

**CHAPTER FIVE**  
**DISCUSSIONS, RECOMMENDATIONS, IMPLICATIONS, AND**  
**CONCLUSIONS**

**5.1 Introduction**

In this final chapter, the researcher discusses the results and presents the recommendations, implications, and conclusions. The research results are discussed in-depth and supported with justifications and relevant theories. The chapter then presents the conclusions drawn from the results and discussion, in addition to the theoretical and practical implications and recommendations for future research.

**5.2 Discussion**

The research objectives are reiterated here:

1. a. To investigate the students' perceptions of using an interactive multimedia  
b. To investigate students' perceptions of using an interactive multimedia significantly differ by grade level, gender, and school origin
2. To investigate the effect of using interactive multimedia on students' competencies
3. a. To investigate the influence of interactive multimedia on students perception  
b. To Investigate the influence of interactive multimedia on students' participation

- c. To investigate the influence of students' perceptions about interactive multimedia on students' participation
- d. To investigate whether students' perceptions mediate the effect of interactive multimedia on students' participation

### **5.2.1 Students' Perception towards Using Interactive Multimedia to Learn PAI and Differences in Students' Perception by Gender, Age, and School Origin**

#### **a. Students' Perceptions towards Using interactive multimedia to Learn PAI**

Based on the quantitative and qualitative research findings, it is evident that the students' perceptions towards using interactive multimedia to learn PAI were very positive. Cognitive theory and several theories related to the acceptance of information and communication technology, e.g., TAM, TPB, and UTAUT have been used to examine the use of technology interactive multimedia and the technology acceptance of students. The cognitive theory found that the use of interactive multimedia will affect learning, student perception, and participation (Mayer, 2021). Some studies have found four dimensions relating to the acceptance of technology by students: convenience, usefulness, attitude, and intention (Fred and Davis, 1989; Venkatesh and Smith, 2003; Tago, 2012). These four dimensions were adopted in this study. However, these studies only examined the perception of students towards the four dimensions quantitatively, not qualitatively. Moreover, this study covered the subject of PAI, while previous studies have only covered other subjects. This study

also integrated the quantitative and qualitative findings to reconcile any conflicting results and produce robust conclusions.

This study found that most of the students (97.44%) had a positive perception of using interactive multimedia. Qualitatively, it was also found that the students had a positive perception towards using interactive multimedia to learn PAI in the four dimensions of ease of use, usefulness, attitude, and intention.

These findings support the results of past studies, though the subject and dimensions covered in this study differed from them. This study differed from past research because the sample was junior high school students from Islamic schools; the learning media was interactive multimedia, and the subject was PAI. A previous study found that elementary school students have a positive perception of the use of in their classrooms (York *et al.*, 2016). Another study supported this finding, as it found that students have a positive perception towards the use of in their EFL class (reading and vocabulary), as it increases their level of engagement (Al-Bogami and Elyas, 2020). University students in the School of Health have more positive perceptions towards using e-learning compared to those in the School of Technology (Keller and Cernerud, 2002). One study also found that students' perceptions of the use of ICT are positive (Charles and Issifu, 2015). The findings of this study indicate that the use of interactive multimedia can be accepted by students of all levels of education. This suggests that interactive multimedia is convenient and easy to use for students' learning activities (Gibson, Ivancevich and James H. Donnelly, 2011). In theory, perception is formed from what is seen. As

stated in Chapter 2, individual perception is influenced by technology acceptance and individual learning styles.

PAI is a compulsory subject that must be taught to all students of all levels of education (PP No.55, 2007). Its main goal is to form the noble character (*akhlaq al-karimah*) of the students. The materials of the subject cover *aqidah* (creed) and *akhlaq* (ethics), al-Quran and Hadith, *fiqh* (Islamic law), and Islamic history. The use of ICT is often considered unnecessary in PAI because it is often assumed to have negative consequences on the students' values and morality. This assumption may only be true if the media contains corrupt elements and are used by people with bad intentions. Essentially, all learning resources can be used by students, as long as they contain useful elements that can increase the students' knowledge and competence. Therefore, the students can use these devices to learn.

So far, research on the application of interactive multimedia in PAI learning has been minimum. Most studies examine its application in other subjects. Among the four dimensions of students' perceptions, attitude was found to be the dimension with the most positive perception (98.44%). This shows that the students had a good attitude towards learning PAI using these device. The other three dimensions (ease of use, usefulness, and intention to use) were almost similar in terms of positive perception; they were slightly lower compared to attitude.

In the first dimension, ease of use, the students perceived that interactive multimedia was easy to use. The students had a positive perception towards the five items under this dimension: ease of learning Quran and hadith materials, ease of learning Islamic history, ease of

learning *aqidah* and *akhlaq*, ease of learning *fiqh*, and ease of access, understanding, and reading PAI materials on the device. The positive response of the students to the five items was above 90 percent.

As previously explained, the PAI subject covers four Islamic sciences, namely the Quran and hadith, *aqidah* and *akhlaq*, Islamic history, and *fiqh*. The findings indicated that the ease of learning Islamic history was higher than the ease of learning the other three materials. The lowest percentage was the ease of learning *fiqh*. This suggests that students did not face any difficulty in learning all contents of the PAI subject. This conclusion is supported by both quantitative and qualitative findings.

The students had the most difficulty when learning *fiqh* materials compared to the other three materials. There are many possible causes for this. Most likely, the *fiqh* material is more complex and requires a higher learning experience to understand it compared to history and the Quran. This is supported by another study, which found that students experience difficulties in learning *fiqh* in online, face-to-face, and blended learning (Lovita, 2021). It was thus easier for the students to learn Islamic history compared to *fiqh* when using interactive multimedia. It is assumed that this difficulty in learning *fiqh* stems from the high cognitive requirements, such as memorisation, problem solving skills, and good attitude. Meanwhile, history only requires memorisation and recalling important information. Nonetheless, further studies are necessary to better understand the factors behind the difficulty in learning *fiqh*.

Ease of learning in the teaching and learning process, especially for PAI, is very important. The students can benefit from the convenience

provided by interactive multimedia because they can access the learning resources during class or during their spare time, e.g., at home, on the go, and wherever they need to access them. Students, therefore, do not have to carry a lot of books. The iPad device contains all the materials that the students need to learn and other additional materials in the form of audio, video, and pictures. Interactive multimedia allows students to easily and quickly store and access lesson materials and learning process data. The use of multimedia in learning, such as hypertexts and database, has been extensively studied in the education literature (Munir, 2012). Because interactive multimedia allows easy and complete access to knowledge, it is easy for teachers to use it during the teaching and learning process (Chmiliar, 2017)

Other quantitative and qualitative findings showed that the ease of access and connectivity aspects were satisfactory. More than 40 percent of the students agreed and 41 percent strongly agreed that the materials were easily accessible on the iPad. The ease with which students can access the subject matter is also supported by school facilities and infrastructure. Students also said that the iPad can be used to access materials when the device is offline, as all materials are stored on the iPad's memory. Therefore, they can access the materials without using mobile or wireless internet network. These findings are in line with a previous study, which found that two-thirds of students showed strong agreement (80%) that the iPad is easy to use. Similarly, the majority of students (80%) commented that reading comprehension is easier on the iPad than on printed textbooks (Al-Bogami and Elyas, 2020).

Ease of access is supported by the availability of adequate facilities and infrastructure of the schools, since the iPad is an electronic device that is highly dependent on electricity and wifi. The school must have, for example, a generator or technician in case of power outage, so that the iPad can still fully function. With the availability of adequate facilities and infrastructure, the constraints when using interactive multimedia during teaching and learning activities can be minimized. The school must provide supporting facilities. Easy access to and availability of adequate facilities and infrastructure are very important in online-based learning. If students, teachers, or other users do not have access to adequate facilities and infrastructure, the learning process will be ineffective (Bih Ni, 2020).

The convenience afforded by iPad means that other schools and the government should consider using the device in the same subject or other subjects. Of course, some aspects should also be considered, for example adequate supporting facilities and infrastructure and the readiness and ability of students. As mentioned in the literature review that local governments have autonomous authority to develop education, and schools can apply school-based management principles in the development of education (UU NO 20, 2003; Rini *et al.*, 2020). The availability of necessary teaching and learning facilities when implementing the use of iPad or other mobile devices can create a conducive and harmonious learning environment (Razali *et al.*, 2021). The iPad can be used anywhere, which requires the availability of wireless or mobile internet services provided by telecommunication companies. Although the device can be used offline, the students also need information from online sources, not only from e-books,

videos, images, or other media stored on the device. The digitalization of learning should be supported with adequate facilities and infrastructure outside of schools. The government and the private sector should provide learning spaces and cheap internet packages to support remote and independent learning. This way, the students can study anywhere and anytime. With adequate support, students can become more accepting of learning with tablets or other technologies. This is in line with a study that found that students who feel comfortable using the iPad are more likely to use it in learning compared to students who feel otherwise (Diemer, Fernandez and Streepey, 2012).

For the usefulness dimension, the students believe that the use of interactive multimedia in learning can increase activity, productivity, and motivation. They found the materials easier to understand, and they were able to do the assignments well. These benefits are supported by the quantitative and qualitative findings. These findings suggest that learning PAI using interactive multimedia can increase students' learning activities and productivity and help them to do their assignments. A quantitative finding suggests that learning PAI with interactive multimedia allows the students to complete tasks faster ( $M = 4.20$ ). Qualitatively, the students stated that they were more active, motivated, and independent in learning. Additionally, they could easily obtain additional information using Google Search. The media also served to improve the academic integrity of the students.

The students also said that the using the iPad in the classroom made learning activities easier. The device improved their performance, helped

them to shape and develop ideas, and increased their participation in the learning process (Al-Bogami and Elyas, 2020). Another study reported that students with a high level of engagement when using iPad also had a high level of involvement in learning activities (Diemer, Fernandez and Streepey, 2012). These findings also support previous studies, which found that parents perceived several advantages of the iPad, such as encouraging children to be more creative, increasing their self-confidence and responsibility, increasing their participation and willingness to learn, and improving their attitudes and motivation (Teoh and Neo, 2007; Burden *et al.*, 2012).

There are several differences between this study and previous studies. Previous studies examined the perception of parents towards their children's usage of iPads in learning, whereas this study examined the students' perspective about the use of interactive multimedia iPad in learning. In addition, this study found additional benefits to the use of iPads, such as easier understanding of the materials, promoting more independent learning, instilling integrity, and access to additional information via Google.

The usefulness dimension indicates that it is easier for students to understand the materials. Using this device, students can interact with and explore various information from the multimedia, so that they are able to understand the materials better. Students can obtain information not only in the form of visuals but also audio. They can also obtain information from e-books and the internet. Some of these qualitative findings have implications for learning theories.

This study also found that the students had a positive attitude towards the use of interactive multimedia iPad. The quantitative and qualitative findings showed that the students responded well to the use of iPad in PAI learning. They liked the learning system in schools that use iPads because it is interesting and fun. In theory, the use of ICT or iPads in learning can affect the students' attitudes and motivation and make learning easier (Joo, Garcia-Bermejo and Martinez, 2017). The positive attitudes of students towards the use of interactive multimedia were because it is fun, comfortable, interesting, pleasant, and helpful. They liked and were happy with the media.

One of the advantages of interactive multimedia iPad is that it can be used in other learning settings other than in-class or distance learning, such as blended learning, structured independent study, and unstructured informal study (Heinich *et al.*, 2012). This device is thus flexible; it can be used in any settings, anywhere and anytime. It is no surprise, therefore, that students can get more information and insight from this media compared to the traditional learning setting.

This finding supports previous findings, such as the findings of the UTAUT model. In the UTAUT model, attractive impressions and feelings are termed hedonic motivation, which is the pleasure obtained when using technology (Venkatesh and Smith, 2003; Kim, Kim and Han, 2021). Another study found that students are more interested and enthusiastic in doing homework when using iPads (Burden *et al.*, 2012). The use of iPads can motivate students to learn English through stories, and students are happy and interested in learning through iPads (Amelia and Abidin, 2018).

The findings of this study differ from previous research. It was found that the students had positive impressions of iPads. They found them to be pleasant, comfortable, informative, helpful, useful, flexible, and interesting.

In the intention dimension, it was found that the students had the positive intention of using iPads in future learning activities inside and outside the classroom. They also hoped that this learning system would be continued by their schools and adopted by other schools in the future. Most of the students agreed (34.6%) and strongly agreed (25.9%) with the intention to use iPads in the future. This shows that students are considering the importance of learning PAI using interactive multimedia iPad in the future. Qualitatively, it was also found that some students plan to go to a high school that uses iPads, providing that there is such a school in their city.

Perceived intention is defined as the extent to which an individual intends to take an action (Fred & Davis, 1989). This intention determines how often someone uses a device and whether they will use this device in the future or just until they finish school. A study found that when users have the intention to learn, they will access the website more often and for longer than those with lower intention to learn (Yi & Hwang, 2003).

This finding supports previous studies founded on UTAUT and TAM (Fred & Davis, 1989; Venkatesh & Smith, 2003). In this study, the difference is the availability of qualitative findings to explain how students perceived the intention dimension. The results were positive and consistent with the quantitative results. Indeed, both qualitative and quantitative findings revealed the positive perceptions in the dimensions of ease,

usefulness, attitude, and intention. The qualitative findings revealed that several students intend to continue their studies at high schools that use interactive multimedia iPad. However, no high school in the city uses the device, and so this perhaps poses as a challenge that must be resolved by public or private schools.

#### **b. Differences in Perceptions by Gender, Age, and School**

The second sub-objective of the first objective was to examine whether there were significant differences in student perceptions by gender, age, and school. All three variables were statistically significant: gender ( $p = 0.011$ ), age ( $p = 0.046$ ), and school ( $p = 0.026$ ). Female student had more positive perceptions towards the use of interactive multimedia iPad to learn PAI compared to male students. Students aged 13 had more positive perceptions than other students. Finally, students from the branch school had more positive perceptions than students from the main school.

Female students had more positive perceptions than men, indicating that female students are more accepting of the use of interactive multimedia than male students. This finding differs from previous research, which found that men have more positive perceptions towards the use of ICT, based on its value and use value, compared to women (Charles and Issifu, 2015). Another study also found that male students have more positive perceptions towards the use of ICT (Appianing and Eck, 2015). Several studies have found that male students have a more positive perception towards ICT than their female counterparts, likely because the usage of technology in learning is more dominant among male students (Yau and

Cheng, 2012). This suggests that ICT is the domain of men, while women are perceived to have no need for the media. This is a common stereotype in society. However, there are still other factors behind this trend, including education, ability, socio-economic factors, and the need for information (Rashid, 2016). Additionally, psychologically, even though female students are interested in using learning technology, most of them lack the confidence to do so (Comber *et al.*, 1997).

This finding supports the results of past studies. In Norway, it was found that women's self-efficacy is higher than that of men in the analogous profile and ICT internet tasks (Tomte & Hatlevik, 2011). Another study found that female students' perceptions of usefulness are higher than male students (Kaino, 2008). Perception of female students is more significant than male (Astalini *et al.*, 2021). This finding challenges the stereotype that ICT usage is reserved for male activities. In other words, the results suggest that there is gender equality between men and women in ICT acceptance. Ideally, technology can equalize the roles of men and women as it is equally accessible, usable, and beneficial for both genders (Herring, Ahuja & Ogan, 2011).

By age, it was found that there was a significant difference in students' perceptions towards the use of interactive multimedia to learn PAI,  $p = 0.046$ . Students' aged 13 had better perceptions than students aged 14, 15, and 12. The mean score for 13-year-olds was 86.77, followed by 15 years old with 86.310, 12 years old with 84.189, and finally 14 years old with 80.838. This finding shows that students who have used iPads for a longer time for learning and are older do not necessarily have a more positive

perception towards the use of interactive multimedia iPad compared to students who are new to using iPads. As shown by the above findings, students aged 13 had a higher mean than students aged 14 and 15.

This study support previous research which found that enjoyment and trust in computer use differ by age (Comber *et al.*, 1997). Another study found that differences in age and location significantly affect students' acceptance of mobile learning (Pratama, 2021). Another study found that using technology causes anxiety in students, and this anxiety differs by age group (Chua, Chen & Wong, 1999).

This study also found a significant difference in students' perceptions towards interactive multimedia iPad by school,  $p = 0.026$ . Students from SMPIT Al-Azhar 37 had a mean score of 85.548, while those from SMPIT Al-Azhar Jakarta obtained a score of 81.314. This indicates that students from the branch school was more accepting of interactive multimedia iPad compared to those in the main school. Secondary schools should have better acceptance rates because in terms of capability and economic status, children who live in big cities are usually better off than those who live in rural areas. This finding is consistent with previous research, which found that school significantly affects students' acceptance of mobile learning (Pratama, 2021). Technology acceptance also differs by age (Wang *et al.*, 2009).

### 5.2.2 The Effect of Interactive multimedia on PAI Learning on Student Competence

As ICT develops, iPads are becoming more commonly used across the world for learning. Therefore, it is important to understand its effect on the learning process and outcomes (Diemer, Fernandez and Streepey, 2012). The use of iPads allows students to achieve positive learning outcomes, as evinced by several experimental studies. However, it is still unclear whether a student's perception can affect his learning outcomes? Therefore, this section discusses the effect of students' perceptions on their learning outcomes (competences).

The third research objective was to examine whether the use of interactive multimedia affect their mid-term semester grades (competence). The effect was calculated as the sum of the four dimensions of convenience, cognitive, attitude, and psychomotor. The use of interactive multimedia on their learning outcomes was not significant,  $p = 0.029$ . This means that the alternative hypothesis was accepted. The effect was positive significant. It is indicated that the use interactive multimedia have a significant influence on student learning outcomes, or that interactive multimedia is a direct predictor of learning outcomes. It was contradict with pass research that motivation has a direct and significant effect on student learning outcomes, both offline and online (Baber, 2020). Likewise, engagement is a determinant of student learning outcomes (Panigrahi, Srivastava & Sharma, 2018).

Discussing student competence is very important, especially within the context of learning using interactive multimedia, because learning outcomes are a benchmark for its effectiveness for learning. The effectiveness of learning using interactive multimedia depends on whether students achieve the learning

objectives. Therefore, future works should examine other factors that affect student learning outcomes when using interactive multimedia to learn PAI.

This study is also contradict with the findings of previous research, that students' perception towards the usefulness of e-learning has no effect on their final grades (López-Pérez, Pérez-López & Rodríguez-Ariza, 2011). Students' perceptions of online learning support has an indirect relationship with their final learning outcomes, but course satisfaction affects it directly (Lee *et al.*, 2011). Although using interactive multimedia iPads affect students' learning experience, they do not always lead to better learning outcomes (Heflin, Shewmaker & Nguyen, 2017). There is a lack of quantitative evidence to support that interactive multimedia affects their learning outcomes. However, qualitatively, students said that the use of iPad improve their activities and learning outcomes (Diemer, Fernandez & Streepey, 2012). The use of interactive multimedia iPad (and indeed other ICT tools) to learn PAI aims to facilitate and complement, not substitute, traditional learning and support the role of the teacher (Mitchell & Forer, 2010).

### **5.2.3 Mediating Effect of Students' Perceptions on the Relationship between the Use of interactive multimedia iPad and Student Participation**

The fourth objective was to examine whether students' perceptions mediate the effect of using interactive multimedia iPad on student participation. There are three sub-objectives: (1) to examine the effect of interactive multimedia on student participation; (2) to examine the effect of students' perception towards the use of interactive multimedia on student

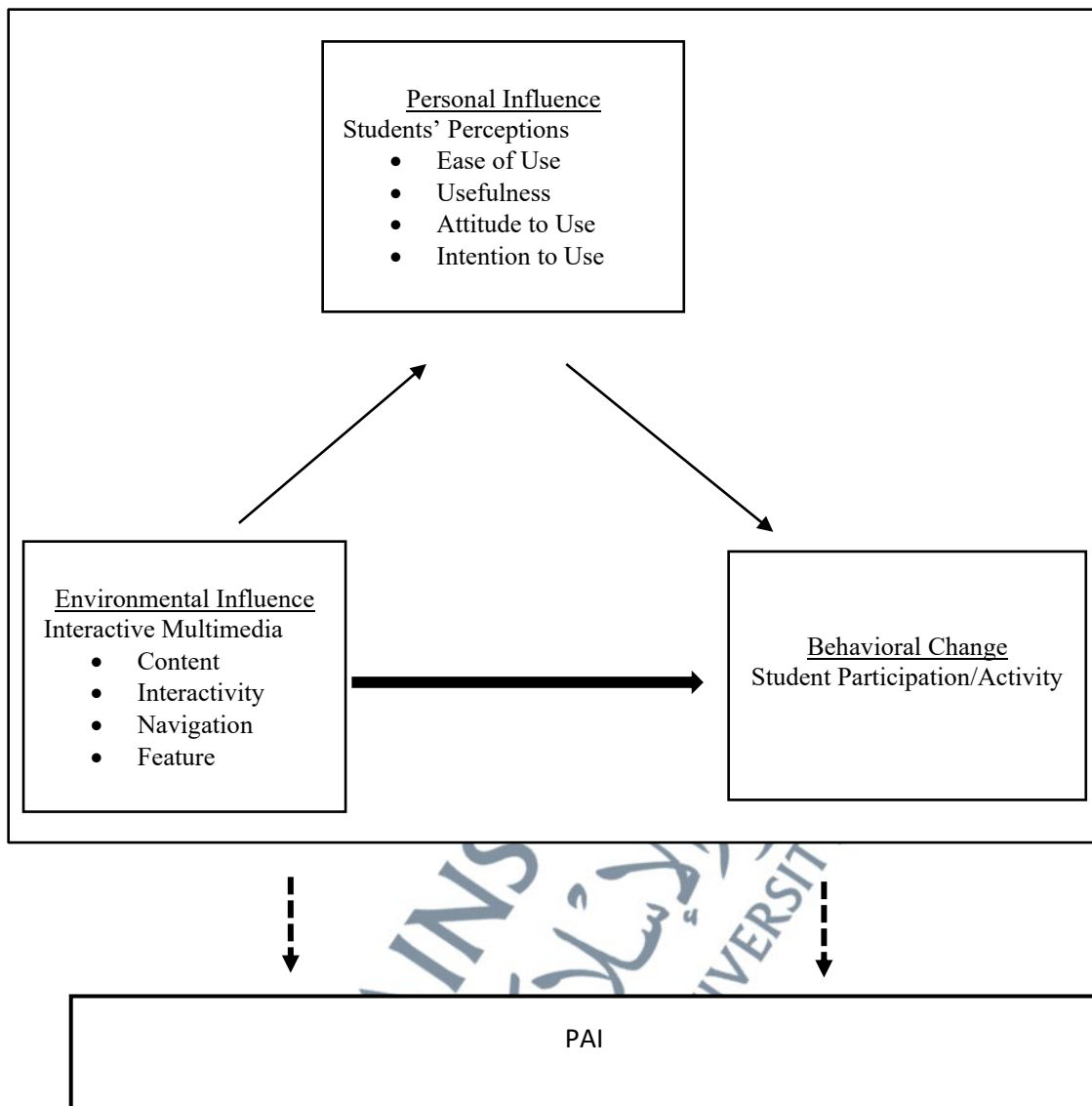
participation; and (3) to examine the mediation of students' perceptions on the effect of interactive multimedia iPad on student participation.

The hypotheses testing results showed that all alternative hypotheses were supported. Students' perceptions towards the use of interactive multimedia iPad to learn PAI significantly mediated the effect of using interactive multimedia on student participation,  $B = 0.391, t = 8.236, p < 0.000$ . This means that the effect of using interactive multimedia on student participation through student perception was 39.1 percent. Likewise, using interactive multimedia had a significant effect on student participation,  $B = 0.182, t = 2.783, p < 0.006$ . Students' perceptions had a positive significant effect on student participation,  $B = 0.676, t = 12.390, p < 0.000$ , which means that perceptions directly affected student participation by 67.6 percent. Finally, using interactive multimedia iPad significantly affected students' perceptions ( $B = 0.580, t = 10.087, p < 0.000$ ), which means that the direct effect of using interactive multimedia iPad on students' perceptions was 58.0 percent.

These findings are consistent with cognitive theory that interactive multimedia effect on cognitive such as perception (Mayer, 2021). The theory social cognitive argues that a person's behavior is shaped by external influences through direct cognitive processes (insert some references). These cognitive processes determine which environmental events will be observed and what their meanings will be. At this stage, there is behavioral change, which is the formation of symbols in one's cognition to judge and do something in the form of continuity of experience (Bandura, 2009). According to Piaget, changes in one's cognition are equilibration, which is progressive, dynamic, and balanced. After being faced with a new situation, the individual will draw on the

knowledge he already has to make a new behavior or experience (Yilmaz, 2011). Several studies using the cognitive theory have found a significant interaction between the environment, personal factors, and behavior (Wang & Lin, 2007). The media also has a direct and indirect influence on behavioral change. The indirect influence is mediated by the social system (Bandura, 2009).

These findings suggest that based on the social cognitive theory, the perception of the students, as an element of mental cognition, influences their behavior and learning experiences. The perceptions of ease of use, usefulness, attitude, and intention to use interactive multimedia affect student participation when learning PAI. Student participation is a part of behavioral change in the form of the student's engagement with the learning activity. The findings also showed that perceptions mediated the effect of interactive multimedia iPad on student participation. The use of interactive multimedia is the students' response to its technical quality, which consists of content, interactivity, navigation, and features. These are environmental factors that affect perception and participation. The interrelationships between these variables are illustrated in Figure 5.1.



**Figure 5.1. Cognitive Model of the Effect of Interactive Multimedia on Student Participation, Mediated by Student Perception, in Learning PAI**

External factors include the quality of interactive multimedia iPad, which consists of the aspects of content, interactivity, navigation, and features. The internal factors include student's perceptions, which consist of perceptions of convenience, perceived usefulness, attitude, and intention. These two sets of factors directly and indirectly affect student learning activities, which ultimately affect the quality of PAI learning.

### 5.3 Implications

The results have theoretical and practical implications. Theoretically, they contribute to educational theory in general and the cognitive theory in particular. During the learning process, it is important to pay attention to the cognitive processes that occur in students, as mental cognition determines behavioral changes according to the formulated learning objectives and expectations. Whether positive or not, cognitive mental processes, such as the perception process, that occur depend on the student's environment or other factors (Bandura, 2009). There are numerous factors in the student's environment, among which is the quality of interactive multimedia used by the teacher. The quality can be determined from its content, interactivity, navigation, and features (Kennedy, Petrovic and Keppell, 1998; Razali *et al.*, 2021). The better the quality of the media used by the teacher, the better the student's perception (Robbins & Judge, 2013).

Practically, these findings suggest that the use of interactive multimedia iPad significantly affects student perception and participation. The use of iPads can increase student participation or engagement in the learning process compared to traditional learning methods (Al-Bogami & Elyas, 2020). Likewise, it has an effect on student competence. Thus, the sample schools should continue to implement interactive multimedia iPad, while other schools may consider adopting it. iPads facilitate learning of the materials of the PAI subject. Nonetheless, the teacher still has an important role to remedy some weaknesses found in this study. For example, the students had more difficulty in understanding *fiqh* materials compared to Islamic history, and as such the teacher should implement the appropriate method to overcome this issue.

## 5.4 Recommendations

This study recommends further research to broaden the understanding of how the iPad can become an alternative tool in ICT-based learning. Future works may consider other variables other than students' perceptions. Some possible avenues for future research are:

1. A larger sample size, involving more than two schools and perhaps include all schools that implement iPad for learning.
2. The perception of teachers is an important thing to consider, as well as their abilities and teaching approaches and strategies using the iPad.
3. Other variables can be examined to enable more in-depth and holistic understanding of the use of iPads and its contribution to learning outcomes. This can be done, for example, through a development research approach.
4. This study can be replicated on a different sample to assess the consistency and generalizability of the results

### **Recommendations for Teachers, Schools and Policy Makers**

Based on the acceptance of the students of iPads, as evinced by their positive perception towards it, teachers should improve their competence, strategy, and approach in teaching using the iPad. Teachers are expected to first identify difficult materials and help students to better understand them, so that the effectiveness of iPad for learning can be enhanced. Schools can improve current teaching materials by enriching the multimedia content. This way, the students can easily access, learn, and understand the materials.

The education office, Ministry of Religion, and the leadership of private foundations or institutions can initiate a project to implement the use of

tablets/iPads in schools under their respective authority. However, it is important to first consider the readiness of supporting facilities and infrastructure, as well as the ability of teachers to use these tools. In addition, it is also very important to pay attention to the quality of the device in terms of its content, interactivity, and features.

## 5.5 Conclusion

The implementation of ICT is not only to build the image of the school but also to improve the quality of learning. An ICT tool that is still rarely used in Indonesia, especially in Riau is the interactive multimedia iPad. The effectiveness and acceptance of iPad for PAI learning needs to be studied further. This study has examined students' perceptions of the convenience, usefulness, attitudes, and intentions to use interactive multimedia, as well as the effect of interactive multimedia iPad on students' competencies and interactive multimedia iPad on students' perceptions and activities. The students had positive perceptions on all dimensions. The use of interactive multimedia significantly affected students' perceptions and participation. The students also had significantly different perceptions about the use of interactive multimedia iPad to learn PAI based on gender, age, and school. The effect of interactive multimedia on competence was significantly positive.