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Construction of PAI Learning Model Based on Knowledge Society at UIN Satu Tulungagung and IAIN Kediri, Indonesia

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Abstract

This article aims to explore the construction of knowledge society-based PAI learning models in Islamic Religious Colleges (PTKI). This article was compiled based on qualitative research with a case study type. The locus of this research is UIN SATU Tulungagung and IAIN Kediri. Data collection methods used by researchers are interviews, observation, and documentation. The data analysis technique in this study is descriptive-analysis and content analysis. The flow used in interpreting this research is a qualitative data analysis technique with an interactive model proposed by Miles-Huberman, including the stages of data collection, reduction, data display, and conclusion drawing. This article concludes that the competence of lecturers in the use of IT and the various competencies of students are still the biggest obstacles faced by UIN SATU Tulungagung and IAIN Kediri in implementing knowledge society-based PAI learning. In addition, the academic culture on both campuses has not run optimally. The two campuses have the same construction of the knowledge society-based Islamic education learning model, especially in terms of enforcing academic freedom in the lecture process, routinely discussing Islamic religious education lecturers to equalize perceptions in providing inclusive PAI material within the moderation frame, and optimizing the use of IT for Islamic Islamic education lectures. What makes the difference is that UIN SATU Tulungagung implements knowledge society-based PAI learning by applying a collaborative learning model to the lecture process. Meanwhile, IAIN Kediri focuses on implementing the cooperative learning model to optimize PAI learning in the classroom.

Keywords Knowledge Society; PAI learning; Society 5.0 Era

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1. INTRODUCTION

The dynamics of human civilization demand several changes to answer the need for education in the current super smart society 5.0 era. The era of super smart society (also called the era of society 5.0) was initiated by the Government of Japan in anticipation of the dynamics of disruption originating from the industrial revolution 4.0. This causes something that is difficult to predict, uncertainty, complexity, and ambiguity (Volatility, Uncertainty, Complexity, and Ambiguity/VUCA) (Deguchi et al., 2020). It is feared that the invasion will reduce the character of humanity that has been maintained so far. Moreover, the great invasion will also inevitably have an impact on the education sector, especially in the realm of Islamic Religious Education (PAI), which is expected to highlight its affective aspects in addition to cognitive and psychomotor.

In the educational context, a paradigm shift is needed to face the era of society 5.0. One of them is about educators who must transform from what was originally a source of learning. Now, it has become an inspiration for students' creativity. That is, an educator must be able to carry out the role of a facility provider and a tutor who can encourage students in the learning process. This is because the world of education is currently directed to produce a skilled generation (Kean et al., 2018). Pursuing PAI learning, then supporting this change, the learning paradigm that refers to knowledge society is worth considering.

The Ministry of Education and Culture is also campaigning to welcome Indonesia's golden generation in 2045. Students are expected to have 21st-century skills. The skills in question include aspects of character, basic literacy skills, and qualified competencies (Nudiati & Sudiapermana, 2020). The Ministry of Education and Culture also plans to strengthen the profile of Pancasila students through intra-curricular, co-curricular, and extra-curricular activities, school environment activities, or community empowerment (Kusuma et al., 2021). Three things must be utilized by an educator in this era of society 5.0. The first uses the Internet of Things (IoT), the second uses Virtual/Augmented Reality, and the third uses Artificial Intelligence (AI) in education. This was done to answer the needs of students, the majority of whom came from millennials (Amrozi et al., 2020).

Many designs of PAI learning models can be applied in tertiary institutions. PAI learning nowadays should be done by applying higher order thinking skills (HOTS), updating the learning orientation to be more futuristic, and choosing the right learning model. On the other hand, the competence of educators must always be developed, and learning infrastructure must also meet learning needs (Umro, 2021). These efforts are based on the idea that PAI is the primary means of internalizing character values, not only religious but also other noble characters that are in harmony with Pancasila values. If it is related to the era of society 5.0, of course it requires some significant innovations and changes, which have to start from universities. So this is also a task that must be carried out by the Islamic Religious College (PTKI).

But if the red thread is drawn from the reality of the current era of society 5.0, then the concept of the knowledge society can be integrated into it. A knowledge society generates, shares, and makes available knowledge to all its members to improve the human condition. The knowledge society functions to transform information into resources that enable society to take effective action (Castelfranchi, 2007). The capacity to gather and analyze information has existed throughout human history. However, the current notion of a knowledge society is based on the huge improvements in data generation and information dissemination resulting from information technology innovations (Välimaa & Hoffman, 2008).

The researcher found several relevant previous studies to ensure the novelty of this article. First is Kamogawa's research, which concludes that the new challenges facing Malaysia offer the possibility not only to bridge the digital divide, in some aspects, nationally but also for Malaysia to emerge as a fundamental for South-South Corporations and as an international Center of Excellence. This research shows how and to what extent the Malaysian government should re-conceptualize the Malaysia Super

Corridor (MSC) project to become a fully developed country equipped as a knowledge society (Kamogawa, 2003).

Next, Kasworm's research underscores three main trends in global higher education in this new knowledge society. The first trend is creative contextual learning for initial and ongoing workforce enhancement. The second trend is the provider of the digital era, where the emphasis is on cyclical access and participation anywhere. And the third trend is creating knowledge through critical-reflective engagement, including learning for sustainable change (Kasworm, 2011).

Third, Alvarez-Cedillo's study with his team stated that a route that can help understand the method of designing actions to be carried out before education 4.0 and society 5.0 includes several things. First, understand the theory and context of the fourth industrial revolution (input). Second, an integral analysis of the soft and hard technologies required for the (process) revolution. And third, a holistic study of the possible impact on education, economy, society, and sustainability (output) (Alvarez-Cedillo et al., 2019).

Fourth is Togo and Gandizanwa's research which recommends that higher education institutions and universities work directly with policymakers and the public in implementing the SDGs (Togo & Gandidzanwa, 2021). And fifth is Rahim's research which found three categories of skills, namely learning skills, literacy skills, and life skills, that help educational institutions develop towards education 5.0. This research contributes to post-pandemic educational settings in Afghanistan (Rahim, 2021). By looking at these facts, this research contains novelty and is urgent.

2. METHODS

This article is based on field research with a qualitative case study approach (Moleong, 2017). This approach was chosen because the researcher is oriented towards describing the completeness of the problem in the focus of the research being studied. An approach like this requires the concentration and attention of researchers on existing problems in the field, so the direct involvement of researchers is needed. The selected research locations were UIN SATU Tulungagung and IAIN Kediri, with the intention that research could be carried out in a focused and in-depth manner. More specifically, the researchers explored PAI learning carried out by the PAI Study Program under the auspices of the Tarbiyah Faculty on the two campuses.

Data were collected by interview, observation, and documentation. Researchers conducted interviews with the leadership of the Dean of the Tarbiyah Faculty, lecturers in the PAI science cluster, the TIPD team, and a number of PAI students as primary data sources. By observing, researchers are trying to obtain a number of authentic and factual data related to the obstacles faced by the two campuses, as well as understanding how knowledge of society-based Islamic education learning is constructed there. Furthermore, a number of academic policy documents owned by UIN SATU Tulungagung and IAIN Kediri are also the primary data sources that will be studied. These documents include academic handbooks, e-learning guides, and Semester Learning Plans (RPS) for PAI courses. In addition, the researcher also presents a number of references from books and scientific journal articles relevant to the research theme as discussion enrichment.

The data analysis technique in this study was carried out using the Miles and Huberman interactive model, which included data collection, data presentation, data reduction, and inference (Miles & Huberman, 2010). The data obtained from the field is collected until it reaches a saturation point. Then, the data will be sorted to determine relevance to the research theme. Next, the data is displayed to see how far the cohesion and coherence are with each other to reveal the focus of this research. After everything is finished and enriched with relevant references from the latest scientific books and journal articles, it will be concluded comprehensively.

3. FINDINGS AND DISCUSSIONS

Theoretical Study of Knowledge Society

According to UNESCO's statement, knowledge society is a phrase that implies the capability to recognize, produce, process, transform, distribute, and utilize information to construct and apply knowledge for the development of human civilization. A knowledge society requires an empowering social vision encompassing plurality, inclusion, solidarity, and participation. As emphasized by UNESCO during the first phase of the World Summit on the Information Society (WSIS), the knowledge society concept is more all-embracing and more conducive to empowerment than the concepts of technology and connectivity, which often dominate debates on the information society.

This goal has grown in importance since the Third Industrial Revolution – the new technological revolution – and the new phase of globalization that has accompanied it, which has swept away many familiar landmarks and accentuated the divisions between rich and poor and between industrialized and developing countries, and within national communities. For UNESCO, building a knowledge society paved the way for humanizing the process of globalization (UNESCO, 2005, p. 27).

A knowledge society generates, shares, and makes available knowledge to all its members to improve the human condition. The knowledge society functions to transform information into resources that enable society to take effective action (Castelfranchi, 2007). The capacity to gather and analyze information has existed throughout human history. However, the current notion of a knowledge society is based on the huge improvements in data generation and information dissemination that have resulted from information technology innovations (Välimaa & Hoffman, 2008).

Knowledge and information have a significant impact on people's lives. The sharing of knowledge and information, particularly through Information and Communication Technologies (ICTs), has the power to transform economies and societies. UNESCO works to create an inclusive knowledge society and empowers local communities by increasing access to and preservation and sharing of information and knowledge across all UNESCO domains. The knowledge society must be built on four pillars. The four pillars include freedom of expression, universal access to information and knowledge, respect for cultural and linguistic diversity, and quality education.

The Organization's drive to create a knowledge society is based on the belief that universal access to information is the key to building peace, sustainable economic development, and intercultural dialogue. Through awareness raising, policy formulation, and capacity building, UNESCO promotes 'Openness' in content, technology, and processes. These solutions include Open Access to Scientific Information, Open Educational Resources, Free and Open Source Software, Open Training Platforms, and Open and Distance Learning. These resources allow researchers and innovators to share and use data more easily. They also provide students and educators worldwide with unprecedented access to knowledge and information.

Central to its mandate to promote peace and intercultural dialogue, UNESCO supports the preservation of documentary heritage by strengthening existing preservation frameworks and emphasizing the long-term preservation of digital and digitally born information. UNESCO equally promotes multilingualism and respect for cultural diversity in cyberspace. It promotes the production of local content in multiple languages. It contributes to the international debate on internet governance through participation in the Internet Governance Forum (IGF) and the World Summit on the Information Society (WSIS).

To succeed in this changing environment and solve problems effectively in every aspect of life, individuals, communities, and nations must acquire critical competencies to seek information, evaluate critically and create new information and knowledge. Information Literacy creates new opportunities to improve our quality of life. Information literacy is also closely related to other types of literacy, such as ICT literacy, digital literacy, and media and information literacy (UNESCO, 2013).

Education in the Era of Smart Society 5.0

According to Japanese government literature, Society 5.0 is a society that emerges through a high-level merger between cyberspace and physical space, which will be able to balance economic progress with solving social problems by providing goods and services that specifically address various latent needs, regardless of locale, age, gender, or language. The Vision of Society 5.0 requires us to reframe two types of relationships: the relationship between technology and society and the technology-mediated relationship between individuals and society.

Talking about the era of intelligent society 5.0, we will be dealing with key concepts that are part of the parallel aspects of society. These concepts include "human-centered society," "combining cyberspace with physical space," "knowledge-intensive society," and "data-based society." Understanding these four concepts allows us to develop the necessary approaches to make society 5.0 a reality. The concept of society 5.0 not only seeks to revolutionize the industry through IT integration but also people's living spaces and habits.

The Industry 4.0 Goals are outlined in the German Federal Government's 2020 High-Tech Strategy Action Plan for Germany, equivalent to Japan's Science and Technology Basic Plan. So how does Industrie 4.0, as outlined in the 2020 High-Tech Strategic Action Plan for Germany, compare to Society 5.0, as outlined in the fifth Science and Technology Basic Plan? There are some similarities. Both visions emphasize the use of technology, including technologies related to IoT, AI, and Big Data analytics. Similarly, both require a top-down, state-led approach with industry, academia, and the government sector collaboration.

However, there are some differences. Industry 4.0 advocates for smart factories, while Society 5.0 calls for a super-smart society. Moreover, although both visions advocate the deployment of cyber-physical systems, the scope of deployment differs; in Industry 4.0, CPS will be used in manufacturing environments, whereas in Society 5.0, it will be implemented across society as a whole.

The two visions also differ in terms of measuring results. Industry 4.0 aspires to create new value while minimizing production costs. Such simple results allow for relatively simple and clear performance metrics. Instead, Society 5.0 aspires to create a super-smart society. The metrics, in this case, are much more complex. According to the Comprehensive Science, Technology, and Innovation Strategy for 2017, success is measured by the extent to which society can "balance economic progress with solving social problems by providing goods and services that specifically meet various latent needs regardless of locale, age, gender, or language to ensure that all citizens can live a high quality of life, full of comfort and vitality" (Cabinet Office (Council for Science, Technology, and Innovation), 2017).

There are also considerable differences in the scope of the intended future effects of technological innovations. Industry 4.0 calls for a manufacturing-centric industrial revolution but says nothing about how such a revolution might impact the public. Instead, as the concept of a people-centered society illustrates, Society 5.0 focuses heavily on the public impact of technology and on the need to create a better society. The scope of Society 5.0's vision includes reform programs intended to produce an inclusive society that caters to diverse needs and preferences. This critical differentiating aspect of Society 5.0 was mentioned in a speech delivered by Prime Minister Shinzo Abe to Chancellor Angela Merkel during the CeBIT conference in Hannover. After hearing Abe's statements about Society 5.0, Merkel strongly supported the vision (Abe, 2017).

Education in the era of smart society 5.0 demands mastery of the material and using ICT (information communication technology). Based on research conducted by Niko Sudibjo and his team on the characteristics of learning in the industrial 4.0 and society 5.0 eras, the characteristics of learning in the Industrial 4.0 and Society 5.0 eras are changing rapidly and need to be accommodated in the teaching and learning process in tertiary institutions (Sudibjo et al., 2019).

The learning environment and atmosphere in the smart society 5.0 era changed very quickly. One

of the biggest changes is the use of the internet in life. This is synonymous with the concept of the Internet of Things, where everyone currently relies heavily on the internet in almost all aspects of their life, including in the aspect of education (Arsana, 2021). Using Google, Bing, Google Scholar, or learning systems such as Google Classroom, One Note, Moodle, etc., encourages fast-paced educational interactions.

Another thing driving change is artificial intelligence. Artificial intelligence is personalized so that it can support educational needs. Artificial intelligence is very adaptive and knows the habits of its users (Yaniaja et al., 2020). When educators or students use Google or YouTube to search for specific content, artificial intelligence will provide recommendations according to the user's habits, even before being asked. This, of course, makes it very easy for all parties to get relevant and fast information.

Changes in the atmosphere and learning environment also affect the role of lecturers and students in teaching and learning. All agree that the learning approach in the era of smart society 5.0 must be student-centered (student-centered learning/SCL). However, the role of educators cannot be ignored. It is even more important to provide direction and act as a facilitator. With this SCL approach, students will be more active, and the learning facilities provided will support and encourage them to be creative. Information can now be obtained easily, so educators are no longer the primary source of information (Irawatie et al., 2021).

The SCL approach also requires specific learning models and methods. Learning models appropriate to the era of smart society 5.0 are project-based learning (PBL) and collaborative learning (CL). Because learning resources can be obtained easily, teaching and learning activities are transformed into productive activities. Students no longer only listen and discuss material from educators but also process various information they obtain from various sources into the work they need. Project-based learning will encourage various learning outcomes from students' thinking processes.

In collaborative learning, students collaborate and work together in the learning process or create learning outputs such as projects. In collaborating, students will carry out a learning process where they share knowledge, learn and add insight to one another. This is important not only to enrich their knowledge but also to prepare them for real work.

Blended learning and E-learning are related to the combination of learning in the era of smart society 5.0. Today with increasingly sophisticated technology, learning does not have to be done only in conventional ways, such as face-to-face meetings in the classroom. Technology-based distance education must be developed to provide a quality education that anyone can access anytime and anywhere (Sitorus et al., 2021). Therefore e-learning and blended learning are the right combination of learning to be pursued in the current era of society 5.0. In particular, blended learning can facilitate more learning because it can bridge face-to-face meetings and distance education and be adapted to meet specific needs. Flexibility and innovation are important keys in providing learning facilities in today's digital era.

Obstacles in the Implementation of the Knowledge Society-based PAI Learning Model at UIN SATU Tulungagung and IAIN Kediri

Knowledge society or knowledge society According to Kasworm, there are three main trends in higher education for global students in the new knowledge society environment or the current knowledge society. These trends include creative contextual learning for continuous competency improvement, digital age providers (the importance of cyclical access and anywhere participation), and knowledge creation through critical reflective engagement (learning for a continuous change) (Kasworm, 2011). With this framework, researchers uncovered the obstacles faced by UIN SATU Tulungagung and IAIN Kediri. They explored the construction of a knowledge society-based PAI learning model on the two campuses.

The constraints faced by UIN SATU Tulungagung and IAIN Kediri in implementing knowledge

society-based PAI learning can be said to be similar. The first obstacle is the problem of competence in human resources, including students and lecturers. At the UIN SATU Tulungagung campus, the input of PAI Study Program students under the auspices of the Tarbiyah Faculty is a fairly good category. It's just that, in terms of educational background, pai study program students do not only come from Madrasah Aliyah, which is the basis of Islamic education. Many PAI Study Program students come from high or vocational high schools (B. Maunah, personal communication, August 9, 2022). This makes the understanding of pai study program students not so firmly established. Although many PAI Study Program students come from Madrasah Aliyah, they are not only graduates from the religious department. Several students are graduates of the natural sciences and social sciences departments (I. Komsiyah, personal communication, August 9, 2022).

More specifically, the competence of lecturers in using IT for lectures still varies. Young lecturers on both campuses are used to combining the use of IT in the lecture process. Several IT-based learning applications lecturers use include Zoom, Google Meet, Edmodo, Kahoot, Quiziz, and Moodle-based e-learning. However, senior lecturers were observed using campus e-learning to fulfill the administrative aspects of lectures. The administrative aspects include the delivery of study contracts, lecture materials, and attendance reporting.

One of the junior lecturers of UIN SATU Tulungagung in the Fiqh course, Lailatuz Zuhriyah, stated that current students could not be separated from using technology in their daily lives. For this reason, we strive to present the scientific transfer process through information technology-based lectures. Thus, it is hoped that students will be more comfortable and more enthusiastic when conducting lectures, especially for PAI competency courses (L. Zuhriyah, personal communication, August 18, 2022).

In contrast, Munardji, a senior lecturer in the Qur'an Hadith course, explained that scientific interaction would be more optimal during an in-person meeting. Reflecting on the lecture process during the pandemic period of the last two years, where most lectures were conducted online, it is clear that most students can almost be said to have not received anything. From the results of the perception of Qur'an Hadith lectures, very few students are motivated if the lectures are online or use IT continuously (Munardji, personal communication, August 26, 2022).

Previous studies have found that using IT in lectures can support better learning outcomes. For example, Pham researches lecturers who use technological assistance to provide online comments (e-comments) to improve student abilities. The results of his research stated that the lecturer's e-comments model significantly improved peer commenting skills and the quality of student writing (Pham, 2021). Mpungose's research on using Zoom by lecturers at the University of South Africa during the Covid-19 pandemic also aligns with this explanation. Lecturers regard Zoom as a valuable platform for enhancing effective and synchronous e-learning. However, they struggle to overcome Zoom's digital burnout, promote learning autonomy, and increase the emotional connection with students (Mpungose, 2021).

From another perspective, Gan and Balakrishnan conducted research on the use of mobile technology in lectures. They concluded that the results provided a comprehensive understanding of the factors that significantly influence students' intentions to use mobile technology to interact with their lecturers on academic matters. These factors include information quality, system quality, convenience, uncertainty avoidance, perceived usefulness, ease of use, and self-efficacy (Gan & Balakrishnan, 2018). But it must be admitted that using technology in lectures is more or less helpful regarding flexibility. However, many challenges remain regarding the emotional interaction between lecturers and students. The ability of lecturers is crucial in translating learning intentions to students when they decide to use technological assistance (Kitto, 2003).

The various depths of student understanding related to PAI material allegedly occur due to differences in their educational background. PAI study program students consist of alumni of madrasah, high schools, and vocational schools. Apart from that, currently, some students are studying while being students at Pesantren. Mohammad Zainal Fanani, Head of the PAI Study Program at IAIN

Kediri, explained that most PAI students come from madrasahs. However, many also come from a number of high schools and vocational schools, both public and private. In addition, many PAI study program students are currently at several Islamic boarding schools in the Kediri Raya area. From a portrait like this, one can imagine how varied their religious understanding is (M. Z. Fanani, personal communication, September 7, 2022).

The PAI curriculum in high school is actually quite good, where one of the essential points is also adopting the aspect of religious moderation (Yunus & Salim, 2018). In principle, the Islamic education curriculum in SMA has also undergone improvements starting from the elementary, junior high school, senior high school, or vocational high school levels. The change in the curriculum from KBK to KTSP, and now K-13, is expected to make Islamic religious education more impactful in increasing students' knowledge and morals by the aim of changing the curriculum itself, which wants to improve the quality of students, both intellectual, emotional and spiritual qualities (Hadi, 2019).

However, research results show that students alumni of madrasas and currently studying at pesantren have better Islamic religious competence. Munifah, Dean of the Faculty of Tarbiyah at IAIN Kediri, explained that many students are still students in Islamic boarding schools around the campus, such as Pesantren Al-Amien, Pesantren Sunan Ampel, Pesantren Ar-Roudloh, Pesantren Al-Fath, Pesantren Syarif Hidayatullah, and others. Don't forget that large pesantren of the caliber of Pesantren Lirboyo and Pesantren Ploso are also contributors to the input of students of the PAI IAIN Kediri study program. This makes their religious understanding more stable than high school or vocational high school alumni (Munifah, personal communication, September 8, 2022).

Nurriqi's research results support that the PAI curriculum at Madrasah Aliyah has distinctive characteristics. The depth of Islamic material in MA represents the spirit of integrating the National curriculum with more Islamic content (Nurriqi, 2021). This does not mean that the Islamic education curriculum in SMA is not unique. The results of Zubaidillah and Nuruddaroini's research show that the content of Islamic education at the senior high school level summarizes all aspects of Islamic education, such as the Qur'an Hadith, Fiqh, Akidah Akhlak, and SKI. In addition, the content of Islamic education material in high school complements all the material taught at all previous levels (Zubaidillah & Nuruddaroini, 2019).

The argument that is more relevant to the results of this study is if the Madrasah Aliyah is in a pesantren environment. The Islamic tradition that is built is also getting stronger. For example, what happened to MA Al-Hikmah Sumobito? MA Al-Hikmah Sumobito maximally implements K-13, applies SKS, and meets Content Standards and SKL. It uses ICT/ICT media as a learning tool and student media to access online lessons. For international standard classes, the curriculum is adapted from Cambridge University. Likewise, the language used in each MAFIKIB subject is bilingual (Arabic and English) (Ansori, 2020). Darul Ulum 2 High School in the Darul Ulum Jombang pesantren environment also seeks to innovate by adhering to the pesantren education model, adopting the Cambridge curriculum, establishing the implementation of an international curriculum, creating a support system to support curriculum integration, and making corrections when deficiencies arise (Hakim & Hasan, 2019).

On the other hand, the non-optimal operationalization of academic culture at UIN SATU Tulungagung and IAIN Kediri is the second obstacle. Researchers confirm this from the frequency of discussions by lecturers of the PAI cluster on both campuses, which are still incidental (Zainudin, personal communication, September 1, 2022), as well as the limited number of public spaces provided for students to relax or do coursework in their free time (Aulia Nur Afifah, personal communication, September 20, 2022). Some of the agendas that allow the lecturers of the PAI cluster to hold discussions are when they face study program accreditation, the curriculum review agenda, and the curriculum redesign agenda (As'aril Muhajir, personal communication, September 2, 2022). Meanwhile, the process of maintaining the building, the separation of the location of the lecture building, and the lack of public space for students are also separate obstacles faced in implementing knowledge society-based PAI

learning.

Discussions between lecturers are a crucial point in the formation of academic culture on campus. Not only in the real world, but even many lecturer discussions have also been designed involving information systems. As with Kurniawan's research with his team, they present an Entry Discussion Forum at the National Institute of Science and Technology, using the Waterfall Model System Development Life Cycle (SDLC) method. Tools for program design use the Unified Modeling Language (UML) and the PHP programming language with MySQL database. The advantage of this information system is the chat feature between members. Posting topics other than photos can add files or videos (W. Kurniawan et al., 2016).

Novita and her team highlighted the low number of discussions between lecturers in higher education due to several things, one of which is the tight schedule of lecturer activities. This implements the tri dharma of high management hampered, especially in the realm of collaboration and access to information between lecturers. For this reason, they offer an information system for developing lecturers' professional competencies, especially regarding research and service, using OOAD and the Knowledge Management Framework (Novita et al., 2018). On the other hand, Sadri found that the pedagogic competence of lecturers has a positive effect on student academic achievement. Therefore, university leaders must actively provide training, education, and open discussion forums between lecturers, especially lecturers who teach the same course, to share knowledge and experience in teaching to achieve quality learning outcomes and sustainable academic achievement (Sadri, 2019).

During the pandemic, the use of public space has indeed become smaller. Aulia and her team's publication signaled a decrease in public space use by students at the National Institute of Technology during the Study from Home policy. During SFH, students tend to use the space. Therefore, the use of existing space makes students have to optimize the workspace they use to feel comfortable. The conclusion that can be obtained is that the area of space, acoustic aspects, and ergonomics affect student work productivity during Study from Home (Aulia et al., 2022).

However, the post-pandemic period like today, makes public spaces increasingly crucial for the academic community in higher education. Therefore, many large campuses also pay attention to the availability of this public space. For example, in UIN Suska Riau, there are 29 points of public open space, and most of them are located in the FST, Tarbiyah, and Sharia zones. The characteristics of public open spaces generally take advantage of tree shades. The faculty have initiated some of these public open spaces; others are self-help from students (Syaifullah & Radiles, 2018).

The limitations of public space on campus for students also impact finding the best solution for solving students' academic needs during the lecture process. For example, as Melati's research, students in Surakarta City use several cafes around the campus area to socialize not only for academic or college interests but also for personal interests, such as hanging out or quality time with their friends (Melati, 2016).

A university is a 'culturally loading' organization in which values such as objectivity, academic freedom, and respect for students and human subjects guide academic behavior and are therefore reflected in academic life's language, symbols, and ceremonies. (Clark, 1986) Academic culture is treated as a particular type of organizational and professional culture that forms the university's and the academic staff's professional identities. Successful academic culture management can determine whether the university fully fulfills its societal responsibilities. This will involve strengthening the collective process, through which the academic members of the university communicate and enforce essential norms and values for teaching and research (Dill, 2012).

Research by Davies and colleagues shows that academic culture positively impacts the implementation of the European Foundation for Quality Management (EFQM), a leading quality management model, at universities in the United Kingdom (Davies et al., 2007). Similarly, Pandita and

Kiran's research taking the Indian context confirms that academic culture is the strongest predictor of the overall performance of higher education institutions. To improve performance, higher education needs to focus on improving a number of aspects, such as branding, work ability, employee experience, and student experience. The development of the quality of sustainable higher education requires a holistic view drawn from all interests (Pandita & Kiran, 2022).

Mulyono and Wekke recommend a number of strategies for developing academic and religious culture at PTKI. First is integrating religion and science (science). The second is integrating the College and Ma'had/cottage. Third is strengthening the orientation of the formation of Ulul Albab. The fourth is to set the standard for the success of the Ulul albab Scholars. The Fifth is to set goals and commitments. Sixth is to be determined always to involve everyone. Seventh, build a fasting culture. Eighth, open and mutually beneficial dialogue and consultation. Ninth, oriented towards commonality and togetherness. Tenth, appropriate, and strong leadership through spiritual, emotional, intellectual, and social approaches. Eleventh, develop a culture of writing and research. And twelfth, creating innovations continuously (Mulyono & Wekke, 2018).

Construction of a Knowledge Society-based PAI Learning Model at UIN SATU Tulungagung and IAIN Kediri

The two campuses have some similarities regarding the construction of the knowledge society-based PAI learning model that has been running. The first similarity is the implementation of academic freedom during the lecture process. The form includes lecturers providing equal opportunities to every student without discrimination, applying academic pulpits, and providing grades objectively. Abdulloh Chakim, a PAI Evaluation Development course lecturer, said that UIN SATU Tulungagung stated that all lecturers provide equal opportunities for all students to express opinions indiscriminately. It aims to give students enough courage to convey their ideas without worrying about value problems (A. Chakim, personal communication, September 21, 2022).

Similarly, at the IAIN Kediri campus, it is also indicated that there is an application of knowledge society in PAI learning that is held. Lecturers always give appreciation to students who actively argue in the classroom. Not only that, the form of participation that is recognized and assessed positively includes students who submit weighty questions and also provide rebuttals or answers from other perspectives. The participation score reaches 25% of the overall final score of the course (Kadi, personal communication, September 19, 2022).

The fairness of lecturers in providing opportunities for all students during the lecture process has proven to have a good impact on increasing their learning activity and creativity (Effendi, 2016). Not only in the lecture process but the lecturer's fair attitude to each student must also be carried out until the final project guidance process is completed. Ristianti's research revealed that interpersonal relationships between lecturers and students include attitudes of respect, loyalty, tolerance, openness, and objectivity in giving value. Each aspect contributes positively to completing the student's final project (Ristianti, 2017).

The objectivity of lecturers in treating students is not only tied to the physical space but also to the digital space. Sutrisna's research results stated that using Google Classroom could be an alternative to control the objectivity of lecturers in the lecture process. Through the virtual class, the entire series of lecture processes can be carried out fairly and measurably. Aspects of ease of access, lecture communication, organizing discussions, and fair assessment can be done quickly and appropriately synchronized (Sutrisna, 2018). Boredom may appear in the middle of an online lecture.

Nevertheless, Vera underlined the importance of lecturers' communication strategies during online lectures. Lecturers can position themselves as motivators and facilitators, implement two-way communication, and provide opportunities for students to comment or respond. Thus, students can be actively involved, creatively, and innovatively without being hit by boredom (Vera, 2020).

When lecturers always try to assess every student without discrimination objectively, the quality of learning becomes indirectly. One of the characteristics of professional lecturers, according to Simarmata's research results, is that lecturers are skilled in conducting assessments, including upholding the objectivity of assessment (Simarmata, 2016). Synergistic with that, Sukmanasa's research with colleagues indicates that the objectivity of the assessment carried out by lecturers on students has a positive impact on student satisfaction with the performance of their lecturers (Sukmanasa et al., 2017).

The second similarity is the implementation of regular discussions for PAI scientific cluster lecturers. This discussion was directed to equalize lecturers' perceptions in providing inclusive PAI material in the frame of Islamic moderation. Discussions of PAI cluster lecturers are held regularly at UIN SATU Tulungagung for equalization of perceptions in providing inclusive and moderate PAI material. Cognate lecturer discussions are sought to be held once a month. However, due to their busyness in implementing the Tri Dharma of Higher Education, the discussions that occur most often are three times per semester, namely at the beginning, middle, and end of the semester (Masduki, personal communication, September 22, 2022). Meanwhile, according to Mohammad Zainal Fanani from IAIN Kediri, discussions between PAI family lecturers are held at least three times every semester. The content of the discussion is, of course, in the context of equalizing the perception of the study material to be discussed during the lecture and also determining the themes of the courses presented so as not to go outside the corridors of moderate and inclusive Islam (M. Z. Fanani, personal communication, September 20, 2022).

Researchers found several research results relevant to this study's findings, where cognate lecturer discussions are used to equalize perceptions and develop teaching materials. Soepriyanto's research with his team offers a breakthrough in website-based blended learning media with an open-source platform for the same cluster of courses on the characteristics of different organizing institutions (Soepriyanto et al., 2017). Similarly, Surbakti and Pamungkas revealed the use of the Learning Management System for discussion facilities for cognate lecturers during online learning at Telkom University Bandung. Despite some obstacles, cognate lecturers can still be discussed properly (Surbakti & Pamungkas, 2021).

The results of Utari's research confirm the results of discussions of lecturers' scientific clusters in the field of social sciences, which have an impact on strengthening and expanding laboratory functions during the lecture process. His findings revealed that facilities, administration, documentation, and publications must support implementing laboratory activities. Moreover, the optimization of major laboratories must be supported by adequate college policies and the expansion of partners by the department (Utari, 2017). Lecturers can also use peer discussion activities to develop instruments to strengthen student cooperation. For example, Anggis and Wulandari's research produced a product in the form of a cooperative learning instrument that supports student cooperation in the learning process (Anggis & Wulandari, 2020).

Furthermore, discussions between cognate lecturers can be used substantially to enrich lecture teaching materials and other aspects of the tri dharma of higher education. In the research aspect, for example, discussions between cognate lecturers can increase lecturers' knowledge and understanding of research ethics. This becomes important because the quality of research should not be separated from research ethics (Lestari, 2021). In addition, cognate lecturer discussions can also be expanded towards community service activities. A concrete example can be seen from the research results of Almammal with his team, which published how the discussion of cognate lecturers from the Piksi Ganesha Polytechnic campus can produce a number of webinar activities directed at increasing public knowledge in general (Almamalik et al., 2022).

The third similarity is the optimization of the use of IT for PAI lectures. To support this optimization, both campuses strive for equitable distribution of internet access in all areas of the campus, provide an e-learning system complete with usage guidelines, and facilitate assistance for

academics who need assistance. To support the application of knowledge society in PAI learning, UIN SATU Tulungagung is fully committed to facilitating the entire academic community with adequate internet access speeds in all regions. This means that wherever the academic community is located, they can access the internet simply through their respective devices. Of course, before enjoying internet hotspot facilities, the academic community must register to get a username and password (Wahyudi, personal communication, September 23, 2022).

In line with that, as a form of support provided by the Institute, Rofik Efendi as Head of UPT TIPD IAIN Kediri, said that initially, there was only facilitation of internet access with registration obligations for each academic community to get a username and password. However, over time we also facilitate equitable distribution of internet access without passwords in all lecture buildings, including in the Tarbiyah Faculty building. (R. Efendi, personal communication, October 3, 2022).

This finding aligns with the results of Setiawan and Lenawati's research, where universities are required to welcome the era of society 5.0 with several strategic steps, for example, optimizing the readiness of internet infrastructure for the lecture process (Setiawan & Lenawati, 2020). Meanwhile, Kurniawan highlighted the importance of the library's contribution to developing an institutional repository that can be used to support the availability of references for student learning materials. With the online repository, it will be easier for students to find references for their coursework (T. Kurniawan, 2016).

The use of information technology in the lecture process is not something new. Because in the past decade (Gani, 2018). Moreover, face-to-face lectures became significantly affected when there was a Covid-19 pandemic in previous years. The involvement of the internet in the lecture process is a form of modernization of education that has become a necessity (Adisel & Prananosa, 2020). Distance learning (PJJ) also requires a qualified internet connection, not only from the student but also from the campus. The PJJ implementation policy requires careful readiness from the campus to provide adequate internet access so that all students can follow the IT-based lecture process (Latip, 2020). It must be admitted that the involvement of information technology in the lecture process has contributed significantly to increasing educational productivity. Furthermore, universities' readiness to provide wide internet access can increase public interest in entrusting their children's education to the campus (Elfian et al., 2018).

Next, focus on the uniqueness of the knowledge society-based PAI learning construction owned by UIN SATU Tulungagung. PAI learning at UIN SATU Tulungagung is more towards a collaborative learning model. Researchers confirm this model based on a number of lecture forms, such as interactive lectures with feedback responded to from and by students, problem solving in groups, peer assessment, and the use of IT as a support for collaboration in learning. Siti Zulaikha, a PAI student, said that in the lecture process, most of them are carried out interactively. There was feedback from students, which was then also responded to by other students. Furthermore, the course lecturer clarifies and concludes several discussions that have been carried out by students (S. Zulaikha, personal communication, September 28, 2022).

Nurul Hidayat, a PAI lecturer, often brings courses with problem-solving methods. He formed several groups in the class and then presented a number of cases to solve together. "This method is similar to Consensus Problem Solving, where when a problem is studied, there is a kind of consensus or group agreement to provide an alternative solution that is agreed upon by all parties" (N. Hidayat, personal communication, September 29, 2022).

Collaboration in the lecture process is also often conveyed through the use of a number of cutting-edge information technologies. Agus Purwowidodo, a lecturer in Learning Technology in the PAI study program, stated that IT supports collaborative lectures. The reason is that through the use of IT, the dissemination of lecture instructions and access to information related to recommendations for lecture materials can be done more quickly, effectively, and efficiently (A. Purwowidodo, personal

communication, September 30, 2022).

In recent years, a debate has continued among researchers and instructors over the effect of problem-based learning on the effectiveness of instructional interventions for Critical Thinking in higher education. From a general perspective, the results show a high influence of PBL on CT. In conclusion, although PBL as a whole is effective for promoting the acquisition of CT (skills and dispositions), additional studies are also needed to explore the effectiveness and influencing factors in other contexts, such as various learning or teaching strategies, environment, and scaffolding, and problem-based scenario tasks, not just curriculum-based tasks. These factors should also be considered to promote CT skills and disposition among students (Liu & Pásztor, 2022).

Humlum and Thorsager confirmed that the quality of peers greatly affects the completion of studies at the higher education level. The more qualified a person is, the greater the influence on his peers, especially those who are quality subordinates to him (Humlum & Thorsager, 2021). In a knowledge society setting, students share their information and knowledge. Later the habit will contribute to academic performance individually. This is to Brouwer's research with his team, where students are more likely to help each other when they are already friends, and students who help each other academically are more likely to be friends. The higher a student's achievements, the more often he is chosen as a friend or academic helper. The more often this outstanding student begins friendships and academic aid relationships (Brouwer et al., 2022).

Peer-led team learning is a popular choice at the higher education level today. Tuzlukaya and colleagues confirmed that peer-led team learning has a positive effect on student learning outcomes, critical thinking skills, and interest in learning (Tuzlukaya et al., 2022). More broadly, the feedback provided by colleagues turned out to be able to increase students' self-efficacy. This is to the results of Prilop's research with the team that acceptance and providing feedback from peer expertise can foster student self-efficacy at the higher education level, especially in the faculty of education (Prilop et al., 2021).

In the next stage, peer assessment directly impacts increasing the motivation of student efforts. Not just in the physical, academic environment, peer assessment of the context of online learning in Calderon's research is an effective and useful way to improve the individual efforts of global virtual team members (Román-Calderón et al., 2021). Similarly, De Brun's research with his team shows that peer assessment is a valuable learning experience as part of training critical skills research and development methods for students (De Brún et al., 2022).

Collaborative learning has great potential in higher education because it promotes the construction of shared knowledge and the development of interaction-related skills that generate an essential learning process. The study carried out by Herrera-Pavo highlights among his conclusions the need for careful planning, adequate dynamics for forming collaborative groups, the relevance of student practice related to the daily use of technology, changes in the role of teaching, and autonomy in the management of learning (Herrera-Pavo, 2021). Tomej's research with his team reveals the cognitive, affective, and conative dimensions of the lecturer's experience. At the same time, their findings show collaborative opportunities that arise alongside managerial challenges during the transition to a mixed teaching process. They argue that collaborative redesign with others is critical when making the transition of higher education to integrated and stunning teaching and learning (Tomej et al., 2022).

Deejring offers a web-based learning model using collaborative learning techniques and scaffolding systems to improve learners' competence in higher education. Many principles and theories of learning are related to this research, such as constructivist learning theory, collaborative learning techniques, and instructional design principles. The results are revealed as follows. First, a web-based learning model with collaborative learning techniques and scaffolding systems to improve learners' competence in higher education consists of 5 components: basic problems, resources, related cases, scaffolding, and community for collaborative learning. The design of model 4 experts evaluated it by

the principles and theories of learning, and the experts received the model at a high level of 72.56% overall (Deejring, 2014).

Related to the use of IT in the lecture process, the study conducted by Duta and Martinez-Rivera emphasizes the importance of using new technologies in university education, which is significant for the possibility of teachers implementing them into teaching as a method of collaborative work proposals, in some aspects, to develop the skills needed. From a student's point of view, technology provides opportunities to motivate learning and a collaborative feel (Duţă & Martínez-Rivera, 2015). This means that technology engagement is a tool that strongly supports collaborative learning, especially at the higher education level.

The PAI learning at IAIN Kediri is closer to the cooperative learning model. Researchers revealed that lectures there often apply a number of methods, such as jigsaws, problem-solving learning, game-based lectures, and group assignments. Lecturers are also frequently observed to detail lecture instructions, along with assessment indicators, and provide direct clarification if a discussion goes out of the context of that day (Observation, September – October 2022).

Muhammad Nabil Khasbullah, a lecturer at Aqidah Akhlak, said that his party often invites students to discuss group settings similar to the jigsaw method. This means that lecturers allow students with more profound knowledge and understanding to share information with other students to equal knowledge distribution (M. N. Khasbullah, personal communication, October 3, 2022).

Septiana Purwaningrum, a PAI Material at School lecturer, has another way of delivering lecture material in class. He often conveys the lecture process with a problem-solving learning method. That is, each theme that has been shared with each group is discussed by connecting it to several problems that occur in everyday life. The issue can be taken from the latest news in the mass media or social media. From here, students will be more sensitive to problems, especially those related to lecture themes (S. Purwaningrum, personal communication, October 4, 2022).

Cooperative learning for colleges is one of the best options for providing students with an understanding of the material. Delgado-Garcia and his team revealed a positive perspective from students in the Spanish region toward cooperative learning at the college level (Delgado-García et al., 2022).

Kimmelmann and Lang's research shows that in the context of higher education, lecturers and students of the teaching faculty benefit greatly through cooperative learning. For example, both parties value various perspectives and the opportunity to exchange experiences and opinions. Communication and interaction between lecturers and students is very important for the success of cooperative learning. Adequate and satisfactory communication and interaction between both parties are essential to the success of this approach (Kimmelmann & Lang, 2019).

Tadesse and his team found that cooperative learning by college lecturers in Ethiopia positively impacted teaching effectiveness, task orientation, and student learning satisfaction (Tadesse et al., 2021). Meanwhile, the seating position also supports the success of this cooperative learning. Yang, Zhou, and Hu revealed a tendency for students to prefer semi-circular seating positions to the traditional column-row shape during the cooperative lecture process. The semi-circular sitting position allows for a greater contribution, especially in terms of communication affordability, concentration maintenance, and classroom environment conditioning (X. Yang et al., 2022).

One of the well-known cooperative learning is the jigsaw method. Nalls and Wickerd reiterated the importance of the jigsaw method to be revived as a very powerful positive intervention. In his study, the jigsaw method can improve prosocial behavior and academic achievement (Nalls & Wickerd, 2022). In line with this, Min Yang recommends that all lecturers always involve students in independent learning, persistent skill development, and self-initiated by the student through dynamic cooperative learning. All of this is to equip students to meet the future's complex demands of work and life (M.

Yang, 2015).

Next, learning in higher education seems to be one of the best alternatives for building a cooperative learning climate. Argelagos and his team examined the development of information problem-solving skills through instruction centered on students' online assignments in higher education. This quasi-experimental research has revealed significant differences in the experimental group, that online assignment-based cooperative learning has a better effect on students, especially in terms of planning, finding references, defining research questions, and processing the information found (Argelagós et al., 2022). Similarly, Danaher and Schoepp showed that problem-facing learning is also effective in preparing the adaptability of prospective college graduates to face problems in the world of work in the future (Danaher & Schoepp, 2020).

Game-based lectures can also be another option for building the concept of cooperative learning in higher education. Troussas and his team offer a game-based learning app called "Quiz Time!" to provide students with an understanding of the C# programming language. The results show that combining personalization and collaboration in mobile game-based learning can better help students in higher education to improve their understanding (Troussas et al., 2020). Crocco and colleagues, on the other hand, emphasize the existence of the principle of fun in the application of game-based learning, where this pleasure is positively correlated with students' deep learning and higher-order thinking ability (Crocco et al., 2016).

The lecturers at IAN Kediri are observed to often detail lecture instructions, especially in giving group assignments, along with assessment indicators, and providing direct clarification if a discussion goes out of the context of the debate on that day. It is a hallmark of cooperative learning (Observation, September – October 2022). The role of such lecturers is similar to the cooperative learning design studied by Estebanez. Instead of abandoning it, cooperative learning has proven more effective in providing students with a more detailed understanding of the material than traditional learning (Estébanez, 2016).

Tran also studied the implementation of cooperative learning at the higher education level. The results show that collaborative learning positively impacts student motivation (Tran, 2019). Some researchers also elaborate on cooperative learning to create new models in lectures. For example, Ningsih and his team conducted development research to produce a cooperative learning product website-based online task model (Ningsih et al., 2019). The assumption that is built is that the more practical and effective the learning media used, the better cooperative learning in higher education will be.

4. CONCLUSION

UIN SATU Tulungagung and IAIN Kediri face two major challenges in implementing knowledge society-based PAI learning. The first barrier is related to human resource competence. These barriers include lecturers' IT competence and the various PAI competencies of students. The second barrier is that the academic culture on both campuses has not been optimized. This can be seen in the implementation of PAI scientific cluster lecturers' discussions at UIN SATU Tulungagung and IAIN Kediri, which are still incidental, especially regarding study program accreditation, curriculum review agendas, and curriculum redesign. Furthermore, the building maintenance process, the separation of the lecture building, and the lack of public space for students are all separate obstacles.

The two campuses construct the existing knowledge society-based PAI learning model similarly. First, academic freedom is used during the lecture process. Lecturers provide equal opportunities to all students without discrimination, implement educational forums, and provide values objectively. Second, the implementation of routine discussions for PAI scientific cluster lecturers. This discussion aimed to align lecturers' perceptions of providing inclusive PAI material within the framework of

Islamic moderation. They are third, optimizing the use of technology in PAI lectures. The two campuses strive for equal distribution of internet access throughout the campus and the provision of e-learning systems, guides, and assistance. The learning model is fundamental in constructing knowledge society-based PAI learning at UIN SATU Tulungagung and IAIN Kediri. At UIN SATU Tulungagung, PAI learning focuses more on a collaborative learning model. On the other hand, PAI learning at IAIN Kediri is more akin to the cooperative learning model.

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