

The Effect Of Digital Literature Ability On Academic Resilience Through Student Self-Efficiency

Makmur Solahudin^{1*}, Heru Sujiarto²⁾, Achamd Mudrikah³⁾, Usep Kosasih⁴⁾
^{1,2,3,4)} Graduate School, Universitas Islam Nusantara, Bandung, Indonesia

*Corresponding Author

Email : makmursolahdin@gmail.com

Abstract

The rapid development of digital technology in the current era of the industrial revolution 4.0, has made digital technology the basis or basis in human life, including in the field of education in Indonesia. This study aims to analyze the effect of digital literacy ability on students' academic resilience both directly and through student self-efficacy in the Depok City area. This study uses a quantitative approach with a path analysis approach. The population is all students studying in Depok City with a sample of 410 students taken by random sampling. The results showed that the direct influence of digital literacy ability on academic resilience was 0.220, the value of sig. 0.000, the effect of self-efficacy on academic resilience is 0.448, sig. 0.000. the indirect effect of digital literacy ability on academic resilience through self-efficacy is 0.099. The conclusion is that digital literacy ability have a direct positive and significant effect on student academic resilience, the role of self-efficacy in mediating the effect of digital literacy ability on students' academic resilience is included in the category of partial mediation.

Keywords: *Digital Literacy Ability, Academic Resilience, Self-Efficacy*

INTRODUCTION

The rapid development of digital technology in the era of the Industrial Revolution 4.0 and Society 5.0 has an impact on very fast changes in patterns of life and business, changes in the world of education. In this era, students are required to master 21st century competencies including 6C (Communication, Collaboration, Critical Thinking, Citizenship, Creativity, and Character) from data literacy, technology literacy, and human literacy. This condition is both a hope and a challenge for students in completing the college process and preparing to enter the world of work.

However, according to data from the Directorate General of Higher Education in 2020, the percentage of dropout rates in Indonesia in 2019 was 7% or 602,208 of the total registered students of 8,483,213 students. The cause of the high dropout rate is the failure to adapt in the early days of college and depression when doing the final project (Purwanti & Rohmah, 2020). College students are the population most often experiencing increased academic stress and psychological stress, which results in many students leaving their studies without completing their studies (Andrew et al., 2008; Fresen & Fakhurrozi, 2020)

Academic resilience is important in the educational process, where students who have high academic resilience will be able to improve their academic performance and be protected from negative consequences, especially when facing difficulties that tend to be severe. Academic resilience can increase students' school attachment even though they are experiencing anxiety sensitivity and school refusal (Seçer & Ulaş, 2020). Meanwhile (Martin & Marsh, 2009) explained in his research that students who have high resilience will tend to avoid major negative outcomes. Jowkar et al., (2014) explained that Academic Resilience has several influencing factors, including protective factors and risk factors. Protective factors are divided into two internal and external factors, where these internal factors contain the

characteristics and qualities of each individual such as attitudes, values, beliefs, and capacities which are the result of fairly good development. This internal protective factor is divided into several factors, including communication & cooperation, empathy, ability to solve problems, self-efficacy, self-awareness, aspirations and goals. External factors are factors that refer to outside themselves in the form of supporting or support that comes from outside themselves which includes family, friends, and their social environment. Some of the distribution of these external factors, among others: (a) Warm relations, (b) High expectations, (c) Support from the environment. Risk factors are factors that are inversely proportional to protective factors or protective factors in the form of factors that increase the possibility of negative impacts.

Students with good digital literacy skills have the ability to find the information needed in

Digital networks/internet to be a factor in the success of academic learning (Dinata, 2021; Fadila et al., 2021). Digital literacy skills will open opportunities for students to think, communicate, and create which ultimately leads to learning success (Dinata, 2021; Sujana & Rachmatin, 2019). Based on study by (Solahudin et al., 2022) there is no significant difference in the level of digital literacy ability based on gender and student residence, but there is a different trend based on age and year of study, where the higher the age or year of study the higher the level of digital literacy ability, and based on the source of tuition fees for scholarship recipients. Full level indicates a higher level of digital literacy ability. This study aims to see the effect of digital literacy ability on students' academic resilience either directly or through self-efficacy as a mediation.

RESEARCH METHODS

This study uses a quantitative approach with survey methods and path analysis approaches. Data collection in this study was conducted through a questionnaire. The analysis was carried out by examining the relationship between research variables and measuring one variable with another. The population in this study were all students studying at universities in the Depok City area. the number of samples as many as 410 students were taken based on random sampling.

Digital literacy ability in this study was measured based on aspects developed by UNESCO which were adapted and in accordance with the needs of this research. The aspects of digital literacy are Information and data literacy, Communication and Collaboration, Digital content creation, Safety, Problem Solving (Law et al., 2018). Academic resilience is measured using the ARS-30 developed by (Cassidy, 2016) Meanwhile, self-efficacy was measured using the development of the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1993). After the validity test was carried out, it was continued with the reliability test. The results of the reliability test obtained the Cronbach Alpha coefficient for digital literacy ability of 0.931, for academic resilience of 0.957, and self-efficacy of 0.926, all included in the very good category. The assessment of the instrument uses a rating scale, namely: SDA (Strongly Disagree), DA (Disagree), N (Neutral), QA (Quite Agree), SA (Strongly Agree). Assessment with a Likert scale that using a numbering approach of 1 to 5, where for items that are positive SDA: 1, DA: 2, N: 3, QA: 4, SA: 5 and negative SDA: 5, DA: 4, N: 3, QA: 2, SA: 1. This study uses a questionnaire with a Likert scale, then first converts ordinal data into intervals by using the Successive Interval Tools (MSI) Method to convert ordinal data into intervals. Furthermore, the steps of data analysis and hypothesis testing were carried out through the statistical data processing approach of IBM SPSS 26 for windows.

RESULTS AND DISCUSSION

Results

The data from the recapitulation of the research instrument for the Academic Resilience variable, measured through 27 instrument items, obtained the respondent's level of achievement was 81.3%, for the 18 items of the digital literacy ability instrument the respondent's level of achievement was 75.28%, while for respondents the 10 items of self-efficacy instruments is 72.45%. Thus, a conclusion can be drawn that based on the respondents' responses, the level of achievement of respondents to the variables of academic resilience, digital literacy ability and self-efficacy is in the Good category.

Correlation coefficient

Table-1. Correlation coefficient

	Academic Resilience	Digital Literacy Ability	Self-efficacy
Pearson Correlation			
Academic Resilience	1,000	0,504	0,625
Digital Literacy Ability	0,504	1,000	0,418
Self-efficacy	0,625	0,418	1,000
Sig. (1-tailed)			
Academic Resilience	.	0,000	0,000
Digital Literacy Ability	0,000	.	0,000
Self-efficacy	0,000	0,000	.

The Digital Literacy Ability has a correlation coefficient of 0.504 to the Academic Resilience with sig. 0.000. Because the value of sig. 0.000 < 0.05, it can be interpreted that the Digital Literacy Ability has a significant relationship to the Academic Resilience variable with a moderate degree of correlation. The self-efficacy has a correlation coefficient of 0.625 to the Academic Resilience with sig. 0.000, it can be interpreted that the Self-Efficacy has a significant relationship to the Academic Resilience with a strong degree of correlation. The Digital Literacy Ability variable has a correlation coefficient of 0.418 to the Self-Efficacy variable with sig. 0.000. Because the value of sig. 0.000 < 0.05, it can be interpreted that the Digital Literacy Ability has a significant relationship to the Self-Efficacy with a moderate degree of correlation.

Path Analysis

Table 2. Path coefficient of Digital Literacy Ability, Self-efficacy on Academic Resilience

Variable	Path coefficient	t	Sig.
Digital Literacy Ability	0,220	5,570	0,000
Self-efficacy	0,448	11.566	0,000

Digital Literacy Ability Sig. 0.000. where 0.000 < 0.05, it can be concluded that the Digital Literacy Ability variable has a direct and significant effect on the Academic Resilience. The path coefficient is 0.220 and the t_{count} value is 5.570 and the t_{table} value is 1.96. so the value is 5.570 > 1.96, it can be interpreted that there is a significant direct positive effect of the Digital Literacy Ability on the Academic Resilience by 22.0%, while 78.0% is influenced by other variables not examined in this study. Self-efficacy sig value is 0.000. where 0.000 < 0.05, the path coefficient is 0.448 and the t_{count} value is 11.57 and the t_{table} value is 1.96. so the value is 11.566 > 1.96, it can be interpreted that there is a significant direct positive effect of the Self-

Efficacy on the Academic Resilience of 44.8%, while 55.2% is influenced by other variables not examined in this study.

Table 3. Path coefficient of Digital Literacy Ability on Self-efficacy

Variable	Path coefficient	t	Sig.
Digital Literacy Ability	0,344	7,243	0,000

Digital Literacy Ability Sig value 0.000. where $0.000 < 0.05$, the path coefficient is 0.344 and the t_{count} value is 7.243 where the value is $7.243 > 1.96 (t_{\text{table}})$ so it can be interpreted that there is a significant direct positive effect of the Digital Literacy Ability on the Self-Efficacy of 34.4% , while 65.5% is influenced by other variables not examined in this study.

The indirect effect of the Digital Literacy Ability on Academic Resilience through the Self-Efficacy is $0.344 \times 0.448 = 0.154$. The role of self-efficacy in mediating the effect of digital literacy ability on student academic resilience is included in the category of partial mediation.

Discussion

The learning process which since March 2020 has changed from face-to-face learning to online learning, in adapting to these changes, of course, there are many obstacles faced by students, this is what underlies researchers to find out the relationship between digital literacy skills and students' academic resilience. Digital literacy skills are very important to be mastered by students as internet users, both in terms of time management, the ability to find valid data sources, ethics in using social media, the ability to protect personal security, device security to the ability to use devices. The results of the path analysis show that the influence of digital literacy skills on academic resilience is obtained by a path coefficient of 0.220, the value of sig. 0.000. The magnitude of the influence of digital literacy ability on Student Academic Resilience is 22.0%, the remaining 78.0% is influenced by other variables not examined in this study. Sujiarto et al., (2022) pointed out that to improve digital literacy skills, several things need to be considered, including the effectiveness of using gadgets and computers, online learning systems where many students still feel obstacles, and digital skills problems that include skills in operating software, sharing information and collaborating through digital media.

The effect of self-efficacy on Academic Resilience based on the results of path analysis obtained path coefficient of 0.448, sig value. 0.000 where the value is $0.000 < 0.05$. Thus, it can be interpreted that magnitude of the effect of self-efficacy on student academic resilience is 44.8%, the remaining 55.2% is influenced by other variables not examined in this study. Self-Efficacy is a protective factor that protects an individual from the negative impact of pressure caused by unpleasant situations and conditions. This protective factor is also a supporting factor in the development of students' academic resilience. To improve students' academic resilience in terms of self-efficacy, it is necessary to increase indicators that are still considered low. Among them is increasing self-ability to find ways to solve problems if there is something that hinders the goal. Then improve the ability to solve various problems seriously in doing so. These two things are the effects of anxiety from drastic changes in conditions due to the pandemic COVID-19 (Sujiarto et al., 2022).

Based on the results of the path analysis of the indirect influence of digital literacy ability on academic resilience through self-efficacy, the path coefficient is 0.154, where the path coefficient of social support on academic resilience 0.220. Therefore $0.154 < 0.220$. Thus, it can be interpreted that digital literacy ability have no significant effect on academic resilience through self-efficacy. This mediation is a type of partial mediation with the total

effect of digital literacy ability on student resilience is 0.372 or 37.2%. The results above show that self-efficacy as an intervening variable is not significant to mediate the digital literacy ability variable on academic resilience. To confirm the results above, calculations were also carried out using the Sobel formula online by calculating the input error factor. The results of the calculation where $t = 0.233$. where $0.233 < 1.96 (t_{table})$, it can be concluded that self-efficacy has no significant effect on the mediation between digital literacy ability and academic resilience.

From the results of this study, the influence of digital literacy skills on students' self-efficacy and academic resilience, both directly and indirectly, the effect is still below 50%, which means that the influence is still not dominant. This condition can be interpreted that the use of digital devices has not been effectively used by students to support the lecture.

CONCLUSION

Digital literacy ability have a significant direct effect on self-efficacy and academic resilience. The role of self-efficacy in mediating the effect of digital literacy ability on students' academic resilience is included in the category of partial mediation, but self-efficacy has no significant effect on the mediation between digital literacy ability and academic resilience. Self-efficacy has significant direct effect on academic resilience

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