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http://journal.uinjkt.ac.id/index.php/tarbiya

TARBIYA: Journal of Education in Muslim Society, 8(2), 2021, 119-134

# THE DEVELOPMENT OF STUDENTS' SELF-REGULATED LEARNING THROUGH ONLINE LEARNING DESIGN

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Received: 10th October 2021; Revised: 14th November 2021; Accepted: 28th December 2021

**Abstract**

Self-regulated learning is one of the most important factors in online education. This research focused on exploring how the learning design of an online Islamic education course called *Pendidikan Agama Islam (PAI)* facilitated the development of students' self-regulated learning. This study was situated at the State University of Malang (MUs), Indonesia and used qualitative approach in the form of case study as its methodology. 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. The research found that the PAI course at State University of Malang (MUs) had four learning design stages consisting of stimulation and problem identification, learning problem-content analysis, verification of results, and generalization. This 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 emerge of the technical-didactic side of online Islamic education learning through a designed learning design stages 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

***Abstrak***

*Pembelajaran mandiri merupakan salah satu faktor terpenting dalam pembelajaran online. Penelitian ini berfokus pada eksplorasi tentang bagaimana desain pembelajaran daring matakuliah pendidikan Islam yang disebut Pendidikan Agama Islam (PAI) memfasilitasi pengembangan pembelajaran mandiri mahasiswa. Penelitian ini berlokasi di Universitas Negeri Malang (MUs), Indonesia dan menggunakan pendekatan kualitatif berupa studi kasus sebagai metodologinya. Data dikumpulkan melalui dokumentasi, wawancara berbasis online, dan observasi. Setelah dikumpulkan, data kemudian dianalisis menggunakan model interaktif Miles, Huberman, dan Saldana. Penelitian menemukan bahwa matakuliah PAI di Universitas Negeri Malang (MUs) memiliki empat tahap desain pembelajaran yang terdiri dari stimulasi dan identifikasi masalah, analisis konten masalah pembelajaran, verifikasi hasil, dan generalisasi. Tahapan ini memfasilitasi pengembangan pembelajaran mandiri mahasiswa, sebagaimana terlihat melalui tiga indikator yang dimiliki oleh masing-masing mahasiswa, yaitu, kreativitas, kemampuan berpikir kritis, dan regulasi diri. Implikasi dari penelitian ini adalah munculnya sisi teknis pembelajaran daring Pendidikan Agama Islam melalui tahapan desain pembelajaran yang dirancang sehingga pada akhirnya akan bermanfaat dalam mencapai tujuan pendidikan secara lebih efektif.*

***Kata kunci**: self-regulated learning; self-regulated person; pembelajaran daring; psikologi kognitif; Pendidikan Agama Islam*

**How to Cite**: Mardiana, D, Umiarso. (2021). The Development of Students' Self-Regulated Learning Through Online Learning Design. *TARBIYA: Journal of Education in Muslim Society, 8*(2), 119-134. doi:10.15408/tjems.v8i2.22804.

***Permalink/DOI:*** http://doi.org/10.15408/tjems.v8i2.22804

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## Introduction

The complexity of online learning challenges at the higher education level needs to be responded positively by each university to be able to produce excellent graduates, as has been done by developed countries such as Finland (Härkki, T., Vartiainen, H., Seitamaa-Hakkarainen, P., & 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, as well as 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, as argued by Shan Li et al. (Li et al., 2020), Loeffler et al. (Loeffler et al., 2019), Hooshyar et al. (Hooshyar et al., 2020), or Carter et al. (Carter et al., 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 - hereinafter referred to as MUs – 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 as well as its achievements in the aspect of organizing online learning at the tertiary level, by winning the title as one of the five best universities in implementing online lectures (Hasanah, 2019). This fact is supported by the active role of MUs in positioning itself as a learning base for academicians through the development of effective educational models and strategies (UM, 2010) to be able 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 educational unit (Mulianti et al., 2018), to the learning model used (Adriyanto et al, 2020). As Kintu and colleagues have stated, (Kintu et al., 2017) there is a positive and significant relationship between online learning design and self-regulated learning so that these two variables are factors that 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 et al., 2020; Broadbent et al., 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 et al., 2021; Granberg et al., 2021). Van Alten indicated that the impact resulting from the video-based learning process improved self-regulated learning students and their learning outcomes (van Alten et al., 2020). Similar research results also show that distance learning can improve student academic performance (Refae et al., 2021; Sutarni et al., 2021).


DOI: 10.15408/ tjems.v8i2.22804

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, T., & Ely, 2011). De Bour stated differently. Through the process of analysing 63 manuscripts of the theme of self-regulated learning, he found that 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 (Boer de, H., Donker-Bergstra, A. S., & 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 found that in the period between 2008-2018, researchers researched by comparing the development patterns of self-regulated learning between face-to-face models and information technology-based e-learning models. However, within that decade, Araka 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, Araka's research findings lie in the classification of the use of information technology (IT) based learning tools suitable for use in developing self-regulated learning for students (Araka, E., Maina, E., Gitonga, R., & Oboko, 2020).

On the other hand, the perspective of social cognitive theory (Bandura, 1977, 1986), 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 form of action (Dinsmore et al., 2008). The ability to self-regulated learning as an indicator of the ability to control one's cognition, behavior, and motivation in achieving certain goals (Wolters et al., 2005), and could provide a more comprehensive view of learning (Bandura, 2006). In fact, the potential of these three things has existed in each individual as a *fitrah* given by God, and able to develop optimally if trained and optimized. Based on these theoretical statements, PAI course at the higher education becomes the right gap in order to develop 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. 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 at the higher education.

Therefore, this paper aims to analyse the online PAI course learning design implemented at MUs 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-based carried out in Islamic religious education courses at the tertiary level. It is hoped that this research will be able to parse the technical-didactic side of online Islamic education learning stages through a designed learning design so that in the end it will lead to benefits in achieving educational goals more effectively.

DOI: 10.15408/ tjems.v8i2.22084

## Method

This research focuses on developing students' self-regulated learning through the online PAI course design implemented by the State University of Malang. Thus, this research uses a qualitative approach that seeks to explore how the learning design of an online PAI course facilitates the development of students' self-regulated learning. Therefore, in this context, the researcher employs case study research to gain in-depth analysis of this phenomenon. The PAI course in this study has three credits (Sistem Kredit Semester (SKS)) 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 a total of 64 students from the Faculty of Education, the Faculty of Letters, the Faculty of Engineering, and the Faculty of Economics at the State University of Malang (MUs). The position of the researcher in this study is as a main instrument whose presence aims to create a good rapport relationship with informants on the research site.

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

As for data analysis, the researcher refers to the interactive cycle model initiated by Miles, Huberman, and Saldana (Miles et al., 2014) through the stages of data collection, condensation, presentation, and data verification. After all of learning design of PAI Course data has been collected, the data will be sorted, simplified, abstracted, or transformed so that it is close the whole section of the transcript interviews from the informants, written notes from the PAI Course lecturer's note, documents of TDI, BBQ and BI activities, and other empirical materials, such as the form of *mutaba'ah* sheet. It's called 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 until the data was fulfilled, FGD with other researchers, and member check. Meanwhile, data reliability was carried out through an internal confirmability test from the PAI course expert.

## Results and Discussion

### Results

### Learning Design of PAI Course at State University of Malang (MUs)

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 MUs 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 is developed by MUs cannot be separated from the objectives of


DOI: 10.15408/ tjems.v8i2.22804

developing student's competencies which are framed in these two characteristics (i.e. agility and adaptability). Therefore, a learning design is needed that can translate the normative foundation of MUs 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. So that the form of unity between these components in the downstream will be able to have a positive impact on the axiological dimension of developing MUs 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.

As a consequence, the learning carried out at MUs 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). Behavioral readiness is shown through actions that encourage a person to adapt and explore new knowledge acquired during the learning process (Jena, 2016). Especially with online learning systems that are in direct contact with the application of virtual-based learning technology, it requires readiness to respond in the form of learning behavior from students (Hannah Hardy, 2021; Dohyun Lee & Young, 2018). Then, readiness in the motivational aspect is marked by the emergence of feelings (affective) as well as reactions to achieve learning goals (Emda, 2018). This motivation becomes the "motor" to drive student learning behavior so that they can 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 (Louca, 2003) which emphasizes metacognition in a person's ability to acquire knowledge with one's awareness during learning activities (Asy'ari et al., 2018).

In the end, motivation, behavior, and metacognition skill lead to its position as the important factors that are interrelated and able to support the achievement of learning goals (Agustian et al., 2018; Mustopa et al., 2020; Sagita & Mahmud, 2019). 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 MUs has been implemented since the 2018 curriculum was implemented by this university. Exclusively, based on the curriculum policy, the PAI course is designed as a part of the university courses which are set to have a load of 3 credits. These 3 credits are divided into theoretical lectures equivalent of 2 credits, while 1 credit is carried out by improving student psychomotor aspects through practical, field-based activities. Thus, MUs determines the number of credits in this course as a form of affirmation of the MUs 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.

DOI: 10.15408/ tjems.v8i2.22084

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 MUs 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 at the same time 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 MUs is centered on one Learning Management System (LMS) called *Sipejar* and can be accessed via the *Sipejar*.um.ac.id. The learning services that can be found in this link-covers three formats of learning: 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. One of the lecturers in the Islamic education subject in this context stated:

> The university has provided an online learning system service for the continuity of online learning that is currently being implemented. For us, with this learning design, we can help organize learning methods that we adjust to the needs and the PAI course topics. Even from the learning evaluation process, *Sipejar* makes it easy for us as teachers to make a format or recap of our student learning process assessments online so that it can be accessed directly by students.

Through the interview, the role of lecturers has been in line with the teaching pattern of PAI course. This means that PAI's online learning is designed by theoretical lectures in the classroom and practical activities in the field, both of which can be included in the *Sipejar* system. Interestingly, concerning the development of the psychomotor aspects of students, PAI course are 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 TDI, BBQ, and BI have learning stages that require students to interact and gain knowledge from the wider community.

Based on the results of interviews to 64 research informants, it was concluded that the most prominent role of the community from the three academic activities are 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 the aspects of reciting Al-Qur'an skills well and practicing prayer following the provisions of Islamic law. Academic documents of MUs also show that interaction between students and their mentors is what ultimately forces students to want to learn and upgrade their worship skills.

In the view of researchers, 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


DOI: 10.15408/ tjems.v8i2.22804

acquisition of the learning dimensions (habit of mind) of MUs students is based on the experiences they get from real life in society.

One other activity, TDI, is programmed by MUs on a weekly basis. 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 willing to work together in a team to perform project tasks in accordance with the theme discussed in the PAI course syllabus, as shown in the following table 1.

Table 1. Research Data of Mentoring Schedule of PAI Course at MUs

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

Based on this description, it is common that the online PAI course learning design at MUs is framed in a learning process that activates the three domains of learners: (1) the realm of knowledge (cognitive) that is obtained through classroom learning -both through synchronous and asynchronous platforms- and centralized through the LMS *Sipejar* system; (2) the realm of attitude (affective) that is obtained through the activities of *Tafaqquh fi Diinil Islam* (TDI); as well as (3) the realm of skills (psychomotor) that is developed through the two TDI-BI academic activities.

## Discussion

### Students' Self-Regulated Learning in the Context of PAI Course Learning Design

Bandura, as one of the initiators of learner agency theory, emphasizes self-regulated learning on three main components, i.e., self-observation, self-evaluation, and self-reaction (Joyce et al., 2003). This research found that the students' self-observation process was formed through BBQ and BI activities; Then, a 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 in setting goals, monitoring progress, evaluating the progress against logical standards, and preparing oneself to face the consequences of the realities that occur 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 in the aspect of language mastery (Shyr & Chen, 2018) to achieve maximum learning outcomes (Wolters, 1998).

DOI: 10.15408/ tjems.v8i2.22084

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 et al., 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 PAI 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 important factor in floating one's cognitive abilities (Zamnah, 2017), emotional intelligence (Ratu et al., 2021), or even TDI activities which developing students' psychological aspects at MUs. In the form of increased interest in students in learning, this study at the same time strengthens Borokhovski's (Borokhovski & et al., 2018; Engin, 2017) thesis, or students' spiritual intelligence (Lestari, 2020).

Apart from the ability to carry 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 be able 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, as well as technical factors for online communication, often become challenges for students (Blau et al., 2020). The strategy executed by the students in undergoing PAI course is to actively cooperate with their BBQ and BI mentors. 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 PAI course. Therefore, with good self-regulated learning abilities, it will 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. (Daeyeoul Lee et al., 2020). That is, in a community of learning environments that have many new sources of knowledge for individuals, it will encourage the individual to develop his or her thinking skills so that he or she can absorb this new knowledge. This condition will continuously increase the ability to think at a higher level and to analyze problems.


DOI: 10.15408/ tjems.v8i2.22804

**Learning Design of PAI Course at State University of Malang (MUs): Upstream the Development of Students' Self-Regulated Learning.**

Based on university's academic guide, PAI's learning design at MUs positions its students as active students through three academic activities, namely *Tafaqquh fi Diinil Islam* (TDI); *Bina Baca* Al-Qur'an (BBQ); and *Bina Ibadah* (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. In this context, the researcher analyzed the various learning design used in the PAI course which were divided into two complementary interactive relationship pattern.

First, the contextualization of knowledge that students learn in class with real-life condition that students encounter in the community. This can be seen from the learning design of PAI course manifested in the activities of *Bina Baca* Al-Qur'an (BBQ) and *Bina Ibadah* (BI). The two academic activities provide access for 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 in the form of reading Al-Qur'an skills and praying following the provisions of Islamic law. The *Bina Baca* Al-Qur'an (BBQ) activity which requires students to interact and learn from the mentors they choose from the external environment of the wider community. Active learning is carried out by students and it is evident from this activity that it leads to the increasing competence of reading Al-Qur'an skills in students. This finding was in accordance with (Morris, 2021; Zhou et al., 2021) about urgency of the contextual quality of educational experience. Meanwhile, the *Bina Ibadah* (BI) activity as a means of developing aspects of prayer worship skills in students obtained through the assistance of mentors. The contextualization of the learning referred to by the researchers 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 activities, namely *Tafaqquh fi Diinil Islam* (TDI), is an arena for students to hone their cognitive abilities in understanding and analyzing teaching material in the form of 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 PAI course through their academic thoughts and views. The effort of students' cognitive development in TDI activities was appropriate with the research of (Campillo-Ferrer et al., 2020; Khalid et al., 2021)

Second, learning design that are implemented through synchronous and asynchronous learning platforms on sipejar.um.ac.id LMS system. PAI course activities, which consist of two platforms, lead students to acquire Islamic knowledge that must be carried out by students actively. This active role can be seen through the responses that must be given by students 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 that is 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, the researchers concluded that learning design of PAI course at MUs could be considered as a manifestation of the MUs learning model that was able to develop

DOI: 10.15408/ tjems.v8i2.22084

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 as well as new knowledge contained in the *Sipejar* web system become a cognitive stimulus which at the same time 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 PAI course learning process, is precisely the opposite of the learning process of the realm of life sciences. Research in the scope of life sciences studies actually found that the involvement of learners in learning activities -especially in large life sciences classes- can be problematic (Yeong et al., 2020), so they choose to design tasks outside the classroom in the format of multiple-choice questions (MCQs).

Second, Learning Problem-content Analysis which is passed by students after they have succeeded in identifying academic problems encountered in PAI 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 mentor who is competent 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 be able to control themselves when identifying and analyzing the problem-themes of PAI course 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, Verification of Results stage which takes place when students have gone through the learning process, both theoretically in the classroom through the teacher system, and practically through BBQ-BI activities which 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 who are teaching Islamic education subjects. The fourth is Generalization stage which is the peak of the learning design of PAI course at MUs. The generalization stage is marked by the development of understanding as well as 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 the form of written exams and in the form of worship practice assessments. Next, the researcher visualized the learning design stages of PAI course into the following Figure 1.

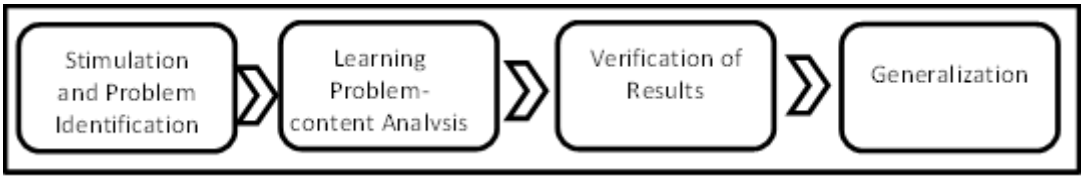


Figure 1. Illustration of Learning Design Stages of PAI Course at MUs


DOI: 10.15408/ tjems.v8i2.22804

The learning design stages as shown in the Figure 1 are a roadmap for the learning design process that students taking PAI course at MUs have to go through. It can be proven from the cognitive process that they have to go through in the form of problem identification and learning problem-content analysis that arises from BBQ and BI activities. First stage (Stimulation and Problem Identification) and the second ones (Learning Problem-content Analysis) are the ability to exploit change (i.e. agility). Next stages (Verification of Results) and the fourth stages (Generalization) are the ability to adapt to change (i.e. adaptability). These two entities that 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 so that they can 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's research which concluded that self-reflection in the form of metacognitive thinking actions is needed by students during online lectures (Maulyda et al., 2020) which needs to be developed as awareness from within oneself (Widiantie, R., & 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 PAI course implemented at MUs 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.

## Conclusion

The results of this research indicate that the learning design of PAI course at MUs refers to a learning design stage that has four learning processes, namely: 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 the competence of students, including students' self-regulated learning.

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

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