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DEVELOPMENT OF DIGITAL MODULE FOR IMPROVING LECTURERS' 21ST CENTURY COMPETENCE

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ABSTRACT

University graduates in the 5.0 era have big challenges facing the world of work so they must be prepared to become graduates who are able to compete globally. The emergence of robotics or Artificial Intelligence is increasingly becoming a formidable challenge in order to become part of reliable and skilled human resources. Therefore, Higher Education Institutions have a big challenge to take on the role of preparing these reliable graduates. One thing that must be fixed by higher education institutions is to always carry out developments, especially to upgrade the capabilities of their resources, one of which is lecturers. The Al-Muslim University FKIP has played a very good role in this regard, namely carrying out digital module development training activities. This activity will not only encourage the development of lecturer pedagogic competencies, especially for developing and using blended learning, it will also train the skills of lecturers and students who are involved as users of digital modules. This research method uses the R & D method with the Plomp scheme, because this research develops products that start with analyzing problems, designing, realizing, implementing, and evaluating products to using these products. The results of the study show that the development of digital modules is able to improve the competence of the 21st century FKIP Almuslim University lecturers and students have high learning motivation by using digital modules.

Keywords*: Development, Digital Modules, Competence, 21st Century Skills.*

1. INTRODUCTION

2. Facing the VUCA era, the education sector is the backbone for producing quality human resources. Generation Z needs to have various skills to adapt, such as being sensitive to the environment, socially intelligent, smart and good at thinking, cross-cultural skills, thinking like a computer, literate in new media, multidisciplinary, open-minded, managing knowledge, and being able to establish virtual collaboration (Arsanti et al., 2021; Asriandi & Putri, 2020; Penprase, 2018**).** It is this generation that is currently in the scope of higher education, where when they become graduates they will be faced with the biggest contraction in the world of work which is estimated to be centered on the office administration, legal and financial work sector including education and training, while the need for labor increases in fields related to engineering, architecture, computing and mathematics. This change is driven by the use of robotics and 'Artificial Intelligence' as a substitute for human resources (Syed Chear & Md Yunus, 2019). Moreover, (Syed Chear & Md Yunus, 2019) stated that future workforce, both teachers and doctors, need to have high skills such as statistical analysis, data mining and Cloud And Distributed Computing so that they can compete in the challenges of work in the industrial world. Therefore tertiary institutions must take a role in preparing outcomes or graduates who are reliable and able to enter the world of work (Arsanti et al., 2021; Astini, 2022).
3. So for that it is necessary to create learning characteristics that are flexible, dynamic, creative, innovative, and intelligent. If realized, it will create an atmosphere of freedom of learning, creativity, adaptation, and competence to the maximum which will lead to qualified nursing graduates. The implementation of education in Indonesia is based on good governance (Asriandi & Putri, 2020; Maisah et al., 2020). The need for quality education is an increasing demand in supporting the development of the Indonesian people as a whole in order to be able to penetrate the job market in the era of globalization (J.A Scholte). The final goal to be achieved is the realization of a just and prosperous society that is evenly distributed materially and spiritually. Departing from government regulations namely Law no. 14 of 2005 concerning Teachers and Lecturers was issued with the aim of improving national education, both in quality and quantity, so that Indonesian human resources can be more faithful, creative, innovative, productive, and knowledgeable in order to improve the welfare of the entire nation.
4. Improving the quality of national education in question includes the National Education System, Qualifications and Competence of Teachers and Lecturers, Curriculum Standards used, and other matters. In relation to lecturers who are also educators, professional lecturers must also meet the qualification standards stipulated in article 8 of Law No. 14 of 2005 concerning Teachers and Lecturers (UUGD) which states that Teachers and lecturers must have academic qualifications, competencies, certificates educators, physically and mentally healthy, and have the ability to realize national education goals. The description of the current global situation, which is triggered by the rapid advancement of information technology, requires a strong commitment and consistency in carrying out Digital Transformation to build strong human resources through increasing knowledge, skills and character which is very important so that their competencies remain relevant and agile in facing challenges

in the era of VUCA (Volatility, Uncertainty, Complexity and Ambiguity).

The urgency for developing human resource competencies in tertiary institutions is to be able to elaborate with the higher education curriculum which has been designed to adapt higher education outputs that are relevant to the world of business and industry (DUDI), which is an urgent demand at this time (Maisah et al., 2020). Higher education is one of the levels of education and learning in preparing quality and resilient human resources (Milaningrum & Rahmawaty, 2020; Sinambela, 2017). This condition coincides with Generation Z with its own character which is currently entering higher education (Holzer et al., 2022). In the context of education, an understanding of the characteristics of each generation is important to determine how effective educational strategies are given to students. The goal is not only academic and pedagogic achievements, but also how the educational process is able to foster students' character and love for learning activities and develop adequate competence. Currently, most of the Z generation are at the higher education level. This means that the adjustment of the learning system in higher education spaces must take into account the characteristics of Generation Z to suit their needs, as well as the business and industrial world (DUDI) without compromising their interests and habituation as a generational group. Where this generation is expected to be able to always be dynamic and even have to be adaptive to every development and change in technology that occurs (Indarta et al., 2021; Milaningrum & Rahmawaty, 2020).

5. Indonesia is currently in the Demographic Bonus period. (Idris, 2021) wrote that the results of the 2020 census show that the composition of Indonesia's population is mostly from Generation Z (the generation born between 1997 to 2012) of 27.94% or 75.49 million people. Meanwhile, there are fewer Millennials who are expected to become the motor of social movement, namely 25.87% or 69.38 million of the total population of Indonesia. This means that the existence of Generation Z plays an important role and influences the development of Indonesia today and in the future. This is of course a challenge in the midst of uncertainty for higher education and higher education which is the final terminal of education in building competitive human resources with competencies according to needs. Today's students are Generation Z with different characters from previous generations. How do universities respond to the growth and development of Generation Z and the VUCA era (Kennedy, 2020). Universities need to reflect on the character of Generation Z, as well as the phenomenon of shifting competency of college graduates in meeting the current and future world of work because this is related to the quality and readiness of students to live in a rapidly changing world. Universities need a holistic development process so that their graduates are skilled, so this also requires the competence readiness of lecturers as teachers in tertiary institutions (Chaiyama & Kaewpila, 2022).
6. These various reviews show the importance of changing the new paradigm of higher education to be developed and balanced between the competence of teachers and graduates in tertiary institutions with the needs of stakeholders or graduate users later (Chaiyama & Kaewpila, 2022). (Pacheco et al., 2021) said that higher education requires lecturers who have a combination of talent, attitude, and professional development in teaching, research, and community service, especially those based on 21st century abilities. Furthermore (Tiznado-Matzner et al., 2020) stated that ICT in the 21st century has influenced many aspects of people's lives, including the world of education. Many educational institutions such as universities have adopted this technology in an effort to improve teaching models in universities. One of the most representative is global expansion through the e-learning platform, in which in the e-learning platform one form of technological progress can be designed in the form of digital modules for students. Thus, the development of human resource competencies (HR) in the 21st century is a very important matter for higher education institutions to pay attention to in order to balance the formation of skilled and reliable graduates. One form of higher education's attention is to carry out various activities in the form of training or training for sustainable development for lecturers in order to upgrade the competence of lecturers and students in tertiary institutions.
7. Training in the context of developing lecturer competencies has been carried out by FKIP, Almuslim University in the even semester of 2021/2022 in the form of digital module development training. This activity lasted for 3 months using Almuslim University assistance funds for digital module grant activities from the Ministry of Research, Technology and Higher Education. This activity was carried out by FKIP to produce a number of digital modules per course. Thus the formulation of the problem in this article is (a). Can the development of digital modules increase the competence of 21st century lecturers based at FKIP Almuslim University, (b). Can digital module products increase student motivation to study and take courses? Based on these problems, the objectives of this research are (a). To find out whether the development of digital modules can increase the competence of the 21st century lecturers at FKIP Almuslim University?, (b). To find out the increase in student learning motivation by using digital modules.
8.

2. LITERATURE REVIEW

8.1. Digital Module

(Liesa-Orús et al., 2020) stated that ICT has changed several transformations in all lines of life, such as the transformation process from conventional universities to digital universities through new pedagogical models, new learning environments, and professors' actions that are able to equip students with the knowledge, skills and abilities needed for life. One of the new pedagogical models is the digital module. The digital modules developed are in the form of PPT modules, teaching videos, LMS-based worksheets, and video management platforms. According to (Suryani et al., 2020) the module is a set of teaching materials that are presented systematically so that students can learn without a teacher, arranged in a systematic and interesting manner which includes material content, methods and evaluations that can be used independently. Digital modules have their own advantages when

compared to printed modules. The digital module presentation will be more interesting and invite reading interest for those who see it, complemented by audio and video in one presentation bundle and in each learning activity you can be given keywords that are useful for locking learning activities. Furthermore, digital modules are also more practical to carry everywhere because they can be accessed via laptops, cellphones or gadgets, they will not be obsolete (Diantari et al., 2018; Wirawan et al., 2017). This is in line with the results of the study of (Kuncahyono, 2018) who found that e-module users in learning showed a practical level of product reaching 86.5% of practical criteria.

These various advantages make digital modules more attractive and can be used by students anytime and anywhere. saja. (Khairudin. et al., 2018) states that digital modules create independence for students to read, observe, and conclude, besides that digital modules also present control over learning outcomes through the use of competency standards in each module that students must achieve. Next according to (Sandoval-Benavides et al., 2020), digital modules with software, for example through an e-learning platform, can improve students' digital skills, especially in terms of information management, communication, and aspects of scientific ethics, namely honesty and responsibility. Thus the creativity of students will be the quality of learning outcomes obtained. According to (Kaminskyi et al., 2018) digital modules are a form of digital transformation strategy in the education system at universities which are implemented on a cloud-based platform.

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8.2. 21st Century Competencies

Law No. 12 of 2012 concerning Higher Education states that higher education is a level of education after secondary education which includes diploma, undergraduate, masters, specials and doctoral education programs organized by higher education based on Indonesian culture. Higher education has several main dimensions which are the needs of higher education. One of these dimensions is called the Education dimension. Students are one of the components in the educational dimension, whereas students in tertiary institutions they must be prepared to become educated people who continuously learn regardless of time. For academics in tertiary institutions, there is no limited knowledge. For them, science will continue to develop along with the development of human life (Maisah et al., 2020). Technological advances in the 21st century have shown differences in the competence of a teacher, both teachers and lecturers, in managing learning. According to (Sumarno, 2019), teachers and lecturers are in the digital immigrant cluster, which requires them to develop the ability to use various digital conveniences in preparing for learning and teaching. The unwillingness of lecturers and teachers to upgrade themselves will have an impact on the inability to balance digital natives or generation Z. The pedagogic competence of teachers who are only at the conventional level will create learning boredom for students or students. (Sanjayanti & Pramadi, 2020), stated that 21st century competencies in principle prioritize the ability to communicate, collaborate, think creatively, and think critically (Agustina et al., 2022).

This skill is commonly known as 4C (Creativity and Innovation, Collaboration, Communication, Critical Thinking and Problem Solving). The ability to communicate and collaborate is one of the skills that helps students to occupy the world of work and keep up with all the changes in the 21st century 21 (Chaiyama & Kaewpila, 2022; Khlaisang & Mingsiritham, 2016). Lecturer competence development in tertiary institutions will help train graduates who are competent to work effectively and live their own lives. So that the competency of graduates with life and career skills levels can be a guideline for Higher Education Institutions to plan the management of Education in their institutions (Lavi et al., 2021). This will be able to develop students to achieve the desired characteristics and be able to work and face various situations in the midst of 21st century changes (Lavi et al., 2021). Many things can be done by Higher Education Institutions to develop their human resources, including training, seminars, training and others. to obtain lecturers who have relevant competency skills, Almuslim University has provided a forum for lecturer self-development, especially for developing digital modules on the Almuslim University e-learning platform.

8.3. Human Resources of Higher Education Institutions

Human resources that need to be developed are in terms of cognitive, affective and psychomotor, or spiritual attitudes, social attitudes, knowledge and skills. Apart from quantity, quality is also the main focus of the function of human resources in the 21st century in order to be able to compete in a competitive global environment (Harishree & Mekala, 2020). Competition in all fields demands the availability of reliable quality human resources. The fundamental change brought about by globalization is openness, which implies democracy and freedom, both in individuals and in society as well as in the management of the state and nation. Advances in information technology and industry that are taking place rapidly require all countries and all private and state institutions to continue to improve in facing global competition, and this is one of the characteristics of global development in the 21st century, likewise with Higher Education Institutions. According to (Rifa Hanifa Mardhiyah et al., 2021; Sulistyaningrum et al., 2019) the development of human resources in higher education institutions needs a balance between knowledge and skills as the basis of quality human resources.

This requires the readiness of educators and students to take development steps to face the industrial revolution 4.0 era, one of which is by changing the way the teaching and learning process. In the past, the teaching and learning process was sufficient to only rely on certain learning models, but along with the development of 21st century technology, educators are also expected to have skills that can prioritize technology as part of the learning process being carried out. An educator is expected to be able to use technology as a means of acquiring 21st century skills for students, namely being able to think critically, solve problems, metacognition, communicate, collaborate, be innovative and creative, information literacy (Aziemah Razali & Syafiq Sanusi, 2020; Sulistyaningrum et al., 2019; Turiman et al., 2019). For someone who works or as a human resource in the 21st century it is highly demanded to have (1). Life and career skills, (2). Ability to learn and innovate. (3). Media and information technology skills. To achieve this, lecturers as human resources in tertiary institutions must carry out self-development through training programs or training provided by the institution. It is hoped that the ability to make digital-based teaching

pedagogical changes will be able to provide graduates with readiness to enter the world of work.

Lecturers are professional educators and scientists whose main task is to transform, develop and disseminate knowledge, technology and art through education, research and community service (Saefudin et al., 2019). Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers article 1 states that "lecturers are professional educators and scientists with the main task of transforming, developing and disseminating science, technology and art through education, research and community service. Lecturers as the main executors who play a role as the main executors of education in Higher Education who are operationally the foremost executors in the management of higher education greatly determine its success. This role requires lecturers to be active in self-development to make various breakthroughs and innovations in implementing the Tri Darma of Higher Education. These breakthroughs and innovations can only be carried out by qualified lecturers who have competence in both the fields of education and teaching, research and community service (Åkerblad et al., 2021)

However, the competence of lecturers, especially PTS lecturers, not all of them have qualified competence as generally PTN lecturers who have more organized planning for upgrading lecturer competencies. According to Suhaemi and Aedi, the trigger factors for the low competence of lecturers in private tertiary institutions are caused by weak planning and preparation policies for lecturers, lecturer competency development has not been handled professionally according to needs, ignoring student needs, management strategies for increasing lecturer competency have not been well coordinated, and the development of lecturer professional competence continues to fail (Suhaemi & Aedi, 2015). Lecturer competence is one of the factors that can motivate students to learn (Damanik & Irawan, 2021). So that it can be said that student failure can only be caused by the failure of a lecturer to motivate student activity to learn. In response to this, it is urgently needed to develop the competence of lecturers, especially in private higher eduaction institutions (PTS), so that lecturers are able to balance the needs of generation Z, who are currently students in higher education institutions.

9. METHODS

This type of research is a quantitative research with an R&D development design by (Bennett et al., 1984). This type of development research was taken because researchers developed digital module products in teaching and learning strategy courses and basic science concepts, where these products can act as media in learning. This model consists of four stages known as 4-D namely Define, Design, Development and Desseminate). This research model will describe in a narrative way to describe procedures or steps in achieving certain goals, which steps or stages will describe the improvement, development and evaluation of the education system (Gustiani, 2019). This research design with R&D will develop a digital module product that begins with needs research and then develops it to produce a product that has been tested.

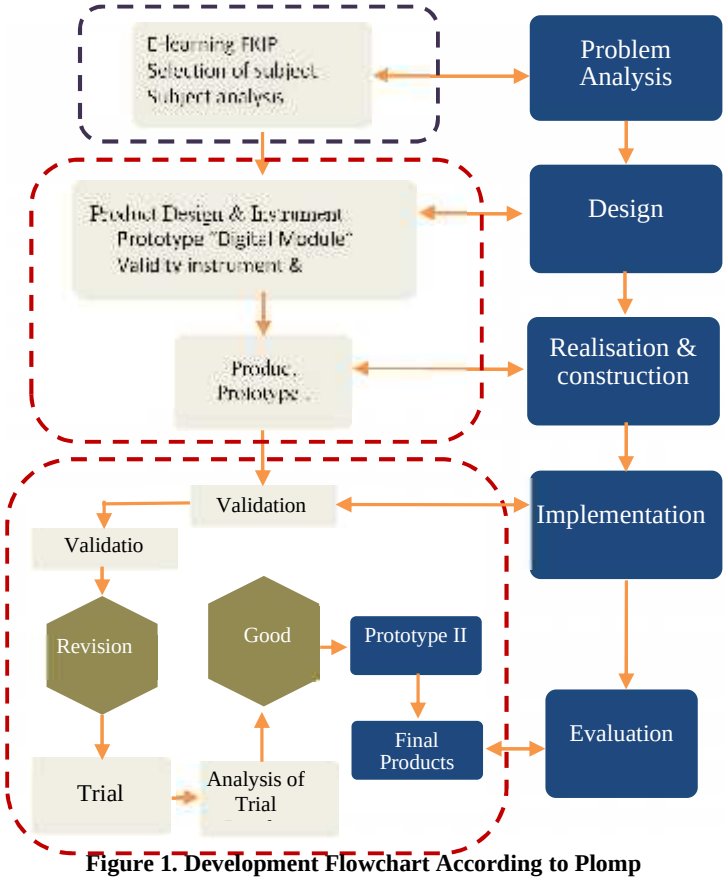

Figure 1. Development Flowchart According to Plomp

The proposed model design according to Plomp in (Gustiani, 2019) consists of five steps, namely problem analysis, design, realization, implementation, evaluation. The model is then considered more flexible by some experts because each step can be adapted to the research context and the characteristics of the researcher. To find out the feasibility and practicality of the digital modules that have been designed, the researchers analyzed data in the form of lecturer response data as digital module developers and student response questionnaire data as digital module users. Analysis of the response data is using a Likert scale with alternative answers 1 to 4. The percentage of the validator's assessment follows the following criteria:

$$P = \frac{a\ q}{m} \frac{s}{s} x\ 100\%$$

Table 1. Percentage Rating Scale

Category	Value Score	Score percentage interval
Very good	4	81,24%< %≤ 100%
4Good	3	62,49%< %≤ 81,25%
Poor	2	53,74%< %≤ 62,50%

Very poor	1	25%< %≤ 43,75%

10. RESULTS & DISCUSSION

Lecturer competence development in Higher Education Institutions can be carried out through sustainable development strategies and involving lecturers in technology-based grant programs such as developing digital modules for learning. Lecturer competency development through digital modules is carried out in the even semester of 2021/2022 by utilizing digital module grants from the Ministry of the Republic of Indonesia. Which through the development and design of this digital module, lecturers will be trained to use all technological features to produce creative and innovative learning modules. For PTS such as Almuslim University, this has been done for 3 months. Through this module, lecturers are trained to be able to design innovative teaching media based on technology and to be able to integrate it into the Learning Management System (LMS). Continuous development for lecturers who are trained through digital module design activities has described as a 21st century competency possessed by a lecturer, which is one of the qualities that must be possessed in the 21st century technically operating technology, information management, communication, collaboration, creativity, critical thinking, problem solving (Maisah et al., 2020; van Laar et al., 2017, 2018).

The quantity of Indonesian education in general has developed well, but in terms of quality, namely those related to competence, it still requires the attention of many parties, especially higher education, to help improve it so that it is able to compete at the global level. Education is changing rapidly, therefore to achieve it requires the creativity and innovation of teachers in higher education, namely lecturers (Risdianto, 2019). Furthermore, according to (Ritonga et al., 2021) in 2018, the tertiary education participation rate in Indonesia only reached 31%, still lagging behind compared to Malaysia which reached 38% and Singapore which reached 78%. Among the disruptions experienced by higher education in the era of the industrial revolution 4.0, one of them is the mismatch between work and educational background. The trigger for the incompatibility of work with a scientific background is the disruption of vocational education, in which case higher education should be able to support the mastery of certain applied skills of a graduate. So that this is what is the jack of higher education to improve its output, starting from improving the competence of lecturers, especially in designing, implementing learning strategies that are in accordance with the needs of the world of work and oriented towards the characteristics of generation Z students who are familiar with technology (Sherly et al., 2020).

The lecturer is someone who has a full role in the output skills of Higher Education who are oriented towards 21st century competencies (Ritonga et al., 2021). Lecturer competence can be interpreted as a set of knowledge, behavior, and skills possessed by lecturers in carrying out learning. The results of the human resource development carried out at FKIP Almuslim University in particular were successful overall (Muntashofi, 2019). This can be seen from the digital module products that have been produced for 30 courses.

Furthermore, this activity has also been developed by lecturers, so that the positive impact seen is that more and more FKIP lecturers are involved in various independent learning activities launched by the Ministry of Education and Culture Nadiem Makarim. The next positive impact of developing 21st century competencies among lecturers can be seen from the increase in student learning skills. The 21st century learning skills are Collaboration, Communication, Critical thinking, Creative Thinking (Monica et al., 2021). This 21st century competence requires skills in utilizing technology.

Overall this digital module development training activity has answered all of the problem formulations raised in this research. In this activity that lasted for about 3 months. As a validator for this activity, FKIP brought in experts in the field of digital modules from the Indonesian University of Education and also from Semarang State University. The expert team was present for 4 meetings, namely 2 days at the beginning of the semester and 2 more days at the end of the semester. The validator validation results are as follows:

Table 2. IT Expert Validator Comments on Digital Module Prototypes

No	Part	Feedback Suggestions	Follow-up
1	Module cover	The validator's suggestion is to make the module cover more attractive	The module cover is changed in a more attractive appearance
2	Interactive Video time duration	In each Sub-Material, an interactive video with a minimum duration of 15 minutes must be made	Re-recording and improving learning videos with a longer duration
3	Innovative Learning Model Material	Insert Learning Videos about the concept of innovative learning models with more numbers	In addition to the videos prepared by the lecturers, the e-learning platform which contains digital modules also inserts several YouTube video links with the topic of innovative learning models, so students have lots of references.
4	Evaluation Features	The evaluation feature is prepared in an interactive form with the choice type, so that students can directly measure the achievement of	The evaluation feature is prepared in a more interesting way and can be answered and assessed by the students themselves regarding the results of their evaluation achievements

		their evaluation results	

The results of the validation have been distributed to students who use it through e-learning. In the following, we can see the appearance of the digital modules that have been developed in the teaching and learning strategy courses and basic science concepts courses.

Figure 2. Digital Module Feature Image of SBM Subject

Figure 3. Digital Module Feature Image of the Subject Basic Concept

The findings in this study indicate that digital modules have fairly good practicality and are able to hone student independence in generalizing all instructions in the teaching and learning process properly. According (Agustyaningrum & Gusmania, 2017; Fikriani, 2016; Husna & Hasibuan, 2018), Practicality is the level of usability or ease of use of teaching materials. Practicality is making something easier, not being a hindrance in doing something and making it easy to use. Next, this practicality can also be seen from the results of lecturer and student responses to digital module products and the application of digital modules at FKIP Almuslim University as follows:

Table 3. Practicality Percentage & Digital Module User Response Percentage

No		Respondents	Percentage	Category
I		*Practical Percentage Based on percentage formula*		
	1	Lecturer 1 (MNT)	99%	Very Practical
	2	Lecturer 2 (RHM)	99%	Very Practical
	3	Lecturer 3 (FTH)	99%	Very Practical
II		*Percentage of Digital Module User Response*		

	1	Lecturer	95,2%	Very good
	2	Sudents	93,6%	Very good

The results of this analysis show that in general this digital module is very practical for use by lecturers in their e-learning platform. The value of practicality is not only visible from the time it is used, but the teacher also states that practical digital modules are a form of self-development for lecturers in designing and developing digital modules, so that lecturers feel that this is able to boost lecturer pedagogic competence, especially related to 21st century competencies. Pedagogic competence related to the professionalism of lecturers in accordance with their areas of expertise can be seen from the digital module products produced by lecturers in accordance with the subjects they are pardoning. Furthermore, it is also easier for lecturers to teach interactively by using the Blended Learning system. This finding is in good agreement with (Ritonga et al., 2021; Wusqo et al., 2021) which states that lecturers always have to adapt by upgrading the four dimensions of competency they have in accordance with the demands of the times. Lecturers in the 4.0 era must also be able to become educators who have the ability to learn student mindsets, have digital literacy, and be able to integrate class activities that have been carried out so far with several online learning media platforms online (Manulang et al., 2020). Education 4.0 as a whole will contribute to building generation Z (Asriandi & Putri, 2020; Rachmawati & Purwaningrum, 2019).

Thus lecturers who already have 21st century competencies can more easily prepare their students to have 21st century skills which are also known as 4C (Collaborative, Communication, Creative Thinking, and Critical Thinking). More Regarding 21st century skills, moreover (Ritonga et al., 2021) stated that the Assessment and Teaching of 21st Century Skills consists of four classifications, namely way of thinking, way of working, tools for working, and skills for living in the world. Grafin, 2012 explains these four classifications as follows:

a. The way of thinking is a person's skills in the form of creativity, innovation, critical thinking skills, problem solving skills, and making decisions.
b. Way of working is a skill in communicating, collaborating, and working together in a team that is owned by someone
c. Tools for working, such as awareness as a global and local citizen, and having social responsibility.
d. Skills for living in the world is when a person has abilities based on information literacy, mastery of technology, and the ability to learn and work through digital social networks.

Students as the output of higher education will be guaranteed to be able to compete at the global level when it has been prepared by higher education that has good quality, superior and competent human resources. This finding is in accordance with the results of the study (Syed Chear & Md Yunus, 2019) which stated that higher education plays a very important role in the formation of 21st century knowledge, skills and attitudes in graduates of higher education. Based on the results of the responses, it can be concluded that the development of digital modules can improve the pedagogic competence of lecturers, especially related to the 21st century competence of FKIP Almuslim University lecturers. The development of digital modules can also increase student learning motivation. Students are not bored and enjoy digital-based learning, because this is in accordance with their characteristics as digital immigrants, namely the generation that was born and grew up before the internet era. In more detail, some of the findings obtained through the deployment of this digital module are:

a. Digital module development activities can improve the competence of the 21st century FKIP lecturers at the al-muslim university, which can be seen from the results of the lecturer's digital module products that have been published and used by al-muslim university students. In the following discussion are some snippets of digital modules which are the product of the team of lecturers Marnita and Fatimah, in this digital module already using various digital features based on 21st century learning skills.
b. The next result is that digital module development products have an impact on the superiority of ICT-based teaching materials at FKIP Almuslim University. Digital modules have more practical value and a good response from lecturers and students compared to textbooks or the like.
c. Digital module products can increase student motivation to study and take courses. Many students enjoy the learning process based on digital modules. This is because those who are generation Z prefer digitalization, enjoy learning more while surfing on digital modules that have been made by lecturers as one of the 21st century competence enhancement products from lecturers.

11. CONCLUSION

The conclusion in this study is:

a. The development of digital modules can improve the competence of the 21st century FKIP Almuslim University lecturers. This can be seen from the lecturers' responses showing a very good category, namely 95.2%, as well as the percentage of lecturers' practicality showing a figure of 99% with a very practical category increasing lecturers' pedagogic competence and being practically used as teaching media.
b. Students have high learning motivation by using digital modules, this can be seen from the student responses which show 93.6% in the very good category

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