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Implications of Digital Library Transformation on the Learning Process of Accounting Education Students

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ABSTRACT

The purpose of this study was to determine the impact of digital Digital transformation in the library on the learning process of accounting education students, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara, Indonesia. This research uses a quantitative approach because the observed phenomena are converted into numbers that are analysed using statistics. The sample in this study consisted of 79 students of accounting education programme. The results showed that there was an effect of digital transformation in the library on the students' learning process. This can be shown by the Fcount score of 97.639 with a significance level of 0.000 <0.05, in other words, there is an influence of the library digital transformation variable (X) on the students' learning process (Y). In addition, the coefficient of determination (R2) of 0.559 or 55.9% is influenced by the digital transformation in the library and is significant for the learning process of the students of the accounting education programme, while the remaining 44.1% is influenced by other variables not studied.

Keywords: Digital Transformation, Digital Library, Students' Learning Process.

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1. INTRODUCTION

The role of education cannot be separated in the effort to achieve a quality Indonesian society. Education is a conscious and planned attempt to create a learning atmosphere and learning process in order for students to be able to actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character and skills needed by themselves, society, nation and state (Ahsanul Husna et al., 2014). The learning process is one of the things that determine the achievement of educational goals. It is a designed activity to strengthen students' understanding of the material as a result of learning activities.

According to (Abdul Istiqlal, 2018) the learning process is something that is conducted through both formal and non-formal education. In organising formal education, educators and students are required to be more creative in order to achieve the expected educational goals. According to Sani and Abdullah (2016) states that in social constructivism learning theory, the success of students or learners is measured based on their learning process, where students need facilities that assist students during the learning process.

The success of the learning process cannot be separated from the various factors that influence it. According to Amna Emda (2014), the development of the learning process is divided into two factors, which are internal factors and external factors. Internal factors include health, intelligence, talent, interest, motivation and learning methods. Whereas external factors include family, quality of lecturers, teaching methods, available facilities/equipment, room conditions, community, environment and so forth.

According to Yani Riyani (2018), one of the factors that affect the quality of the learning process is the facilities and infrastructure factor, which is all those things that greatly affect the smooth running of the learning process, such as classrooms, libraries, toilets and so on. Some of these factors can promote passion in the learning process. One of the facilities that support the learning and teaching process in the school is

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the library (Sani, Abdullah, 2016). In this case, it can be seen that infrastructural facilities are one of the factors that greatly affect the learning outcomes of the students

Jose Antonio Gomes JHernandez (2010) in his research revealed that the library has made great commitment to achieve several objectives such as developing digital repositories for research and learning, implementing a resource centre model for learning and research, carrying out general and specific user training, publishing tutorials and guidelines for information management, organising thematic digital resources, providing OpenCourseWare, promoting reference services, using social networks, supporting lecturers in preparing new teaching materials and so on. Thus, it can be seen that the library plays a very important role in supporting the learning process or academic activities in an educational institution, especially in a university.

Based on previous studies conducted by (Rivaldo, 2017) and (Cynthia et al., 2015) on the effect of learning infrastructure facilities on the learning process, this study found significant results that learning facilities affect the process and learning outcomes. Therefore, it can be concluded that the learning process of students is not only influenced by intelligence factors, but there are various factors that influence both external and internal.

Alifah (2016) asserted that the role of the library is very important in supporting the educational process, because the library provides various sources of information that we need. In this case, the library can be a means of providing information and reference sources both offline and online provided by universities, a factor that can affect the learning process of students. The provision of library facilities in every university aims to provide information and various sources of knowledge that can help broaden horizons through collections of library materials, scientific journals and scientific works. The existence of a library will help students to find, select and read reference books in order to obtain the desired information (Dongoran & Febriyana, 2020).

The role of the library is aligned with previous research proposed by Kasus et al., (2015), in which his research states that users who dominate access to the digital library information system of UIN Sunan Kalijaga Yogyakarta are students whose need for digital information content is higher to support the theory in the learning process and completion of their final assignments.

The library of Universitas Muhammadiyah Sumatera Utara has been accredited Excellent for the national scale in Indonesia, which means that the higher the rank of the library, the better the standard and service of the library. Library digital transformation is one of the manifestations of library digitalisation. Digitalisation in a library is actually a manifestation of various interests. According to Vivanco (2015), new technologies contribute to the increased flow of knowledge and information. This interest encourages libraries to modernise their services and implement IT in their daily activities. The application of IT in library services can be seen in different ways such as: Circulation services, reference services and research results, journal/magazine/periodical services, internet and computer station services, bibliography and so on (Amhar, 2019). Currently, the library of Universitas Muhammadiyah Sumatera Utara has a digital library service where students can do online resources available in the UMSU library.

The digital library application can be downloaded from the Playstore by searching for UMSU Digital Library. The digital library application can provide benefits or advantages that manual libraries do not have, because digital libraries can break the limitations of space and time for users who want to take advantage of digital library systems (Alifah, 2016). In other words, the digitalisation of libraries is aimed at facilitating students to engage in learning activities anywhere and anytime. The development of digital libraries has been utilised by students, but not to the maximum extent, especially by students of the Accounting Education programme at Universitas Muhammadiyah Sumatera Utara.

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The following is data obtained from the Library Technical Implementing System of the Universitas Muhammadiyah Sumatera Utara, which shows the number of visitors to the digital library application in 2020 - 2022 as a whole can be seen in the data below:

Table 1. Number of visitors to the UMSU library application in the years 2020 - 2022

Visitor	2020	2021	2022
University Student	4266	1524	2148
Student	57	5	40
Lecturer	76	3	38

Source : UMSU Library Technical Implementing System

From the above data, it can be seen that the visits to the library application of Universitas Muhammadiyah Sumatera Utara are dominated by students, lecturers and undergraduates, although it is also provided for the general public. Based on the description of the research background above, it is considered necessary to conduct research to find out whether there is an influence of a library that has been accredited as superior, especially the development of digital library services of Universitas Muhammadiyah Sumatera Utara on the learning process of students, especially the students of Accounting Education programme, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara.

2. RESEARCH METHOD

This research was conducted at Universitas Muhammadiyah Sumatera Utara, Indonesia. The population or research subjects were students of the Accounting Education Study Programme, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara.

Table 2. Population Table

No	Academic Year	Class	Total of Students
1	2019-2020	Morning class of accounting 8th Semester	31
2	2020-2021	Morning class of accounting 6th Semester	14
3	2020-2021	Morning class of accounting 6th Semester	4
4	2021-2022	Morning class of accounting 4th Semester	13
5	2021-2022	Morning class of accounting 2nd Semester	13
6	2022-2023	Afternoon class of accounting 2nd Semester	4
Total			**79**

The number of samples is determined using the census technique, where the sample is determined by taking all members of the population as a sample, thus the sample for this study is 79 students.

The approach and type of data used in the research is quantitative data, which includes information on the number of samples to be used. This research does not change or treat these variables, so this research design is ex post facto. Ex post facto research examines cause and effect relationships that are not manipulated or treated by the researchers. Cause and effect research is conducted on programmes, activities or events that have taken place or are taking place. The existence of a causal relationship is based on theoretical studies that a variable is caused or motivated by certain variables or causes certain variables (Sappaile & Makassar, 2020).

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Research instruments are the means used to collect data in a study. This data collection instrument is used to obtain maximum results so that the validity of the research can be realised. The instrument prepared is a questionnaire instrument using the Likert scale. According to Bahrun et al., (2017), the Likert Scale is a scale used to measure the perceptions, attitudes or opinions of a person or group about an event or social phenomenon by presenting questions accompanied by choices.

The data analysis technique used in this research is inferential statistics. According to Mustafa (2022), inferential statistics are statistics used to test hypotheses as well as the existence of differential relationships and estimation or prediction functions among the data obtained in different variables that have been tested. Inferential statistics play a role in data collection methods, data presentation and drawing conclusions.

3. RESULTS AND DISCUSSION

A. Results Description

Validity Test

The validity results obtained on variable X using SPSS 20 software are presented in the following table:

Table 3. Results of the validity of digital library services (X)

Number of Question	r_{count}	r_{table} (α = 5%, N=79)	Description
1	0,654	0,285	Valid
2	0,830	0,285	Valid
3	0,672	0,285	Valid
4	0,782	0,285	Valid
5	0,814	0,285	Valid

Based on the table above, it can be understood that the validity of the data at the α = 5% level with 79 respondents is obtained r_{table} = 0,285. The above validity test results for variable X show that out of the 5 questionnaire items or questions, 5 items are declared valid with a value of $r_{count} > r_{table}$.

The validity results obtained for variable Y using SPSS 20 software are shown in the following table:

Table 4. Validity results of the student learning process (Y)

Number of Question	r_{count}	r_{table} (α = 5%, N=79)	Description
1	0,644	0,285	Valid
2	0,753	0,285	Valid
3	0,558	0,285	Valid
4	0,785	0,285	Valid
5	0,802	0,285	Valid
6	0,860	0,285	Valid

From the table above it can be seen that the validity of the data at the α = 5% level with 79 respondents is obtained with r_{table} = 0,285. The results of the above validity test for up to 6 items are declared valid with a value of $r_{count} > r_{table}$.

B. Data Analysis Technique

Partial Test (t-test)

Partial test or t-test is used to determine whether there is an effect of the independent variable on the dependent variable individually.

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Table 5. Partial hypothesis testing results (t)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,459	1,262		4,325	,000
	Layanan Perpustakaan Digital	,803	,081	,748	9,881	,000

a. Dependent Variable: Proses Belajar

Source : SPSS 20 Processing Results (2023)

From Table 4.9 above, there are the results of computing the t-test at the significance level of 5%, obtained a tcount of 9.881 which is greater than the ttable of 1.991 and the significance value of tcount = 0.00 <0.05, so the hypothesis is stated that there is an effect of digital library services on the learning process of students of Accounting Education programme, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara.

Simultaneous test (F-test)

The F-test was carried out to determine whether the independent variables, specifically the digital library services, together had a significant effect on the dependent variable, particularly the students' learning process, using the following hypothesis:

1. If the sig score is <0.05 or Fcount > Ftable, then there is a simultaneous effect of the X variables on the Y variable.
2. If the sig value is > 0.05 or Fcount < Ftable, then there is no simultaneous influence of the X variables on the Y variable.

Simultaneous tests (F) are performed by comparing Fcount with the Ftable score. The Fcount score can be obtained from the SPSS test results, and the Ftable value used is the F value with degrees of freedom (df) at df1 = k-1 and df2 = n-k at $\alpha = 0.05$, namely by using

Df1 = 2-1 = 1

Df2 = 79-1 = 78 (3,96)

Table 6. Simultaneous Hypothesis Testing Results (F) ANOVA [b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	558,015	1	558,015	97,639	,000[b]
	Residual	440,061	77	5,715		
	Total	998,076	78			

a. Dependent Variable: Proses Belajar

b. Predictors: (Constant), Layanan Perpustakaan Digital

Source : SPSS 20 Processing Results (2023)

Determination Coefficient Test

The coefficient of determination used in this study measures the proximity of the relationship between the independent variable and the dependent variable. The higher the value of the correlation coefficient, the closer the relationship and vice versa. The coefficient of determination table is shown below:

Table 7. Determination Coefficient

Model Summary[b]

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	,748[a]	,559	,553	2,391

a. Predictors: (Constant), Layanan Perpustakaan Digital

b. Dependent Variable: Proses Belajar

Source : SPSS 20 Processing Results (2023)

From the results of the data processing, it can be seen that the coefficient value (R Square) is 0.559, which means that Digital Library Services has an effect about 55.9%, while the remaining 44.1% is influenced by other variables that are not examined in this study.

This study aims to examine the effect of digital-based library services (X) on the learning process (Y) of students of Accounting Education programme, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara. Based on the research data analysed using SPSS 20, the following results were obtained:

From the results of simple linear regression test conducted, the Fcouunt value of 97.639 was obtained with a significance level of 0.000 <0.05. In other words, there is an influence of digital library service variable (X) on student learning process (Y). Meanwhile, from the results of the coefficient of determination test, which aims to measure the proximity of the relationship between the independent variable and the dependent variable obtained from data processing, that the coefficient value (R Square) is 0.559, which means that Digital Library Services has an effect of 55.9%, while the remaining 44.1% is influenced by other variables not examined in this study.

4. CONCLUSION

Based on the results of data analysis in the research conducted, the authors can conclude that there is a significant influence of digital-based library services on the learning process of students of Accounting Education Study Programme, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara, Indonesia.

From the results of the simple linear regression test conducted, the Fcount value is 97.639 with a significance level of 0.000 <0.05, in other words, there is an influence of digital library service variable (X) on student learning process (Y).

The results of the determination test show that the coefficient value (R Square) is 0.559, which means that Digital Library Services has an effect of 55.9%, while the remaining 44.1% is influenced by other variables not examined in this study.

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