personal matter (FS).

Recent research implies that motivational context is able to modulate the feedback connected to the brain activity as occurred in achieving goals, learners focus on the aspect of evaluative or informative feedback and individual motivation to have well performance. It is suggested that learner' goals make the foundation for the brain to respond of feedback flexibly (Tricomi & DePasque, 2016). In order to be effective in facilitating the students learning process, the provision of feedback has to be constructive and meaningful for the students.

1.3 Constructive feedback in online learning

In the education process, it is absolutely essential to recognize grading and feedback as a whole part in online setting. It has a function to offer students' a feedback towards their works by faculty. Instructions and guidance to resources are provided to them involving on how to gain its result as the goal. Moreover, it also has a function to assist them with comprehensive knowledge and integrated skills. To those who deal with online learning, they should be able to give and correspond for feedback appropriately. In online learning the use of feedback consists of exchanging information for activities within the learnt course by instructor and student (Thurmond & Wambach, 2004).

In order to reinforce students' learning, it can be done through presenting constructive feedback to their performance as seen to be substantial. Constructive feedback is considered as the vital components of effective learning. Implementing the constructive feedback at the basic level need for some supporting factors namely; effective communication, conducive learning environment, firm learning objectives, and convenient pedagogic strategies and curricular (Tricomi & DePasque, 2016).

Besides, a message for feedback should be set in some characteristics covering; accurate, relevant, specific, immediate, understandable, tailored, non-judgmental content in spoken or written language, and offer suggestions for better development. It is definitely promoted to practice a high-quality feedback for a provision of constructive feedback as an obvious competency and skill to be learnt by the development program of faculty (Omer & Abdularhim, 2017).

(Bonnell, 2008) in her study summarized and noted that online learning makes possible or brings opportunity for teachers and students to have new collaboration by educational point of view. By integrating feedback into the course framework or design, students receive new competency including peer review and self-reflection which are beneficial for future development. Chances for learning are limited if faculty assume themselves as one and only feedback providers.

Frequent prompt feedback and communication from the instructor lead to their learning as referring to the students' participation seen from the email messages' effect by asynchronous on-line course (Tsai, Shen, & Chiang, 2013). Another study related to the use of constructive feedback in online learning. Similarly, it is also stated that well or proper feedback facilitates the students do reflection on constructing self-knowledge, information, and setting further learning objectives. In this sense, the students correspond on feedback by completing their work by revisions and developing their knowledge in the content and process.

This study is focused on the gap between sophisticated of technology development and its usage for online learning program at higher education and students' feedback towards its event. It is very essential to find out their feedback on its utilization in constructive ways in getting information of some aspects such as; teacher/ tutor- student interaction, and media and content component, motivational aspect, and learning experiences. It is very less research or study exploring in this concern as many parties tend to focus on its implementation while it is very essential to identify their feedback used as the basic reference for further development, revision, and completion to meet students' expectations and needs.

2. Method

2.1 Research Design

This present study applied the experimental approach. Pre-test and post-test session were implemented in order to get information regarding the cognitive gained score of the participants after getting the constructive feedback on their completed assignment. The online interview session was also used to gather the information concerning the impact of motivational aspects after the participants getting the constructive feedback from the tutor.

2.2 Participants

It involved 30 students who enrolled in the Philosophy Online Course or Tutorial of the Universitas Terbuka. The students, as the participants, engaged in the pre-designed online learning program.

2.3 Instruments

In order to get gained knowledge of online learning implementation, it applied pretest and posttest in accordance with the course goals. The interview section was also conducted as additional instrument to collect more data on the impact towards the use of constructive online feedback contributing to the aspect of motivation.

3. Results

3.1 Online Course Design

The structure of the online learning program of the Universitas Terbuka consists of the following learning components such as: (1) course overview; (2) course goal; (3) course objectives; (3) presentation materials or the content and hyperlink; (4) course assignments; (5) chat and discussion forum; (6) learning quizzes; and (7) formative test. Prior to study the materials the participants had to overview the online learning available in Learning Management System (LMS) to get the idea of working with the online learning. This present study implemented the constructive feedback which was oriented to task or students' assignments. The interface feature of online learning is shown on the table below.

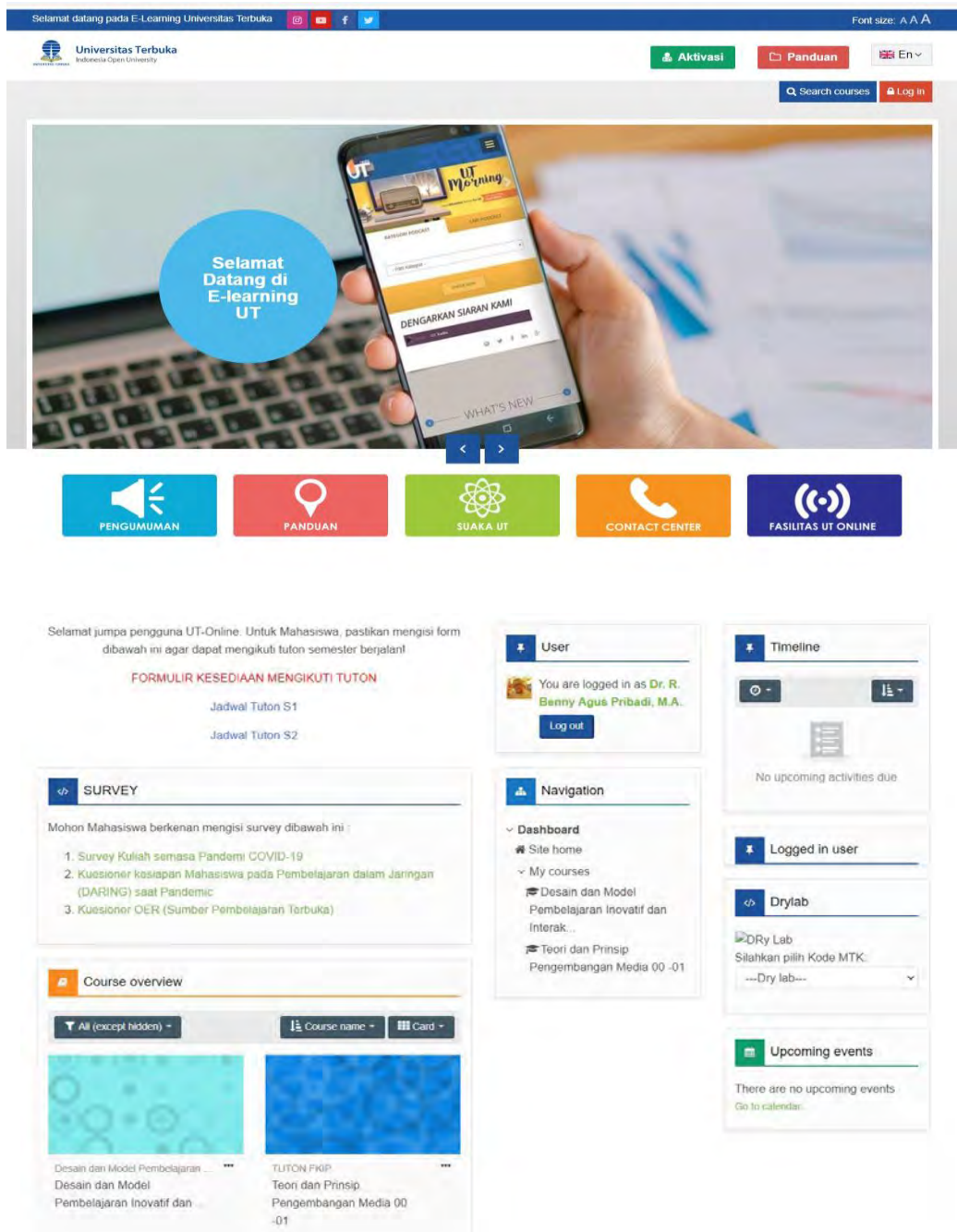


Figure 1. Interface online learning program

The students had to study the online materials systematically and thoroughly. In addition, they had to complete the given assignments which are based on the course goal and objectives. There were three assignments that the students had to complete in order to attain the course objectives. Besides, engaging in forum discussions about the course content, the online tutor must provide responses and constructive feedback to the completed student assignments. The constructive feedback given by the tutor to the students' assignments consist of the following characteristics: (1) immediate; (2) provide positive comments; (3) show the ways to improve the task; (4) and provide the reward. These

characteristics of the constructive feedback were applied when online tutor assessed and provided written comments on the students completed assignments and discussion forum. Its constructive feedback can be seen among the participants is described as following.

The screenshot displays a Moodle user management interface. At the top, it shows 'No filters applied' and a search bar. Below the search bar, it indicates 'Number of participants: 19'. There are filters for 'First name' and 'Surname', both set to 'All'. The main content is a table of participants with columns for 'Select', 'First name / Surname', 'ID number', 'Email address', 'Roles', 'Groups', 'course', and 'Status'. The table lists 10 participants, all with the role of 'Student' and 'Active' status. The sidebar on the right shows the user 'Benny Agus Pribadi, M.A.' with a 'Log out' button. Below that is the 'Administration' menu with options like 'Course administration', 'Users', 'Filters', 'Reports', 'Backup', 'Question bank', 'Recycle bin', and 'Reminders'. At the bottom of the sidebar is the 'People' section with a 'Participants' link.

Select	First name / Surname	ID number	Email address	Roles	Groups	course	Status
<input type="checkbox"/>	ABD. HARIS 530043177	530043177	harismt9@gmail.com	Student	No groups	46 days 12 hours	Active
<input type="checkbox"/>	FAHMI ABDUL ROZAK 530043184	530043184	fahmiabdulrozak@gmail.com	Student	No groups	35 days 11 hours	Active
<input type="checkbox"/>	NAWATI KADOANG 530043191	530043191	nawatikadoangpps@gmail.com	Student	No groups	45 days 23 hours	Active
<input type="checkbox"/>	SUKAMTINI 530043217	530043217	sukamintiut86@gmail.com	Student	No groups	46 days 14 hours	Active
<input type="checkbox"/>	MASNAH 530043224	530043224	masnahut78@gmail.com	Student	No groups	39 days	Active
<input type="checkbox"/>	PINPIN NOVIANI 530043249	530043249	pinpinnoviani31@gmail.com	Student	No groups	42 days 5 hours	Active
<input type="checkbox"/>	MUSLIM 530043295	530043295	muslimnarima@gmail.com	Student	No groups	56 days 7 hours	Active
<input type="checkbox"/>	ERWIN 530043303	530043303	erwinspd98@gmail.com	Student	No groups	46 days 14 hours	Active
<input type="checkbox"/>	DARMADI 530043342	530043342	darmadi.lampung1969@gmail.com	Student	No groups	47 days 1 hour	Active
<input type="checkbox"/>	CAHYONO 530043367	530043367	cahyono730369@gmail.com	Student	No groups	42 days 6 hours	Active

Figure 2. Participants constructive feedback

The online course on Philosophy of Science consists of the systematic substances that the students have to study. The course substances were divided into eight online tutorial sessions. The learning goal of this Philosophy of Science course is the students must be able to describe the importance concepts of the philosophy of science.

The online pre-test session was held prior to the commencement of the online tutorial. There were three consecutive learning assignments that the students had to complete during the process of online learning tutorial. The assignment number one is aimed to measure the students' content mastery of tutorial session one and two. The assignment number two consists of the tasks that the students had to master in session number four and five. The assignment number three was given with the purpose to measure the students' mastery of the content on seven and eight sessions.

All the students had to complete the three online assignments. The tutor, in this sense, provided the constructive online feedback to every student submitted assignments. After receiving the constructive feedback, the students had to revise their assignments based on tutor comments or feedback.

The posttest session was held after the students completed learning activities and all the assignments given during the online tutorial sessions. The following table indicates the statistical analysis results of the pre-test and post-test scores of the participants (N=30).

Table 1. Pre-test and post- test analysis results

	Pre-test	Post-test
Means	51,07	68,67
Standard deviation	3.57	3.88

By the value of $p < 0.5$ for the level of significance, it means that the participants' score increased significantly by comparing the scores between pretest and posttest. It can be inferred that the provision of the constructive feedback had positive impact on the online learning students' achievement.

Qualitative analysis of the online interview of the participants indicated that immediate providing constructive feedback – immediate, provide positive comments, show the ways to improve the task, and provide reward - in online learning activities enhanced the students' learning motivation. Giving feedback that consists of the positive comment and showing the ways to improve the students' assignments increased the learning motivation of the students. This can be summarized in the following table.

Table 2. Summary of the Qualitative Analysis of the Online Interview Results

Participants	Provide immediate feedback	Provide positive comments	Show the ways to improve the task	Provide reward
# 1	Immediate feedback from tutor give the opportunity to improve my assignments	The tutor encourages me to complete my assignment better by positive comments	It makes me understand how to do my assignments in the best way	Providing reward by the tutor make me enthusiast to complete my works
# 2	Immediate feedback makes me learn how to improve my projects	Positive comment from my tutor motivate to finish my assignments on time	Tutor show me the ways to improve the task. It makes my motivation higher to complete the assignments and get the better grades	Positive feedback makes me happy end the assignments and the course
# 3	Tutor gave me the immediate feedback I try my best to revise my papers or assignments	Positive comments on my works enhanced my motivation to complete this online course with better results.	It helped and encouraged me to complete my projects as soon as possible and hoping the	Reward given from my tutor make me enjoy the online course

4. Discussion

Providing the constructive feedback in online learning activities facilitated the students learning process to achieve better learning results. In this study the students showed the better comprehension of the Philosophy of Science content or learning materials. The constructive feedback or comments given by the tutor serve not only as knowledge of results for the students but also as the guidance to improve their assignments or works. In addition, the constructive feedback or comments given by the online tutor enhanced the intrinsic motivation of the online students to achieve learning objectives.

The motivation increases when the students gathered the positive and constructive comments on their submitted assignments. Besides, the constructive feedback provides better chances for the students to know their strengths and weaknesses to improve their works in order to get the better learning results.

In this present study, the constructive feedback was given both synchronous and asynchronous. The immediate and synchronous feedback was provided in the chatting and discussion forum which engage tutors and students. The students enjoyed the immediate or synchronous constructive feedback given by the online tutors. The immediate feedback also enhances the students' motivation to complete their learning assignments. Therefore, it is important for the online learning tutors to provide the constructive feedback immediately in order to enhance the students learning achievement.

The constructive feedback in learning ultimately has to focus on the quality of the students' works. The online tutors in this study provided some comments which concern to the strengths and weaknesses factors appeared in the submitted students' work. This kind of comments will motivate the students to improve the quality of their learning assignments (Hattie & Timperley, 2007).

In addition, (Thurmond & Wambach, 2004) noted that providing the constructive feedback also facilitate the online student to perfect their skills and knowledge. Provision of feedback is also considered as the essential factors of the learning assessment. It provides the students with a statement of their learning and advice about how to improve their learning. The provision of the effective feedback on students' assignment is particularly important in the online learning environment (Matas & Allan, 2005).

5. Conclusion

Every online student needs the specific comments regarding their completed online learning assignments. The online tutors must have skills to improve the students learning achievement and to increase their learning motivation (Leibold & Schwarz, 2015). In other study, comprehensive (Henderson et al., 2019) conducted the survey concerning the required conditions for implementing the effective feedback on students' works. They suggest that providing the effective feedback must consider to implement the following conditions: (1) feedback from tutors/ educators/ teachers and students/ learners; (2) actively engaged on the process of giving feedback by learners; (3) finding the prove from the educators related to its plan and declare its effectiveness; (4) easy access of information, communication, and technology for learners and educators; (5) learners' needs of

information are provided appropriately; (6) meeting learners' needs and expectation; (7) proper and varied sources of information; (8) providing multiple works results; (9) covered all levels; (10) quality and consistency assurance; (11) leaders and educators ensure continuity of vision and commitment; (12) resources flexibility.

The constructive feedback contributes to the students' transformation in the instructional process and its experience. Different and varied online learning forms should be applied in further studies to enrich more perspectives and angles (Bonnell, 2008). As a result, it can be made use as the reference practices for similar research.

6. Recommendations

The fast growing of technology is along with the dynamic situation and condition in any aspects of life including educational field. It is recommended that the future research is able to capture its progression in the point not only at higher education perspective but also primary and secondary level of education in identifying their construction feedback in open and distance education system for online learning program. The result of this study can be used as the baseline or fundamental basis to have similar further research.

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