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CHAPTER 5: DISCUSSIONS, CONCLUSION, AND RECOMMENDATIONS

5.1 Discussions

The chapter discusses the outcomes of the data analysis for each of the three study goals set out in Figure 60 below. Discussions are organised on the basis of research questions identified by the researcher in Chapter One.

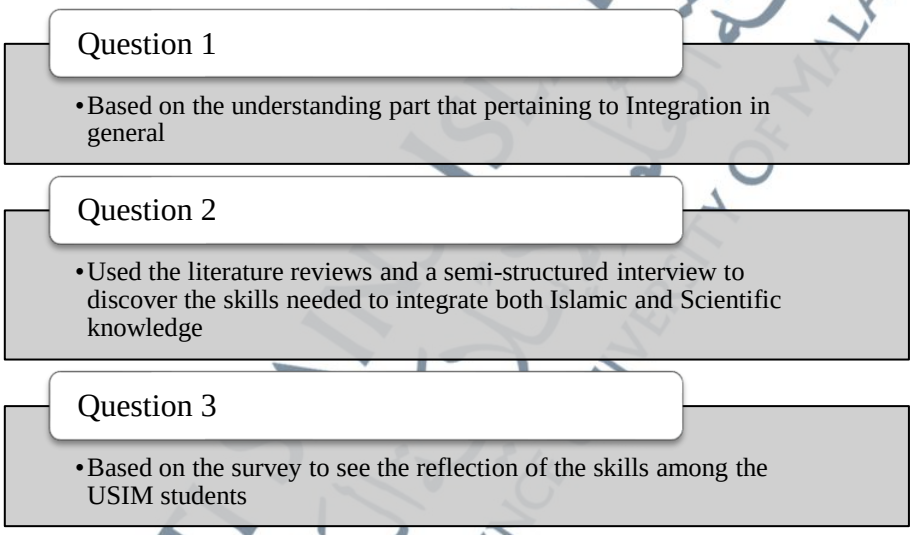

Figure 60: Data analysis based on the research objectives

a) Question #1: What is meant by the integration of knowledge?

The researcher has used the literature review and the quantitative study findings to interpret the concept of knowledge integration. The theory of integration is commonly used for the convergence of Islamic and scientific knowledge in Malaysia.

Al-Ghazali stresses integrating the revealed and rational sciences in *al-Mustasfa*, where an interconnected understanding is the connection between pure science and a religious science. On the other hand, it can be found that the incorporation of knowledge is a twin-sister idea of Islamisation, where both 'Islamisation' and 'integration' acknowledge the dichotomy of science (Gilani and Islam, 2018).

Besides, Gilani and Islam (2018) stated in their research, according to Al-Alwani, the problem of the integration of science and Islamic knowledge is a methodological issue in education that causes a civilisational outcome. The fundamental approach to integration starts with the discovery of the methodological relationship between the philosophical coherence of the Qur'anic verses expressed in the form and inimitability of Qur'an and natural law. The convergence that has taken place between revealed and scientific includes both readings. The convergence of both Islamic and scientific knowledge contributes to a philosophical problem that is precipitating human society.

Al-Ghazali describes the integration of Islamic sciences and the integration of Islamic and non-Islamic sciences. As far as al-view Ghazali's is concerned, knowledge integration is ideally shown in his knowledge classification systems. Like the Ihya, al-Gazali categorizes Islamic sciences in al-Risālah with 'ilm al-usul' and 'ilm al-furu' (sciences of branches). Al-Ghazali addresses two data integration sources: integration between Islamic sciences; and integration between Islamic sciences and non-Islamic sciences. It is divided into basics and divisions for Islamic sciences. Islamic theories are based on Islamic theology (al-kalam), which pursues to establish all religious sciences' principles. Through al-Mustasfa, al-Ghazali's combined mode of knowledge is the relation between pure science and religious learning. Al-Ghazali stresses the integration of the revealed and

logical sciences in al-Mustasfa, where the integrated form of knowledge is the bridge between pure science and a religious science. Through explaining this convergence, as in other texts, he introduces three kinds of sciences. One is entirely rational, which the Shari'ah would not promote or encourage, for example, algebra, geometry, astronomy, and others. Second, purely traditional sciences such as hadith (prophetic traditions) and tafsir (Quranic commentary).

Furthermore, integration between revealed and logical knowledge depends on the competence of the learner. Al-Ghazali writes that "most revealed knowledge is logical to those who understand [through study] and most logical knowledge is unveiled for those who have intuitive understanding." It is recommended to perform an integrated reading of the Quran and sciences. Islam does not contravene scientific facts. Furthermore, modern science affects the way of thinking and beliefs to vanquish the traditional practices. Hence, leading the direction of these beliefs and modifying them to blend the Holy Quran's content ultimately led to integrating Islamic and scientific knowledge.

Integration starts when a philosophical relationship is established where it demonstrates both the coherence of the methodology of the Quranic verses and its distinctive concept.

Besides that, Al- Alwani maintains that the Holy Quran is a divine relationship that makes us understand creation. He also added the important point where, when people gain more knowledge of divine revelation, people can integrate both revelation and science at the end of the day. He assumes a connection between all revelation methodologies and the world when the methodological relationship is understood. In addition, people who have sufficient knowledge of the

Qur'an and science would understand the Holy Qur'an's methodological integration, the universe, and humans.

In light of discussing the term "integration," Drake (1993) believed it referred to multidisciplinary or interdisciplinary or transdisciplinary learning where it formed the integrated context. Besides that, both Islamisation and integration have recognized the dichotomy of science (Abdul Muhaya, 2015). Apart from that, integration is defined by Abu Sulayman (1994), an expert in Islamisation, as uniting religious and non-religious sciences. Conversely, Sidek Baba (2009) stated that integration promoted the triadic concept between Tawhidic, values, and potentials implemented in the education systems of Muslims. According to al-Ghazali, the structure integrality of knowledge integration could be visualised based on knowledge classification (Gilani and Islam, 2018).

The interdisciplinary approach has been introduced, given its primary concern for common skills principles through research programs and knowledge divisions. This is supported by Suryadi et al. (2018), who implemented the concept of integration of knowledge in their university. Integration describes the combination of different components in the discipline of knowledge. Both components are complimentary, culminating in a systematic analysis of knowledge. Suryanti et al. (2018) mentioned that the majority suggested implementing integrated syllabuses in their study. The concept of integration should be organised in a systematic, inclusive, and comprehensive manner. Besides, she added that training and workshops are required for teachers and lecturers to enhance their capabilities and boost competencies by preparing the students' standard assessments. Moreover, it is necessary to develop an exact

blueprint and standard guidelines for applying integrated curricula based on the respective faculties among the lecturers.

Al-Ghazali and Al-Alwani discussed the convergence of awareness between religious and non-religious aspects. This can be inferred that understanding knowledge can lead to the successful integration of knowledge. It has also been supported by other contemporary Muslim scholars on the integration of knowledge. Though both have different approaches, this statement by Al-Ghazali and Al-Alwani can be classified as possessing the same foundations in the Islamic sense.

However, the result showed that 22.5 percent of the respondents were determined to respond to the argument with strong consensus, while 64.2 percent of the respondents replied with consensus. It could be interpreted that most respondents agreed with the delineated statement that the concept of integration of Islamic and scientific knowledge should be clear before application and implementation. However, some participants tended to disagree and strongly disagree in voicing their interpretation of the principle of knowledge integration. In light of the new integration movement, an integrated approach has been advocated in education. Integration could be achieved in the best way if the person had adequate skills in advance. The researcher highlighted the main concerns related to the skills needed to integrate Naqli and Aqli, the ability of the student, and the problems faced in integrating Naqli and Aqli while interviewing the selected participants. The study considered that both the literature analysis and the findings of the interviews were compatible. Nonetheless, the researcher prioritized the interview results, which highlighted the skills required by the students to integrate Islamic and scientific information from the participants, as it paved the way for the research problem to be discussed.

b) Question #2: What are the skills required to integrate Islamic and Scientific knowledge?

Based on the qualitative study results, the researcher compared the skills identified by the participants with the skills suggested by Al-Alwani. The experiences and expectations that the lecturers have acquired inevitably contribute to what the students are meant to be. The researcher has identified the collection of questions in several fields to determine the skills required to combine Islamic and scientific knowledge. The results of the interview provide a broader impression of the integration of information among students.

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Al-Alwani emphasised the importance of discovering the methodological relationship of methodological coherence in the state of its inimitability and natural law. The more knowledge acquired about Divine revelation and the world, the more ability could be extended to find a scientific relationship that revealed the methodology of both revelation and the associated world. A transparent methodology was expected to show how the approach of the Quran and Science by its reading. Naturally, the complex minds would be looking for something visual on conclusion with the objective for investigation purpose, rationality, methodology

understanding, and investigating the connection on the things that happened using the analytical and critical way. This approach is defined by a set of Qur'anic philosophic indicators, comprised of al-tawhid as the core feature of the Qur'anic worldview, the integration of the "two interpretations" of the Qur'an and the created universe, and the inherent unity of the Qur'an and the universal truths which it epitomizes.

Al-Alwani's view on the integration of revealed and scientific knowledge implies, first, the way to read it. Reading them is crucial in the sense of the Qur'anic Cosmic Technique. On the Quranic viewpoint, Al-Alwani proposes that the Quran should experience the following approaches as asserted by Gilani, S. M. Y., & Islam, T. (2018):

(1) Readers should bring the Quran to his heart
(2) Belief in the structural unity of the Quran
(3) Belief in the unity of a surah (chapter) of the Quran
(4) Understanding the supreme values of the Quran (tawhid,tazkiyah, and civilization)
(5) Understanding trilateral relations between Allah, human, and universe
(6) Thematic study of the Quran
(7) Exploring coherence between verses and chapters of the Quran

Meanwhile, Al-Alwani listed three specifics of the reading of the universe:

(1) Approach to the establishment
(2) Prudence
(3) Description of external subjective fact

Hence, a new approach should be revealed on understanding and reading that combines both revelation and universal writings. The use of technology is widely promoted in scientific knowledge; however, the IT skills helped the students from the Islamic background blend with the knowledge. Furthermore, it is not bizarre in this modern era that full of sophisticated technology. Besides, it became a necessity to promote an approach that adapts with the human tradition in the current time that connecting the bridge over the Islamic and Western thoughts as well as embracing the dispute and disagreement.

Two lecturers have mentioned understanding in highlighting the significance within the students.

Lecturer #4 said:

"Understanding the Quran and Sunnah, as well as science and technology, is important. This is meant to reconcile the understanding of the world and the Hereafter."

Lecturer #3 added:

"The lecturer should be clear on the Islamic and scientific elements. Islamic elements could contribute to Islamic values and customs."

In addition, understanding has been the greatest strength in integrating both Islamic and scientific knowledge. Recognition is the secret to learning regardless of experience. Awareness will come before applying and implementing the synthesis of Islamic and scientific knowledge, which is of great concern to the researcher while conducting this analysis.

However, the implementation of the incorporation of Islamic and scientific has not been standardised to all faculties. There was also a lack of implementation at the university level. It may be confirmed by the issues that have occurred which have been posed by the participants. Additionally, there was also a lack of understanding, a

lack of proficiency in Arabic and English languages, and a lack of initiative on the part of students to be well prepared with knowledge integration. The qualitative study results were not in-depth, and debates were still on the surface when they apply to concrete specifics, as development and execution are still at an early stage. Most of the answers were the same as the typical style and approach in the delivery of information.

In addition, the result of the findings disclosed the skills needed by the students in integrating the Islamic and scientific knowledge, as listed below:

1. A learner should have a clear understanding of the difference between Islamic knowledge and scientific knowledge.
2. A learner should understand whether the idea supports Islam or not while reading the scientific (rational) writings.
3. A learner should understand that the integration of knowledge combines the "two readings," reading of the Qur'an and the created universe.
4. A learner should understand the similarities and dissimilarities with any modern scientific knowledge while reading the Islamic (revealed text) writings.
5. A learner should understand the interconnections between Allah, human beings, and the universe.
6. A learner should understand the unity of themes of the Quran.
7. A learner should understand the universe and creation through the Qur'anic perspective.
8. A learner should understand the relation between the methodology of revelation and the methodology of the universe, which are interconnected.

9. A learner should distinguish between the methodology of revelation (wahyu) and the methodology of natural sciences.
10. A learner should understand how the supreme values of the Quran (tawhid, tazkiyah, and civilisation) correspond.
11. A learner should have to memorise in integrating Islamic and scientific knowledge.
12. A learner should understand the sources of the knowledge written in Arabic and English.
13. A learner should have the internalisation aspect in the integrative learning process.

Bekti Taufiq (2017) suggests that the advancement of science and technology is making rapid strides in this era and is desperately needed by humankind. Science is intimately associated with a more involved experience, such as mathematics, while religion is more closely linked to everyday life experiences. Science is empirical as an interpretation of reality, and religion is prescriptive. In comparison, Islamic education's scope is also close to that of Islamic education, as the content contained therein is a complementary blend, as stated by Bekti Taufiq (2017). He adds that the convergence of Islamic education with science and technology is expected to improve students' understanding and consolidation. In order to achieve the aims of Islamic education, there are three key phases:

1. Identifying the cognitive portion by delivering knowledge of religion to students
2. The emotional dimension, namely the mechanism of internalizing religious values in religious schools in such a way that it is integrated into the attitude of the students as a form of cognitive follow-up
3. The psychomotor dimensions

Apart from that, Mabud. A (2016) stresses that the same word 'ilm' is being used for information, both acquired knowledge and revealed knowledge, suggesting a close relationship between the two. He argued that the term 'ilm in the Qur'an is used in a general sense and encompasses a broad spectrum of knowledge, that is, understanding in both the material and imaginary realms, and that God is the Knower of all ('ālim al-ghayb wa al-shahādah), which, along with the obsession with Dunya (this world), contributed to the degradation of faith and the perception of religion. Modern schooling does not accept revelation as the basis of truth and instead denies the foundation of religion. The fact that proper interpretation is that of Tawhid (God's Unity), Risālah (Prophethood), and Akhirah (hereafter) is not taught in modern curricula. If religious beliefs are not made, they cannot be withdrawn by the renunciation of religious convictions. At the time of the Prophet, Muslims used to study the Qur'an and the hadith, as well as the philosophy of recitation (tajwīd) and jurisprudence (fiqh). The convergence of numerous subjects has always taken place in the history of Muslim education. At the beginning of Islam, Muslims learned the Qur'an and the hadith, as well as the theory of recitation (tajwīd) and jurisprudence (fiqh). The mosque was the main center of research during the reign of the Prophet. In this time of Islamic society's growth, Muslims have not hesitated to learn knowledge and experience from others but have also retained their own fundamental beliefs.

Both the Holy Qur'an and the Hadith stress the importance of learning, discarding the meaning of understanding, while never degrading the root of knowledge. There is no conflict between the Western approach to understanding the natural world and the Qur'anic order to understand it. Scientification of Islam is a tool for developing Muslim normative-subjective concepts into open and inclusive empiric-

objective formulations. Scientification of Islam does not make any philosophical judgment but instead uses knowledge from other domains to clarify Islam's ethical content. The science of Islam has two main approaches, i.e., the integralization or combination of human intellectual wealth (empirical findings) and interpretation (the teaching of Allah in al-Qur'an and its application in the sunnah of the Prophet) and the objectivization or transition from text to meaning, i.e., the understanding and examination of the words of the Holy Book (text) from a theoretical point of view.

The convergence model of Islam, science, and technology in defense of the living environment as part of Islam Theology Education and Learning is based on integrated teaching and learning model. For example, the implementation of Islam Religion Education on the sub-theme of Al-Qur'an Hadith and Aqidah Akhlak has a sub-theme on the protection of the living world. In order to fulfill the goals and be compliant with the profiles, the program in both institutions can typically be separated into three key components: 1) al-Qur'an content, al-Qur'an curriculum, 2) Technology Materials/Science Education, and 3) Language materials/language programmes. The material understanding of Islamic studies is through Arabic mastery, while the material of scientific studies can be extended through English mastery. The incorporation of science and faith into Islam is becoming very important as Islam has tremendous potential to be a gateway to new sciences or knowledge. Integrative teaching and learning put greater focus on the active engagement of students in learning. The involvement of both the divine revelation and the created universe is also essential as it influences the expertise needed to combine Islamic and Scientific knowledge.

c) Question #3: What is the level of the student's skills to be capable of integrating Islamic and Scientific knowledge?

The researcher formed sub-questions to measure understanding skills among students. Under the skills of having a clear understanding, the researchers compiled some additional questions to identify the level of the student's ability to integrate Islamic and scientific knowledge such as the concept of Islamisation of knowledge, the methods of Islamisation of knowledge, knowing the difference between Islamic knowledge and scientific knowledge, the methods of integration of Islamic and scientific knowledge and the pioneers of the integration of knowledge.

From the quantitative analysis results, the degree of agreement, which consisted of a strong agreement and agreement, led to the variance of the data. The variation indicated that the datapoints were spread out. There were many preferences among the respondents. All values of the standard deviation were favorable to the value of the mean. The researcher noticed the mean heighten value if the respondents were on the same page for the statement.

Moreover, it was an eye-opener to glimpse the responses from the disagreement and chose to Neutral, which stipulated the respondents were liked better to stay in the middle line as they could not answer the question or confused with the given statements. The substantial agreement, like strongly agree, captured the respondents' confidence level to give the answer or concurred with the statement. Significantly, the respondents' responses envisioned the reflection of the inner self-development closely related to an individual's self-efficacy.

The number of respondents was recorded under the column labeled N. The range of variables was displayed in the Minimum and Maximum columns. The rating scale's Minimum and Maximum scale were addressed as 1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree. There were 27 questions overall there were answered without missing values. The average responses were visualised in the mean column. Mean was the most common method of describing the central tendency. Mean was known as an average of overall values in a distribution asserted by Krishnaswamy, Ranganathan (2006). In general, all the values were added and divided by the total number of values to compute the mean. Generally, the standard deviation was commonly known as an index of variability of the original data elements and reported in most studies, as stated by Streiner (1996). The standard deviation was used as a common measure of dispersion.

From the data displayed, the mean was the average distance of all observations from zero, whereas the standard deviation was the average distance from the mean. The tighter the data, the smaller the value of standard deviation. The researcher went through the standard deviation of items to discover the discrepancy. Standard deviation briefly explained how score deviated from each other. The researcher captured the highest value of the mean, which was 4.3193, which uncovered the bulk of respondents on the same lines. It showed that they agreed with the given statement.

Furthermore, the value of the standard deviation of the highest mean was .79599, which indicated there were many reflections from the respondents that significantly shown the divergence of the data. The standard deviation value would be more considerable if the individual data spots were contradicted from the mean. However, if there were a

remarkable similarity between the notion, the standard deviation value would be smaller. The second highest mean was 4.2105, with the value standard deviation of .85037 that captured the data points' variation. The data were detected enlarged to a lesser degree. Notably, the smaller standard deviation indicated not much contention about the statements.

Apart from that, the researcher sensed the lowest value of mean that was 3.4737, with the value of standard deviation was .89807. The result portrayed the number of respondents that diverged from their standpoints. Interestingly, the standard deviation was relatively high, capturing the scattered data marker where the variant existed among the respondents. Then, the researcher captured the second-lowest mean, which was 3.5263, while the value of the standard deviation was .99833. This indicated the responses were dispersed and could be distinguishable from each other. However, the standard deviation was detected as the highest, which marked the highest dispersion of the data points. From the results shown, it reflected the high value of the standard deviation that affected the variation. Hence, the higher the value of the standard deviation, the higher the variation of the data. Overall, based on the result obtained, the standard deviation values were seen to be high on several of the items mentioned, which defined the variableness that the respondents had referred to. Therefore, it could be understood that the respondents were satisfied with getting their views on the questions mentioned.

Depending on the listed skills, the skills were closely linked to the students' self-efficacy who came from inner self-development and consciousness. In addition, students' reasonable confidence and high self-esteem will shape character and personality in advance. Therefore, students should get their ideas without being spoon-fed by

the lecturers at the university. Similarly, if the broader mind grasped simple goals and a complete definition of competition excellence, the secret to achievement would unlock students' ability to derive additional value from both their academic performance and their self-development human capital.

Besides that, the results critically aimed to address the void found by the researcher in Chapter One. The skills have been recognised. However, the degree of consensus defined the extent of the student's ability to combine Islamic and scientific knowledge. The students decided on the skills mentioned. The researcher did, however, investigate that the variation was relatively high for the skills listed. In addition, the students were learning in the final year and required to have the expertise to be graduated because of the integration of Islamic and scientific knowledge. The students were expected to apply the integration of Islamic and scientific knowledge in the same spirit as the lecturers, who played a significant role in the implementation of the integration of Islamic and scientific knowledge. Additionally, two ways of communicating will improve the implementation of the integration of Islamic and scientific knowledge. Self-efficiency should be motivated by allowing them adequate attention, and students should try to improve their abilities and personality.

5.2 Conclusion

In this last chapter, the researcher presented the conclusion based on the findings obtained in Chapter Four. The researcher organized a data analysis of the study by resolving the research question. The first question concerns the understanding of the part of the integration of knowledge, the second question concerns the discovery skills of experts through semi-structured interviews, and the third question concerns the level of student skills through the use of the survey.

The researcher used six variables to discover the skills required to combine Islamic and scientific expertise. Concerning the preference of the researcher's approach, the outcomes of the qualitative data review revealed the skills needed, while the results of the quantitative data measured the level of the student's skills. In this study, the researcher incorporated all the variables related to the integration of Islamic and scientific knowledge: self-efficacy, integration of knowledge in general, Islamisation of knowledge, the GIINA Model, Integrating Islamic and Scientific knowledge and skills integration. The researcher believes that integrated education is highly concerned with the introduction of Islam as a whole, assisted by their respective philosophies in the promotion of strong faith, preserved physical and spirit, the Dunya and the afterlife, reflective minds, purity of heart, a broader mind as well as the application of revealed wisdom to deepen comprehension in order to be well-prepared to incorporate Islamic and scientific knowledge.

5.3 Recommendation

Given the shortcomings of the research, further studies will be conducted to develop a model or curriculum that will be uniform for all faculties in the learning and teaching phase. It would ensure that students and lecturers are on the same page when introducing the integration of Islamic and scientific knowledge. By referring to the GIINA Model, this is the best example of a module that has exemplary skills, a type of activity involving the target score that needs to be achieved by students. Likewise, the compulsory examination of students, perhaps only a short course programme or a programme designed to polish the skills of the integration of Islamic and scientific knowledge, is part of the module. As far as reading is concerned, execution will be coordinated at all stages, including management and administration. At least that would be the best motivation for graduates to do the same upon graduation. In addition, more studies should be performed between experts in each field who emphasise the outcome of the topic and relate the importance to the implementation of the integration of Islamic and scientific knowledge. In brief, the specification and implementation have been made by the institution, but for the sake of the future, understanding the traditional form of implementation should be emphasised.