

Effect of Information and Communication Technology to Improve Vocational Skills of Students of UIN Sunan Kalijaga Yogyakarta

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Abstract

Education is the primary driver of a nation's progress, as it aids in the development of strong characteristics, one of which is the improvement of student vocational skills. However, there has lately been a global epidemic, particularly Covid-19, which has disturbed global community mobility, even in the realm of higher education. Because the Indonesian government relies on technology to fund higher education, students must be proficient in information and communication technologies (ICT). This expertise is thought to have the ability to influence the development of occupational skills. The goal of this study was to see how mastering ICT affected students' vocational abilities. This study took place at Yogyakarta's Sunan Kalijaga State Islamic University. This is a quantitative research method that involves the distribution of questionnaires and the use of a Likert scale. A total of 100 students were used in this investigation. The findings revealed that mastering ICT has a positive impact on students at the State Islamic University of Yogyakarta's vocational capabilities. Students' mastery of ICT will be followed by the development of their occupational skills.

Keywords: Information and Communication Technology, Vocational.

1. INTRODUCTION

When it comes to raising a nation's citizens, education plays a crucial part in cultivating a people of character (Idris et al., 2012). With a focus on science and technology, the educational landscape is increasingly emphasizing competency-based education, which focuses on students' ability to demonstrate their proficiency in certain tasks (Abidah et al., 2020). KKNI, the Indonesian National Qualifications Framework, explains that the framework of competency qualification qualifications is capable of integrating between fields of education, job training, and work experience in accordance with the structure of work across various sectors. The KKNI is the primary reference for determining the competence of graduates of academic, vocational, and professional education (Jumadin et al., 2020).

Vocational education is higher education that is advised for practical purposes and begins with D-1, D-II, D-III, and applied scholars and progresses through D-III and applied scholars. With the advent of applied masters and doctorates, vocational education can now be pursued to the highest levels (Setyoko, 2015). However, as

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education has progressed, vocational knowledge is now found not only in vocational education but also in academic education, which is a positive development. In order to develop high-quality human resources, students must have strong vocational skills at the undergraduate and graduate levels, as well as experience in their fields of study.

It's imperative for human resources to be openly competitive with other countries and adaptable and predictive of changes and new conditions in an era of globalization (Manyika et al., 2016). Human resources can therefore realize their full potential by learning new skills, being simple to educate, and possessing a wide range of competencies (Abidah et al., 2020). There is a strong correlation between the rise of globalization and the necessity for professional certifications in the workplace (Fathin et al., 2016). Many stakeholders, including educational institutions, are responsible for ensuring that the next generation has the HR skills they need to succeed (Winangun, 2017).

Students' occupational abilities should be improved not only in vocational education, but in all sorts of higher education instruction. This is because of the ever-increasing market growth and the ever-changing economic activities. Economic activities are accompanied by rapid technological changes, thus vocational skills include not only the majors chosen by students, but also the usage of technology (Winangun, 2017). With the advancement of communication and information technologies, students' vocational skills should improve so that they may effectively use their knowledge (Purnmawati et al., 2019). As a result, it is thought that the thing that influences technology or mastery of information and communication technology (ICT) is crucial in occupational skills.

Knowledge of information and communication technology (ICT) is critical for today's globalized world since computers are essential for accessing and processing information. Individually, these requirements are just as important as those of groups (Rahim, 2011). It is imperative that students understand how to use technology as a learning tool. Students of all ages, especially students, can benefit from the use of technology (Catur et al., 2018). Even if students are able to learn how to use ICT, this can have the opposite effect of increasing students' knowledge and skills in the workplace. As a result, mastering technology is critical to the long-term viability of the technology itself.

When everyone uses information technology in their daily lives and the digital divide is no longer an issue. The issue that is now being addressed is how information technology should be used to achieve larger benefits, one of which is the benefits in the field of education (Utama, 2017). Furthermore, by 2020, all countries worldwide will be affected by the Covid-19 epidemic, necessitating a reduction or avoidance of in-person gatherings (Barcena, 2020). As a result, technology plays a crucial role in ensuring that people continue to communicate and exchange information. Similarly to the rest of the globe, practically all universities in Indonesia do not hold face-to-face sessions during the teaching and learning process (Anugrahana, 2020). Meetings are held online or with the use of technology.

Learners can benefit from ICT's multimedia-based approach to teaching because it incorporates both written text as well as images, sound, and video (Wiana et al.,

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2018). Teaching and learning can be made more accessible to a wider audience with the use of technology, especially during the Covid-19 epidemic (Coman et al., 2020). Learning aids, educational facilities, competency requirements, support for educational administration, and generally accessible infrastructure are all part of Indonesia's ICT use in the education sector.

However, in practice, the use of information and communications technology (ICT) in education in Indonesia is still in its infancy and has not been employed properly and evenly. Because of the COVID-19 pandemic condition, educators will inevitably have to change the way they teach and the learning system they use, which is typically face-to-face. These obstacles are caused, among other things, by an uneven distribution of infrastructure that supports the application of ICT in education and an under preparedness of human resources to utilize ICT in the learning process (Adisel & Prananosa, 2020).

Students' occupational abilities can be improved through the use and mastery of ICT. In order to keep Covid-19 from spreading, students can still learn online and not in person. It will be possible for higher education to run smoothly with the help of ICT, and whether students or teachers like it or not, they must be able to master technology. In every lecture activity, students will directly relate to technology, which will improve the quality of students in the field of technology. Sunan Kalijaga University, Yogyakarta, has rules in place to allow for online learning in accordance with government standards. Student performance and skill development are the primary goals of this situation.

1.1 Research Questions

Based on the background of the problem, this research focuses on the theme of mastering ICT in order to improve the vocational skills of UIN Sunan Kalijaga Yogyakarta students. The researcher formulates the problem as follows: "How is the mastery of ICT to improve the vocational skills of UIN Sunan Kalijaga Yogyakarta students?"

2. LITERATURE REVIEW

2.1 Vocational Education

According to Law No. 20/2003, vocational education is higher education that trains students for jobs with specific practical skills that are maximally equivalent to undergraduate programs. As a result, the primary goal of vocational education is to prepare students to work with specific practical skills. Vocational education is a component of the educational system that trains students to be more capable of working in one occupational group or field of work than in others. Another meaning of vocational education is an educational program that is directly tied to preparing a person for a certain employment or for the preparation of another career.

In order to meet national education goals, vocational education aims to train students in specific applicable skills through vocational programs. Vocational education is a type of education that teaches students how to apply their knowledge and abilities in the workplace, as well as how to land a job. Furthermore, the advent of free trade in the

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age of globalization spawned new forms of rivalry, such as the race for scarce human resources and labor (Winangun, 2017).

2.2. Information and Communication Technology

ICT is a broad term that covers all information processing and transmission technologies (Idayani & Sailun, 2017). ICT has two components: information and communication technology. Information technology encompasses the process, tool, manipulation, and management of data. Communication technology is the use of tools to process and send data across devices. Thus, information and communication technologies are interdependent. So, ICT encompasses all operations linked to processing, manipulating, managing, and transferring data between media (Haryati & Erwin, 2019).

If we want to improve education, whether it's a formal school or training, we need to incorporate technology into the process (Ratheeswari, 2018). Open education can benefit from the use of ICT (Information and Communication Technology) (Singh & Datt, 2020). ICT can improve the quality of education and broaden the number of educational services available to students. Education can be raised to a higher level through the training of teachers at the national level using ICT. Small and medium-sized businesses, local government bureaucracies and educators are just a few of the entities that benefit from distant education's use of technology (Shodik, 2020).

According to Khoirun (2016)'s research, the use or use of ICT can increase the quality of education and student skills in mastering in their domains. Previous research by Wardani et al., (2019) indicated that students' mastery of ICT has a substantial effect on their final learning achievement. The presence of ICT can be a learning barrier when pupils are unable to use or grasp it, so proficiency in this area is critical. ICT can be utilized to enable collaboration between educators and students who are geographically separated. Previously, one had to go a significant distance to see an expert to discuss a subject. Nowadays, it is possible to accomplish it from home by sending an e-mail. Papers and research can be completed by exchanging data via the internet, e-mail, or a file-sharing technique.

3. METHODS

3.1. Research Design

To better equip UIN Sunan Kalijaga students for their future careers, this study will look at the impact that learning IT skills has had on their academic performance. It was decided to employ a mixed quantitative-qualitative approach for this investigation because of the objectives. Because this study intends to verify theories based on facts from the field, the quantitative technique was selected (Craswell, 2014). The research is taking place at the State Islamic University of Sunan Kalijaga Yogyakarta, an Islamic college in Indonesia.

3.2 Participants

In this study, the participants were students from UIN Sunan Kalijaga Yogyakarta who were majoring in Vocational Skill and were currently enrolled in their

third semester. The total number of samples (people) used in this study was 100, with 56 males and 44 females participating. The participants were chosen at random from a pool of applicants.

3.3. Instruments

This study's data was made up of both primary and secondary sources. Primary data is information gathered directly from respondents through interviews. Secondary data is gathered directly from the dissemination of questionnaires distributed to respondents using a Likert scale.

3.3.1. Validity of the test

Based on the results of the validity test, it shows that the value of the calculated r is greater than the r table on each variable so that it can be said that all of the questionnaire items are valid. See table 1.

Table 1. Validity to the instrument

Variable	No. Item	r-count	R table	Status
Competence on ICT (X)	1	,530**	0.1966	Valid
	2	,724**	0.1966	Valid
	3	,818**	0.1966	Valid
	4	,743**	0.1966	Valid
	5	,676**	0.1966	Valid
	6	,643**	0.1966	Valid
	7	,775**	0.1966	Valid
	8	,734**	0.1966	Valid
	9	,353**	0.1966	Valid
	10	,561**	0.1966	Valid
	11	,562**	0.1966	Valid
	12	,566**	0.1966	Valid
	13	,342**	0.1966	Valid
Vocational skills (Y)	1	,788**	0.1966	Valid
	2	,535**	0.1966	Valid
	3	,786**	0.1966	Valid
	4	,731**	0.1966	Valid
	5	,639**	0.1966	Valid
	6	,553**	0.1966	Valid
	7	,579**	0.1966	Valid
	8	,728**	0.1966	Valid
	9	,617**	0.1966	Valid
	10	,588**	0.1966	Valid
	11	,725**	0.1966	Valid
	12	,892**	0.1966	Valid
	13	,578**	0.1966	Valid
	14	,627**	0.1966	Valid

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3.3.2. Reliability test

The results of the reliability test show that the Cronbach alpha value is greater than 0.6 so that the data used in this study is reliable or trustworthy. (Table 2).

Table 2. Reliability

Variable	Cronbach Alpha	Standard	Status
Competence on ICT (X)	0,734	0,60	Reliable
Vocational skills (Y)	0,826	0,60	Reliable

3.4 Data Analysis

Analysis of data is a process of organizing and analyzing data in order to uncover patterns and synthesize it into meaningful units. Quantitative data from surveys was analyzed using basic linear regression to derive the findings. Four steps of qualitative data analysis were used. The first step is to gather information using a questionnaire. Students at UIN Sunan Kalijaga Yogyakarta were asked to complete a survey about the impact of learning about information and communication technology on their vocational abilities. It will be evaluated for normalcy in the second step of this procedure. Third, linear regression is used to analyze the data. The fourth step is to do a regression coefficient test or t test.

4. RESULT AND DISCUSSION

Based on the results of the data analysis tests that have been carried out as well as several theories that have been presented by the experts, the results of this study are obtained as follows:

4.1. Normality Test

The normality test shows that all research data are normally distributed because *Asymp.sig* (2-tailed) is above 0.05 so that it passes the test and the research can be carried out at the next level. (Table 3).

Table 3. Normality test

N	100
<i>Asymp.sig</i> . (2-tailed)	0.63

4.2 Simple Linearity Regression

Based on the regression equation in table 4, the value of the constant is 10,897 which can be said that when the mastery of information and communication technology is 0 then vocational skills will have a value of 10,897 at UIN Sunan Kalijaga Yogyakarta. Thus, when there is no mastery of information and communication from UIN Sunan Kalijaga Yogyakarta students, the student's vocational skills will be worth 10,897. Then, the regression coefficient shows that when the mastery of information

and communication technology increases by 1%, the vocational skills of students will increase by 0.159%.

Table 4. Linearity test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,897	1,474		8,153	,000
	X	,159	,028	,947	5,758	,000

a. Dependent Variable: Y

The regression equation formulation obtained is:

$$Y = a + bX$$

$$Y = 10,897 + 0,159X$$

According to the findings, research on ICT mastery has a favorable impact on the vocational skills of students at the State Islamic University of Sunan Kalijaga Yogyakarta. In other words, when students enhance their mastery of ICT, they will be able to affect the advancement of students' occupational abilities. Students will gain knowledge in their fields as well as the majors they have chosen if their vocational abilities are improved. As a result, when students graduate, they will have benefits and knowledge in their respective industries. However, the Covid-19 epidemic led in the teaching and learning system being online or online, such that mastery over student areas, if not properly mastered, would have an impact on the quality of graduate resources. This study, like this one, was conducted in 2021, coinciding with the ongoing pandemic.

Students who are able to expand their knowledge of ICT will see a rise in their occupational abilities, according to research. ICT is defined as a broad term that encompasses a wide range of tools used to store, process, and transmit data using electronic means (Idayani & Sailun, 2017). The ability to teach and learn effectively at the tertiary level relies on this mastery.

ICT can help develop education such as distance education (Singh & Datt, 2020). During the Covid-19 pandemic, he was able to support learning despite the ban on face-to-face meetings and large-scale educational gatherings. Using ICT can increase the quality of learning for all. This is done through online learning that is accessible to all students regardless of their location. As per Khoirun (2016), the use of ICT can impact the quality of education, including students' ability to master respective fields. Solutions in education in the era of the Covid-19 pandemic will be able to boost students' occupational abilities. The State Islamic University of Sunan Kalijaga Yogyakarta students can improve vocational pupils that are influenced by ICT competence.

5. CONCLUSION

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The findings revealed that mastery of ICT has a positive impact on the occupational capabilities of UIN Sunan Kalijaga students. As a result, students' rising mastery of ICT will be commensurate with their increasing vocational skills in their respective professions. This case demonstrates that the use of technology in the realm of education can have positive effects on the teaching and learning process, particularly when it comes to developing students' vocational skills and abilities.

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