Tuweb and *Tuton*: Two Platforms Combination in Distance Education during Covid-19

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Abstract – **This research is oriented to analyze the implementation of *Tuweb* and *Tuton*, platforms combination of emerging technologies in distance learning during Covid-19. A mixed-method study guided the research. The researcher optimized a one-shot case study for the quantitative part, followed by an in-depth interview in supporting data as a qualitative part. The research participants were 27 Master's students of Open University [*Universitas Terbuka* – UT] in Indonesia who joined the Diffusion of Educational Innovation course. UT fully adopts the distance education system in Indonesia. The research indicated that students' achievement in terms of gender difference, male students better than females in all components of the tutorial evaluation. All tutorial parameters significantly correlated with the coefficient correlation at moderate and high levels. These parameters have also contributed to the achievement score. In contrast, only tutorial discussion via *Tuton* significantly contributed to the tutorial tasks. It means the presence of *Tuweb* has little contribution to the tutorial tasks.**

Keywords – ***Tuweb, Tuton*, Platforms, Distance Education, Covid-19.**

1. Introduction

1.1. An Overview of Tuweb and Tuton

Webinar tutorial is a face-to-face tutorial (FFT) utilizing web seminar facilities through the network, which is carried out in real-time [1].

In Indonesia, the term 'webinar tutorial' became tutorial webinar or with the abbreviation *Tuweb*. It uses Microsoft Teams facilities. The *Tuweb* policy as a substitute for FFT is one form of optimizing the learning assistance services provided by the Open University (Universitas Terbuka - UT) Indonesia to students during this pandemic. The use of webinar software for teaching a small group of graduate-level students [1,2]. Webinars are more effective than asynchronous learning management systems. Webinars are more effective than face-to-face classroom instruction [3].

Tuweb as a substitute for Face-to-face tutorials is an effort to deal with the pandemic since early 2020. It is a virtual face-to-face tutorial between students and tutors as a communication medium that aims to bridge students in the learning process, to broaden, deepen, and sharpen students' understanding of the subject they studied [4].

Tuton is an internet-based tutorial service or web-based tutorial (WBT), offered by the UT and followed by students via the internet and is one of the tutorials organized by UT [5,6]. The term of '*Tuton*' is abbreviated from the phrase 'tutorial-online', an Indonesian term of online tutorial [7]. The objectives of organizing *Tuton* are:

1. Optimizing the use of the internet network to provide study assistance services to students,
2. Allows the distance learning process to be designed more communicatively and interactively
3. Provide choices for students who have access to the network to obtain optimal learning assistance services.

In order to access *Tuton*, students must activate an account on the http://elearning.ut.ac.id. After this process is done, students will get an account password to be able to enter the *Tuton* site. Before

students do the login process, it is recommended for them to download and read the tutorial guide that is available on the tutorial site. If they have problems accessing the *Tuton* site, they can submit via service UT [8].

Tuton is held every semester for 8 (eight) weeks before the final exam is held each semester. The contribution of *Tuton*'s value to the final score is a maximum of 30%. Maximum value can be obtained if students become active participants in the implementation of tutoring. Active participants in *Tuton* are participants who read initiations, respond by asking questions or responses, discuss and work on assignments at the third, fifth, and seventh initiations. Passive participants only read initiations without participating in providing questions, responses, and task answers.

Figure 1. Illustration of tutorial webinar (Tuweb) via Microsoft teams

UT is a state university established in 1984 and the only one in Indonesia that is a whole distance education institution. It has three main missions [9,10]: "(1) increasing access to higher education, (2) increasing numbers of students, especially in areas demanded by the economic and cultural development, and (3) upgrading the qualifications of primary and secondary school teachers. Distance education via Open University has played a key role in acquiring students' competencies". University students are adults who have unique needs, motivations, goals, and self-concepts [11]. Indonesian Open University students do learn best by direct experience [12]: by experimentation, by seeing and doing, by mentoring others, and by sharing ideas.

Figure 2. Illustration of session in online tutorial (Tuton)

1.2. Research Objectives

This research has three main objectives:

a) To describe the implementation of *Tuweb* and *Tuton*.
b) To analyze the students' achievement and performance in terms of gender difference.
c) To analyze the impact of *Tuweb* and *Tuton* on the students' achievement.

2. Method

2.1. Design

The research adopted a mixed-method study with an explanatory sequential research design, in which the quantitative data would be explained by qualitative data [13]. For a quantitative part, a one-shot case study [4] was oriented on reporting the use of two platforms (*Tuweb* and *Tuton*) in the tutorial process during Covid-19. It is a research design in which the researcher only performs one treatment that is thought to have had an effect, and then a post-test is held [14]. Meanwhile, the qualitative part optimized an in-depth interview with the participants. An in-depth interview is a process of obtaining information for research purposes through question and answer while face to face between the interviewer and the respondent or the person being interviewed, with or without using an interview guide where the interviewer and informant are involved in a relatively long interaction. Figure 3 illustrates the whole picture of the tutorial steps, including *Tuton* and *Tuweb*.

2.2. Participants

Totally, 27 Master students of Open University [Universitas Terbuka – UT] Indonesia who joined the course of Diffusion of Educational Innovation were the research participants. The participants were code with S1 to S27.

2.3. Data Collection and Analysis

The data analysis adopted a quantitative descriptive method for the students' achievement combined with triangulation analysis of interview data. Furthermore, correlation and regression analysis were also used for *Tuweb* and *Tuton*'s impact on the students' achievement.

3. Results and Discussion

3.1. The Tuweb and Tuton Implementation

As illustrated in Figure 3, the steps of tutorials include twelve *tutons*, four *tuwebs*, three tutorial tasks, and a final exam. The course name was Diffusion of Educational Innovation [15]. The following information is general information about the course.
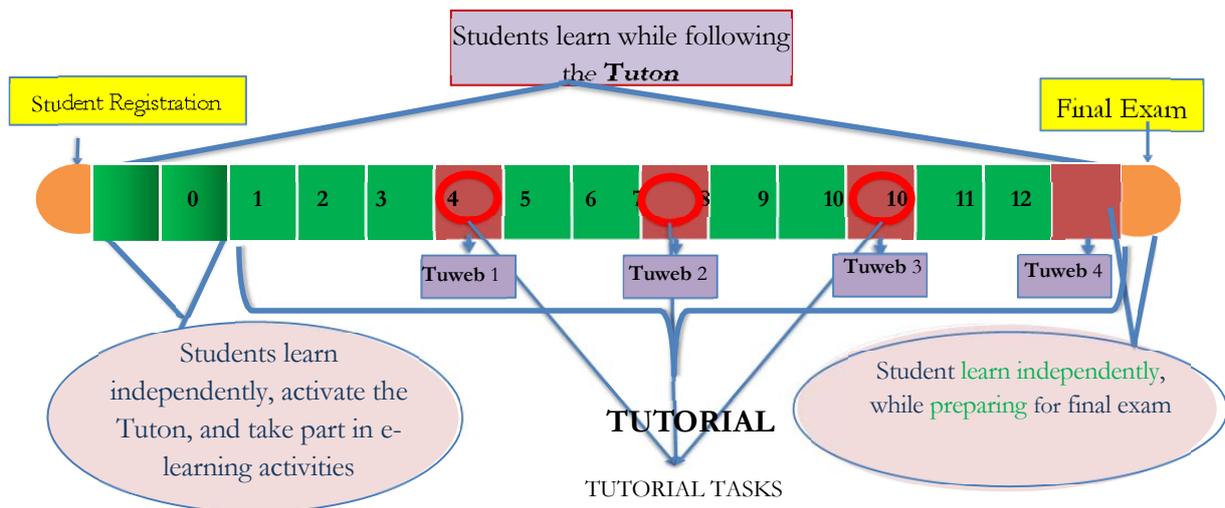
Figure 3. The organization of Tuweb and Tuton

The course MPDR5204 Diffusion of Educational Innovation is a master's level course, therefore after students independently study the Basic Material Book, follow the online synchronous tutorial (*Tuweb*) and online tutorials (*Tuton*), students are expected to be able to achieve level 8 competence according to the Indonesian National Qualifications Framework. They are expected to have insight that is intact and use various concepts, principles of innovation, and education to analyze various innovation phenomena in the world of education.

Figure 4. Example of discussion forum in Tuton

The tutorial is implemented in 12 Sessions. Students must read the BMP Diffusion of Educational Innovations before attending each session and use the discussion in the module as a reference when they do assignments and join discussion forums. Students must actively participate in tutoring, not just "visit" (view) the discussions that occur, but provide ideas, questions, and opinions [16]. The value of students' tutorials will be largely determined by the frequency and quality of the posts.

The assessment will be focused on the intensity and quality of their posts in the discussion forum. Students should try to post at least two times in each discussion forum. This forum is intended as a student discussion forum; the tutor will monitor the discussion and from time to time will 'mediate' and provide input to the course of the discussion.

Tutorial Assignments make an enormous contribution to *Tuton*'s grade. Students have to do assignments and upload the assignments in the *Tuton* according to the academic calendar. Students have three assignments to be assessed by the Face to Face Tutor or *Tuweb*.

Session 1

In the first session, the discussion is about "Understanding the Characteristics of Learning Innovation". In order to be able to participate in discussion session-1 properly, students should first study the Main Material Book 1. After attending session 1, students will be able to analyze the nature and characteristics of innovation and analyze the triggers of innovation in education [14].

Session 2

In the second session, students were expected to read a Module about "Sustainable Innovation" which specifically discusses measuring educational innovation, the impact of innovation, innovation in instructional design, and the pros and cons of technology as an innovation in learning. Discussion about this is fascinating because it is an important part of learning about innovation in education. Just watch the Video 'Engage Me'. This video is interesting because it provides educators with information about what our students want in the 21st Century, where technology has become a part of them. After all, they were born in an era where technology has become a part of their lives. The video provides students' perspectives on learning.
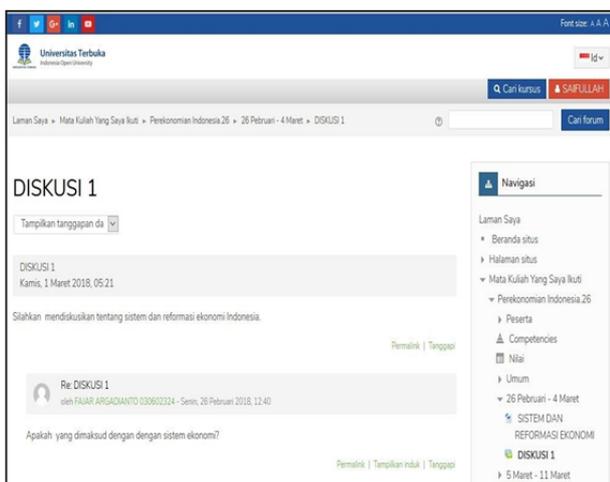
After reading Module 1, students should join Discussion forum 2. As a trigger for discussion about innovation in education and learning, students should watch the 'ENGAGE ME' video.

Session 3

In Session 3, students are expected to start reading Module 2, which is about "Changes in Educational Paradigms and Competence Development of Learners". In this third session, students will specifically study KB1, which is about the progress of society in the 21st Century. After studying KB1 Module 2, they are expected to be able to analyze the role of the progress of society in the 21st Century and to analyze the role of technology that affects educational institutions. Then, they must participate in the Discussion forum 3.

Session 4

The fourth session meeting discusses 21st Century Literacy and Learning Capacity and Competency Development contained in Module 2. After studying this module, students will be able to analyze 21st-century literacy and implement the development of learning capacity and competence.

Session 5

In this session, the tutorial will discuss the role of ICT-based learning innovation. This material is related to Module 3. Students are expected to analyze the diversity of students, analyze student learning styles, and analyze the various bits of intelligence of students. In addition, they will learn about the meaning of the Digital Divide, Digital Native, and Digital Immigrants. It is hoped that students can understand the meaning and differences between them.

Session 6

Students are still learning about the role of ICT-based learning innovation related to digital-divide, digital native, and digital immigrants and innovation as a bridge in student diversity. After reading and studying this module, students will be able to analyze material related to digital-divide, digital native, and digital immigrant and their implications for learning and analyze innovation as a bridge in student diversity.

Session 7

The 7th session meeting discusses the Readiness to Utilize Information and Communication Technology (ICT) for Learning Innovations related to E-Readiness. After students study the module, they will be able to analyze the readiness of the implementation of using technology as an innovation, analyze the readiness of students to use technology in learning, and analyze the strategy informing and increasing the level of E-readiness.

Session 8

In session 8, the tutorial discusses the material on "Basic Educational Innovation Diffusion," which is related to the diffusion of innovation in education by using innovation dissemination models. Students will have the ability to analyze the theory of diffusion of innovation and its application in the process of adopting innovations in society, especially in the field of education, analyze the stages, origins, and sources of innovation in the field of education, and analyze the contribution of research in the scientific development of the diffusion of innovation.

Session 9

This tutorial will discuss "Open Education, Open Movement, Open Educational Resources (OER)". After students have read and studied Module 6, they will be able to analyze the background that drives the open education movement, analyze the concept of open education (open educator), and analyze the definition of open-source education (open source).

Session 10

In this 10th session, the tutorial will discuss "Learning Strategies Using ICT". More specifically, students will learn about: Forms of Using ICT in Learning, Learning Strategies in Information-Based Education, and Evaluation of Learning to Use ICT. After they study Module 7, they will have the following abilities.

1. Able to implement forms of using ICT in learning,
2. Able to develop learning strategies in information-based education,
3. Able to analyze the evaluation of learning to use ICT.

Session 11

Students have started to open and read Module 8, which discusses "Pedagogy and Substance Technology Approaches in WEB-Based Learning in Science and Mathematics. The material in this module will be helpful in using ICT in their learning process in the classroom, especially in the fields of Science and Mathematics. After studying Module 8, they are expected to be able to:

1. analyze the TPACK model in ICT-based learning,
2. implement TPACK in WEB-based learning,
3. develop an effective learning web,
4. analyze the substance of WEB-based learning in the science field, and
5. analyze the substance of web-based learning in the field of Mathematics.

Session 12

It does not feel like we have arrived at session 12, the last online tutoring session. In this session, students have started studying Module 9, which discusses Pedagogical and Substance Technology Approaches in WEB-Based Learning in Social Studies and Indonesian Language. After studying Module 9, they are expected to be able to:

1. develop a web-based learning TPACK model for social studies subjects,
2. develop a web-based learning TPACK model for Indonesian language subjects,
3. analyze the effectiveness of web-based learning, and
4. implement learning motivation in web-based learning.

In connection with the implementation of *Tuweb* and *Tuton*, the following are some of participants' voices, especially regarding the presentation of material in the module.

> *From a total of 12 sessions in the modules provided, in my opinion, the MPDR5204 Diffusion of Educational Innovation course is very suitable for the needs of master's students as well as elementary school teachers [S3].*
> *The material in the 12 sessions inspired us as teachers [S9].*
> *The presentation of material from session 1 to session 12 is beneficial for students [S10].*
> *The material that made me very enthusiastic was the presentation of TPACK, which was very useful for master students and teachers, especially during the covid-19 pandemic [S12].*
> *The Diffusion of Educational Innovation course curriculum is very much in line with the needs of 21st-century skills [S21].*

3.2. Students Achievement

After the whole tutorial was completed, then the students got their achievements. This achievement will be combined with the final exam result as the final score.

Table 1 depicts the score distribution of tutorial activities that utilized two platforms during Covid-19: *Tuweb* and *Tuton*. Among 27 master's students who took the course, 96.30% passed the course. One student who failed was due to not being able to complete the tutorial task in the allotted time. In addition, her contribution to the discussion activities in each session was minimal. This shows that the role of *Tuton* and *Tuweb* is very important in helping students during distance learning.

Table 1. The score distribution of tutorial activities

Code	P (TTN & TWB) (10%)	D 20%)	TT (70%)	SCORE	Remark
S1	10	17.98	62.30	90.28	pass
S2	10	18.67	62.53	91.20	pass
S3	10	17.40	60.67	88.07	pass
S4	10	17.95	62.53	90.48	pass
S5	10	15.88	59.50	85.38	pass
S6	10	14.65	61.13	85.78	pass
S7	10	17.12	60.67	87.78	pass
S8	10	17.57	61.83	89.40	pass
S9	10	18.13	63.00	91.13	pass
S10	10	17,97	63.47	91.43	pass
S11	10	17.10	57.40	84.50	pass
S12	10	18.48	62.53	91.02	pass
S13	10	18.15	64.17	92.32	pass
S14	10	17.55	63.23	90.78	pass
S15	10	18.45	61.83	90.28	pass
S16	10	17.70	63.00	90.70	pass
S17	10	17.70	61.13	88.83	pass
S18	10	17.27	59.97	87.23	pass
S19	10	18.05	62.53	90.58	pass
S20	10	17.52	63.47	90.98	pass
S21	10	18.53	63.70	92.23	pass
S22	10	18.22	63.47	91.68	pass
S23	10	17.45	60.20	87.65	pass
S24	9.17	4.25	0.00	13.42	fail
S25	10	17.40	57.40	84.80	pass
S26	9.17	17.63	62.53	89.33	pass
S27	10	17.48	60.67	88.15	Pass
M	9.94	17.12	59.44	86.50	
SD	0.22	2.70	12.00	14.78	

Note; P= presense; TTN =Tuton; TWB=Tuweb; D=Discussion; TT=Tutorial Task

The weight of presence in *Tuweb* and *Tuton* is 10%, while online discussion in *Tuton* is 20%. The high percentage in determining the tutorial score is tutorial tasks (70%). Then, comparing the tutorial performance across gender has shown that males are better than females in all components of the tutorial evaluation. Figure 5 and Figure 6 highlights that male students are slightly better than females in implementing two platforms: *Tuweb* and *Tuton*.

The implementation of *Tuweb* and *Tuton* is also believed by students to play an important role in student achievement and the completion of tutorial assignments, as follows.

> *I feel that tutor assistance during tutorials is very helpful for students in completing tutorial assignments and helping respond to questions in discussion sessions [S1].*
> *In my opinion, both Tuton and Tuweb help students work on tutorial assignments [S13].*

If I have to give an appreciation, then I will say that the Tuton and Tuweb systems are beneficial for students in distance education. [S14].
After the whole tutorial is finished, I believe that I will achieve satisfying learning results [S26].
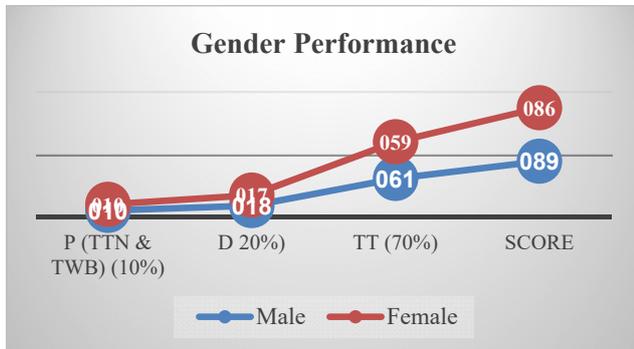

Figure 5. Tutorial's performance across gender

Some of the female students encountered problems during the tutorial implementation, especially related to time management and overcoming technical problems using ICT. Male students are more familiar with the e-learning facilities that underlie the implementation of *Tuweb* and *Tuton*.

As students and mothers who have also worked, we experienced several obstacles when completing tutorial assignments and discussions for each session, but in the end, they were resolved [S15].
In my opinion, male students have advantages in accessing e-learning in every Tuton and Tuweb activity [S21].
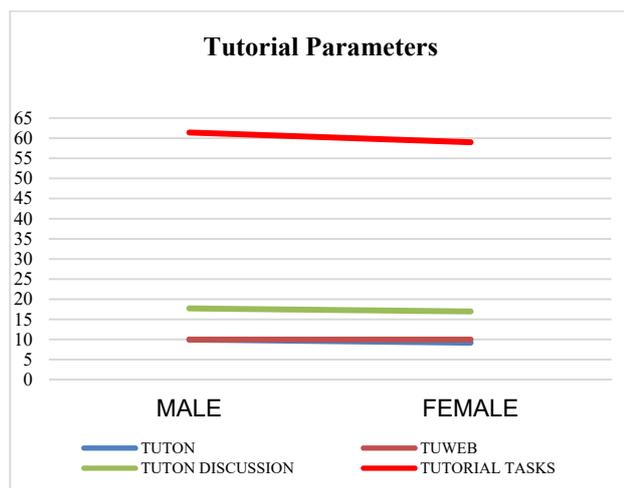
Figure 6. Tutorial parameters across gender

3.3. The Impact of Tuweb and Tuton to the Students' Achievement

In order to get the regression equations among parameters of tutorials, firstly, the correlation among parameters should be presented. Table 2 clearly indicates that all parameters significantly correlate with each other with the coefficient correlation in moderate and high levels. For example, discussion in *Tuton* performed a high correlation with tutorial tasks and discussion in *Tuton* with the tutorial score.

Table 2. Correlation among scoring components

	P	D	TT	SCORE
P	1			
D	.660**	1		
TT	.676**	.964**	1	
SCORE	.685**	.976**	.999**	1

Regression analysis resulted in the equation of score as the function of the presence of *Tuweb* and *Tuton* (P), discussion forum in Tuton (D), and tutorial tasks (TT). The equation model of the tutorial score is indicated in equation (1). It was clear that all three components or parameters of tutorials contributed to the achievement score; in contrast, based on Table 4, the only tutorial discussion that contributed to the tutorial tasks. It means the presence of *Tuweb* has no significant contribution to the tutorial tasks. Therefore, equation (2) indicates that tutorial tasks only depend on the discussion during *Tuton*.

Table 3. Regression results of total score

Coefficients[a]					
Model	Unstandardized Coeff.		Standardized Coeff.	*t*	Sig.
	B	Std. Error	Beta		
1 (Constant)	.006	.147		.042	.967
P	1.000	.016	.015	62.816	.000
D	.998	.004	.182	275.010	.000
TT	1.000	.001	.813	1201.421	.000

[a.] *Dependent Variable: SCORE; R square = 1*

Table 4. Regression results of tutorial tasks

Coefficients[a]					
Model	Unstandardized Coeff.		Standardized Coeff.	*t*	Sig.
	B	Std. Error	Beta		
1 (Constant)	-48.600	34.688		-1.401	.174
P	3.841	3.822	.071	1.005	.325
D	4.081	.314	.917	13.010	.000

[a.] *Dependent Variable: TT; R square = 93.3*

From Table 3 and 4, then,

$$\text{Score} = P + .998\,D + TT \dots\dots\dots\dots\dots\dots\dots(1)$$
$$TT = 4.081\,D \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

The findings that signaled that only tutorial discussion contributed to the tutorial tasks or the presence of *Tuweb* has no significant contribution to the tutorial tasks were supported by some opinions of these students.

> *During the pandemic, the implementation of synchronous modes such as Tuweb should be increased as well as asynchronous activities such as Tuton [S8].*
> *For Tuweb to be more effective because as means of meeting students live with tutors, the percentage is comparable to Tuton or fifty-fifty [S16].*
> *…so, my suggestion is that the proportion of Tuweb should be more than Tuton, which is asynchronous execution [S25].*

Figure 7. The whole visualization of the qualitative data in the shape of 'book reader'

All the results of interview script from the in-depth interview processes were coded into the dominant key words in order to visualize the qualitative data. Accordingly, the top key words reported that 'students' was weighted with 90, 'tutorial' with 67, and 'learning' with 56. Meanwhile, the term such as education, innovation, *tuweb*, session, *tuton* were weighted 35, 32, 32, 30, and 29, registered. The pretty whole visualization of the interview's results is simulated in Figure 7.

4. Discussion and Conclusion

Based on the research finding, it was clear that Open University is needed to meet the needs of studying without being limited by space, time, amount, cost, age, and distance with a quality tutor [10, 17]. The role of tutors in the professional learning process is that tutors are still needed for certain subjects as innovators and motivators. Critical thinking can be developed through the utilization of online tutorial activities [18, 19, 20]. The students utilized Open Educational Resources as a reference source when engaging in online tutorial tasks and online discussions [21, 22].

This research has also noted that students were satisfied with the arrangements for tutorials as communication came on time and tutorial rooms were considered conducive. Good communication between students and their lecturer or tutor is needed [23]. Students expressed dissatisfaction with the ability of their tutors to promote active adult students' participation, waning commitment, poor quality tutorial package, inconsistency in lecturer attendance, and the failure in using modern technologies in tutorials [21]. Nevertheless, the two platforms offered, namely, *Tuweb* and *Tuton*, can be aligned with other platforms that have existed previously, such as MOOCs [24] and other forms of e-learning.

The conclusions of the research are listed below:

a) The implementation of *Tuweb* and *Tuton* has been illustrated through the course of Diffusion of Educational Innovation.
b) The research indicated that students' achievement in terms of gender difference, male students better than female in all components of the tutorial evaluation.
c) All tutorial parameters were significantly correlated with the coefficient correlation in moderate and high levels. Students have also contributed to the achievement score.
d) It was only tutorial discussion via *Tuton* that contributed to the tutorial tasks. It means that the presence of *Tuweb* has no significant contribution to the tutorial tasks.

The limitation of this study lies in the process of drawing conclusions that comes from representatives of one course taught during the pandemic, namely the diffusion of educational innovation courses. For this reason, it is necessary to do an empirical test on whether things happen to other courses in distance education.

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