

## THE INTEGRATION OF NAQLI AND AQLI FOR CHEMISTRY COURSE: A STUDY ON TAMHIDI STUDENTS' EXPECTATIONS

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### Abstract

A balanced approach in education between revealed knowledge and modern science can be enhanced through the integration of Naqli and Aqli. The integration of both knowledge according to Syed Naquib Al-Attas is known as an integrated educational concept when he first introduced the concept of 'Islamization of knowledge'. The important to produce holistic and balanced graduates through the integration of Naqli and Aqli in knowledge is able to produce Islamic scholars who can become specialists in solving the problems of ummah. Universiti Sains Islam Malaysia (USIM) has taken further step to apply Naqli and Aqli knowledge in the process of teaching and learning at the university including in chemistry course. Therefore, this study aims to investigate the expectations among Tamhidi students on the implementation of both Naqli and Aqli disciplines in the process of teaching and learning in chemistry course. The study was conducted on 106 respondents who are the group of Medicine, Dentistry and Science and Technology students at Tamhidi Centre of USIM. This study used quantitative method through questionnaires to collect data. The finding has shown positive perceptions from respondents with mean scores more than four for each item. Majority of respondents realized the need of the integration of Naqli and Aqli knowledge in teaching and learning. They agreed that this effort should be continued for other subjects in Tamhidi Centre. In addition, majority respondents also expect to be an example in the practice of the integration of Naqli and Aqli knowledge. The findings are of great importance to lecturers and scholars to improve the implementation of Naqli and Aqli knowledge in education.

**Keywords:** Integration, Naqli, Aqli, Chemistry, Expectations

### 1. INTRODUCTION

One of the major agendas that can influence quality and civilization of a nation is education. Without education, mankind will be considered uncivilized. The purpose of education is to gain knowledge and from philosophical aspect, knowledge can be seen from three perspectives: ontology (essence), epistemology

(source and methodology) and axiology (value) (Noor Hisham Md Nawawi, 2011, p.1). Education in a society requires a value system that can be developed and nourished in order for its citizens to have high ethics in life. However, the cases pertaining the degradation of moral values among students in every single day are worrying. Therefore, modern knowledge and moral values should be emphasized in today's school's curriculum. Unfortunately, if the dualism still exists in our education system, it would be a hard job to produce a person that balanced both in academic and moral knowledge (Crystal et al., 2011, p.24).

Combination of both moral and modern knowledge can be named as the integration of Naqli and Aqli. It is such a very good idea to be implemented in educational institution. In fact, the application of both knowledge should meet the needs of students. It is stated by Hill (2005) and Thorne as well as Cuthbert (2006) that students are the main customers in the education system. Thus, one of the measuring mechanisms to achieve a standard is to meet the needs of customers. The educational institution needs to be concerned with the welfare of students and one of the ways to evaluate their satisfaction is through the process to get feedbacks by formal and informal method.

A quality and effective education can be identified by measuring students' expectations. Many studies emphasized the importance of meeting the expectations of students. For example, Brophy (2003) stated that the efforts to meet the expectations of students will increase students' motivation with varying teaching methods while Steele (2002) mentioned that meeting the expectations of students will increase as well as maintaining outstanding student achievement. This paper provides additional insights into the expectations of Tamhidi students on the implementation of both Naqli and Aqli disciplines in the process of teaching and learning in chemistry course. In particular, it highlights areas in which Tamhidi Centre and lecturers should improve based on the expectations. It also provides an opportunity for lecturers to acknowledge, reflect on, and ultimately determine which, student expectations can reasonably be met within the available resources.

## **2. METHODOLOGY**

This study applied quantitative approach that is intent to establish, confirm, or validate relationships and to develop generalizations that contribute to theory (Leedy and Ormrod, 2001, p.102). Meanwhile, Creswell (2002) noted that quantitative research is a process of collecting, analyzing, interpreting, and writing the results of a study. It is important to remember that survey is a type of quantitative research and it designs questionnaire as a method of data collection. A paper-based student survey was designed to provide an insight into the expectations of students on the integration of Naqli and Aqli for chemistry course in teaching and learning. The survey questions were designed after considering the items in Part C which is discovering the students' perceptions toward the integration of Naqli and Aqli in the teaching and learning of chemistry course at Tamhidi Centre.

The survey in Part D comprised of ten items and respondents have to select among several answer categories based on five-point Likert scale which are Strongly Disagree (1), Disagree (2), Not Sure (3), Agree (4) and Strongly Agree (5). Three focus group involved in this survey consisted of 25 students from Tamhidi of Medicine, 15 students from Tamhidi of Dentistry and 66 students from Tamhidi Science and Technology. It is found that Tamhidi students got the grades between A+ and C+ in chemistry subjects during Sijil Pelajaran Malaysia (SPM) while majority students got grade B. In addition, they also have taken Islamic subjects during SPM which is Arabic, Al-Quran and Sunnah as well as Syariah Islamiyah. The answers been analysed to get average value and final expectation on this survey.

## **3. CONCEPT OF KNOWLEDGE INTEGRATION**

The concept of integration as explained by Muhammad Solikin (2008) and Muhammad Muda (2008) is by highlighting the integration of knowledge and religion which refers to the integration of knowledge and Islam as a unit. The definition of integration referring to Kamus Dewan (2005) is as a merger between two or several entities to form unions or consolidations. The Islamic world has been invaded by the western world through modern sciences via several channels. The spiritual aspects that should devote solely to Allah are separated from these modern sciences thus have led to the loss of direction among Muslims. This science revolution in the west has led to positive developments in the knowledge of science which benefit mankind. Nevertheless, the negative impact is seen to be greater than the positive impact due to the influence of secularism in this revolution which causes the thinking of human mind is not based on religion, in particular Islam (Norazmi Anas et al., 2013, p.51).

As a result, it is very important to overcome the negative impact by looking at science from Islamic perspective that Muslims should instill confidence in his mind that the truth and reality come only from the verses revealed by Allah. Universiti Sains Islam Malaysia (USIM) is an educational institution that has adopted an approach which meet the physical and spiritual needs in education. It is a balanced approach

taken for the process of delivering revelation knowledge that integrate science (the science of *Naqli*) and rational science (the science of *Aqli*). The implementation, for instance collecting Quranic verses and Hadith and identifying how it relates to *Aqli* disciplines such as biology, physics, and also chemistry (Ibrahim et al., 2015, pp. 491-495). In this paper, the researcher only focus on the integration of knowledge within chemistry course at Tamhidi Centre.

#### 4. TAMHIDI CENTRE OF UNIVERSITI SAINS ISLAM MALAYSIA

Tamhidi Centre has played an important role providing a curriculum that supports the USIM's philosophy of integrating the science of *Naqli* and *Aqli* which then generates an excellent generation of noble characters. The courses that integrate the knowledge of *Naqli* and *Aqli* are offered to Tamhidi students in five programmes, namely Tamhidi of Medicine, Tamhidi of Science and Technology, Tamhidi of Dentistry, Tamhidi of Accounting and Muamalat, and Tamhidi of Shari'ah and Law. In addition, Tamhidi Centre have focused on a few subjects of the programme offered regarding Islamic revealed knowledge so that the students produced by Tamhidi Centre are well mannered, instilled with good values as a personnel holistically (Ibrahim, 2016). Tamhidi students are expected to be competitive at the faculty at the same time becoming a strong human capital with the appreciation of Islamic values who is capable of interacting and communicating effectively in society (Wan Amir Nudin et al., 2017, p.13).

The respondents involved in this survey are from Tamhidi of Dentistry, Tamhidi of Medicine and Tamhidi of Science and Technology. They are required to take the chemistry subject as structured in programme components. They should pass Chemistry I course with four credits hour in first semester while in semester two, they have to complete Chemistry II subject with the same credit hour (Tamhidi Centre, 2017, p. 45). By the implementation of *Naqli* and *Aqli* disciplines in the process of teaching and learning in chemistry course, this study aims to identify the expectations among Tamhidi students. It is considered as a step further to improve the implementation of knowledge integration in education at USIM particularly.

#### 5. FINDINGS

Respondents were asked to select from a specified list of options about their expectation in terms of understanding in chemistry course with the integration of *Naqli* and *Aqli*. Referring to Figure 1, the vast majority of respondents reported expecting to have more understanding. A total of 66 respondents (62.26%) strongly agreed while 34 respondents (34%) agreed to this statement. Four respondents (3.77%) were not sure and the remaining two respondents strongly disagreed (1.89%). The average value for item one is 4.52.

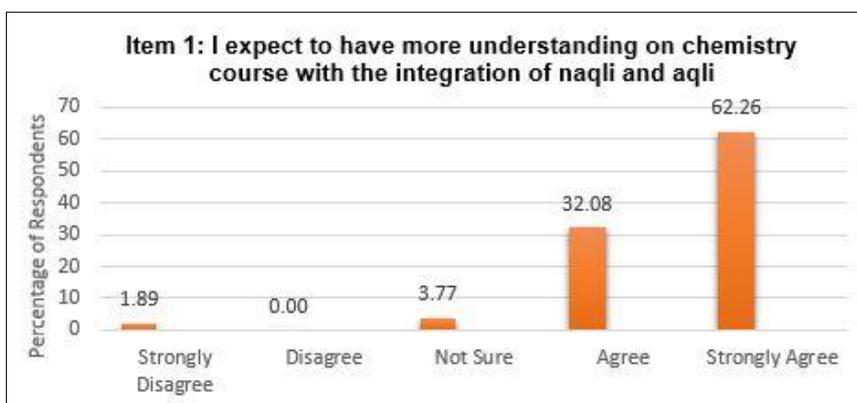


Figure 1: I expect to have more understanding on chemistry course with the integration of *Naqli* and *Aqli*.

Based on Figure 2, a greater percentage of respondents were expecting to learn about al-Quran and hadith so that they are able to integrate it with chemistry knowledge. 77 of respondents (72.64%) strongly agreed and 26 respondents (24.53%) agreed with the statement as worded. Two respondents (1.89%) are uncertain with this statement and the other remaining one respondent (0.94%) strongly disagreed. The mean score of this item is 4.67.

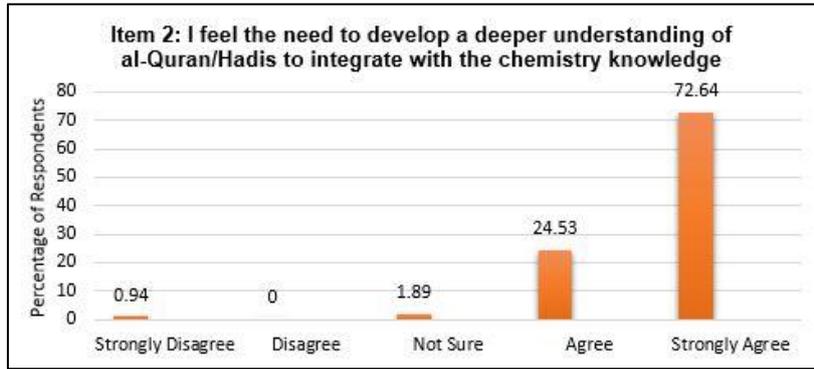


Figure 2: I feel the need to develop a deeper understanding of al-Quran/Hadith to integrate with the chemistry knowledge.

In relation to the statement about students' expecting to appreciate the chemistry knowledge with the integration of Naqli and Aqli (Figure 3), only one respondent (0.94%) strongly disagreed while four respondents (3.77%) were not sure. Majority respondents (56.60%) were reported to strongly agreed with the statement whereas 41 respondents (38.68%) agreed, indicating that they hoped to improve their performance in chemistry subject with the integration of knowledge. To sum up, the average value for this item is 4.50 that is the lowest mean value.

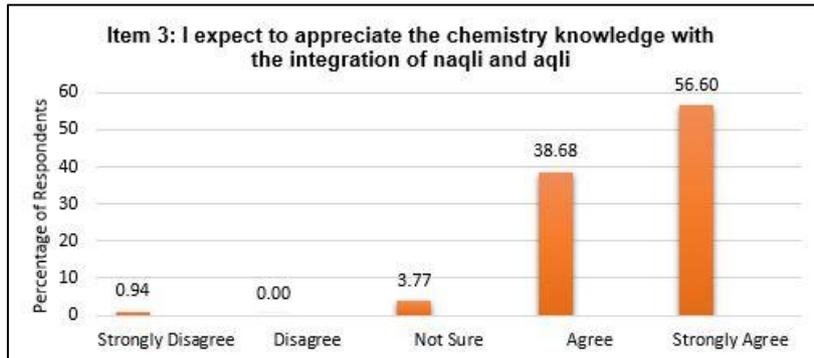


Figure 3: I expect to appreciate the chemistry knowledge with the integration of Naqli and Aqli.

In Figure 4, respondents were more likely to strongly agree (71.70%) and agree (24.53%) to support the integration of Naqli and Aqli in the process of teaching and learning at Tamhidi Centre, USIM. Three respondents were not sure whether to support or not whereas one respondent answered he strongly disagreed indicating that the respondent did not agree with the implementation of integration in chemistry course. The mean value for item four was 4.66.

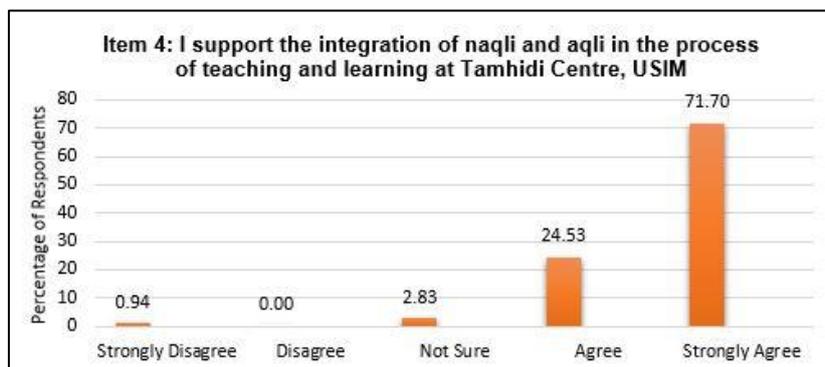


Figure 4: I support the integration of Naqli and Aqli in the process of teaching and learning at Tamhidi Centre, USIM.

The fifth item enquiry about the feeling of respondents regarding the integration of Naqli and Aqli in chemistry knowledge. Over half of respondents that is 73 respondents (68.87%) strongly agreed that they are really excited and they are ready to learn the relation between al-Quran and hadith together with the topics in chemistry subject. A slightly lower percentage (30.19%) of respondents agreed with that statement whereas

the remaining of respondents (0.94%) strongly disagreed. The average value for this item is the same as item four which is 4.66.

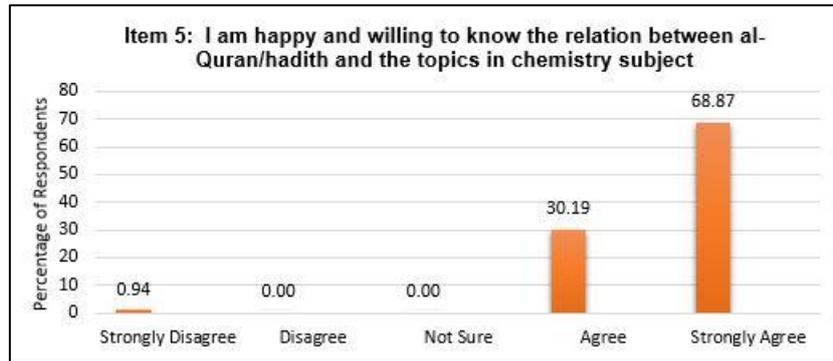


Figure 5: I am happy and willing to know the relation between al-Quran/hadith and the topics in chemistry subject.

Following Figure 6, most respondent (63.21%) strongly agreed that the integration of Naqli and Aqli motivate themselves to become a holistic student. 34 respondents (32.08%) agreed while a few respondent (3.77%) were not sure. Only one respondent strongly disagreed (0.94%) about this statement making an average of 4.56.

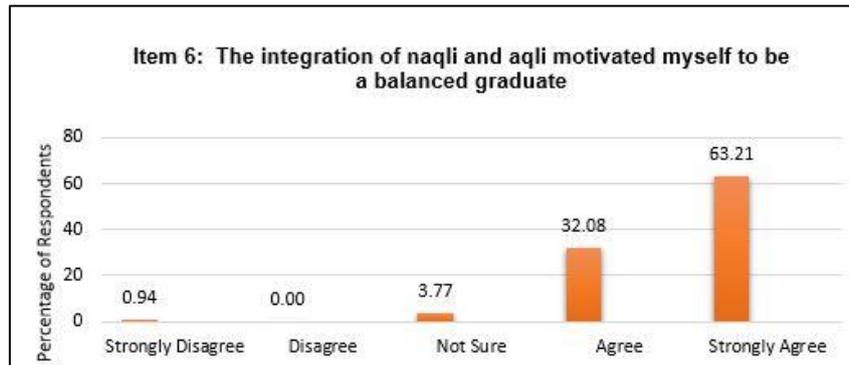


Figure 6: The integration of Naqli and Aqli motivated myself to be a balanced graduate.

The survey in Figure 7 shows that only one respondent (0.94%) strongly disagreed and uncertain about their expectation to succeed in all aspects of learning. 30 respondents (28.30%) agreed while the greater percentage (69.81%) of respondents strongly agreed to the statement. The total mean is just same as for item four and five which is 4.66.



Figure 7: I keep a high expectation for success in all aspects of learning.

The greatest total of respondents (73.58%) in Figure 8 reported to strongly agree in expecting that the effort of Naqli and Aqli integration should be continued for other subjects in Tamhidi Centre. 25 respondents (23.58%) answered that they agreed with the statement while another two (1.89%) were unsure. Nevertheless, there is one respondent (0.94%) chose strongly disagree to the statement. The mean value is 4.68 which is the highest average value compared to others.

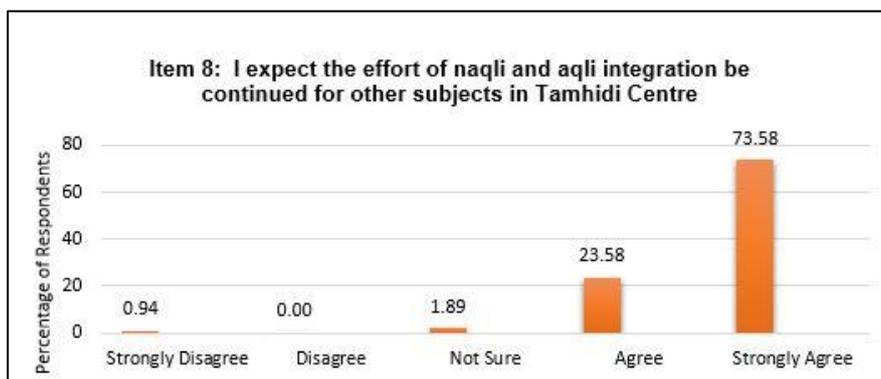


Figure 8: I expect the effort of Naqli and Aqli integration be continued for other subjects in Tamhidi Centre.

According to Figure 9, respondents have been asked whether they expect to be able to practice continuously the knowledge of Naqli and Aqli in the future. Most respondents were reportedly strongly agreed (68.87%) to the statement while 31 respondents (29.25%) agreed. One respondent was uncertain and another one strongly disagreed to practice Naqli Aqli integration in the future. The mean score for this item is 4.65.

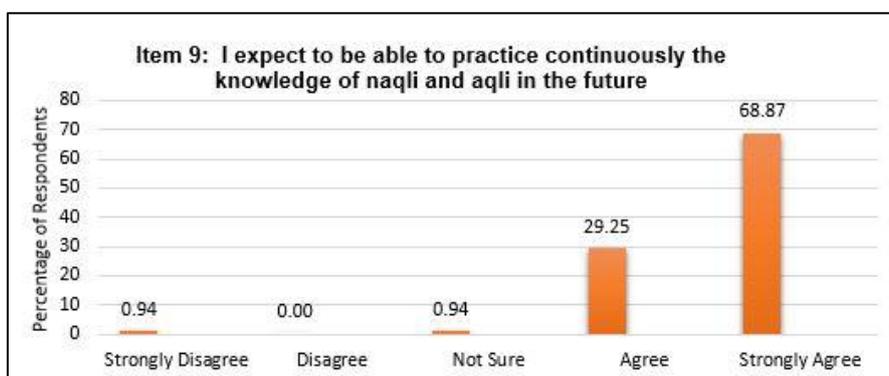


Figure 9: I expect to be able to practice continuously the knowledge of Naqli and Aqli in the future.

## 6. DISCUSSIONS

This survey has shown that students have a number of expectations towards the integration of Naqli and Aqli knowledge in their chemistry subject. This indicates a good development in education particularly to the integration of Naqli and Aqli in modern science subject. In addition, the majority of respondents selected the option 'strongly agree' for every item and the total of percentage is significantly higher than other options. The second higher is recorded for the option 'agree' thus we can concluded that the survey gave a positive feedback. This showed that they have realized the importance of the integration of Naqli and Aqli knowledge in teaching and learning. Nevertheless, there were only a few respondent chose strongly disagree as their selection whereas no respondents answered disagree. It is suggested that the lecturers should determine whether their students do have understanding on the integration of Naqli and Aqli knowledge or not.

Ascertaining students' expectations were of paramount importance to this study as the expectations affect the success of Naqli and Aqli integration. Based on the findings, most students put high expectation for continuous effort regarding the implementation of Naqli and Aqli in other subjects at Tamhidi Centre. This shows that students were confident to the idea of integration. The value factor contained in the Qur'an is very important in building and expanding knowledge as well as promoting human thinking and developing skills for the benefit of the world. Thus, people cannot understand the development of science and technology without knowing the teachings of Islam itself and revelation particularly. The method of teaching through the combination of revelation and science knowledge that can challenge and open the students' minds to the exploration of new knowledge will further enhance confidence among themselves.

In addition, it is also reported that majority students expected to be a reference and hoped to practice of Naqli and Aqli knowledge in the future. This is a very good achievement as the students expected to understand and explore more on the integration of Naqli and Aqli in chemistry course. Looking forward, USIM believed that the students who are instilled with this concept will become a holistic generation. Holistic

element indicates the need for the graduates to possess comprehensive characteristic including intellectual, spiritual, emotional and physical that help developing their personalities. Sidek Baba (2006) also said that integrative knowledge and education that develops the potential and talent of human beings will produce a holistic personal or quality human capital so that the progress of Muslims and human beings is built on the basis of the importance of thought, remembrance, skill and value.

The Quranic generation is a generation who is guided by al-Quran and is nurtured with good values and noble personality which are embedded in the teachings of Islam (Zetty Nurzuliana et al., 2015, pp. 414-415). This generation is hoped to use al-Quran and hadith as the main sources of reference. Referring to the findings, most students perceived al-quran and hadith as their learning needs in order to integrate the revelation knowledge with chemistry course. Therefore, the lecturers are recommended to be given sufficient knowledge of al-quran and hadith so that they can teach the students clearly and understandable. Aids and facilities should also be given to students in studying al-quran and hadith.

## 7. CONCLUSIONS

This students' expectations survey has provided useful data and insights on the needs and expectations of Tamhidi students. Some of the survey data concerning Tamhidi Centre itself stating that expectation for Naqli and Aqli integration is hoped to continue being implemented to the other subjects. The expectation also came back to the students themselves as they hope to be an example in practicing the integration and yet, they can improve their studies in al-Quran and hadith in order to integrate with chemistry knowledge. The findings have shown positive feedback according to the selections of majority in all items which is the option 'strongly agree'. However, it is suggested that Tamhidi Centre provide opportunities for students to be able to articulate their expectations and then use the students' responses as the basis of constructive dialogue between staff and students so that a better achievement can be gained in the integration of Naqli and Aqli knowledge.

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