

The development of students' self-regulated learning through online learning design

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Abstrak: This study focused on exploring how the online learning design of *Pendidikan Agama Islam (PAI)* course facilitated the development of students' self-regulated learning. This study was conducted at the State University of Malang, Indonesia, and used a qualitative approach in the form of a case study as its research method. Based on Bandura's learner agency theory, the data were collected through documentation, online-based interviews, and observation. After being collected, the data then were analyzed using the interactive model of Miles, Huberman, and Saldana. Findings show that the PAI course at the State University of Malang had four learning design stages: stimulation and problem identification, learning problem-content analysis, verification of results, and generalization. These stages facilitated the development of students' self-regulated learning, as observed through three indicators owned by each student, namely, creativity, ability to think critically, and self-regulation. The implication of this study is the emergence of the technical-didactic side of online Islamic education learning through a designed learning design stage so that, in the end, it will lead to benefits in achieving educational goals more effectively.

Keywords: *self-regulated learning, self-regulated person, online learning, cognitive psychology, Islamic education*

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INTRODUCTION

The complexity of online learning challenges at the higher education level needs to be responded positively by each university in order to produce excellent graduates, as has been done by developed countries such as Finland (Härkki, Vartiainen, Seitamaa-Hakkarainen, & Hakkarainen, 2021); Florida, American state (Waschull, 2018); Laos or Malaysia (Ahmad, 1998). One of these challenges is the development of student self-regulated learning through various technical-didactic efforts in the form of innovative learning methods and conceptual-theoretical aspects through the learning design used. It is common if there is a logical consequence of efforts to develop student self-regulated learning that is integrated with online learning designs at the tertiary level (Li, Chen, Xing, Zheng, & Xie, 2020); Loeffler, Bohner, Stumpp, Limberger, & Gidion, 2019; Hooshyar *et al.*, 2020; Carter, Rice, Yang, & Jackson, 2020). In essence, this effort is a concrete form of improving the quality of college graduates who are expected to have metacognition readiness, behavior, as well as motivation to face the pace of development of online learning technology while still referring to the scientific principles they practice.

In Malang, East Java, there is a state university named Malang State University -after this referred to as Malang University or MU- which was established in the philosophical spirit of life-based learning. This college was founded in 1954, with the verbal credo “The Learning University”. Interestingly, this university has been able to strengthen its existence and achievements in organizing online learning at the tertiary level by winning the title of one of the five best universities in implementing online lectures (Hasanah, 2019). This fact is supported by the active role of MUs in positioning themselves as a learning base for academicians through the development of effective educational models and strategies (UM, 2010, p. 2) to produce competent graduates.

In a broader scope, the pattern of linking educational strategy development with graduate competence has been scientifically studied from various backgrounds, starting from the perspectives of the curriculum design (Rachmawati, 2018), the level of the academic unit (Muliarti, Prasetya, & Mulyadi, 2018), to the learning model used (Adriyanto *et al.*, 2020; Alwi, Dwiningrum, Suyanto, Sunarto, & Surono, 2021; Baptist, Utami, Subali, & Aloysius, 2021). As Kintu, Zhu, and Kagambe (2017) have stated, there is a positive and significant relationship between online learning design and self-regulated learning so these two variables determine the effectiveness of online learning.

Research studies on the development of self-regulated learning students show various variants. In several studies, students’ development of self-regulated learning is carried out through the curriculum approach used (Bahri, Idris, Muis, Arifuddin, & Fikri, 2020; Broadbent, Panadero, Lodge, & de Barba, 2020), increased student motivation (El-Adl, A., & Alkharusi, 2020; Luik & Lepp, 2021), teacher pedagogical innovation (Mardiana & Supriyatno, 2021), to the impact assessment analysis, formative given by teachers to their students (Dörrenbächer-Ulrich, Weißenfels, Russer, & Perels, 2021; Granberg, Palm, & Palmberg, 2021). Van Alten, Phielix, Janssen, and Kester indicated that the impact resulting from the video-based learning process improved self-regulated learning students and their learning outcomes (2020). Similar research results also show that distance learning can improve student academic performance (Refae, Kaba, & Eletter, 2021; Sutarni, Ramdhany, Hufad, & Kurniawan, 2021).

The meta-analysis study on the theme of self-regulation learning comprehensively reviews the theory of self-regulation learning as a framework to support the proposition of self-regulation learning in several aspects, including the level of goal, effort, persistence, and self-efficacy. Through this meta-analysis study, the authors concluded that understanding how a person regulates their self-regulation learning in an increasingly complex and scientifically focused work environment. The dynamics of self-regulation learning are essential to study over time (Sitzmann, & Ely, 2011). De Bour, Donker-Bergstra, Kostons, Korpershoek, and Van der Werf (2012) stated differently. Through analyzing 63 manuscripts on the theme of self-regulated learning, the meta-analysis studies that have been conducted so far only reviewed self-regulation learning in a reasonably broad scope. In contrast, in his book thesis, de Bour found an effective strategy for development. Self-regulated learning through detailed and specific analysis, especially in learning strategies used in the education system (de Boer, Bergstra, & Kostons, 2012).

In more modern research, self-regulated learning is studied through the perspective of a distance learning system, which has until recently been a priority in many countries. Starting with a systematic review of literature; Araka, Maina, Gitonga, and Oboko (2020)

found that in the period between 2008-2018, comparing the development patterns of self-regulated learning between face-to-face models and information technology-based e-learning models, Araka *et al.* (2020) observed that very little research had examined the theme of self-regulated learning from the perspective of the tools and techniques in the developed e-learning model. So, their research findings lie in classifying the use of information technology (IT) based learning tools suitable for developing self-regulated learning for students (Araka *et al.*, 2020).

On the other hand, the perspective of social cognitive theory (Bandura, 1977, p. 8), especially Bandura's theory of learner agents, views a relationship between metacognition and self-regulation that forms the bond between self-awareness and motivation in the form of action (Dinsmore, Alexander, & Loughlin, 2008). Self-regulated learning is an indicator of the ability to control one's cognition, behavior, and motivation in achieving certain goals (Wolters, Pintrich, & Karabenick, 2005). It could provide a more comprehensive view of learning (Bandura, 2006 p. 41). The potential of these three things has existed in each individual as a *fitrah* given by God and can develop optimally if trained and optimized. Based on these theoretical statements, Islamic education course in higher education becomes the right gap between developing students' self-regulated learning. This is because these course at the university level essentially plays a role in educating students to have good behavior and morals based on religious beliefs.

Likewise, with the facts of learning Islamic education at MU, effective educational PAI models are developed by applying the Semester Credit System (SKS) of 3 credits for PAI courses. The magnitude of this figure has implications for the increasingly tricky material and practicum that students must carry out so that the ability in the aspect of self-regulated learning becomes necessary. Thus, this study assumes that the development of students' self-regulated learning behavior through online learning designs can be observed and interpreted in depth through the PAI course applied to higher education.

Therefore, this paper aimed to analyze the online PAI course learning design implemented at MU so that students can develop their self-regulated learning. Through this analysis, the authors position this manuscript as follow-up research in developing self-regulated learning of distance learning in Islamic religious education courses at the tertiary level (Bahri *et al.*, 2020; Holzer *et al.*, 2021; Urbina, Villatoro, & Salinas, 2021) Pedagogical, and Content Knowledge (TPACK). The novelty of this research was to parse the technical-didactic side of online Islamic education learning stages through a designed learning design to lead to benefits in achieving educational goals more effectively (Dignath, 2021; Kim, So, & Joo, 2021) and investigated teachers' competence profiles regarding SRL (study 1).

METHOD

This research focused on developing students' self-regulated learning through the online PAI course design implemented by the MU. Thus, this research used a qualitative approach that seeks to find out the learning design of an online PAI course facilitated the development of students' self-regulated learning. Therefore, the researcher employed case study was chosen to analyze this phenomenon in-depth in this context. The PAI course in this study has three credits with a 30% synchronous learning portion, and the rest is carried out asynchronously, with the type of assessment derived from written exams, assignments, and projects. The informants in this study were taken through a purposive technique with

64 students from the Faculty of Education, Literature, Engineering, and Economics at the MU. The researcher's position in this study is the main instrument whose presence aims to create a good rapport with informants on the research site.

Due to the large-scale social restrictions policy during the COVID-19 pandemic, the data were collected through online observations and interviews. Sources of documentation were collected from the PAI course learning video, students' academic grade lists for the Islamic education course, and PAI course academic archives at MU. Interviews were conducted with 64 students based on two criteria, namely active students class of 2020/2021 and currently taking the PAI course at MUs. The data collection was ended when the data was saturated. This means that all research questions had been answered in-depth and comprehensively.

As for data analysis, the researcher refers to the interactive cycle model initiated by Miles, Huberman, and Saldana (2014, p. 33) through the stages of data collection, condensation, presentation, and data verification. After all, data have been collected, the data then sorted, simplified, abstracted, or transformed so that it is close to the whole section of the transcript interviews, written notes, documents, and other empirical materials. It's called the condensation stage. The results from various data sources were triangulated by source and method triangulation techniques. The validity of data interpretation was obtained through research extension, FGD, and member check. Meanwhile, data reliability was carried out through an internal confirmability test from the PAI course expert.

FINDING AND DISCUSSION

Learning design of Islamic education course at State University of Malang (MU). In the university's guideline document for curriculum development in 2018, it is explained that the capability-based curriculum (Law of the Republic of Indonesia Number 20 of 2003 Concerning the National Education System, 2003) is the normative foundation of MU education which is developed through several principles, one of which is to develop students' agility and adaptability to the dynamics of progress in science and technology. This means that the educational spirit that MU develop cannot be separated from the objectives of developing students' competencies framed in these two characteristics (i.e., agility and adaptability). Therefore, a learning design is needed that can translate the normative foundation of MU education into a more concrete pedagogical level. Indeed, the hierarchy of learning structures requires integrated connectivity between its components, starting from the learning approach that refers to the normative foundation of the university to the most practical hierarchy in the form of learning practices carried out by a teacher. Then, the form of unity between these components the downstream will be able to positively impact the axiological dimension of developing MU students' competencies towards the formation of complete human beings who can adapt and be able to face the progress of the increasingly rapid technological era.

Consequently, the learning carried out at MU must always refer to the efforts to develop two characteristics of student competencies as described above. The ability to exploit change (i.e. agility) and the ability to adapt to change (i.e. adaptability) are two entities that indirectly demand good behavioral readiness, motivation, and metacognition skills in students (Bandura, 2006, p. 43). Behavioral readiness is shown through actions that encourage people to adapt and explore new knowledge acquired during the learning process (Jena, 2016). Especially with online learning systems that are in direct contact with virtual-based learning technology,

it requires readiness to respond in the form of learning behavior from students (Hardy, 2021; Lee & Young, 2018). Then, the readiness in the motivational aspect is marked by the emergence of feelings and reactions to achieve learning goals (Emda, 2018). This motivation becomes the “motor” to drive student learning behavior to achieve their learning goals and objectives. Meanwhile, metacognition readiness can be developed through learning designs that encourage students to be able to understand problems well, to focus, and to think hard so that they can find strategies to solve problems encountered in the learning process. As in Louca’s idea (2003, p. 25) which emphasizes metacognition in a person’s ability to acquire knowledge with one’s awareness during learning activities (Asy’ari, Ikhsan, & Muhali, 2018).

In the end, motivation, behavior, and metacognition skill lead to its position as the important interrelated factors and able to support the achievement of learning goals (Agustian, Putro, & Putranto, 2018; Mustopa, Mustofa, & Diella, 2020; Sagita & Mahmud, 2019) while MSLQ is used to measure self-regulated learning and learning motivation. MSLQ is a validated instrument, while MAI is tested for validity first and the results are valid. The analysis technique used was multiple linear regression tests. The results show that the correlation coefficient (R). Online-based learning design is an urgent learning need in pandemic situations like nowadays, so the challenges of online learning in all aspects must be faced by students to achieve the expected learning goals. In this situation, self-regulated learning becomes important for students to have.

In reality, the technical application of the online Islamic education course at MU has been implemented since this university implemented the 2018 curriculum. Exclusively, based on the curriculum policy, the Islamic education course is designed as a part of the university courses, which are set to have three credits. These three credits are divided into theoretical lectures equivalent to two credits, while one credit is carried out by improving student psychomotor aspects through practical, field-based activities. Thus, MU determines the number of credits in this course as a form of affirmation of the MU curriculum innovation which tries to accelerate the process of moral guidance through the core subjects of Islamic education at the tertiary level and is in line with the spirit of “The Learning University” which is promoted by this university.

The selection of online Islamic education learning designs encourages the formulation of the course implementation process that is adjusted to the university’s academic guidelines. The provisions set by MU related to the online learning system regulate the flexibility and creativity aspects of the lecturers during the learning process. Online lecture activities are carried out with a minimum requirement of 30% of the total number of meetings in one semester. So that during that time, online Islamic education learning can be done through two forms of learning platforms, i.e., synchronous and asynchronous learning. The synchronous platform allows learning to be carried out simultaneously through webinars or video conferences, while asynchronous online learning is a learning format that occurs in independent learning situations and is carried out at different times through link room media, quizzes, discussion forums, and assignments.

As a forum to accommodate the two learning platforms, the online learning system at MU is centered on one Learning Management System (LMS) called *Sipejar* and can be accessed via the *Sipejar.um.ac.id*. The learning services found in this link-covers three learning formats: offline, blended, and online learning. These three formats that have been provided can be used flexibly by lecturers. This means that the curriculum policy, which has

provided flexibility for the lecturers to bring out their learning creativity, has been facilitated through an integrated system that can provide various online learning features.

Through the interview, the role of lecturers has been in line with the teaching pattern of Islamic education course. This means that PAI's online learning is designed by theoretical lectures in the classroom and practical activities in the field, which can be included in the *Sipejar* system. Interestingly, concerning the development of students' psychomotor aspects, Islamic education course is designed as a learning process that seeks to develop student's abilities in the practice of reading Al-Qur'an and the practice of praying. Both *Tafaqquh fi Diinil Islam (TDI)* and *Bina Ibadah (BI)* have learning stages that require students to interact and gain knowledge from the wider community.

Based on the interviews to 64 research informants, it was concluded that the most prominent role of the community in the three academic activities is BBQ and BI activities. Students are required to find learning partners (i.e., mentors) from an external environment who are considered competent to guide them in reciting Al-Qur'an skills well and practicing prayer following the provisions of Islamic law. Academic documents of MU also show that interaction between students and their mentors ultimately forces students to want to learn and upgrade their worship skills.

This kind of interactive pattern is a concrete form of life-based learning. So that the learning design designed in this course demands the readiness of students to want to socialize with learning environments outside their campus, so. It can be said that the acquisition of the learning dimensions (habit of mind) of MU students is based on the experiences they get from real life in society.

One other activity, TDI is programmed by MU weekly. Through this activity, students are encouraged to learn religious materials through learning videos uploaded through *Sipejar*. Not only that, through TDI, students are also required to have a learning dimension that cares about others and is willing to work together in a team to perform project tasks in accordance with the theme discussed in the Islamic education course syllabus, as shown in the Table 1.

Based on this description, it is expected that the online Islamic education course learning design at MU is framed in a learning process that activates the three domains of learners: the realm of knowledge (cognitive) that is obtained through classroom learning -both synchronous

Table 1. Mentoring schedule of PAI course at MU

| Schedule | Themes | Lecturers |
|---------------|--|--------------------------------|
| Feb 13 2021 | Smart with the Al-Qur'an (<i>Cerdas bersama Al-Qur'an</i>) | Faris Khoirul Anam, Lc, M.H. I |
| Feb 20 2021 | <i>Akhlak</i> for the Students (<i>Akhlak bagi Para Pencari Ilmu</i>) | Dr. A. Munjin Nasih, M.Ag. |
| Feb 27 2021 | Unity of Aqeeda, Sharia and <i>Akhlak</i> (<i>Kesatuan Akidah, Syari'ah, dan Akhlak</i>) | Prof. Dr. Nurul Murtadho, M.Pd |
| March 6 2021 | <i>Tadabbur</i> Surah Al-Ma'un (<i>Tadabbur Surat Al-Maun</i>) | Ibnu Syamsul Huda, S.S., MA. |
| March 13 2021 | Uncover the Hereafter (<i>Menyibak Alam Akherat</i>) | Dr. Hanik Mahliatussikah |
| March 20 2021 | Improving <i>Akhlak</i> , Achieving success (<i>Memperbaiki Akhlak, Meraih Sukses</i>) | Dr. H. Kholisin, M.Hum. |

and asynchronous platforms- and centralized through the LMS *Sipejar* system; the realm of attitude (affective) that is obtained through the activities of TDI; as well as the realm of skills (psychomotor) that is developed through the two TDI-BI academic activities.

Students' self-regulated learning in the context of PAI course learning design. As one of the initiators of learner agency theory, Bandura emphasizes self-regulated learning on three main components, i.e. self-observation, self-evaluation, and self-reaction (Joyce, Weil, & Calhoun, 2003, p. 76). This research found that the students' self-observation process was formed through BBQ and BI activities. Then, self-evaluation is a form of assessment of the performance that appears in the students to achieve the desired goals; Meanwhile, self-reaction is a form of students' response to previous observations and self-evaluations. These three components help students set goals, monitor progress, evaluate the progress against logical standards, and prepare themselves to face the consequences of the realities around the individual. So, the indicator of self-regulated learning lies in the students' ability to manage their learning experience effectively through academic decision making (Miller & Byrnes, 2001), including the ability the aspect of language mastery (Shyr & Chen, 2018) to achieve maximum learning outcomes (Wolters, 1998).

This research also found that PAI course activities trigger students' ability to control themselves in the form of learning efficiency. The results of this research are in accordance with Edistria's research which reveals that students' self-control skills are one of the indicators of self-learning (Edistria, Rahman, & Abdillah, 2019). The conditions of online learning today require an adaptive attitude of students towards the development of information technology (IT) as the main media for online learning. In addition, this research found that Islamic Education course has the potential to develop students' abilities from various aspects, including developing the cognitive side of learners through BBQ and BI activities. This finding reinforces the conclusion of Zamnah, which states that technology is an essential factor in floating one's cognitive abilities (Zamnah, 2017), emotional intelligence (Ratu, Rai, & Savitri *et al.*, 2021) research concerning the relationship between emotional intelligence and intellectual humility on academic achievement is a necessity. This study aims to investigate that relationship while contributing to higher education on the insight to an employable graduate. The quantitative approach was implemented as the research framework by applying independent t-test and multiple regression in the first and second phases respectively. We found that the total score of intellectual humility and emotional intelligence for students (male and female, or even TDI activities that develop students' psychological aspects at MUs. In the form of increased interest in students in learning, this study simultaneously strengthens Borokhovski's thesis (Borokhovski, Bernard, Tamim, & Schmid, 2018; Engin, 2017) or students' spiritual intelligence (Lestari, 2020).

Apart from carrying out learning efficiently, another characteristic that arises from students' self-regulated learning lies in the ability to construct and adapt to the environment that supports their learning process. For some learners, the transformation of the learning model from face-to-face (offline) to face-to-virtual (online) is still unfamiliar for them. This condition needs to be responded through the efforts to acquire new knowledge, including MUs students who learn PAI courses. In some ways, transformation towards online learning through TDI, BBQ, and BI activities force students to have the ability to regulate themselves so that their learning targets can be fulfilled. This is where self-regulated learning plays an important role from the student's perspective.

One of the important strategies that students must take to synergize with the distance learning system they are running is the ability to adapt to the use of digital devices. In addition, online data-based information collection activities and technical factors for online communication often become challenges for students (Blau, Shamir-Inbal, & Avdiel, 2020). The strategy executed by the students in undergoing Islamic Education course is to cooperate with their BBQ and BI mentors actively. The existence of mentors who guide aspects of reading the Qur'an and the practice of student worship indirectly fosters a strong pattern of self-regulation in the student self and improves academic skills in Islamic Education course. Therefore, with good self-regulated learning abilities, it will be easier for each student to manage the information they received during the PAI course process through an online model.

These findings confirm scientific research conducted by many previous educational experts, which show that the development of self-regulated learning skills is more found in students who join online learning compared to those who undergo conventional learning processes (Broadbent, 2017; Yulanda, 2017), including research on the relationship between the digital learning ecosystem and self-learning skills and digital literacy in students (Lee, Watson, & Watson, 2020). In a community of learning environments that have many new sources of knowledge for individuals, it will encourage the individual to develop their thinking skills so that they can absorb this new knowledge. This condition will continuously increase the ability to think at a higher level and analyze problems.

Learning design of Islamic education course at MU: Upstream the development of students' self-regulated learning. Based on the university's academic guide, Islamic Education's learning design at MU positions its students as active students through three academic activities, namely TDI; BBQ; and BI. In addition, theoretical learning design is also delivered to students through online-based learning in synchronous and asynchronous platforms that are centered on the link *Sipejar.um.ac.id*. Learning activities through the asynchronous platform is one of the strategies for achieving student learning targets. This is in line with Siswanto, Kartanagara, and Chuan's research which states that asynchronous learning influences students' achievement (2021). In this context, the researcher analyzed the various learning designs used in the Islamic education course divided into two complementary interactive relationship patterns.

First, the contextualization of knowledge that students learn in class with the real-life condition that students encounter in the community. This can be seen from the learning design of Islamic education course manifested in the activities of BBQ and BI. The two academic activities allow students to find tutors (i.e., mentors) who are competent in the field of reading Al-Qur'an and religious knowledge. The mentors then played a role in helping students improve the quality of their worship by reading Al-Qur'an skills and praying following the provisions of Islamic law. The BBQ activity requires students to interact and learn from the mentors they choose from the external environment of the wider community. Students carry out active learning, and it is evident from this activity that it leads to the increasing competence of reading Al-Qur'an skills in students.

Meanwhile, the BI activity is a means of developing aspects of prayer worship skills in students obtained through the assistance of mentors. The contextualization of the learning lies in the complementary interactive relationship pattern between the knowledge students receive through learning in the classroom and the acquisition of new knowledge and experience in terms of worship practices from the mentors accompanying the students'

BBQ-BI activities. The last activity, namely TDI, is an arena for students to hone their cognitive abilities in understanding and analyzing teaching material in slide presentations and learning videos uploaded by lecturers. This is where students' creativity is required to be able to study and analyze the themes of Islamic education course through their academic thoughts and views.

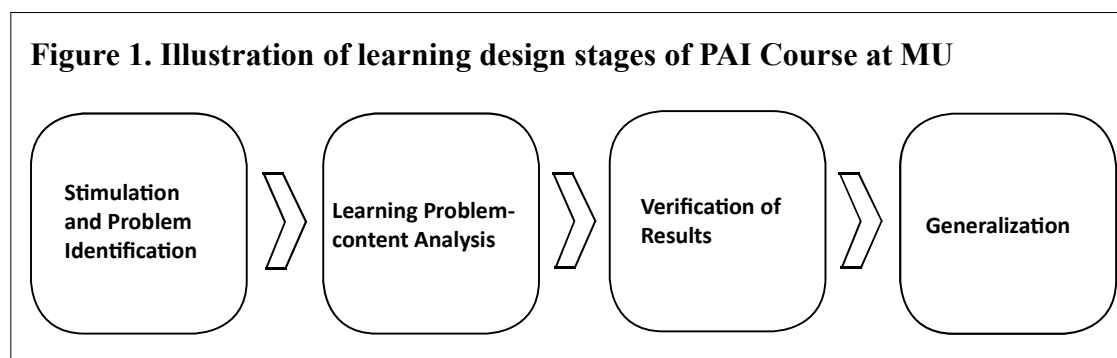
Second is learning design implemented through synchronous and asynchronous learning platforms on Sipejar.um.ac.id LMS system. Islamic education course activities, which consist of two platforms, lead students to acquire Islamic knowledge that students must actively carry out. This active role can be seen through the responses that students must give to the process of stimulating a variety of knowledge conveyed by the lecturers in *Sipejar* web system. Especially if they get this knowledge through virtual learning media closely related to online learning designs and intersects with the use of learning technology. In such situations, the responses shown by students determine the success of their online learning in the PAI course.

Based on this description, it concluded that the learning design of Islamic Education course at MU could be considered as a manifestation of the MU learning model that was able to develop students' self-regulated learning through the following stages of learning that the students have passed. *First*, stimulation and problem identification which is passed by students while doing the learning process. Various information and new knowledge contained in the *Sipejar* web system become a cognitive stimulus that forces students to sort and identify the difficulties they experience in participating in learning activities in the learning system. The cognitive stimulus resulting from practical-active learning students during the Islamic Education course learning process is precisely the opposite of the learning process in life sciences. Research in the scope of life sciences studies found that the involvement of learners in learning activities -especially in large life sciences classes- can be problematic (Yeong, Chin, & Tan, 2020), so they choose to design tasks outside the classroom in the format of multiple-choice questions (MCQs).

Second, learning problem-content analysis which students pass after they have succeeded in identifying academic problems encountered in Islamic education course. For example, the BBQ-BI activity, which requires students to seek mentors. For students, this obligation is both a challenge and a difficulty that they must respond to by finding solutions to these problems. Therefore, students have to start collecting data from the community around them; then they choose a competent mentor to accompany them in the process of BBQ-BI activities. The interaction that must be built by students during the mentor search process, directly or indirectly, will develop students' problem-content analysis cognitive ability. In addition, students will also learn to control themselves when identifying and to analyze the Islamic Education course's problem themes with their mentors. After the information collection stage has been passed, it continues at the information analyzing stage into the initial knowledge structure possessed by previous students.

Third, the verification of results stage occurs when students have gone through the learning process, theoretically in the classroom through the teacher system and practically through BBQ-BI activities that they carry out with assistance from mentors. As a form of verification of learning outcomes, students send learning progress and learning outcomes by taking written tests, oral tests, and sending *mutaba'ah* forms to the lecturers teaching Islamic education subjects. The *fourth* is the Generalization stage which is the peak of the

learning design of Islamic Education course at MU. The generalization stage is marked by the development of understanding and the increased skills of students in terms of their worship knowledge and skills. As a form of the written evaluation, the development of understanding and improvement of student skills can be observed through data on student learning outcomes, both in written exams and in the form of worship practice assessments. Next, the learning design stages of Islamic Education course is visualized the Figure 1.



The learning design stages, as shown in the Figure 1 is a roadmap for the learning design process that students taking Islamic Education course at MU have to go through. It can be proven from the cognitive process they have to go through in the form of problem identification and learning problem-content analysis that arises from BBQ and BI activities. The first stage (Stimulation and Problem Identification) and the second one (Learning Problem-content Analysis) are the ability to exploit change (i.e., agility). The next stages (Verification of Results) and the fourth stages (Generalization) are the ability to adapt to change (i.e., adaptability). These two entities indirectly demand good behavioral readiness, motivation, and cognition thinking in students, as Bandura's thesis.

These stages require students' awareness, knowledge, and control over their cognition. This is necessary for students to study all the new knowledge received in the PAI course process. The readiness of students' cognitive thinking to carry out the process of self-regulation (self-regulated) has been pointed out in Maulyda, Budiharjo, Erfan, and Radha's (2020) research which concluded that self-reflection in the form of metacognitive thinking actions is needed by students during online lectures which needs to be developed as awareness from within oneself (Widiantie & Handayani, 2018) as an effort to solve problems faced by individuals through a self-regulated learning process. Thus, the authors can state that the learning design of Islamic course implemented at MU leads to the development of students' self-regulated learning and regulatory abilities through three main indicators owned by each student: creativity, ability to think critically, and self-regulation (Baptist *et al.*, 2021; Huang, Li, Poitras, & Lajoie, 2021; Setyaningsih & Djukri, 2020)

CONCLUSION

This research indicates that the learning design of Islamic education course at MU refers to a learning design stage with four learning processes: Stimulation and problem identification; Learning problem-content analysis; Verification of result; and Generalization. These stages lead to the development of self-regulated learning abilities in students as a form of increasing

student competence. The results of this study reinforce the statement that the learning design can improve students' competence, including students' self-regulated learning.

The learning design of Islamic education course that is summarized at MU can encourage students to think critically and self-regulate (self-regulated person). The implication of this study is the emergence of the technical-didactic side of online Islamic education learning stages through a designed learning design that it will lead to benefits in achieving educational goals more effectively.

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