

The Role Of Digital Curriculum And Off-Campus Learning (MBKM) To Face Industry 4.0: Evidence In Indonesian Gen-Z Students

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ABSTRACT

Objectives: The digital curriculum (DC) and the off-campus learning program (MBKM) are important requirements for education 4.0 in Indonesia today, which focuses on and contributes to building generation Z of Indonesia to become superior human resources (HR). The main strategy is DC and the MBKM program is to prepare students to improve the Student Learning Advantage 4.0 (SLA) and to create students with Readiness Integrated Competence/WRIC. For this reason, it is necessary to conduct research that aims to explore important factors to improve WRIC in Indonesian generation Z students.

Method: This research method used a mixed method. The data were collected using a survey technique with the questionnaires from the final semester students at seven state universities and 11 private universities that have the accreditation A in Indonesia. The sampling technique used purposive sampling, with the sample criteria of the generation-z students of final semester participating in the MBKM program, and, in this study, 279 respondents were obtained.

Results: The results showed that MBKM and DC had significant positive implications for WRIC through SLA in generation z students. SLA is proven to have the potential to bridge DC and MBKM against WRIC. The SLA contribution increases WRIC from the learning path indicators in learning mastery.

Keywords: digital curriculum, mbkm, off-campus learning, student learning advantage (SLA) 4.0, work readiness integrated competence (WRIC), z generation

A. INTRODUCTION

Merdeka belajar kampus merdeka (MBKM) is a program created by the Ministry of Education, Culture, Research and Technology (Kemendikbud Ristek) Republic of Indonesia (Ulum, 2021). The MBKM program provides students the right to take off campus. Globally, this program is equivalent to the off-campus learning program, which is a program at a global university that allows students to step outside their campus to study by engaging in the wider

world of learning (Fitriasari, 2020; Vanichvatana & Trends, 2019). This is important to note because universities must play a role in preparing graduates to be competent and able to enter the job market that the world needs today. For this reason, the field of education must be revolutionized and oriented toward more modern learning (Low et al., 2019). Today's reality is marked by a digitalization phenomenon that is growing rapidly, supported by the state of industry 4.0 which offers a transformation in

every aspect (Jedaman et al., 2018). This adds to a concern of the impact on the education sector which is seen as important and needs to be understood (Mian et al., 2020). Considering the impact of digitalization on education sector, several phases and phenomena have begun to be revealed (Decuyper et al., 2021). The first (1) is aware of the use of technology in education sector. This reveals the fact that teachers and students currently have to use a myriad of existing digital resources for their teaching and learning, and proves that technology is an element that facilitates the achievement of goals set by educational institutions. The second (2) is the implementation of the digital curriculum and its application to students (Alamri et al., 2019). It is generally accepted that DC is not only an electronic resource used in teaching, learning, and assessing, but more than that, it is also a form of learning experience related to the use of technology in teaching to achieve optimal learning goals (Al-Awidi & Aldhafeeri, 2017).

In Indonesia, it is recorded that the number of students is increasing every year. From the data of the Indonesian Central Statistics Agency (BPS), there is an increase in the number of students in 2021 with a total of 8,956,184 students; an increase of 4.1% compared to the previous year at 8,603,441 students. According to the Indonesian Ministry of Education, higher education is dominated by the generation z in college student ages, ranging from 18-25 years, with the years of birth from 1995 to 2010 for undergraduate and diploma levels according to the generation z grouping theory (Bencsik and Juhasz, 2016). We found that the generation z is the youngest generation of the workforce who will enter the world of work in the industrial era 4.0 and the dominant generation that will dominate the work environment as a successor to the previous generation. The phenomenon of generation z is a new challenge for Indonesian higher education institutions on how to prepare this generation to work in the industrial era 4.0

(Mian et al., 2020). Because the students of the current era, the generation z, are changing the teaching and learning process according to their readiness, uniqueness, interests, needs, and aspirations in the world of education. Therefore, the students in this era are expected to have abilities according to their fields and be able to develop their knowledge in the hope that they will be able to compete and have an advantage in the world of work through the learning outcomes that have been received (Low et al., 2019). The results of the research by Verma et al., (2018) showed a discrepancy between the competencies required by employers and student competencies (Bowen & Pennaforte, 2017). This study is necessary to be conducted to find out the readiness to face the world of work which is commonly called Work Readiness Integrated Competency (WRIC). WRIC offers work readiness which can take the form of an attitude towards work complete with defense mechanisms and emphasizing competence (Sriram & Vinodh, 2021). WRIC is not only a mechanism for getting a job but also how to maintain a job after getting a job later (Ariyanto et al., 2020). Many experts predict that this era will see many significant changes, one of which is in the human resource development (HR) sector, because in that era there is a significant shift regarding generational changes in the world of work (Gabrielova & Buchko, 2021).

B. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The perspective of the goal-setting theory states that when an individual sets a goal, he will compare his superiority to the goal he has to achieve (H. Q. Chung et al., 2021). When an individual believes that he will lose short-term goals, he will feel dissatisfied and try to work hard to achieve his goals he wants. Therefore, based on that, we provide a new suggestion regarding the Student Learning Advantage 4.0

(SLA). This perspective brings a direction that an advantage possessed by a student to achieve the goals of the MBKM and DC programs is expected to be able to contribute to the improvement of WRIC. The SLA ontology of the Student Learning Advantage 4.0 (SLA) is an advantage based on the learning needs of individual students. This ability focuses on students' needs to be able to understand knowledge in the digital and industrial era 4.0 effectively and efficiently to increase their advantage as future HR candidates. For this reason, an exploration is needed on how DC and the MBKM program are the important requirements in education 4.0 in Indonesia today, which focuses on and contributes to building generation Z of Indonesia to become superior human resources (HR). The main strategy is DC and the MBKM program to prepare students to improve SLA and to create students with WRIC.

Off Campus Learning (MBKM) on Student Learning Advantage (SLA) and Work Readiness Integrated Competency (WRIC)

The Program of Independent Learning Independent Campus (MBKM) is a program established by the Indonesian government to give college students the right to take off-campus. Globally, the MBKM program is the same as the off-campus learning program, which is a learning program at global universities that allows students to step outside the campus to enter the world of learning in society and industry (Vanichvatana, 2019). The aim of this program of campus learning is the same as the MBKM program in Indonesia, which is to provide new experiences for students to increase opportunities for cross-cultural communication, acquire new skills, pursue areas of specialization to develop a path

to a career and future work readiness, and this becomes a student learning advantage. The opportunity in the MBKM program provides students the right to hone their skills and to learn outside the campus (Fitriasari, 2020). The rights in this program provide benefits for students to hone skills according to the talents and interests of students to be able to go directly into the world of work and society (Ju-hsuan & Wang, 2020). According to Widayanti & Thedy, (2021) the MBKM policy is a smart policy that has an orientation to encourage students to master a lot of knowledge that is beneficial to them to improve their learning advantage and readiness to enter the world of work.

The MBKM program organized by the Indonesian government refers to the Triple Helix theory which discusses the interaction between academics (universities) with industry and government, to create synergies, and to encourage social and economic development (Baier-Fuentes et al., 2021; Mênignibêto, 2019). The Triple Helix theory concerning this research is a concept of synergized collaboration between the government as the maker of the MBKM program, the university as a center for the development of prospective HR students, and the industry as a provider of employment opportunities to increase HR competency. The main achievement is to achieve common goals between the government, universities, and industry. In this theory, a framework is described for viewing interactions between sectors, such as government, industry, and universities which are represented by circles and arrows indicating an interaction between sectors (Baier-Fuentes et al., 2021). The figure of the Triple Helix theory circle can be seen in Figure 1 as follows:

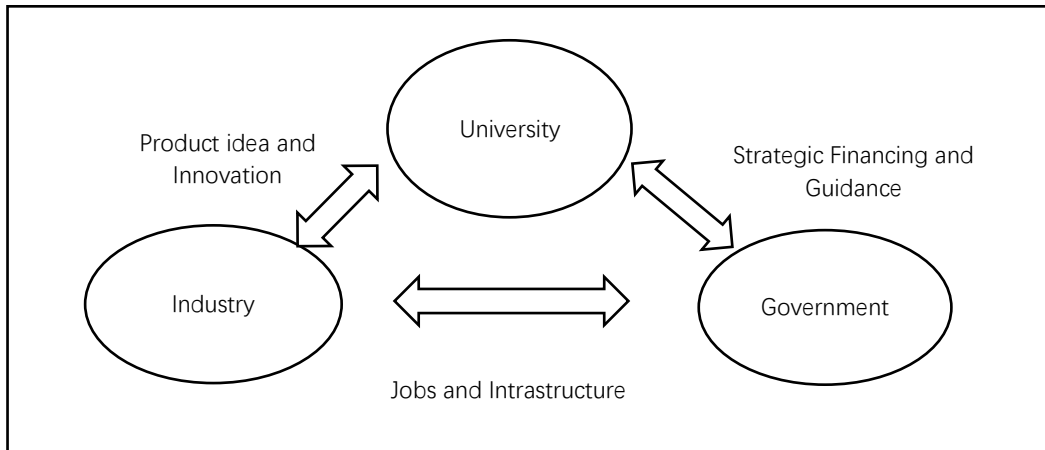


Figure 1. Tripel Helix Model Theory

The MBKM programs provide chances and opportunities for students to gain a very broad learning experience with new competencies and skills including; 1) Internship or work practices, 2) Independent studies and projects, 3) Teaching assistants in education units, 4) Building villages or thematic real work lectures, 5) Student exchanges, 6) Entrepreneurial activities, 7) Humanitarian activities, and 8) research (Wijaya, 2022). Wut et al., (2022) in their study found that higher education standards are also related to improving the quality of learning and graduates. Universities must develop a strategic plan to properly prepare their students' competencies to be better prepared to face the world of work and changing times in the industrial era 4.0 (Cotet et al., 2017).

H1 : Off Campus Learning (MBKM) has a positive effect on Student Learning Advantage 4.0 (SLA) in generation z students of Indonesian tertiary institutions.

H2 : Off Campus Learning (MBKM) has a positive effect on Work Readiness Integrated Competency (WRIC) in generation z students of Indonesian tertiary institutions.

Digital Curriculum (DC) on Student Learning Advantage 4.0 (SLA)

Digital curriculum (DC) is defined as teaching using software and online-based information communication technology (ICT) that empowers teachers which has an impact on saving time with planning and assessment so that teachers and students collaborate in a digital climate to achieve effective and efficient learning goals (Micu, 2019; Sharp, 2019). Currently, DC is applied to many tertiary institutions because it provides flexibility in organizing innovative ICT-based learning (Al-Awidi & Aldhafeeri, 2017). One of the impacts is the formation of blended learning which combines online and offline-based learning (Micu, 2019). The flexibility of this DC is that when students study in offline classes or face-to-face learning, students can still participate in DC, utilizing independent learning whenever students need it so that it will be one of the advantages of this curriculum, which will have an impact on the quality of learning for students according to Industry 4.0 currently (Rangel et al., 2015). Advantage in student learning is an important factor in the implementation of DCG (Al-Awidi & Aldhafeeri, 2017). SLA is a

popular learning approach for improving student learning processes with optimal results. The advantages of this learning can be recognized by seeing, studying, and assessing the students' knowledge, technological skills mastered, availability of technology, independent learning, availability of computer and internet equipment, and student attitudes (Erstad et al., 2021). Menurut Backes et al., (2021) SLA may increase interaction in the digital learning environment in this curriculum. Work Readiness Integrated Competency (WRIC) is; when an individual has the skills and knowledge that are in line with what is needed by the world of work, they will have high work readiness (Iqmal et al., 2020).

The idea of DC integration in education does not mean the placement of technology tools in learning in which the main focus is the technology, and it is not only the use of technology in support of traditional learning methods. However, more than that, it is a collaboration of technology integration to go beyond traditional approaches that focus on teachers and students. Students use technology to learn together (Al-Awidi & Aldhafeeri, 2017). Introducing DC to students requires a new paradigm in the learning process (Callahan et al., 2015). In this case, students are most influential in this process (Micu, 2019). Student readiness is important to observe because it is central to the success of DC (Al-Awidi & Aldhafeeri, 2017). Student participation in the process of technology integration in higher education is very important (Brahma & Tripathi, 2020). because the transition from changing the curriculum to DC needs to consider student readiness (Alamri et al., 2019). SLA is considered very important and a major factor in the digital curriculum because the technology base in carrying out learning and lecture assignments is a positive effect on the integration of future work readiness (Sharp, 2019). One indicator of implementing digital

technology into a curriculum is strongly influenced by learning and willingness to adopt technology (Backes et al., 2021).

H3 : Digital Curriculum (DC) has a positive effect on Student Learning Advantage (SLA) in generation z students of Indonesian tertiary institutions.

Student Learning Advantage 4.0 (SLA) on Work Readiness Integrated Competency (WRIC)

The Student Learning Advantage 4.0 (SLA) as an advantage based on the perspective of goal setting theory brings the direction that an advantage possessed by a student to achieve the goals of the MBKM and DC programs is expected to be able to contribute to the improvement of WRIC. The SLA ontology of Student Learning Advantage 4.0 (SLA) is an advantage based on the learning needs of individual students. This ability focuses on the needs of students to understand knowledge in the digital and industrial era 4.0 effectively and efficiently. We recognize that higher education at the university level is currently and modernly focused on preparing students for the workplace (Blayone, 2020). Thus, the knowledge and competencies acquired by graduates are the basis for finding work in the labor market (Rahmat et al., 2019). Recently, universities globally have broadened their focus on emphasizing "student learning advantage according to industry 4.0 for work readiness" which is considered important and relevant for graduates such as competency and competitive advantage to start a career in a changing labor market quickly (Low et al., 2019).

Those who are ready to be given a job will easily adapt to the work environment and technology in the world of work and vice versa (Sima et al., 2020). These challenges may stimulate the world of education to be able to

encourage students to become human beings who are creative and have character (Yasin & Ong, 2020). Bialik et al., (2015) argue that 21st-century learning is oriented toward digital lifestyles, thinking tools, learning research, and how knowledge works, namely the ability to collaborate in teams with different locations and with different tools. Strengthening thinking tools is the ability to use technology, digital tools, and services, and digital lifestyle is the ability to use and adapt to the digital age. Learning research to increase digital-based student advantage is an exploration of students to organize successful education (DiBenedetto

& Myers, 2016). Students need to have and gain the advantage from digital-based learning using ICT technology to prepare them for work readiness (Wut et al., 2022). Widodo et al., (2020) stated that learning advantage has a positive impact on work readiness. The forms of student readiness can be seen in satisfaction with the learning experience, self-confidence, and lifelong learning.

H4 : Student Learning Advantage 4.0 (SLA) has a positive effect on Work Readiness Integrated Competency (WRIC) in Indonesian generation z students.

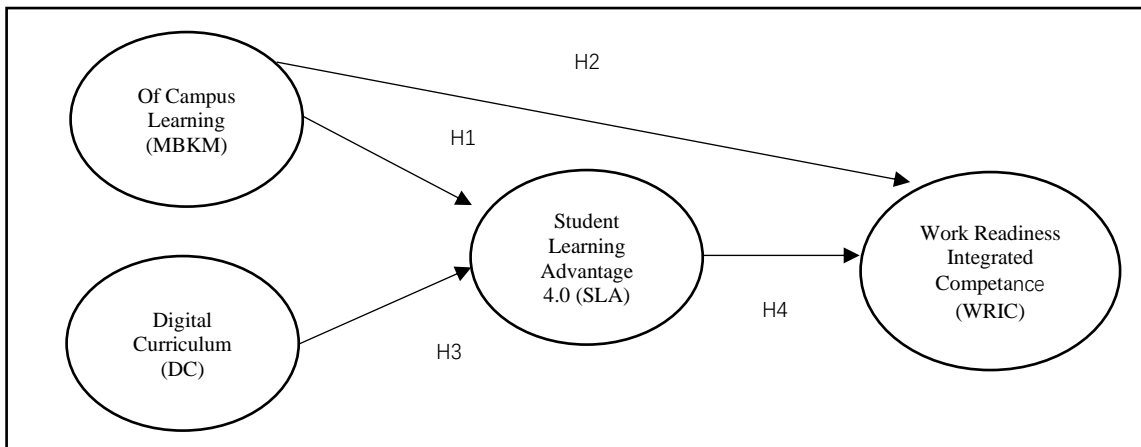


Figure 2. Research Model

C. METHODOLOGY

The research used a mixed-method analysis technique. The objects of the research were the gen z students of Indonesian public and private universities. The sampling technique used Purposive Sampling, with the sample criteria of

the generation z students in the final semester participating in the MBKM program. The samples in this study were 279 respondents. The data were obtained using a survey method with questionnaires. The research instruments are presented in table 1 below:

Table 1. Research Instrument

Variable	Theory	Research Instrument
MBKM	Widayanti & Thedy, (2021)	(X1) I know the policy of Of Campus Learning such as Merdeka Learning Campus Merdeka (MBKM).
		(X2) Operational guidelines and procedures for participating in MBKM activities are in my study program.
		(X3) I prepared myself to take part in MBKM activities.

		(X4)	Learning activities (MBKM) outside the study program will have implications for my study period.
		(X5)	Learning activities off campus will provide additional skills for me such as skills (solving complex real problems, analytical skills, professional ethics, etc.).
		(X6)	Studying in another study program will broaden my perspective and give me additional competencies to enter the workforce later.
		(X7)	MBKM activities are useful in developing my competence/skills, as a provision to work after graduation.
		(X8)	Participating in MBKM activities to prepare for the period after graduating from campus is very important.
DCG	Micu, (2019)	(X9)	The learning pathways in the digital curriculum help me reach mastery levels of learning faster.
		(X10)	I am able to interact, communicate through digital-based lessons to build critical thinking skills.
		(X11)	Assessment in the digital curriculum raises a higher level of thinking and reflects positive learning for me.
		(X12)	The digital (adaptive) curriculum adapts lessons to learning needs, based on my needs.
		(X13)	The collection and reporting of my learning outcomes, is used to see my progress and learning achievements.
		(X14)	I have independence in learning and mastering knowledge and skills.
SLA	Al-Awidi & Aldhafeeri, (2017); Vermunt & Donche,(2017)	(X15)	I bring a mobile device that is connected to the internet for learning.
		(X16)	I am competent in using email in the learning process.
		(X17)	I am competent in using word processing software for my learning.
		(X18)	I am competent in using presentation software such as Power Point.
		(X19)	I know and can make linked
		(X20)	I can use social media (Twitter, Instagram, whats App, google) to communicate in learning.
		(X21)	I am familiar with learning management systems (e-learning).
		(X22)	I can convert the printed content in my study activities into digital form.
		(X23)	I am able to take and do online quizzes in the learning process in class.
		(X24)	I can publish my assignments and learning outcomes on the web.
		(X25)	I can use the management system in my learning process, to complement my learning.

WRIC	Borg & Scott-Young, (2020); Verma et al., (2018)	(X26)	I have cognitive skills (such as critical thinking, problem solving, decision making, and strategic thinking).
		(X27)	I have innovation and creativity in doing assignments.
		(X28)	I have leadership skills to motivate others to achieve a goal.
		(X29)	I have self-management skills, namely managing my career in order to achieve career success after graduation.
		(X30)	I am able to work with a team on assignments.

D. DATA ANALYSIS

The demographics of the respondents in this study show that 161 (43.1%) were dominated by women, and 169 (60.5%) were dominated by 22-year-old respondents. Most of them came from the private universities that accounted for 175

(62.7%), and the most from the faculties of economics and business at 56 (14.6%) with the MBKM program that was attended predominately in teaching assistance in education units totaling 116 (41.5%). The demographics of the respondents in this study can be seen in table 2 as follows:

Table. 2 Demographics of Respondents

Variable	Classification	Frequency	%
Gender	Woman	161	43.1%
	Man	118	56.6%
Age	20 years	10	3.58%
	21 years	96	34.4%
	22 years	169	60.5%
	23 years	4	1.4%
University	State	104	37.2%
	Private	175	62.7%
Faculty	Faculty of Economic and business	56	14.6%
	Faculty of Computer science	41	15,0%
	Faculty of education	35	12,5%
	Faculty of Engineering	42	15,0%
	Faculty of Cultural Studies	15	5,37%
	Faculty of Law	6	2,1%
	Faculty of Psychology	8	2,86%
	Faculty of Medical	25	9.96%
	Faculty of Health	5	1,79%
	Faculty of livestock and agriculture	5	1,79%
	Faculty of social and political science	12	4,4%
	Faculty of science and technology	20	7,3%
Faculty of religious sciences	2	0,7%	

MBKM Program	Faculty of language and communication	3	1,1%
	Faculty of Marine	4	1,5%
	Apprenticeship	80	28.6%
	Independen Study or project	38	10.0%
	Teaching Assistant in education unit	116	41.5%
	Bulid a village or thematic real work college	35	12.5%
	Enterpreneurial activities	6	2.1%
	Student exchange	4	1.4%

Reliability and convergent validity tests

The reliability tests were analyzed before testing structural modeling. It was used to determine the reliability of the questionnaires and each indicator used in the study (Thursday et al., 2021). The reliability test criteria are seen from the value of Cronbach alpha, composite reliability (CR) with the value that must be higher than 0.7, and the variance extracted

(AVE) with the value that must be higher than 0.05. The convergent validity test shows that the indicator is said to be valid if the loading factor value is more than 0.7. From the convergent validity test of the variables studied, it was found that all the indicators used were valid with a loading factor value of > 0.7 . The reliability test shows that the Cronbach alpha, CR, and AVE values are more than > 0.7 , indicating that all research variables were reliable.

Table 3. Reliability dan Convergent Validity

Variable	Cronbach's Alpha	Composite Reliability (C.R)	Average Variance Extracted (AVE)	Result
DC	0.895	0.919	0.656	Valid and Reliabel
SLA	0.947	0.955	0.656	Valid and Reliabel
WRIC	0.900	0.926	0.715	Valid and Reliabel
MBKM	0.945	0.955	0.725	Valid and Reliabel

Digital Curriculum = DC

Student Learning Advantage 4.0 = SLA

Work Readiness Integrated Competence = WRIC

Off campus learning = MBKM

Table 4. Outer Loading

Variable	Indicator	Outer Loading	Result
MBKM (X1)	X1	0.845	Valid
	X2	0.799	Valid
	X3	0.823	Valid
	X4	0.860	Valid

	X5	0.779	Valid
	X6	0.748	Valid
	X7	0.830	Valid
	X8	0.807	Valid
DCG (X2)	X9	0.843	Valid
	X10	0.842	Valid
	X11	0.826	Valid
	X12	0.821	Valid
	X13	0.746	Valid
	X14	0.809	Valid
SLA (Z)	X15	0.794	Valid
	X16	0.779	Valid
	X17	0.810	Valid
	X18	0.862	Valid
	X19	0.873	Valid
	X20	0.837	Valid
	X21	0.837	Valid
	X22	0.817	Valid
	X23	0.884	Valid
	X24	0.899	Valid
WRIC (Y)	X25	0.920	Valid
	X26	0.873	Valid
	X27	0.840	Valid
	X28	0.803	Valid
	X29	0.810	Valid
	X30	0.771	Valid

Note : All Loading factors construc > 0.7 (valid)

Discriminant Validity

Discriminant validity assessment is seen from the cross-loading value, and cross-loading value can determine the correlation between constructs and indicators. Discriminant validity

can be fulfilled in a construct if the correlation value in each construct is higher than the other constructs. After analyzing the data on the smart PLS 3.0 program (Kamis et al., 2021; Rouf & Akhtaruddin, 2018a). in this study, the results of cross-loading were found as follows:

Table. 5 Discriminant Validity

	DCG	MBKM	SLA	WRIC
DCG	0.845			
MBKM	0.737	0.884		
SLA	0.706	0.783	0.830	
WRIC	0.704	0.806	0.801	0.806

The output of the data processing used the Smart PLS 3 program. As seen in Table 5, the cross-loading values show that all constructs used have a higher value than the correlation of other constructs. Then, the next interpretation of all the constructs used have fulfilled discriminant validity.

Hyphotesis Testing

Hypothesis testing was proposed to find out and test the significance between constructs by looking at the P value and T statistics. The hypothesis testing was carried out through bootstrapping tests, with a left-handed T statistic > 1.96 and a P value < 0.05 (Cheah et al., 2020). The results of the research model can also be seen in the following figure:

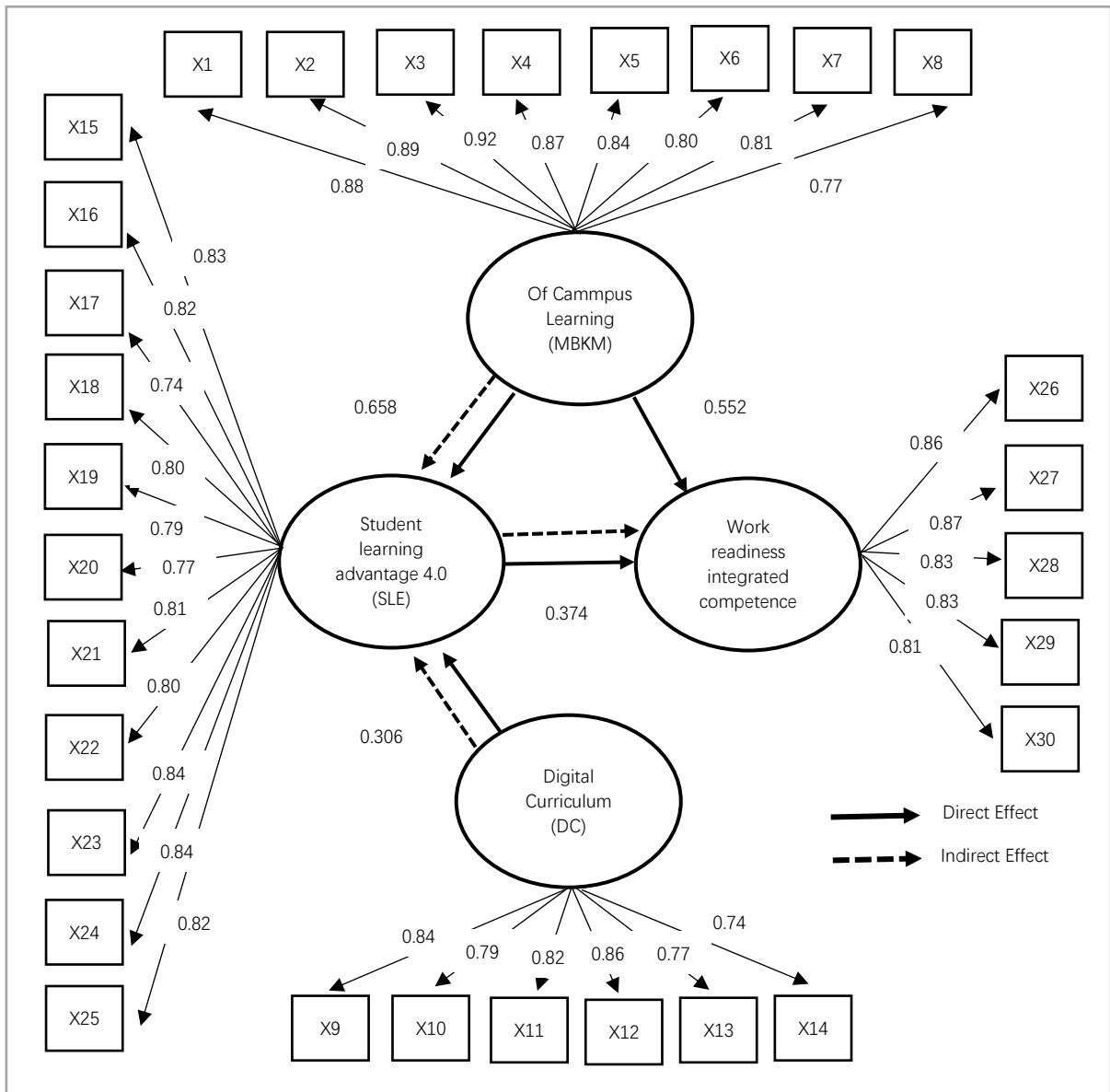


Figure 3. Full Model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Result
(H1) MBKM -> SLA	0.658	0.661	0.044	14.946	0.000	Supported
(H2) MBKM -> WRIC	0.552	0.550	0.064	8.640	0.000	Supported
(H3) DC -> SLA	0.306	0.304	0.047	6.504	0.000	Supported
(H3) SLA -> WRIC	0.374	0.377	0.067	5.5995	0.000	Supported

Note: All t-statistics are sig. at $P < 1\%$ (***); 5% (**)

Table. 6 Hypotesis Testing

The first hypothesis (H1) that Off-Campus Learning (MBKM) has a significant positive effect on student learning advantage 4.0 (SLA) in generation z students of Indonesian tertiary institutions is **supported**. This is based on the MBKM coefficient on SLA showing a value of 0.661 with T statistic value of 14.946 more than > 1.96 and with a P value of 0.000 less than < 0.05 . This proves that MBKM has a significant positive effect on SLA. The second hypothesis (H2) that Off-Campus Learning (MBKM) has a significant positive effect on Work Readiness Integrated Competency (WRIC) in generation z students of Indonesian tertiary institutions is **supported**. This is based on the MBKM coefficient for WRIC showing a value of 0.550 with T statistic value of 8.640 greater than 1.96, with P value of 0.00. This proves that MBKM has a significant positive effect on WRIC. The second hypothesis (H3) that Digital curriculum (DC) has a significant positive effect on student learning advantage (SLA) in generation z students of Indonesian higher education institutions is **supported**. This is based on the value of the digital curriculum coefficient on student readiness of

0.304 with T statistic value of 6.504 more than > 1.96 and with a P value of 0.000 less than < 0.05 . This proves that DC has a significant positive effect on WRIC. The third hypothesis (H3) that student learning advantage 4.0 (SLA) has a significant positive effect on work readiness integrated competence (WRIC) in generation z students of Indonesian tertiary institutions is **supported**. This is based on the coefficient value of student readiness for work readiness of 0.377 with T statistic value of 5.5995 greater > 1.96 with P value of 0.000 smaller than < 0.05 . This proves that SLA has a significant positive effect on WRIC.

Mediation Testing

The results of the PLS 3 analysis had included the results of the indirect effect output which was used to determine the strength of the mediator variable used with other variables (Zhao et al., 2010). Mediation effects may occur because of the variables that affect the relationship between the independent and dependent variables (Pardo & Román, 2013). The mediation test in this study can be seen in table 7 as follows:

Table. 7 Mediation Effect

	Parameter Coefficient (Indirect Effect)	T (O/STDEV)	Statistics	P Values	Result	Effect
MBKM - > SLA -> WRIC	0.246	4.133		0.000	Mediation	Partial Mediation
DC -> SLA -> WRIC	0.114	0.115		0.000	Mediation	Full Mediation

Based on table 7, it can be seen that the SLA variable mediates the MBKM variable with the WRIC variable, viewed from the indirect effect value of 0.246, and it is significant. It can be interpreted that SLA can mediate DC to WRIC with a mediating effect of partial mediation. SLA also mediates DC variables with WRIC variables with an indirect effect value of 0.114 and it is significant. It can be interpreted that SLA can mediate DC to WRIC with full mediation.

E. DISCUSSION

Off Campus Learning (MBKM) against Student Learning Advantage 4.0 (SLA)

This study showed that the MBKM program is the main factor in increasing SLA. It shows that the MBKM program is effective in increasing SLA in the generation z students of Indonesian tertiary institutions. In this study, the self-readiness indicator in the MBKM variable was the main factor in this variable. This proved that self-readiness is the main capital in increasing SLA for the generation z students. Self-readiness is defined here as a basic condition in a learning activity that makes students ready to respond to a lesson to achieve certain goals, such as student learning advantage and work readiness. In addition to self-readiness indicators, the MBKM variable was supported

by the other indicators, such as activity guidelines, program policies, implications for the period of study, skills, competency development, broadening horizons, and dealing with the post-graduation period to be a factor in this variable influencing SLA. According to the research data, the respondents to the activities most attended by students of the MBKM program were the apprentices and educational assistants. This proved that the off-campus learning-oriented activities offered by the MBKM program have a major impact on SLA, much better for the generation z students. One of the important impacts of the MBKM program was to study outside the study program for the generation z students to provide an opportunity to experience the world of work and new competencies, problem-solving skills, and analytical skills at work so that they will increase their learning advantage to face the industrial era 4.0. A review of the results of this study shows that the impact of implementing the MBKM learning program is represented through self-readiness to take part in learning activities outside the study program. This readiness was triggered by the awareness on the importance of the programs to equip oneself in the form of acquiring competitive competencies to adapt to the changing competency needs of the world of work and industry (Ritter et al., 2018). This means that the students felt the benefits of the MBKM

learning activities. Increasing the competence of attitudes, skills, and knowledge was felt through increasing and strengthening their soft skills and hard skills (Suryaningsih, 2021). This research is in line with the results of the research conducted by Kwok, (2020) stating that there is a significant positive relationship between off-campus learning and student learning.

The Off Campus Learning (MBKM) on Work Readiness Integrated Competence (WRIC)

This study showed that the MBKM program is a major factor in increasing WRIC, which shows that the MBKM program was effective in increasing WRIC in the generation z students of Indonesian tertiary institutions directly. We found that the presence of industry 4.0 is not always a positive side in the world of work. Currently, the industry 4.0 can be a threat and a distraction in itself for the role of HR in the industrial world. Technology is developing too rapidly, making the role of HR in the industry less and less replaced by the latest machines and technology, and many old jobs will be lost, displaced by the use of the latest technology to accelerate production effectiveness and efficiency. This raises the question "How will they (HR) compete in the world of work/industry?" Like or dislike, HR must update their skills because many are not aware that current skills and experience are not supportive of future work. For this reason, the MBKM program plays an important role in improving the quality of students as future HR candidates by prioritizing their competencies because we know that these competencies are inherent in HR candidates in the industrial era 4.0. In this study, the indicators of self-readiness became the dominant factor in influencing WRIC. This showed that the generation z students have high self-readiness. Good self-preparedness makes individuals

better prepared to face all situations and conditions when there are difficulties and new phenomena that must be faced. High self-readiness will increase individual competency and work readiness to prepare themselves to work in industry 4.0. In addition, off-campus learning activities offer so many supporting skills from specific skills in the field (Vanichvatana, 2019). Students become more trained and even motivated to add new skills, collaborate, and synergize to produce high work readiness (Ahmad et al., 2019). Through teamwork activities, the emotional maturity of the students participating in the program was awakened (Schroth, 2019). In line with the theory of management in tertiary institutions, the Triple Helix Model theory states that there is a mutual relationship between tertiary institutions as a center for development and individual competence, the industrial world as a user of human resources, and the role of the government as a party that makes policies to regulate the roles of both. They are proven effective in increasing student learning readiness (C. J. Chung, 2014). This research is in line with the results of the research conducted by Ingsih et al., (2022) stating that MBKM is effective in increasing work readiness in the generation z.

Digital curriculum (DC) on Student learning Advantage 4.0 (SLA)

This study showed that DC can increase SLA. With this, it can be seen that the digital curriculum is effective in increasing the SLA of the generation z students of Indonesian tertiary institutions. The learning path indicator in learning mastery in the digital curriculum variable was the main factor in this variable influencing SLA. This showed the fact that the generation z students tend to prefer learning paths that are flexible and adaptable to the use of technology and digitization offered by the digital curriculum. This is in line with the

character of generation z who are massive users of technology (Tari-kasnako et al., 2020). In addition to the learning path indicators in the digital curriculum variable, there are other factors; learning communication, learning assessment, adjusting learning needs, learning outcomes, and independence in forming digital curriculum variables in influencing and increasing the readiness of generation Z students so that they are even better. The results of this study are in line with the research conducted by Micu, (2019) which states that the digital curriculum will provide many kinds of learning experiences that are flexible and can be adapted to the needs of students in encouraging an effective and efficient approach to learning. The digital curriculum will have an effective impact on student learning excellence in learning because this curriculum positions learning on the needs and interests of students (Wicaksono et al., 2020). The digital curriculum is a reflection of technological advances in the world of education today which must be able to adapt to an era of fluid society (Choppin & Borys, 2017). This explains that technology currently plays an important role in every aspect of life, including education. Currently, technology is one of the supports for the success of the educational process (Sharp, 2019). Education is not only required to produce good output but is also expected to provide optimal learning (Caena & Redecker, 2019). The benefits of digital curricula in learning have provided new insights on how people learn in a way that suits their interests and talents. Thus, education is developing very rapidly with digital-based learning (Wicaksono et al., 2020). According to Bowen & Pennaforte, (2017) digital curriculum-based learning is currently the main option in learning choices, particularly in the learning era 4.0. This research is in line with the research conducted by Al-Awidi & Aldhafeeri, (2017) that DC is an educational component that

complements educational goals to create superior prospective students in the industrial era 4.0.

Student Learning Advantage 4.0 (SLA) on Work Readiness Integrated Competence (WRIC)

This study showed that SLA may increase WRIC. This shows that SLA is effective in increasing the work readiness of the generation z students of Indonesian tertiary institutions. This study showed that the indicator of technology use on student readiness variables is the main factors in increasing SLA in the generation z students. This strengthens the identity of the generation z, or also called the internet generation, in which technology is always attached to them (Bencsik & Juhasz, 2016). In addition to the indicator of the use of technology being the main factor in the SLA variable, there are other indicators such as learning activities in digital form, online learning, publication of assignments on the web, learning systems, competent with the use of e-mail, competent with word processing tools and data, competent with presentation software, having social media, and are familiar with e-learning in forming SLA variables in influencing the work readiness of the generation z students so that they are much more improved. Reinforced by the results of the research by stating that the generation z grow up with technology and one of their assets at work is the use of technology and very much in line with work patterns in this era (Scholz, 2019). Singh & Dangmei, (2016) revealed that technology plays a major role in generation z. Electronic gadgets (computers, smartphones, tablets and the internet) are an important and inseparable part of the generation z. In his journal Wut et al., (2022) revealed that actually the students who have advantages, particularly in learning, socializing and achieving, indicate that the students already have high work

readiness. Küsel et al., (2020) state that readiness involves motivation, concern, and process of readiness in the learning process. A positive advantage for students is something that is very important for their readiness to work in the future because the readiness possessed by students will have an impact on student confidence in carrying out assignments and acting well. The role of student readiness in college students will impact personal and social life, as well as in their future careers (Caruana, 2021).

Off campus learning (MBKM) on the Student Learning Advantage 4.0 (SLA) through Work Readiness Integrated Competence (WRIC)

MBKM has an indirect effect on WRIC through SLA. This explains in this study that the MBKM program that the students participate in will have an impact on WRIC which increases significantly in the generation z students of Indonesian tertiary institutions through SLA. The effect of MBKM can be seen when the self-readiness of the generation z students increases the use of technology to improve their job readiness competencies. In this study, the activities attended by the students were dominated by the assistance activities in education units and internships in organizations proving that the activities participated in were able to improve the SLA and WRIC of the generation Z students. The important role of these activities was to increase student insight, competence, and self-readiness, broaden relationships, and increase their skills by going directly to an organization aiming at work readiness and their future careers. According to Shaw et al., (2019) internship is a place for students to experience first-hand what the world of work is like. The main goal is how to prepare for work readiness after students graduate later (Felce, 2019). In accordance with the results of the research conducted by (Ulum,

2021) the MBKM program is considered by students to play an important role for their future careers and work readiness because students are required to directly engage in society and the industrial world. Then, it is expected that the experience gained when participating in this program will prepare them for work readiness after graduation. The self-readiness indicator in the MBKM variable plays an important role in increasing the work readiness of the generation z students in the future. This explains that the MBKM program forms a self-readiness in students and will indirectly have a significant impact on student work preparation later. According to Lin & Dai, (2022) self-readiness is a condition and individual attitude in responding to and practicing something in an activity, in which there are skills and attitudes that must be prepared in carrying out an activity. The combination of self-readiness and student readiness will form an exploration in improving the competence and skills of qualified students so that it will form a competency demand in today's industrial world for generation z students (Schroth, 2019). Responding to the challenges of these changes, an effort is made to strengthen competence based on self-readiness. In this study, particularly in the MBKM learning program, it offered off-campus learning experiences that are oriented to the work readiness of the generation z students.

Digital curriculum (DC) on the Student Learning Advantage 4.0 (SLA) through Work Readiness Integrated Competence (WRIC)

Digital curriculum has an indirect effect on WRIC through SLA as a mediating variable. This was proven in this study that the digital curriculum has a good impact and indirectly increases job readiness significantly for the generation z students of Indonesian tertiary

institutions through SLA. Learning path indicator on digital curriculum variables is a major factor in improving SLA and WRIC because the basic characteristics of the generation z and their growth are affected by the rapid pace of technology, having a very different impact on current education which must be oriented to the needs of their students, the generation z who really like technology, because they grow up in it. According to Micu, (2019) through the digital curriculum, it prioritizes an effective interaction between teachers and students bridged with ICT. Based on the results obtained, it can be said that DC facilitates SLA to achieve WRIC simultaneously. For this reason, higher education institutions must transform the conventional curriculum model into a digital curriculum because this curriculum offers many advantages to create an orientation of learning excellence and work readiness in the industrial world for generation z students (Scholz, 2019). This research is in line with the research conducted by Ingsih et al., (2022) stating that DC is effective in increasing learning and work readiness.

F. CONCLUSION

The study found that MBKM has a direct effect on WRIC. This proves that this research was able to explore that the need for effective work readiness and needed by the generation z is practical learning offered by MBKM. The presence of the MBKM program is to answer the problems on the job readiness of Indonesian generation z students in which the learning that focuses on off-campus is effective because the activities that students participated in increased opportunities in the social and industrial sectors, cross-cultural communication, acquiring a new skill, pursuing experience to develop a pathway to future career and job readiness. The other finding in this study is that the implementation of the MBKM program for

the Indonesian generation z students has an impact on SLA in significantly increasing their WRIC. The MBKM program has a good impact on SLA and WRIC on the generation z students in increasing competence and readiness as the advantages and learning experiences outside the study program which are believed by the generation z students to have a positive impact on their WRIC to work in the industrial era 4.0. DC in this study played an important and complementary role in improving the SLA and WRIC of the Indonesian generation Z students because the curriculum is a bridging element, to achieve an educational goal. DC offers an adaptive and flexible curriculum formed from the current phenomena of society and industry in which curriculum development in education must move dynamically with industry changes. Therefore, the application of DC must be positioned in various dimensions of time and place and towards an integrated and adaptive concept of superior education that complements each other to create superior future human resource candidates.

The limitations of the research were the limited implementation of assistance programs in education and apprenticeship units, student exchanges, and humanitarian action. In other hand, the other four activities had not received more attention. Two important indicators of preparation for the post-graduation period and independence need special attention for the Generation Z students to prepare themselves after graduation in preparing for the Generation Z's job readiness. This fact initiates further research to find out the problems behind the actions of the generation z students. In addition, there has not been much exploration of the development of digital curricula especially for generation z students, especially in developing in-depth educational orientation and future career readiness to be further explored.

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