

Student Achievement with the Implementation of the E-Learning System: Anxiety associated with Computers and Apprehension of Oral and Written Communications

(A Replication of Fuller et al. Study)

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DOI. <https://doi.org/10.61656/pmar.v5i1.126>

ABSTRACT: *In the digital era, education can be done by learning not only anywhere but at any time with e-learning facilities, which are also implemented in the Accounting Study Program at Universitas Pembangunan Nasional Veteran Jawa Timur, so students also need skills in using technology, especially e-learning. Based on this background, this research aims to determine the factors influencing student achievement by implementing the e-learning system in the teaching and learning process. The sample was 81 students from the Accounting Study Program at UPN Veteran, East Java, Surabaya, using the simple random sampling technique. In implementation, the number of respondents was 74, with a return rate of 91.4%. The research variables used are computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension as independent variables, and student achievement variables as the dependent variable. To answer the problem formulation, objectives, and hypotheses, the analysis used is Multiple Regression Analysis. Based on multiple regression analysis, it can be concluded that computer anxiety and computer experience have a significant effect on student achievement, and email/web experience, oral communication apprehension, and written communication apprehension have no significant effect on student achievement or in other words email/web experience, oral communication apprehension, and written communication apprehension are not variables that cause the rise and fall of student achievement.*

Keywords: *Accounting students' achievement, anxiety, e-learning, experience, communication apprehension, UPN Veteran East Java.*

Article info: Received: 03 November 2023; Revised: 25 January 2024; Accepted: 31 January 2024

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Recommended citation: Munari, A. & Roshida, V. A. (2024). Student Achievement with the Implementation of the E-Learning System: Anxiety associated with Computers and Apprehension of Oral and Written Communications, *Public Management and Accounting Review (PMAR)*, 5 (1), pp 76-95.



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INTRODUCTION

Trust in new information system technology in evaluating individual performance is needed by management to ensure that new computer-based systems can be used to control subordinate performance. The success of a company's information system depends on how the system is run, the ease of the system for its users, and the use of the technology used (Dwirandra & Astika, 2020; Goodhue, 1995). The user evaluation construct is a very broad construct, and it is an evaluation or measurement of an individual's attitudes and beliefs towards something, whether goods or services. Goodhue (1995) proposed the technological task suitability relationship construct as a reference for user evaluation in information systems. This model states that users will give a high (positive) evaluation score not only due to the system's inherent characteristics but also to the extent to which the system is believed to meet their task needs and be in accordance with their task requirements. However, for information technology to be accepted and successfully implemented, it needs the trust of its users to enhance individual performance (Fadillah & Suryaningrum, 2021).

User evaluation of technological task suitability is important in relation to achieving high individual performance. Goodhue (1995) found that technological task compatibility will lead individuals to perform better. The application of technology in a company's information system should consider that the user of the technology system applied can be utilized according to the user's duties and abilities. It is not uncommon to find that the technology applied in information systems is often inappropriate or not utilized optimally by individual users of information systems. Hence, information systems provide more benefits in improving individual performance (Dwirandra & Astika, 2020; Vassilakopoulou & Hustad, 2023).

There are four types of technology whose development is relatively prominent at the moment: manufacturing, transportation, communications, and computers. The combination of the latter two types of technology and office automation is known as information technology (Suryaningrum, 2012). Information technology (IT) has become more popular and replaced information systems (IS). However, the two are often used interchangeably with the same meaning. IS has a broader meaning. IS is related to hardware and software and includes knowledge, methods, and techniques for using information in business (Onn & Sorooshian, 2013).

The development of computer technology and other technologies is driving the transformation of the business environment so that market conditions at various scales (local, regional, or global) become increasingly competitive (Suryaningrum et al., 2023). Every business actor tries to implement an efficiency or product differentiation strategy to gain competitive advantage and be more oriented towards achieving profits in the long term. The presence and rapid development of IT today provide various conveniences for business activities in an increasingly uncertain environment (Suryaningrum, 2012). The role of IT as an aid in making business decisions in various functions and managerial ranks is becoming increasingly important for business managers because of IT's ability to reduce uncertainty.

Every university wants to produce graduates equipped with hard and soft skills. Hard skills are connoted as academic achievement or, in this case, grade point average (GPA), and soft skills are connoted with student attitudes/behavior in the sense that the student has enthusiasm and motivation, can communicate both verbally and in writing, and can collaborate with other people. Likewise, UPN, especially the accounting study program, has the same goal: equipping its graduates with good hard and soft skills. The reality in the field is that evidence is found that the GPA of accounting students is high, but this has not been balanced with the achievement of soft skill abilities. This can be seen in the results of the researcher's observations. It was found that during the teaching and learning process, students often lacked the courage to express their opinions in group discussion forums (verbal communication), and many students still could not work together in completing group assignments. The data in Table 1 shows that 256 students graduated from accounting in 2021 with the GPA level of accounting program graduates for the 2020-2021 academic year.

Table 1 shows that, on average, there are still many accounting graduates or undergraduate accounting graduates who graduate in the 2020-2021 academic year who have a GPA level between 2.5 – 3.0, namely 52% and 60%. This shows that the scores obtained are quite high but have not been proven in real terms in the field because they tend to be passive once they are tested orally in the presence of a class discussion forum.

This phenomenon is supported by research by [Suryaningrum & Takarini \(2012\)](#), who took samples from students at the Faculty of Economics, UPNV East Java, IESP Study Program (economics and development studies), and Management and Accounting study programs. The research results showed that the mean level of fear of oral communication among Accounting students was greater than that of other study programs. This is reinforced by research by Elias (1999) in [Suryaningrum & Takarini \(2012\)](#), which states that accounting students are more afraid of communicating in writing or verbally than students in general.

Table 1. GPA Level of Accounting Study Program Graduates for the 2020-2021 Academic Year

Semester	GPA		
	< 2,5	2,5 - 3,0	>3,0
Odd	0%	52%	43%
Even	2%	60%	37%

Source: Accounting Program – Data 2022

Based on the explanation from the phenomena and various research results, the idea arises that student achievement can be influenced by the application of e-learning, divided into online learning and offline learning, which can be measured from their hard and soft skills. Hard skills include email/web experience and computer experience, which can be assessed from a student's achievement index, for example, by having application courses (computer applications); soft skills include computer anxiety, oral communication apprehension, and written communication apprehension, which are viewed from the implementation of the e-system. Online and offline learning occurs in the teaching and learning process in class, while online learning involves uploading and downloading lecture material. This research replicates research by [Fuller et al. \(2016\)](#). However, in Fuller's research, all variables refer to online e-learning, such as email anxiety and email use. In contrast, this study does not only use online e-learning but also includes offline e-learning, no matter how sophisticated the method is. Technology that relies on cyberspace cannot replace the face-to-face process in the classroom because there is an emotional bond between the lecturer and the students. For this reason, the problem formulation can be formulated namely:

RQ: Does email/web experience, computer experience, computer anxiety, oral communication apprehension, and written communication apprehension influence student achievement in the UPN Veteran East Java Accounting study program? implementation of e-learning systems.

This research aims to analyze the level of email/web experience, computer experience, computer anxiety, oral communication apprehension, and written communication apprehension of students, which influence student achievement in the UPN Veteran East Java Accounting study program in implementing the E-learning system. By focusing on this new understanding and perspective of IS e-learning success and student achievement, this research is expected to significantly contribute to the literature on accounting systems and provide valuable insights for practitioners, educators, and policymakers in the accounting field.

LITERATURE REVIEW

The Influence of Computer Anxiety on Student Achievement with the Implementation of E-learning Systems

According to [Fiddin & Muhammad Arief \(2022\)](#), the attitude of computer users is a factor that influences individual performance (skill) in using computers. A person's expertise in using computers, in turn, influences the success of implementing information technology. Research conducted by [Pratiwi & Listiadi \(2021\)](#) shows that individual attitudes toward computers have an influence on the user's individual skills and have an influence on self-confidence and the performance of the individual concerned. Computer Anxiety is usually more of a condition than a trait, which suggests that this condition can be adjusted based on the conditions related to intervention for anxiety ([Fuller et al., 2016](#)). Computer anxiety is strongly associated with decreased use, even avoidance of information technology.

The research results of [Schlebusch \(2018\)](#) stated that students with higher computer anxiety have lower confidence in their own abilities and performance compared to those who have lower computer anxiety. Our results show that prior computer science knowledge directly reduces computer anxiety and negative views toward the Internet, while low computer self-efficacy predicts worry. The findings demonstrated that there were no appreciable variations in computer anxiety, self-efficacy, or negative views toward the internet between participants who were male and female ([Cazan et al., 2016](#)). Research by [Ouajdouni et al. \(2021\)](#), also shows that computer anxiety has a significant negative relationship with a person's skill in using a computer. [Akcil & Bastas \(2021\)](#) have also been proven that computer anxiety has a significant negative effect on a person's skill in using a computer, as well as the research results of [Indriantoro \(2000\)](#) showing that computer anxiety has a significant negative relationship with a person's skill in using a computer so that the research This time computer anxiety was used again as an independent variable.

Because most courses already use computer-based learning methods, the higher level of individual anxiety regarding computer use will prevent individuals from receiving information related to courses, which can reduce student performance. Based on the explanation, the idea arises that computer anxiety affects student achievement. For example, in discussion forums, students who have a low fear of using computers will easily present the results of their work and can also easily upload courses online.

The Influence of Computer Experience on Student Achievement with the Implementation of E-learning Systems

According to [Fuller et al. \(2016\)](#), Computer Experience is known to have a significant positive influence on the email use variable. Furthermore, the email use variable is known to have a significant positive influence on the learning variable. In this study, the email use variable was not used because not all courses that use the e-learning method use the email use method. However, existing learning methods already use computer-based learning, so researchers try to examine the direct influence on student performance ([Wayman et al., 2017](#)). Knowledge of technology is known to reduce anxiety related to the use of technology. Furthermore, involvement in the use of email in computer use and experience in using computers can increase an individual's understanding when using computer technology such as email ([Fuller et al., 2016](#)), so that it can help the individual, understand lecture material information through computer technology. By increasing individual knowledge and experience with computers, individual performance is hoped to improve.

The computer experience variable is used for both offline learning and online learning. If students have experience in using computers, it can make the teaching and learning process easier because students do not feel unfamiliar and are accustomed to using computer systems in the teaching and learning process, which is held using an e-learning system, whether off-line learning or online learning, students can access it at any time. For example, in the classroom teaching and learning process forum, students will have difficulty operating when they need computer experience, both for uploading or downloading lecture material, completing assignments, and presenting in class ([Suryaningrum, 2012](#)). They can waste a lot of time doing it. This shows that there is no effectiveness and efficiency in the time students use, which means a decrease in student achievement. If students have experience in using computers, of course, they will not take up so much time for all activities related to computer use. Based on the explanation above, the idea arises that computer experience influences student achievement.

The Influence of Oral Communication Apprehension on Student Achievement with the Implementation of the E-learning Systems

The oral communication apprehension variable explains individual students' verbal communication abilities. This variable observes the tendency for individuals to have difficulty communicating verbally to others and when speaking in public ([Fuller et al., 2016](#)). In the research of [Fuller et al. \(2016\)](#), this variable does not positively influence email anxiety. The email anxiety variable has a significant negative influence on email use. Meanwhile, the email use variable has a significant positive influence on learning.

Individuals with difficulty communicating tend to avoid situations where the individual has to communicate. They prefer not to take courses that require a high frequency of communication ([Fuller et al.,](#)

2016). Communication difficulties can also cause low individual performance in academic fields, especially intensive classes; therefore, this research promotes individual performance as student achievement. Research conducted by Richmond and McCroskey (in Fuller et al., 2016) for 20 years concluded that individuals with great communication difficulties talk less, lack communication skills, are unable to compete with other people, and feel inferior in class. Furthermore, some evidence suggests that students with high levels of communication difficulties are considered to have low levels of intelligence (Fuller et al., 2016). The higher the level of student communication difficulties, it is thought that the student's achievement will decrease. For example, when a student has difficulty asking the lecturer about the material, the lecturer will find it difficult to understand the question so that the student will have difficulty understanding the material, which will result in a decrease in the grade for the course (Loureiro et al., 2020; Suryaningrum & Takarini (2012). Based on the explanation above, the idea arises that oral communication apprehension influence student achievement.

The Influence of Written Communication Apprehension on Student Achievement with the Implementation of the E-learning Systems

The written communication apprehension variable explains students' written communication skills. This variable looks more at the individual's tendency to experience difficulty in feeling unable to write, feeling uncomfortable when writing, and the potential for negative evaluation from other people when reading their writing (Fuller et al., 2016). In an e-learning environment, communication between students and teachers can be done via computer technology, one of which is via email. When communicating, the email must contain writing to convey the communication to other individuals. Therefore, email senders must know that the email recipient will read what they send.

If what happens in an e-learning environment is that individuals cannot communicate through writing, then this can disrupt the process of receiving information (Loureiro et al., 2020). This also applies in lectures. When an exam is being carried out, there is a possibility that the writing of students who have difficulties in written communication will be illegible. Their exam answers will be wrong due to a misperception of an answer, which will affect the course grade. Based on the explanation above, the idea arises that written communication apprehension affects student achievement.

RESEARCH METHOD

Research Model

Based on the theory and previous research stated above, premises can be taken, which can then be concluded from these premises so that they become the basis for putting forward a hypothesis. The premises are:

- Premise 1: Computer anxiety has a positive influence on email anxiety. Oral communication apprehension - groups have a positive influence on email anxiety. Oral communication apprehension - dyads have a positive influence on email anxiety. Written communication apprehension has a positive influence on email anxiety. Email/web experience has a positive influence on email anxiety. Email anxiety has a negative influence on email use. Computer experience has a positive influence on email use. Email use has a positive learning effect. Age has a positive learning influence (Fuller et al., 2016)
- Premise 2: The attitude of computer users is a factor that influences individual performance (skill) in using computers (Ramantha & Ramantha, 2014).
- Premise 3: Computer anxiety has a significant negative relationship with a person's computer skills (Aulia Salsabila & Febriani, 2022; Fitriyah & Hermawan, 2023).
- Premise 4: Involvement of email use in computer use, as well as experience in using computers, can increase an individual's understanding when using computer technology such as email, so that it can help the individual understand lecture material information through computer technology (Fuller et al., 2016).

Premise 5: Communication difficulties can also cause low individual performance in the academic field (Fuller et al., 2016; Suryaningrum & Takarini, 2012)

Premise 6: The tendency for individuals to have difficulty feeling unable to write, feeling uncomfortable when writing, and the potential for negative evaluation from other people when reading their writing (Fuller et al., 2016; Loureiro et al., 2020)

Based on the literature reviews and these premises, Figure 1 shows the research model that explains the research framework for developing hypotheses.

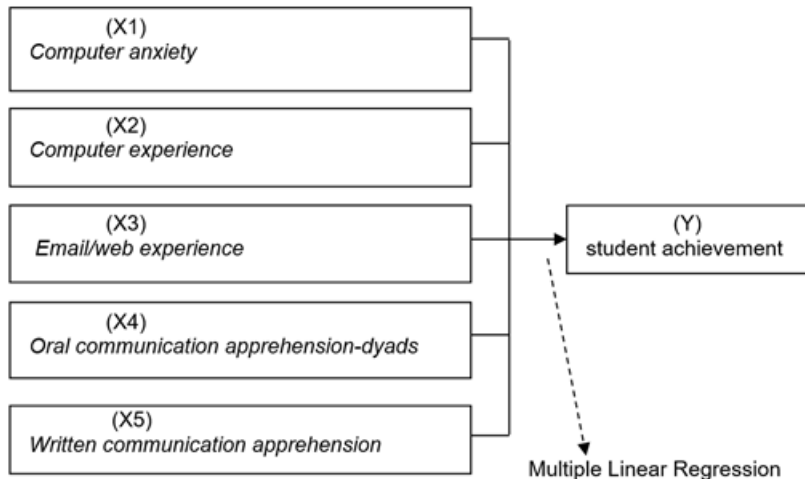


Figure 1. Research Model

The hypotheses of this research are:

H1: Computer anxiety affects students' achievement.

H2: Computer experience affects students' achievement.

H3: Email/web experience affects students' achievement.

H4: Oral communication apprehension- dyads affect students' achievement.

H5: Written communication apprehension affects students' achievement.

Operational Definition and Variables Measurement

Students' achievement (Y)

Student achievement is the result obtained by someone participating in teaching and learning activities within a certain period of time with the support of existing information system technology. The instrument used to measure student achievement variables in this research consists of 5 questions that measure student achievement: productivity, effectiveness, student creativity, and the perceived influence of the use of information system technology. This variable instrument is a replication of Fuller et al. (2016). This variable shows student achievement assessments ranging from above average to below average. The measurement technique uses a 5-point Likert scale with ordinal data.

Computer anxiety (X1)

Computer anxiety is a person's fear of using information technology (computers). This variable describes the extent of students' fear of using computers. It is hoped that a lower fear of using computers will make it easier for students to implement e-learning. The instrument used in this research replicates Fuller et al. (2016). This variable is measured with 6 questions that indicate the student's fear of using computers, ranging from higher to lower student fear. The measurement technique uses a 5-point Likert scale with ordinal data.

Computer experience (X2)

Computer experience is a student's experience using information technology (computers). This variable describes the experience of using computers for completing assignments and uploading and downloading lecture materials. It is hoped that a greater ability to use computers will make it easier for students to

implement e-learning. The instrument used in this research replicates [Fuller et al. \(2016\)](#). This variable is measured with 4 question items that indicate the student's experience in using computers, ranging from experienced to less experienced. The measurement technique uses a 5-point Likert scale with ordinal data.

Email/web experience (X3)

Email/web experience is a student's experience in using email/web facilities. This variable describes the level of experience in using email. It is hoped that deeper experience using Email/Web can make it easier for students to implement e-learning. The instrument used in this research replicates [Fuller et al. \(2016\)](#). This variable is measured with 4 question items. The measurement technique uses a 5-point Likert scale with ordinal data indicating students' experience in using email, ranging from experienced to less experienced.

Oral communication apprehension (X4)

Oral communication apprehension is the level of difficulty of students' verbal communication. This variable describes difficulties in teaching and learning process activities in class discussion forums and presentations. It is hoped that the high level of individual oral communication can make it easier for students to implement e-learning. The instrument used in this research replicates [Fuller et al. \(2016\)](#). This variable is measured with 8 questions. The measurement technique uses a 5-point Likert scale with ordinal data that shows the level of student difficulty in oral communication, ranging from those who have communication difficulties to those who do not have difficulties in oral communication.

Written communication apprehension (X5)

Written communication apprehension is the level of difficulty of student communication in writing. This variable describes the difficulty in conveying information in writing emails and work reports. A high level of written communication is hoped to make it easier for students to implement e-learning. The instrument used in this research replicates [Fuller et al. \(2016\)](#). This variable is measured with 4 questions. The measurement technique uses a 5-point Likert scale with ordinal data indicating the level of student difficulty in written communication, ranging from those who have communication difficulties to those who do not have difficulties in written communication.

Population and Sample

Population is a collection of all possible people, objects, and other measures that are objects of attention or a collection of all objects of concern ([Ghozali, 2018](#)). Population refers to the entire group of people, events, or things of interest that want to be investigated. The target population in this research is all students of the accounting program at UPN Veteran East Java, even semester for the 2020/2021 period, class of 2017-2020, which, according to ADMIK FE, totals 436 students who have taken all courses whose teaching methods use computer-based and web-based learning.

The sampling technique in this research uses a probability sampling design with simple random sampling. Random sampling from the population takes into account no strata in the population, and every member of the population has the same opportunity to be sampled ([Ghozali, 2018](#)). To determine the size of the sample to be taken, the SLOVIN (1960) formula quoted by Sevilla (1994) in ([Anugraheni et al., 2023](#)) is used, namely 81 students who can represent the existing population.

Data Quality Test

Validity test

After the data is obtained, the accuracy of the data (goodness of data) is assessed through validity and reliability tests. Validity shows how well a technique, instrument, or process measures a particular concept, and reliability shows how stable and consistent the instrument reveals variables. The validity test is carried out to determine the extent to which the measuring tool (questionnaire) is what is desired. Whether the measuring instrument is valid can be tested by correcting the score obtained from the sum of all question scores. Suppose the correlation between the total score and the score for each question is significant (shown with a significance level of <0.05). In that case, it can be said that the measuring tool has validity ([Ghozali, 2018](#)).

Reliability Test

Reliability is a tool for measuring a questionnaire, which is an indicator of a variable or construct. A questionnaire is said to be reliable or reliable if a person's answers to the questions are consistent or stable over time (Ghozali, 2018).

This research's reliability was measured using the One Shot method or one measurement. The reliability test was carried out using the Cronbach Alpha statistical test approach with the following test criteria:

1. If the alpha value is > 0.60 , it means the question is reliable
2. If the alpha value < 0.60 , it means the question is not reliable

Normality test

The normality test is used to determine whether data follows a normal distribution or not. To determine whether the data follows a normal distribution can be done using various methods, including the Kolmogorov-Smirnov method. The guideline for deciding whether a data distribution is normal is that if it is significant or the probability value is smaller than 5%, then the distribution is not normal. The distribution is normal if it is significant or the probability value is greater than 5% (Ghozali, 2018).

Multiple Regression Analysis

This analysis was carried out to test the influence of the independent variable on the dependent variable. Multiple regression analysis can be formulated using the following equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e \dots\dots\dots (1)$$

Legend:

- Y: Student achievement
- a: Constant
- b1- b5 : Regression coefficient
- X1: Computer anxiety
- X2: Computer experience
- X3: Email/web experience
- X4: Oral communication apprehension
- X5: Written communication apprehension
- e: Standard error

Model Fit Test (F Test) and Hypothesis Test (t-test)

According to Ghozali (2018), it tests the ability of independent variables to influence dependent variables together. For this test, the F-table and t-table are used. To find the F- and t-table values, you need to know the degree of the numerator in the column, the degree of freedom of the denominator in the row, and the real level. Generally, there are 2 real levels used, namely 1% and 5%. It is better to use 1% for exact sciences, while for social sciences, you can use 5%. For the degree of the numerator, the value k-1 is used. That is, the variable is reduced by 1. For the denominator degree, n-k is used; the number of variables reduces the number of samples.

RESULTS AND DISCUSSION

Description of Research Results

Research data was collected by distributing 81 questionnaires. The following are the details of receiving and returning questionnaires:

- Distributed questionnaires = 81
- Returned questionnaires = 74
- Analyzed questionnaires = 74
- Return rate (response rate) = $74/81 \times 100\% = 91.4\%$

Even though the number of respondents in this study was less than the sample size determined according to the Slovin formula, the analysis was still continued because, according to Anugraheni et al. (2023), the minimum sample size for the correlational method was at least 30 objects (30 respondents).

The respondents in this study were East Java UPNV accounting students from class 2020-2021 in the 2021 academic period, totaling 81 respondents using a simple random sampling technique. In the description of the research results, respondents' answers to the questions asked in the questionnaire will be described regarding the variables computer anxiety, computer experience, email/web experience, oral communication apprehension, written communication apprehension, and student achievement variables.

Computer Anxiety

Based on Table 2, most respondents (68.1%) answered scores 4 and 5, which means that respondents agreed with the statement item on the computer anxiety variable. This shows that accounting students at UPN Veteran East Java who were research respondents had a low level of fear of using computers, so students felt they were not worried about using computers, felt comfortable and happy using computers for assignment presentations, and had a very high interest in learning to use computers again.

Table 2. Description of the Computer Anxiety (X1)

Item	Score					Total
	1	2	3	4	5	
X1.1	1	6	20	24	23	74
	1.4%	8.1%	27.0%	32.4%	31.1%	100.0%
X1.2	1	1	16	33	23	74
	1.4%	1.4%	21.6%	44.6%	31.1%	100.0%
X1.3	1	4	20	28	21	74
	1.4%	5.4%	27.0%	37.8%	28.4%	100.0%
X1.4	0	1	23	31	19	74
	0.0%	1.4%	31.1%	41.9%	25.7%	100.0%
X1.5	5	6	13	30	20	74
	6.8%	8.1%	17.6%	40.5%	27.0%	100.0%
Average	1.6	3.6	18.4	29.2	21.2	74
	2.2%	4.9%	24.9%	39.5%	28.6%	100.0%

Source: Data processed (2022)

Computer Experience

Based on Table 3, most respondents (69.2%) answered scores 4 and 5, which means that respondents agreed with the statement item on the computer experience variable.

Table 3. Description of the Computer Experience (X2)

Item	Score					Total
	1	2	3	4	5	
X2.1	1	4	13	39	17	74
	1.4%	5.4%	17.6%	52.7%	23.0%	100.0%
X2.2	1	6	21	32	14	74
	1.4%	8.1%	28.4%	43.2%	18.9%	100.0%
X2.3	0	4	18	32	20	74
	0.0%	5.4%	24.3%	43.2%	27.0%	100.0%
X2.4	1	4	18	41	10	74
	1.4%	5.4%	24.3%	55.4%	13.5%	100.0%
Average	0.75	4.5	17.5	36	15.25	74
	1.0%	6.1%	23.6%	48.6%	20.6%	100.0%

Source: Data processed (2022)

This shows that accounting students at UPN Veteran East Java who were research respondents feel they have experience in using computer technology. In following the teaching and learning process, students

can easily use programs commonly used in computer systems, such as Microsoft Word, Excel, PowerPoint, and Adobe Acrobat Reader.

Email/web experience

Based on Table 4, most respondents (69.9%) answered scores 4 and 5, which means that respondents agreed with the email/web experience variable statement item. This shows that the UPN Veteran East Java accounting students who were research respondents felt they had experience using email/web facilities. The email/web facility has several programs commonly used online, especially in e-learning systems, namely the World Wide Web, Search Engine, Email, and Blog.

Table 4. Description of the Email/Web Experience (X3)

Item	Score					Total
	1	2	3	4	5	
X4.1	4	10	26	19	15	74
	5.4%	13.5%	35.1%	25.7%	20.3%	100.0%
X4.2	1	4	27	27	15	74
	1.4%	5.4%	36.5%	36.5%	20.3%	100.0%
X4.3	1	4	22	25	22	74
	1.4%	5.4%	29.7%	33.8%	29.7%	100.0%
X4.4	1	9	17	24	23	74
	1.4%	12.2%	23.0%	32.4%	31.1%	100.0%
X4.5	4	15	15	22	18	74
	5.4%	20.3%	20.3%	29.7%	24.3%	100.0%
X4.6	0	3	16	32	23	74
	0.0%	4.1%	21.6%	43.2%	31.1%	100.0%
Average	1	7	19	26	20	74
	1.9%	9.5%	26.2%	35.1%	27.3%	100.0%

Source: Data processed (2022)

Oral Communication Apprehension

Based on Table 5, most respondents (62.4%) answered scores 4 and 5, which means that respondents agreed with the statement item for the variable oral communication apprehension. This shows that the UPN Veteran East Java accounting students who were research respondents had a low level of difficulty in oral communication. They felt happy participating in group discussion forums, did not feel afraid to start conversations with other people, and felt calm when presenting about something.

Written Communication Apprehension

Based on Table 6, most respondents (66.2%) answered scores 4 and 5, which means that respondents agreed with the written communication apprehension variable statement item. This shows that the UPN Veteran East Java accounting students who were research respondents had a low level of difficulty in written communication, so students did not feel worried about their writing being shown and read by other people and felt happy showing their writing or being read.

Accounting Student Achievement

Based on Table 7, most respondents (62.7%) answered scores 4 and 5, which means that respondents agreed with the student achievement variable statement items. This shows that the UPN Veteran East Java accounting students who were research respondents had great productivity, effectiveness, and creativity from the influence of information system technology. In this way, using computers has a big and positive influence on student assignment completion. The influence of e-learning is that it can increase students' GPAs, and students' understanding of using computers is still quite good.

Table 5. Description of the Oral Communication Apprehension (X4)

Item	Score					Total
	1	2	3	4	5	
X4.1	4	10	26	19	15	74
	5.4%	13.5%	35.1%	25.7%	20.3%	100.0%
X4.2	1	4	27	27	15	74
	1.4%	5.4%	36.5%	36.5%	20.3%	100.0%
X4.3	1	4	22	25	22	74
	1.4%	5.4%	29.7%	33.8%	29.7%	100.0%
X4.4	1	9	17	24	23	74
	1.4%	12.2%	23.0%	32.4%	31.1%	100.0%
X4.5	4	15	15	22	18	74
	5.4%	20.3%	20.3%	29.7%	24.3%	100.0%
X4.6	0	3	16	32	23	74
	0.0%	4.1%	21.6%	43.2%	31.1%	100.0%
Average	1	7	19	26	20	74
	1.9%	9.5%	26.2%	35.1%	27.3%	100.0%

Source: Data processed (2022)

Table 6. Description of the Written Communication Apprehension (X5)

Item	Score					Total
	1	2	3	4	5	
X5.1	2	7	17	33	15	74
	2.7%	9.5%	23.0%	44.6%	20.3%	100.0%
X5.2	1	3	21	28	21	74
	1.4%	4.1%	28.4%	37.8%	28.4%	100.0%
X5.3	2	6	16	27	23	74
	2.7%	8.1%	21.6%	36.5%	31.1%	100.0%
Average	2	5	18	29	20	74
	2.3%	7.2%	24.3%	39.6%	26.6%	100.0%

Source: Data processed (2022)

Table 7. Description of the Accounting Student Achievement (Y)

Item	Score					Total
	1	2	3	4	5	
Y1	0	3	24	29	18	74
	0.0%	4.1%	32.4%	39.2%	24.3%	100.0%
Y2	0	12	29	26	7	74
	0.0%	16.2%	39.2%	35.1%	9.5%	100.0%
Y3	0	4	14	36	20	74
	0.0%	5.4%	18.9%	48.6%	27.0%	100.0%
Y4	0	3	21	36	14	74
	0.0%	4.1%	28.4%	48.6%	18.9%	100.0%
Y5	0	3	25	32	14	74
	0.0%	4.1%	33.8%	43.2%	18.9%	100.0%
Average	0	5	23	32	15	74
	0.0%	6.8%	30.5%	43.0%	19.7%	100.0%

Source: Data processed (2022)

Multiple Regression Analysis

The results of the classical assumption test show that the classical assumptions underlying the regression analysis have been fulfilled. Next, the results of multiple linear regression analysis are to empirically examine the factors that influence the achievement of East Java UPNV accounting students with the implementation of the e-learning systems. The measures of student achievement are computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension.

Table 8. Regression Coefficient Estimation Results

Model	Unstandardized Coefficients	
	β	
Constanta	9.389	
Computer anxiety (X_1)	0.221	
Computer experience (X_2)	0.327	
Email/web experience (X_3)	0.114	
Oral communication apprehension (X_4)	0.108	
Written communication apprehension (X_5)	0.058	

Source: Data processed (2022)

Based on Table 8, the results of the regression equation are as follows:

$$Y = 9.389 + 0.221X_1 + 0.327X_2 + 0.114X_3 + 0.108X_4 + 0.058X_5 \dots\dots\dots (2)$$

Based on the regression equation above, the following explanation can be obtained:

β_0 = Constant = 9.389

This means that the achievement of UPNV East Java accounting students is 9,389 if the influence of computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension are constant/unchanged.

β_1 = Regression coefficient for X_1 = 0.221

This means that if computer anxiety increases by 1 unit, the achievement of East Java UPNV accounting students will increase by 0.221 units. Conversely, suppose computer anxiety decreases by 1 unit. In that case, the achievement of East Java UPNV accounting students will decrease by 0.221 units, assuming the influence of computer experience, email/web experience, oral communication apprehension, and written communication apprehension are constant/do not change.

β_2 = Regression coefficient for X_2 = 0.327

This means that if computer experience increases by 1 unit, the achievement of East Java UPNV accounting students will increase by 0.327 units. Conversely, suppose computer experience decreases by 1 unit. In that case, the achievement of East Java UPNV accounting students will decrease by 0.327 units, assuming the influence of computer anxiety, email/web experience, oral communication apprehension, and written communication apprehension are constant/do not change.

β_3 = Regression coefficient for X_3 = 0.114

This means that if email/web experience increases by 1 unit, then the achievement of East Java UPNV accounting students will increase by 0.114 units; conversely, if email/web experience decreases by 1 unit, then the achievement of East Java UPNV accounting students will decrease by 0.114 units, assuming the influence of computer anxiety, computer experience, oral communication apprehension, and written communication apprehension are constant/do not change.

β_4 = Regression coefficient for X_4 = 0.108

This means that if oral communication apprehension increases by 1 unit, the achievement of East Java UPNV accounting students will increase by 0.108 units. Conversely, suppose oral communication apprehension decreases by 1 unit. In that case, the achievement of East Java UPNV accounting students

will decrease by 0.108 units, assuming the influence of computer anxiety, computer experience, email/web experience, and written communication apprehension are constant/unchangeable.

β_5 = Regression coefficient for X_5 = 0.058

This means that if written communication apprehension increases by 1 unit, then the achievement of UPNV East Java accounting students will increase by 0.058 units. Conversely, if written communication apprehension decreases by 1 unit, then the achievement of East Java UPNV accounting students will decrease by 0.058 units, assuming the influence of computer anxiety and computer anxiety. experience, email/web experience, and oral communication apprehension are constant/unchanging.

Model Fit Test (F-Test)

Testing the regression model specifications uses the F-test. Based on the analysis, the following results are as follows:

Table 9. F-Test Results between Independent and Dependent Variables

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	166.541	5	33.308	3.768	.005 ^a
	Residual	601.094	68	8.840		
	Total	767.635	73			

a. Predictors: (Constant), Written Communication Apprehension (X5), Computer Experience (X2), Oral Communication Apprehension-Dyads (X4), Email/Web Experience (X3), Computer Anxiety (X1)

b. Dependent Variable: Y

Source: Data processed (2022)

Based on Table 10, the F test probability (sig.) value of 0.005 is smaller than the significance level of 0.05, so it is decided to accept H1 and reject H0. Thus, it can be concluded that the resulting linear regression model is suitable for determining the simultaneous influence of the variables computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension on the achievement of accounting students at UPN Veteran East Java.

The achievement of accounting students at UPN Veteran East Java can be explained by the factors of computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension of 21.7%. This is shown by the coefficient of determination or R-square value as follows:

Table 10. Effect of Independent Variables on Dependent Variables

Model	R square	F	Significance
1	0.217	3.768	0.005

Source: Data processed (2022)

Based on Table 10, it can be seen from the number F 3,768 with Sig. 0.005 < 0.05: Positively significant. The results of this analysis indicate that the regression model used for this analysis technique is suitable. Therefore, future researchers should use the same analysis technique model and add research data, observations, and other variables. The influence of the change is only 21.7%. It is known that the R-square value is 0.217, meaning that the change in the dependent variable achievement is influenced by the independent variables computer anxiety, computer experience, email/web experience, oral communication apprehension and written communication apprehension by 21.7%, while other variables outside the independent variable studied influence the remaining 78.3%.

Hypothesis testing

Testing the hypothesis of the influence of X1, X2, X3, X4, and X5 on Y using the t-test. The results of the analysis are shown in Table 11.

Table 11. Hypothesis Test Results (t-test)

Variable	t	Significance
Constanta	2.659	0.010
Computer Anxiety (X1)	2.082	0.041
Computer Experience (X2)	2.691	0.009
Email/Web Experience (X3)	0.966	0.338
Oral Communication Apprehension (X4)	1.315	0.193
Written Communication Apprehension (X5)	0.372	0.711

Source: Data processed (2022)

Based on Table 11, the t-test results can be explained as follows:

1. Testing the effect of computer anxiety on achievement produces a probability value (sig.) of 0.041, which is smaller than the significance level of 0.05, so it is decided to reject H0 and accept H1. This means that computer anxiety has a real influence on the achievement of UPNV East Java accounting students.
2. Testing the effect of computer experience on achievement produced a probability value (sig.) of 0.009, which was smaller than the significance level of 0.05, so it was decided to reject H0 and accept H1. This means that computer experience has a real influence on the achievement of UPNV East Java accounting students.
3. Testing the effect of email/web experience on achievement produced a probability value (sig.) of 0.338, which was greater than the significance level of 0.05, so it was decided to accept H0 and reject H1 with a false probability of rejecting H0 of 33.8%. This means there is no real influence of email/web experience on the achievement of East Java UPNV accounting students.
4. Testing the effect of oral communication apprehension on achievement produced a probability value (sig.) of 0.193, which was smaller than the significance level of 0.05, so it was decided to accept H0 and reject H1 with an incorrect probability of rejecting H0 of 19.3%. This means that oral communication apprehension dyads really influence the achievement of East Java UPNV accounting students.
5. Testing the effect of written communication apprehension on achievement produced a probability value (sig.) of 0.711, which was greater than the significance level of 0.05, so it was decided to accept H0 and reject H1 with a false probability of rejecting H0 of 71.1%. This means there is no real influence of written communication apprehension on the achievement of UPNV East Java accounting students.

Based on the test results, it can be concluded that the research hypothesis, which suspects that computer anxiety and computer experience have a significant effect on student achievement, has been proven to be true. In contrast, email/web experience and oral and written communication apprehension significantly affect student achievement, but the validity has not been proven.

This research hypothesis assumes that all variables influence student achievement. This is also supported by the suitability of the regression model to determine the simultaneous influence of the variables computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension on student achievement variables by obtaining probability values (sig.) test F shows the number F 3,768 with Sig. 0.005 is smaller than the significant level of 0.05. However, based on the results of the t-test, it was concluded that among the five independent variables studied (computer anxiety, computer experience, email/web experience, oral communication apprehension, and written communication apprehension), not all variables had a real effect on the achievement of UPNV East Java accounting students because there were only two variables. The independent variables studied (computer anxiety and computer experience) were proven to have a real effect on student achievement,

with a significant value of less than 0.05. In contrast, the three independent variables (email/web experience, oral communication apprehension, and written communication apprehension) had a greater significant value. greater than 0.05, so it was declared not proven to have a real effect on the achievement of East Java UPNV accounting students.

Discussion

The results of multiple linear regression research showed that computer anxiety and computer experience had a significant effect on the achievement of accounting students at UPN Veteran East Java. This means that if the level of computer anxiety is higher, student achievement will be lower. In other words, when students' fear is higher, it can reduce student achievement. The independent variable has an inverse influence on student achievement. In contrast to computer experience, the higher the student achievement will be. In other words, the greater the student's experience using computers, the greater the real influence on student achievement.

For the results of email/web experience, oral communication apprehension and written communication apprehension do not affect the achievement of accounting students at UPN Veteran East Java. In other words, even though students' experience using email/web is getting higher or lower, student achievement does not change significantly. Likewise, the higher or lower the student's level of communication difficulty, the higher the student's achievement does not change significantly.

The results of this study conclude that computer anxiety and computer experience significantly affect student achievement, consistent with research by [Fitriyah & Hermawan \(2023\)](#) and [Aulia Salsabila & Febriani \(2022\)](#), which states that computer anxiety has a significant negative relationship with a person's computer skills. There is a significant influence between computer anxiety (independent variable) and computer skills (dependent variable), with variations in changes in the level of computer skills explained by the computer anxiety variable.

This research also shows a low level of computer anxiety (fear of using computers) in students, so the achievement of East Java UPNV accounting students has a high score. However, this research shows a dominant influence of computer experience on achievement in accordance with Robbins' experience theory, which states that experience can narrow a person's focus. In some cases, past experience can act to negate the importance of an object. Objects or events that have never been experienced before will be more striking than those experienced in the past. This means that students have little fear of using computers because they have a lot of experience in using them, so they have a habitual attitude in operating them.

The variables email/web experience and oral and written communication apprehension do not affect the achievement of accounting students at UPN Veteran East Java. Even though the total average score on the variables email/web experience and oral and written communication apprehension is high, this does not have a real effect on student achievement with the implementation of the e-learning system. It is a possibility that the implementation of the e-learning system is less than optimal; it can be seen that of the 45 courses in the accounting program, only 11 courses use the e-learning system, and of these 11 courses, not all of them use the existing applications in the e-learning system optimally. In the teaching and learning process, lecturers should always guide students in improving the application of e-learning systems, both offline and online. For example, online delivery of coursework is starting to be encouraged for all courses so that students are accustomed to and proficient in using internet devices and become graduates who have a balanced ability between hard skills and soft skills.

So far, from the observations of researchers, the implementation of the e-learning system is only used to deliver material and send student assignments, so students with e-learning still lack the previously expected contribution, namely the hope of improving the quality of teaching and learning so that it can improve the achievement of accounting program students. UPNV East Java.

The email/web experience variable does not affect student achievement, which is not in accordance with the theory put forward by Robbins, which states that experience can influence the accuracy of perception because, based on selective perception, people selectively interpret what they see based on experience. The purpose of this theory is that a person's experience can influence a person's thinking about something because the more often a person does something, the more a habit arises. The reality in the

field proves that accounting students at UPN Veteran East Java have a lot of experience in email/web. It is proven in the field that more and more students are using wifi facilities to open email or other facilities in cyberspace.

This research has proven that email/web experience does not affect student achievement. It is possible that the experience in using email/web has not been used optimally in supporting the academic field, which can improve student achievement. This condition can be seen in the respondents' answers regarding the email/web experience variable. It turns out that around 27% answered question no.4 with a score of 3, which means that the experience of East Java UPNV accounting students in using email/web is ordinary. Supported by respondents' answers, especially in questions no. 2 and no. 4, around 10% of respondents have low experience in using search engine applications and blogs. Even though students need this application to explore information in the academic field that can improve student achievement. However, an online teaching and learning system alone cannot create an emotional bond between lecturers and students, so lecturers' explanations cannot be understood to explain these problems; for this reason, face to face is needed in the teaching and learning process. Based on existing data, it is known that there were 256 students who graduated from accounting in 2021 with a GPA level of graduates of the accounting program in the 2020-2021 academic year. Around 60% had a GPA of 2.5 – 3.00, and 37% had a GPA of >3.00; this shows that the larger portion of accounting students' GPA is <3.00, so they have less competitiveness to take part in job competitions that require a GPA of >3.00.

Oral and written communication apprehension does not affect the achievement of accounting students at UPN Veteran East Java. This is possible because, currently, there is freedom to express opinions in writing and orally, but none of this is supported by available discussion material. weighted so that the ease of student communication cannot affect student achievement. The results of this research are not consistent with research by Elias in [Suryaningrum & Takarini \(2012\)](#), which states that accounting students are more afraid to communicate in writing or verbally than students in general. Their research proved that accounting students tend to be silent, but the results show that their level of communication is high, but it does not affect their achievement. This can be seen when group discussions are held in class; students can communicate, but it is not in accordance with the material being discussed. Students no longer feel afraid of oral communication, and one of the possibilities is the successful development of soft skills in the teaching and learning process, one of which is starting to hold frequent discussions in class. However, it is hoped that the future challenge will be for all lecturers to always motivate their students to increase their knowledge so that communication in discussions is more focused and meaningful, hoping to increase student achievement. On the one hand, students must also be responsible for increasing their knowledge to increase student achievement.

This research is not consistent with research by [Ramantha & Ramantha \(2014\)](#), which states that trust in new information systems and new information system technology towards increasing individual performance shows positive results. Adding trust variables in new information systems further improves the performance of individual users. Another possibility is that the oral communication apprehension variable does not affect student achievement; it can be seen from the respondents' answers related to oral communication apprehension around 36% answered question no.2 with a score of 3, which means that student communication is mediocre. Accounting students in class discussions tend to be in a position between fear and courage. Next, it can also be seen in the respondents' answers, especially in question no. 4, that around 20% of respondents answered with a score of 2, which means students are afraid to start talking in discussion conversations. This is also evident in the respondents' answers related to written communication apprehension, showing a high average score for written student communication. However, the high average score cannot affect the achievement of accounting students because in the respondents' answers, there are still those with a low level of communication. This condition can be seen in the respondents' answers regarding written communication apprehension. It turns out that around 36% answered question no.2 with a score of 3, which means that student communication feels normal when showing their writing for others to read. Supported by the respondents' answers, especially in question no.1, around 9% of respondents answered with a score of 2, meaning students fear that other people cannot understand their writing.

Based on this description, it can be concluded that the level of difficulty in students' communication, both in writing and orally, is low, which does not make them afraid to convey the material but is not based on sufficient knowledge and the nature of existing knowledge so that the communication that occurs is communication that does not support student achievement. For example, in an exam that provides questions to measure students' reasoning in solving an economic problem, some students write their answers in full on the paper provided but do not weigh their writing, so they cannot increase the student's final score.

Apart from the factors above, the absence of influence of email/web experience and written communication apprehension on the achievement of accounting students at UPN Veteran East Java is also due to the influence of other factors that have a greater influence on student achievement. This is indicated by the R-square value of 0.217. This means that the achievement of accounting students at UPN Veteran East Java can only be explained by computer anxiety, computer experience, email/web experience, oral communication apprehension and written communication apprehension at 21.7%. In comparison, the remaining 78.3% is explained by other variables besides computer anxiety (fear of using computers), computer experience (experience using computers), email/web experience (experience using email/web), oral communication apprehension (difficulty communicating personally orally) and written communication apprehension (difficulty communicating in writing) (Loureiro et al., 2020; Suryaningrum & Takarini, 2012). Other variables that can influence student achievement by implementing the e-learning system include service quality variables in the teaching and learning process and student motivation/interest variables in using e-learning.

The aim of this research, as previously stated, is to empirically examine the influence of computer anxiety (fear of using computers), computer experience (experience of using computers), email/web experience (experience of using email/web), oral communication apprehension (difficulty verbal personal communication) and written communication apprehension (difficulty communicating in writing) on the achievement of accounting students at UPN Veteran East Java with the implementation of the e-learning system. The results of this research conclude that the application of the e-learning system includes computer experience (experience using computers), email/web experience (experience using email/web), oral communication apprehension (difficulty communicating verbally) and written communication apprehension (difficulty communicating in writing) can influence the achievement of accounting students at UPN Veteran East Java so that among the five factors there are only two factors (email/web experience, oral communication apprehension and written communication apprehension) that do not influence student achievement. In contrast, the third factor can influence student achievement. Based on this description, the aim of this research has been achieved, and the results of this research are expected to make a contribution to the world of education, how to design the teaching and learning process, especially those related to accounting education, so that it can produce quality output in facing future business professionalism. Apart from that, it is hoped that the results of this research will be useful as information material and additional references for other research on material related to the problems discussed in this research. It is recommended that future researchers use the same analysis technique model and add research data or observations as well as other variables, such as the availability of teaching and learning facilities, the direction of lecturers as teachers, and student interest in learning.

CONCLUSION

This research was conducted to empirically examine the influence of factors supporting the implementation of the e-learning system on student achievement at UPN Veteran East Java. Based on the results of the analysis carried out, it can be concluded that computer anxiety (fear of using computers), computer experience (experience using computers), email/web experience (experience using email/web), oral communication apprehension (difficulty communicating personally orally) and Not all written communication apprehension (difficulty communicating in writing) influences the achievement of UPN Veteran East Java accounting students with the implementation of the e-learning system. Thus, among these five factors, there are three factors: email/web experience (experience using email/web), oral communication apprehension

(difficulty communicating personally verbally), and written communication apprehension (difficulty communicating in writing), which do not affect student achievement, whereas Two other factors, computer anxiety (fear of using computers) and computer experience (experience using computers) can influence student achievement.

Based on the description above, it can be concluded that UPNV East Java accounting students are currently familiar with and experienced in using computers to support the application of e-learning both offline and online, but this is not supported by extracting sufficient information related to knowledge sources. knowledge, so this is not enough to improve student achievement as evidenced by the GPA level of accounting program graduates for the 2006-2007 academic year; around 60% had a GPA of 2.5 – 3.00, and 37% had a GPA of >3.00.

In the online teaching and learning system, it is not enough to create an emotional bond between lecturers and students so that lecturers' explanations of these problems are less understandable; for this reason, face-to-face is needed in the teaching and learning process. The difficulty in student communication, both in writing and orally, is low, which does not make students afraid to convey material. However, it is not based on sufficient knowledge and the nature of existing knowledge, so the communication that occurs is communication that does not support student achievement.

There are several limitations in this study that might affect the research results. These limitations are, first, there are differences in perception between each respondent in understanding the context of the questions presented in the questionnaire. Second, the respondents' answers submitted in writing via a questionnaire do not necessarily reflect the actual situation, which would be different if the data were obtained through a direct interview.

Based on the results of the analysis and conclusions obtained above, the researcher suggests that in the teaching and learning process, students should always be guided by teaching lecturers in increasing the application of e-learning systems both offline and online. For example, online delivery of coursework is starting to be encouraged for all courses so that students are accustomed to and proficient in using internet devices and become graduates who have a balanced ability between hard skills and soft skills. Second, for further research, it is recommended that future researchers use the same analysis technique model and add research data or observations as well as other variables, such as service quality variables in the teaching and learning process and student motivation/interest variables in using e-learning. Third, in the future, it is hoped that all lecturers will always motivate their students to increase their knowledge so that communication in discussions is more focused and meaningful, hoping to increase student achievement. On the one hand, students must also be responsible for increasing their knowledge, so student achievement can also increase.

Abbreviations

Grade Point Average (GPA), Indeks Prestasi Kumulatif (IPK).

Funding

Any party did not fund this research.

Availability of Data

Questionnaires and research data can be obtained by requesting and providing information on the reasons for needing the data to the author via email.

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