

Technology Acceptance Model in the Analysis of the Influence of E-Learning Implementation to Students' Motivation

Siti Asiyah

Educational Informatics and Computer Engineering
Faculty of Teacher Training and Education
Sebelas Maret University
Corresponding email: cbudiyanto@staff.uns.ac.id
Indonesia

Cucuk W Budiyanto

Faculty of Teacher Training and Education
Sebelas Maret University

A G Tamrin

Faculty of Teacher Training and Education
Sebelas Maret University

Abstract:

One effort to improve the quality of education is the innovation of learning, one of them with the application of e-learning. With the help of the TAM tool as an analysis in measuring the acceptance attitude of teachers and students. Seeing from the side of ease of use and e-learning use. The purpose of this research is to 1) to know the acceptance of students to an information system applied in the form of e-learning, and 2) to analyze the effect of e-learning implementation on learning motivation of learners. More specifically, the study will evaluate the application of LMS Edmodo and Schoology. The analysis used is descriptive statistical analysis for the disseminated questionnaire and thematic analysis for the interview data obtained. The result of this research is the use of e-learning better if collaborated with conventional learning. So that will complement each deficiency of both e-learning and conventional learning.

Keywords: technology acceptance model, TAM, e-learning, learning motivation, Edmodo, Schoology, conventional learning

DOI : 10.20961/ijie.v2i1.14496



This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

Introduction

Minister of Education and Culture, Muhadjir Efendy said that the level of backwardness of schools in Indonesia from the aspect of quality reached 70 percent. Currently, there needs to be educational innovation especially concerning the equalization of the quality of learners (Ismail, 2017).

One effort in the world of education for quality equity is to utilize instructional media that can be applied by every educator in a school. With the selection of appropriate learning, media will increase students' motivation in learning each lesson that is delivered with an active and fun. With a focus on improving the motivation of learners will form a more competitive atmosphere in the classroom, so the quality of learners will increase as well. Advances in technology that began to penetrate the world of education can also motivate learners, such as the use of Internet media as a medium of support for conventional learning. In this case, an educator and the school can use electronic learning (e-learning) is a form of conventional learning is poured in the form of digital format through internet technology (Aqib, 2013).

This study aims to 1) know the acceptance of students to an information system applied in the form of e-learning, and 2) to analyze the effect of e-learning implementation on learning motivation of learners. More specifically, the study will evaluate the application of LMS Edmodo and Schoology.

Review on Related Study

Some research on relevant topics in this research such as Sung Youl Park (2009) entitled "An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning". This study examines how the student process receives and uses e-learning. Aulia Prima Kharismaputra (2013) entitled "Analysis of E-Learning Information System Acceptance by Vocational Schools students In Surakarta 2012: Testing With Technology Acceptance Model". This study was intended to find out the acceptance of an e-learning information system at a vocational school in Indonesia by using TAM testing and the addition of four external factors that can influence the attitude of learners in receiving e-learning course.

Another research by Nurmaini Dalimunthe and Himawan Wibisono (2013) entitled "Analysis of Admission e-learning System SMK Labor Pekanbaru Using Technology Acceptance Model (TAM)". The results demonstrated the perception of ease of use was "Very Satisfied" with percentage 97.45% while the perception of usefulness was "Very Satisfied: with percentage 97.45%.

Joshua Nugroho, Swastika Agus, & Estiyanti (2015) "The Effectiveness of E-learning Implementation using Social Learning Network Schools on Motivation & Learning Achievement in STMIK Primakara Bali". The results of this study indicate that proper learning contributes to the motivation of learning followed by collaborative learning. Duvince Zhalimar Dumpit and Cheryl Joy Fernandez (2017) under the title "Analysis of the Use of Social Media in Higher Education Institutions (HEIs) Using the Technology Acceptance Model". This study shows that usefulness, ease of use, user attitudes, and excitement are strong indicators of the learner in taking action.

Another use of TAM in research evaluation was applied by Saputra and his supervisors (2017).

Research Method

The research is a combination of qualitative research and quantitative research. The research approach of this mixed method is case study research method (Yin, 1994). This research uses research subject taking technique with nonprobability sampling method by taking purposive sampling where sampling fulfill predefined criterion (Cozby, 2009). The criteria determined by the researcher are each selected respondent based on general subjects in class X, ie digital simulation, and class which have not applied e-learning. So participants were taken by researchers in this study about 73 students and a teacher of digital simulation subjects SMK Negeri 1 Sukoharjo.

The analysis used is descriptive statistics and thematic analysis. The research steps are summarized in the following research procedures:

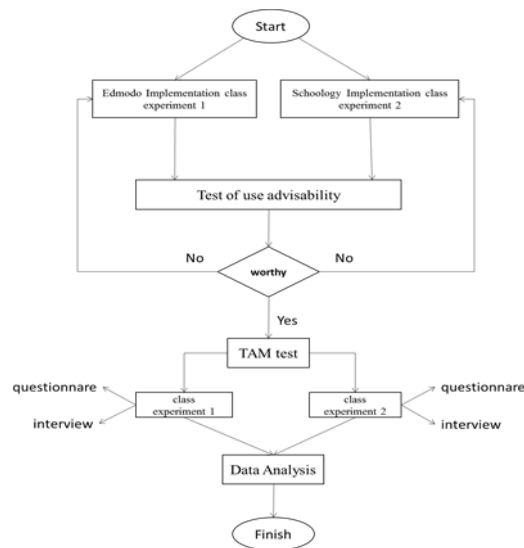


Figure 1. Research Procedures to be performed

In the figure, the first step is to implement e-learning implementation of Edmodo installation in test class 1 and installation of Schoolology in the test class 2. The next step is the feasibility test or readiness to use e-learning in each test class. The data collection stage using questionnaires and interviews by applying the TAM test is done after the feasibility test phase is completed. The last step is data analysis. Data analysis was done by 2 techniques, they were statistical and thematic analysis.

Result and Discussion

Research Result

The results of this study after the implementation of e-learning is completed then taken the data acceptance of respondents to e-learning using tools TAM with Likert scale this results from the following

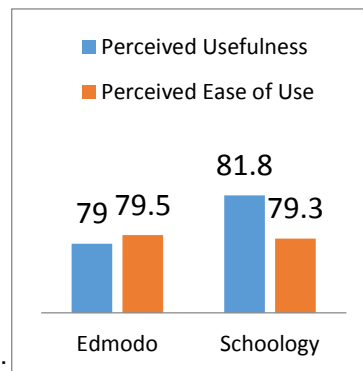


Figure 2. data of questionnaires on students' acceptance of e-learning

From the picture above states, students receive e-learning Edmodo of 79% seen from perceived usefulness and 79.5% seen from the perceived ease of use. And students with the application of Schoolology also receive a percentage of 81.8% seen from perceived usefulness and 79.3% seen from the perceived ease of use.

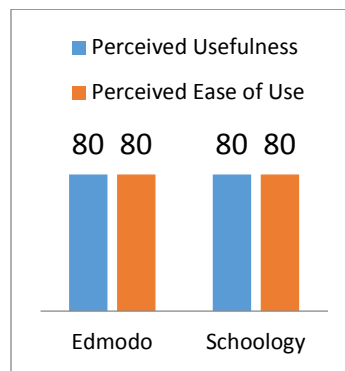


Figure 2. data of questionnaires on teacher' acceptance of e-learning

From the picture above states that teachers receive e-learning either Edmodo or schoology with the same percentage that is equal to 80% seen from perceived usefulness and 80% seen from the perceived ease of use.

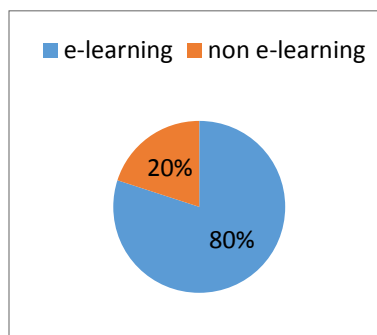


Figure 2. comparison of e-learning

The picture above is the data of the participants taken through the interview. From all participants with the implementation of e-learning states that using e-learning provides convenience and benefits to learning. E-learning also gives effect to student's learning motivation seen from some aspect of motivation which experienced significant increase when compared with conventional learning.

Discussion

How e-learning influences motivational aspect. 80% of participants stated that e-learning implementation influenced aspect motivation according to Sudjana (2014) and Ormrod (2011) as the following diagram.

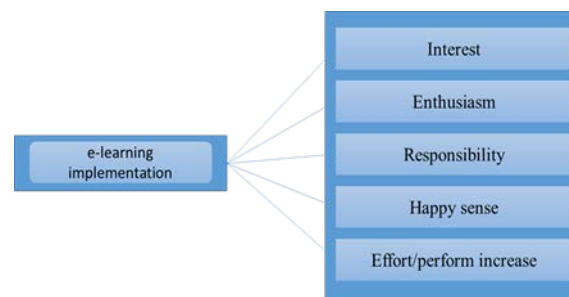


Figure 4. the influence of e-learning on aspects of learning motivation

Based on the image above e-learning has an effect on the aspect of motivation according to the interview result of the participants ie. As many as 80% of participants stated that the advantages of e-learning affect the aspect of motivation such as images with detail. (1)e-learning affects students' interest with the creation of healthy competition in obtaining additional points. (2) E-learning affects the motivation aspect of the spirit by showing the attitude does not quickly bore in the learning process. (3) Responsibility increases with a more disciplined attitude of students in collecting tasks with specified time deadlines. (4)

Learn to be fun because it can be shared with teachers and friends in the virtual classroom. (5) Growing an active and creative attitude seeking references on the internet.

But 20% of participants expressed lack of application of e-learning that is: (1) Direct interaction with teachers and friends is reduced (2) Limited internet connection. (3) Lack of supervision from teachers.

There are two important parts that researchers find. An interesting aspect in the sequence of TAM assessment. The class applied Schoology had to experience with Edmodo. Past experience affecting a recent outcome. (1) The experience of using Edmodo was then applied to the participants' Edmodo more critical of e-learning. That's because they confirm what they've got with Edmodo now from what they've got first. Always wash hands after playing with the weakness that is delivered when using Edmodo. 20% of participants felt that e-learning implementation was less suitable due to lack of teacher supervision and reduced social interaction. (2) The experience of using Edmodo then applied Schoology to the participant's critical attitude toward e-learning. Seen from the high perceptions of benefits obtained by students such as learning to be effective, making students a discipline and understanding more easily and quickly. The percentage of Schoology participants was 81.8%, greater than those of Edmodo participants with 79% percentage. However, from the perception of ease of use 79.3% of Schoology participants was lower than the percentage of Edmodo which was 79.5%. That's because the experience of using Edmodo is longer. Then given new treatment with the application of Schoology that has never been tried. Participants found it difficult to use new e-learning Schoology rather than Edmodo.

Conclusion

The results of e-learning Edmodo acceptance measurements for students using the TAM tool shows 79% results for perceived of usefulness and 79.5% for perceived ease of use. The result of measurement of acceptance of e-learning Schoology for students using TAM tool showed 81.8% for perceived of usefulness and 79.3% for perceived ease of use. And the results of e-learning acceptance measurements by teachers both Edmodo and Schoology showed the same result that is 80% for perceived of usefulness and 80% for perceived ease of use. It proves that the application of e-learning is accepted by students and teachers.

Each learning model has advantages and disadvantages. As well as using e-learning Edmodo and Schoology also have an influence on student learning motivation. Some aspects of motivation are interest, enthusiasm, responsibility, pleasure and increase business or performance with percentage as much as 80%. However, 20% of participants stated some of the shortcomings of e-learning were reduced direct interaction with teachers and friends, Limited connections and lack of supervision from teachers.

The overall use of e-learning is better when collaborated with conventional learning. So that will complement each deficiency of both e-learning and conventional learning.

This study implemented two kinds of e-learning and its effect on students' learning motivation. Furthermore, researchers suggest to include some factors that affect the acceptance of e-learning. And other variables that can be affected by the application of e-learning.

Bibliography

- Aqib, Z. (2013). *Model-Model, Media, dan Strategi Pembelajaran Kontekstual (Inovatif)*. Bandung: Yrama Widya.
- Cozby, P. C. (2009). *Methods in Behavioral Research*. Yogyakarta: Pustaka Pelajar.
- Dalimunthe, N., & Wibisono, H. (2013). ANALISIS PENERIMAAN SISTEM e-learning SMK LABOR PEKANBARU DENGAN MENGGUNAKAN TECHNOLOGY ACCEPTANCE MODEL (TAM), 11(1).
- Dumpit, D. Z., & Fernandez, C. J. (2017). Analysis of the use of social media in Higher Education Institutions (HEIs) using the Technology Acceptance Model. *International Journal of Educational Technology in Higher Education*. <https://doi.org/10.1186/s41239-017-0045-2>
- Ismail, M. (2017, January 13). Mendikbud Sebut Kualitas Pendidikan di Indonesia Tertinggal. Sidoarjo, Jawa Timur. Retrieved from m.beritajatim.com/pendidikan_kesehatan/287347/mendikbud_sebut_kualitas_pendidikan_di_indonesia_tertinggal.html

- Joshua Nugroho, J. W., Swastika Agus, I. P., & Estiyanti, N. M. (2015). The Effectiveness of E-Learning Implementation using Social Learning Network Schoology on Motivation & Learning ... The Effectiveness of E-Learning Implementation using Social Learning Network Schoology on Motivation & Learning Achievement in STMIK Primak, (October). <https://doi.org/10.13140/RG.2.1.5192.2648>
- Kharismaputra, A. P. (2013). *Analisis Penentu Penerimaan Sistem Informasi E-Learning Oleh Siswa Smk Di Surakarta Tahun 2012 : Pengujian Dengan Technology Acceptance Model*. Universitas Sebelas Maret. Retrieved from <https://digilib.uns.ac.id/dokumen/detail/33539/Analisis-Penentu-Penerimaan-Sistem-Informasi-E-Learning-Oleh-Siswa-Smk-Di-Surakarta-Tahun-2012-Pengujian-Dengan-Technology-Acceptance-Model>
- Ormrod, J. (2011). *Psikologi Pendidikan Membantu Siswa Tumbuh dan Berkembang* (Keenam). Jakarta: Erlangga.
- Park, S. Y. (2009). An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning. *Educational Technology & Society*, 12(3), 150–162. <https://doi.org/10.1007/s00340-009-3513-0>
- Saputra, I. W., Budiyanto, C. W., & Hatta, P. (2017). The Development of a Competency Testing Systems: Adopting TAM to Explore User's Acceptance. *Indonesian Journal of Informatics Education*, 1(2). doi: 10.20961/ijie.v1i2.12008
- Sudjana, N. (2014). *Penilaian Hasil Proses Belajar Mengajar*. Bandung: Remaja Rosdakarya.
- Yin, B. R. K. (1994). Case Study Research., 1–5.