FUZZY DELPHI METHOD APPLICATION IN INTEGRATING THE QURAN WITH AQLI KNOWLEDGE METHODOLOGY BASED ON QURANIC EXEGESIS

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Abstract

The integration of naqli and aqli knowledge is an approach used in the curriculum of Kolej GENIUS Insan. However, for the subject of Hifz al-Quran, a specific model for integrating memorised Quranic verses with the aqli knowledge has not been highlighted. This study aims to outline the methodology of integrating memorised Quranic verses with aqli knowledge based on the discipline of Quranic exegesis. The Fuzzy Delphi method has been used involving twelve experts in Quranic exegesis. The findings showed that the consensus of experts in the methodology of integrating memorised Quranic verses is the interpretation of the Quran using the Quran, followed by interpretation using the opinion (*al-ra'y*), hadith, the companions' opinion, the followers' opinion, the language, and the previously recognised exegetes' view. Methods of Quranic exegesis using the opinion (*al-ra'y*) involve eleven methods that have been arranged according to priority.

Keywords

Quranic memorisation – interpretation – opinion - naqli

1 Introduction

Among the efforts to realise the aim of producing Islamic intellectuals is the establishment of Kolej GENIUS Insan (KGI)[1] with the motto "Nurturing Islamic Scholars". This educational institution started operating in 2015 under Universiti Sains Islam Malaysia (USIM) auspices targeting secondary-level gifted and talented students. The students undergo a uniquely gifted and talented curriculum with the concept of integrating naqli and aqli knowledge (INAQ), in line with USIM's niche.[2]

Integration is the action or process of integrating; combining or being combined to form a whole.[3] Integrating naqli and aqli knowledge is a process of harmony, combination, and fusion between the two sciences.[4] The INAQ in every course offered at KGI is a must[5] and USIM has provided the guidelines for its implementation.[6] Hifz al-Quran course in the curriculum of Kolej GENIUS Insan is one of the naqli knowledge that must implement the concept of the INAQ in the teaching and learning process. Implementing INAQ in Hifz al-Quran course would enable students to integrate their memorisation verses with the aqli knowledge learned in other courses.[7]

However, the main challenge in the implementation is the lack of specific guidelines.[8] Therefore, there is a need to develop guidelines for integrating memorised Quranic verses with aqli knowledge model, which emphasises a solid foundation and clear guidelines. This study aims to outline the methodology of integrating memorised Quranic verses with aqli knowledge based on the discipline of Quranic exegesis.

2 Literature review

Several studies in the scope of integrating Quranic verses with aqli knowledge have been conducted. The previous studies discussed the concepts, models, and guidelines of INAQ, the INAQ in secondary schools, pre-universities, and universities, and the effectiveness of INAQ teaching.

Concept, Model, and Guideline. Othman (2020) highlighted early thinking on the need and approach to creating a new paradigm shift in the education system that integrates aqli knowledge with *waḥy* (divine revelation).[9] He proposed a model that connects God, man, and

[1] Musa Ahmad et al., "Islamic Science Approach in Higher Education : The Agenda on The Integration of Naqli and Aqli Knowledge in USIM," in *Proceeding IAIN Batusangkar*, 2017, p. 810.
[2] Zulkarnin Zakaria, Ahmad Bazli Ahmad Hilmi, and Mahiz Spawi, "Grooming Future Muslim Leaders at PERMATA Insan College with The Integration of Naqli and Aqli Knowledge," *Al-'Abqari* 11 (2017): p. 66; Mahiz Spawi, "Engaging Gifted and Talented Students in Learning History Through Historical Thinking Skills: A Study at Kolej GENIUS Insan, USIM", PhD thesis (Universiti Sains Islam Malaysia, 2021), p. 12.
[3] A. (Ed.) Stevenson, *Oxford Dictionary of English* (Oxford: Oxford University Press, 2010).
[4] Mahyuddin Hashim et al., "Konsep Integrasi Ilmu Naqli Dan Aqli Dan Perbandingannya Dengan Islamisasi," *Journal of Quran Sunnah Education & Special Needs* 2, no. Special Issue (2018): p. 12
[5] Spawi, "Engaging Gifted and Talented", p. 14.
[6] Muhammad Mustaqim Mohd Zarif et al., *Polisi Pengajaran Dan Pembelajaran Berteraskan Integrasi Ilmu Naqli Dan Aqli* (Nilai: Universiti Sains Islam Malaysia, 2018).
[7] Mohd Zamrus Mohd Ali et al., "Cadangan Kaedah Hafazan Tematik Dengan Kurikulum Pendidikan Pintar Berbakat Integrasi Naqli Dan 'Aqli Kepada Murid Pintar Berbakat Di Kolej GENIUS Insan USIM," ed. Anita Ismail et al. (Nilai: USIM Press, 2021), p. 438.
[8] Bakri, A., Zabidi, N.A., Mohamed, N. A., (2021, Sep 16). Personal communication [Personal interview].
[9] Othman, Mohd Yusof. "Kesepadukan Ilmu Pengetahuan Sains Dalam Sistem Ilmu Wahyu." *Journal of Personalized Learning* 3, no. 1 (2020): 1–13.

the physical world to produce science integrated with the knowledge of revelation called Tauhidik Science. However, the study is limited to the idea of integration only and there is no detailed discussion on how the compatibility of science with revelation can be realised.

The integrated framework for the formation of the Islamic secondary school's natural science curriculum and textbooks was introduced by [10]. The framework is based on the concept of *ulū al-albāb* and al-Ghazali's discourse on the heart. The conventional aspects of natural science undergo a comprehensive restructuring, definition, and redirection from the worldview of the Quran. This framework is built on the three-way relationship of humankind with God, humankind, and the universe, like Othman's (2020) framework. The study aimed to integrate natural science with the Quran.

A guideline for applying INAQ in USIM has been provided by Mamat et al. (2020)[11]. The criteria for naqli knowledge courses that need to be met are:

1. Content: There are one or two teaching topics revealing other views/perspectives, especially from the field of aqli knowledge such as science and technology, psychology, and so on, or there are topics that analyse the relationship of naqli knowledge and how the naqli knowledge contributes to other aqli theories/concepts; or there is a comparison between the naqli knowledge concerning the discipline of aqli knowledge.
2. Reference: There must be a reference that reveals, analyses, and compares Islamic views from the field of naqli knowledge to the field of aqli knowledge such as science and technology, psychology, economics, and so on.
3. Assessment: It is optional to apply assessment based on the INAQ between formative or summative forms

However, this guideline is too general to integrate the Quran with aqli knowledge. The Quran has its methodology and particular conditions for interacting with aqli knowledge.

INAQ in secondary school, pre-university, and university. Rashed (2016) explored teachers' understanding of the concept and importance of the integration of science and the Quran, the implementation of the integration of the two knowledge, factors that encouraged the integration to be implemented, and the constraints in the implementation of the two tahfiz science state maahads of in Selangor.[12] The study used a descriptive qualitative research design and a conceptual framework of Islamic education based on the integration of science and the Quran has been produced. Ibrahim (2016) attempted to link the titles offered in physics and chemistry courses at Tamhidi Centre, Universiti Sains Islam Malaysia with verses of the Quran. [13] The study results showed that there are many verses of the Quran linked either directly or not to the titles. The study is however not discussed based on the discipline of Quranic exegesis

[10] Nur Jannah Hassan, "Constructing Islamic Secondary School Curricula and Textbooks for Natural Science: An Integration Framework Based on the Ūlū Al-Albāb Model," *Al-Burhan2* 1, no. 1 (2017): 20–35.
[11] Mamat, Mohd Anuar, Mohd Radhi Ibrahim, Wan Mohd Fazrul Azdi Wan Razali, Mohd Azman Hashim@ Ismail, and Muhammad Fawwaz Muhammad Yusoff. *Kaedah Penerapan Dan Pengiraan Integrasi Ilmu Naqli Dan Aqli Dalam Program Akademik USIM*. Nilai: Universiti Sains Islam Malaysia, 2020, p. 12.
[12] Rashed, Zetty Nurzuliana. "Amalan Pengintegrasian Ilmu Sains Dan Al-Quran Dalam Pengajaran Pendidikan Islam Di Maahad Tahfiz Sains Negeri Selangor." Universiti Kebangsaan Malaysia, 2016.
[13] Ibrahim, Mohamed Akhiruddin. "The Integration of Naqli Knowledge of Science Courses in Institutions of Higher Learning Foundation Centres: Study on Tamhidi Centre, Universiti Sains Islam Malaysia." In *Proceedings of ADVED 2016 2nd International Conference on Advances in Education and Social Sciences*, 493–99. Istanbul, 2016.

in particular. At the university level, [14] explored how lecturers implement the integration of naqli and aqli knowledge in teaching and learning (PDP) Arabic for Specific Purposes (ASP) courses through materials used in lectures. Five lecturers who taught ASP courses were interviewed. The result showed there are constraints in implementation due to no standard guidelines, limitation of expertise in Naqli and Aqli ASP, and lack of reference materials related to the implementation of the INAQ.

The development of integrated naqli and aqli postgraduate courses for open and distance learning (NAPCOD) at USIM was discussed by N. Zainuddin et al., (2016). This qualitative study employs literature review and document analysis methods. The NAPCOD development process is applied to four fundamental levels of INAQ. Within the Naqli and Aqli integration framework, the outcomes of this integration emphasise good characters.[15]

Effectiveness of INAQ teaching. The integration of health sciences in Islamic Education conducted by Ghulam et al. (2019) used a quasi-experimental approach to see the effectiveness of the integration at one of the national secondary schools in Sungai Besi, Kuala Lumpur. A module was developed for the study, and the module's effectiveness was tested. The results showed that the teaching and learning of Islamic Education, which applied the integrated module of health sciences, is more effective than the teaching and learning using the conventional approach.[16] Asmuje et al. (2018) also studied the effectiveness of teaching the integration of naqli and aqli knowledge using the team-teaching approach for biology topics in Kolej GENIUS Insan. The study used quasi-experiments involving 56 gifted and talented students.[17]

Based on the literature review, the study on the integration of memorised Quranic verses with aqli knowledge specifically, especially in the discipline of Quranic exegesis, is tough to identify. The research methodology that adopts expert views on integrating memorised Quranic verses with aqli knowledge has not yet been carried out. According to Tony (2014), the selection of experts according to the context of the study can increase the potential of communication and express insights that will benefit.[18] Therefore, this recent study uses experts as a sample study in developing a model of integrating memorised Quranic verses with aqli knowledge to fill the research gap.

[14] Yuslina et al. (2018) Yuslina, Mohamed, Hazlina Abdullah, Mesbahul Haque, and Sulaiman Ismail. "Integrasi Naqli Dan Aqli Dalam Pengajaran Bahasa Arab Tujuan Khas Di Universiti Sains Islam Malaysia (USIM)." *Islamiyyat : Jurnal Antarabangsa Pengajian Islam; International Journal of Islamic Studies* 40, no. 2 (2018): 105–13.

[15] Zainuddin, Nurkhamimi, Rozhan M. Idrus, and Ahmad Farid Mohd Jamal. "Integration of Naqli (Revealed) Knowledge and Aqli (Rational) Knowledge in Postgraduate Courses for Open and Distance Learning." *International Journal of Social Science and Humanity* 12, no. December (2016): 939–42.

[16] Ghulam, Mohammad Syukor Mohammad, Tengku Sarina Aini Tengku Kasim, and Fakhrul Adabi Abdul Kadir. "Pengintegrasian Sains Kesihatan Dalam Pendidikan Islam Kssm Tingkatan Satu: Kajian Kuasi-Eksperimen." *Journal of Islamic Educational Research (JIER)* 4, no. 1 (2019): 1–13.

[17] Asmuje, Nur Fazidah, Syukrina Imtiyaz Abdul Samat, Amnah Zanariah Abd Razak, and Rosita Zainal. "Teaching Methods of Integrated Naqli and Aqli Knowledge for Gifted and Talented Muslim Students." *Journal of Academia UiTM Negeri Sembilan* 6, no. 2 (2018): 46–52.

[18] Noh, Nurulrabihah Mat. "Pembangunan Model Pengajaran Pemikiran Reka Bentuk Sekolah Rendah." PhD thesis, Faculty of Education, University of Malaya, 2020, p. 22.

3 Methodology

The Fuzzy Delphi Method is an innovation of the Delphi technique[19]. The basic concepts of FDM techniques must be understood through the main pillars of the classic Delphi technique concept. The Delphi method was named for its function, which refers to a set of procedures for obtaining and reviewing the views and opinions of a group (usually a panel of experts) on the issue of content authenticity.[20]

The FDM is a more effective measurement tool as it can solve problems that have ambiguity and uncertainties for a study.[21] According to Chang et al. (2000), Fuzzy Delphi can process ambiguities regarding the items and predictions and the contents of the respondent's information.[22] They also stated Fuzzy Delphi could explain the individual characteristics of the participants. Among the advantages of Fuzzy Delphi is[23]:

1. Reduce the number of surveys and increase the rate of survey recovery.
2. Experts can fully express their opinions, ensuring perfection and consistent ideas.
3. Consider unavoidable ambiguity during the study process.

This method does not misinterpret the original opinions of experts and gives an idea of their actual responses. The Fuzzy Delphi Method is used to obtain a consensus of experts who act as respondents based on quantitative methods.

A seven-point questionnaire was used to develop the components and elements of the model for integrating memorised Quranic verses with aqli knowledge. Expert questionnaires are useful tools for data collection in the Delphi method when interviewing individuals seems impossible due to time constraints and group arrangement[24]. The questionnaires were developed based on the literature review and Focus Group Discussion (FGD). Table 1.1 shows an example of a questionnaire using a 7-point Likert scale.

Table 1.1 Example of questionnaire using 7-point Likert scale

Strongly Disagree	Very Disagree	Disagree	Moderately Agree	Agree	Very Agree	Strongly Agree
1	2	3	4	5	6	7

No	**Methodology of Quranic Exegesis**	**Scale**						
		1	**2**	**3**	**4**	**5**	**6**	**7**
1	Interpretation of the Quran using the Quran							
2	Interpretation of the Quran using *al-*							

[19] Mohd Ridhuan Mohd Jamil and Nurulrabihah Mat Noh, *Kepelbagaian Metodologi Dalam Penyelidikan Reka Bentuk Dan Pembangunan* (Selangor: Qaisar Prestige Resources, 2020), p. 89.
[20] Nurulrabihah Mat Noh, "Pembangunan Model Pengajaran", p. 139.
[21] Jamil and Noh, *Kepelbagaian Metodologi*, p. 90.
[22] Chang, Ping Teng, Liang Chih Huang, and Horng Jiun Lin. "The Fuzzy Delphi Method via Fuzzy Statistics and Membership Function Fitting and an Application to the Human Resources." *Fuzzy Sets and Systems* 112 (2000): p. 512.
[23] Noh, "Pembangunan Model Pengajaran", p. 140.
[24] Norman Dalkey and Olaf Helmer, "An Experimental Application of Deplhi Method to Use of Experts," *Management Science* 3 (1963): p. 459.

	ra'y (opinion)							
3	Interpretation of the Quran using the hadith							

Experts are respondents or research subjects directly involved in providing information and data to answer research questions.[25] This study used purposive sampling based on Hasson (2000), which stated that the sampling was suitable for studies using the Fuzzy Delphi technique.[26] The selection of experts is based on the following criteria;

1. Knowledgeable in the field.[27]
2. Experienced in the field. The expert must have experience in the studied field for at least five years.[28]
3. Can give total commitment until the study is completed.
4. Have no personal interest in this review to avoid bias in the study.

Adler and Ziglio (1996) suggested that the number of suitable experts in the Delphi method ranges from 10 to 15 if there is a high level of uniformity among experts.[29] However, Jones and Twiss (1978) suggested that the number of experts involved is 10 to 50 in carrying out the Delphi method.[30] Therefore, in the context of this study, twelve experts in Quranic exegesis were selected to develop the integrating memorised Quranic verses with aqli knowledge model in Kolej GENIUS Insan.

Some procedures need to be followed to obtain the study's findings using the Fuzzy Delphi Method (FDM) approach. Compliance with this procedure can obtain empirical findings. The description of this procedure is as follows:

Step 1: Determination and selection of experts involved in the context of the study.

Step 2: Development of an expert questionnaire is carried out. In this process, a *Fuzzy Delphi* questionnaire was developed from Literature Review and Focus Group Discussion (FGD) involving seven experts in fields related to the study. Before distributing the questionnaire, the researcher ensured face validity by giving it to four experts (two content experts and two linguists) who were required to evaluate the suitability of the questionnaire. Overall, all experts gave positive and constructive comments on the questionnaire. Linguists commented on some grammatical and spelling errors. The researcher made improvements as suggested by the experts for the questionnaires.

[25] Mohd Ridhuan Mohd Jamil, "Model Kurikulum Latihan SkiVes Bagi Program Pengajian Kejuruteraan Pembelajaran Berasaskan Kerja (WBL) Politeknik Malaysia" PhD thesis (University of Malaya, 2016), p. 140.
[26] Hasson, Felicity, Sinead Keeney, and Hugh McKenna. "Research Guidelines for the Delphi Survey Technique." *Journal of Advanced Nursing* 32, no. 4 (2000): p. 1010
[27] Delbecq, Andre L., Andrew H. Van de Ven, and David H. Gustafson. *Group Techniques for Program Planning : A Guide to Nominal Group and Delphi Processes*. *Social Work*. Glenview: Scott, Foresman and Company, 1975; Swanson, R. A., and E. F. Holton. *Foundations of Human Resource Development*. 2nd ed. San Francisco: Berrett-Koehler Publishers, 2009.
[28] David C Berliner, "Describing the Behavior and Documenting the Accomplishments of Expert Teachers," *Bulletin of Science, Technology & Society* 24, no. 3 (2004): p. 201
[29] Adler, M., and E. Ziglio. *Gazing into the Oracle : The Delphi Method and Its Application to Social Policy and Public Health*. London: Jessica Kingsley Publishers, 1996, p. 14.
[30] Jones, H., and B. C. Twiss. *Forecasting Technology for Planning Decisions*. London: MAcmillan, 1978.

Step 3: For the process of dissemination and data collection, several approaches can be used either through (1) workshop seminars by inviting the experts involved; (2) Meetings with experts individually; or (3) Dissemination of questionnaires to selected experts via e-mail, etc. For this study, the questionnaire was sent via email to the experts.

Step 4: Convert all linguistic variables into Fuzzy triangular numbers. Assume that Fuzzy number r_{ij} is a variable for each criterion for expert K for i= 1,....., m,j=1,.....n, k=1.....,k and $r_{ij} = 1/K (r^1_{ij} \pm r^2_{ij} \pm r^K_{ij})$. Table 1.2 shows the linguistic variables of 7 scales where it displays the measurement statement of an item and the Fuzzy scale value it represents.

Table 1.2 7-point linguistic variable scale

Linguistic Variable	***Fuzzy* scale**
Strongly Disagree	(0.0, 0.0, 0.1)
Very Disagree	(0.0, 0.1, 0.3)
Disagree	(0.1, 0.3, 0.5)
Moderately Agree	(0.3, 0.5, 0.7)
Agree	(0.5, 0.7, 0.9)
Very Agree	(0.7, 0.9, 1.0)
Strongly Agree	(0.9, 1.0, 1.0)

There are also other examples of linguistic variables whose variables are changed according to the objective requirements of the study. This can be seen in Table 1.3, which shows the linguistic variables are based on the needs from "very low" to "very high". This linguistic variable is often used to compare an item in a study.

Table 1.3 Scale linguistic variables to see levels

Linguistic Variable	***Fuzzy* Scale**
Very low	(0.0, 0.0, 0.1)
Medium low	(0.0, 0.1, 0.3)
Low	(0.1, 0.3, 0.5)
Medium	(0.3, 0.5, 0.7)
High	(0.5, 0.7, 0.9)
Medium high	(0.7, 0.9, 1.0)
Very High	(0.9, 1.0, 1.0)

Step 5: Analysing the data based on the triangular Fuzzy number to obtain threshold value (d). Therefore, the first condition to be complied with is the threshold value (d) must be less or equal to 0.2.[31] The use of the vertex method is carried out to

[31] Ching Hsue Cheng and Yin Lin, "Evaluating the Best Main Battle Tank Using Fuzzy Decision Theory with Linguistic Criteria Evaluation," *European Journal of Operational Research* 142, no. 1 (October 1, 2002): p. 178.

calculate the distance between the average r_{ij}. Threshold values (d) of two Fuzzy numbers m = (m_1, m_2, m_3) and n = (m_1, m_2, m_3) are counted using the formula:

$$d(\tilde{m},\tilde{n}) = \sqrt{\frac{1}{3}\left[(m_1 - n_1)^2 + (m_2 - n_2)^2 + (m_3 - n_3)^2\right]}$$

Table 1.4 displays the example threshold value (d) generated for three items studied based on the views of 12 experts. This table shows threshold values for each item and experts set the overall threshold (d) value for each item. A blacked threshold (d) value is a threshold value (d) that exceeds 0.2.

Table 1.4 Example of the threshold value (d) for 3 items and 12 experts

Expert	**Item**		
	1	**2**	**3**
1	0.059	0.110	0.072
2	0.059	0.045	0.072
3	0.059	0.045	0.072
4	**0.300**	0.045	0.072
5	0.095	0.045	0.082
6	0.059	0.045	0.082
7	0.095	0.045	0.082
8	0.095	0.045	0.082
9	0.095	0.045	0.082
10	0.095	0.045	0.082
11	0.095	0.045	0.082
12	0.059	**0.347**	**0.311**
Each item *Threshold* value (d)	0.101	0.027	0.073

Step 6: In this process, the determination of the second condition is carried out in which the determination of the percentage of expert consensus is carried out. The second condition to be complied with is that the percentage value of the expert consensus must be equal to or more than 75.0%.[32] Table1.5 displays the percentage of expert agreements for the three items studied using the consensus of 12 experts.

Table 1.5 Example of expert consensus percentage

Item	**Item**		
	1	**2**	**3**
Number of Item d ≤ 0.2	9	9	9
Percentage of each item d ≤ 0.2	90.0%	90.0%	90.0%

Step 7: Analysing the data using the average Fuzzy numbers @ average response (Defuzzification Process). This analysis is aimed at obtaining a Fuzzy score (A). To ensure that the third condition is complied with, the Fuzzy score (A) must exceed or

[32] Chang, Pao-Long, Chiung Wen Hsu, and Po Chien Chang. "Fuzzy Delphi Method for Evaluating Hydrogen Production Technologies." *International Journal of Hydrogen Energy* 36, no. 21 (2011), p. 14177.

equal to the median value (α – cut) of 0.5 [33]. This indicates that such elements are accepted by expert agreement. Among other functions, the Fuzzy score value (A) can be used as a determinant of the positioning and priority of an element according to the expert consensus view. The formula involved in getting a Fuzzy score (A) is as follows:

$$A = (1/3)*(m_1 + m_2 + m_3)$$

Table 1.6 displays the examples of Fuzzy score values (A) conducted using defuzzification process analysis based on the Fuzzy Delphi Method.

Table 1.6 Example of Fuzzy score value (A)

Item	**1**			**2**			**3**		
Average of each Element	m_1	m_2	m_3	m_1	m_2	m_3	m_1	m_2	m_3
	0.780	0.930	0.990	0.880	0.990	1.000	0.820	0.960	1.000
Fuzzy Score Value (A)	0.900			0.957			0.927		

The researcher used face validity to ensure that the questionnaires analytically and linguistically look like what should be measured as suggested by Taherdoost et al., (2016)[34]. As far as this study is concerned, it used expert assessment techniques involving four experts, two experts in the content and two experts in the language. These experts have evaluated the instrument based on their respective expertise. The instruments were then improved based on comments from assessors and distributed to development experts for the FDM session.

4 Findings and discussion

The findings of this phase highlighted experts' opinions and consensus on the methodology of integrating memorised Quranic verses with aqli knowledge using the *Fuzzy Delphi Method* (FDM). This method involved 12 experts in the field of Quran exegesis and consists of two parts, the first part explains the background information and expertise of the experts. The second part describes the experts' views and consensus on the methodology.

4.1 Experts' demographic information

Table 1.7 describes expert demographics, including the name of the institution, department/division, position, and experience in the field of Quranic exegesis. The labeling of each of these experts is to use **ED,** which means *Expert of Development*.

[33] Slavka Bodjanova, "Median Alpha-Levels of a Fuzzy Number," *Fuzzy Sets and Systems* 157, no. 7 (2006): p. 879.

[34] Taherdoost, Hamed, Hamta Business, Solution Sdn, Consultation Group, and Kuala Lumpur. "Validity and Reliability of the Research Instrument ; How to Test the Validation of a Questionnaire / Survey in a Research." *International Journal of Academic Research in Management* 5, no. 3 (2016): p. 34.

Table 1.7 Demography of experts in FDM

No	Institution name:	Department/Division	Position	Experience
ED1	UiTM Shah Alam	Academy of Contemporary Islamic Studies	Associate Professor	11-15 years
ED2	Universiti Sultan Zainal Abidin	Faculty of Islamic Contemporary Studies	Associate Professor	20 years and above
ED3	Universiti Kebangsaan Malaysia	Centre for the Study of Usuluddin and Philosophy	Associate Professor	20 years and above
ED4	International Islamic University of Malaysia	Department of Qur'an and Sunnah Studies	Associate Professor	20 years and above
ED5	University of Malaya	Al-Quran and al-Hadith	Associate Professor	11-15 years
ED6	Universiti Kebangsaan Malaysia	Centre for the study of the Quran and al-Sunnah	Senior Lecturer	16-20 years
ED7	Centre of Quranic Research, UM	Deputy Vice-Chancellor of Research & Innovation, UM	Professor	20 years and above
ED8	Universiti Kebangsaan Malaysia	Centre for the Study of Usuluddin & Philosophy	Senior Lecturer	16-20 years
ED9	Universiti Sains Islam Malaysia	Faculty of Quranic and Sunnah Studies	Senior Lecturer	16-20 years
ED10	Universiti Sains Islam Malaysia	Faculty of Quranic and Sunnah Studies	Associate Professor	11-15 years
ED11	Universiti Kebangsaan Malaysia	Centre for Quran and Al-Sunnah Studies	Senior Lecturer	16-20 years
ED12	Universiti Sains Islam Malaysia	Institute of Islamic Sciences	Professor	20 years and above

Based on Table 1.7, 12 experts are involved in the subphase of model development. All experts consisted of lecturers of public institutions of higher learning with UKM 4 people, USIM 3 people, UM 2 people, and UniSZA, IIUM, UiTM each one person. The majority of experts are currently serving in departments or divisions related to Quranic studies in their respective universities. The breakdown in terms of positions is two professors, six associate professors, and four senior lecturers. Experts with experience in Quranic exegesis 20 years and above are 5 people representing 42%, 16-20 years 4 people representing 33%, and 11-15 years 3 people representing 25%. The criteria of the selected experts are in line with the opinion of scholars who stated that experts are individuals who are knowledgeable in the field of study (Delbecq et al., 1975; Swanson & Holton, 2009) and have at least five years of experience (Berliner, 2004)

4.2 Experts' consensus on the methodology

The items of the methodology need to be validated, improved, added, or rejected by the consensus of a group of knowledgeable and experienced experts. The experts' feedback is based on a 7-point linguistic scale in Fuzzy questionnaires. There are three conditions used in determining the level of consensus among experts for each item: 1. the average threshold value (d) obtained less than 0.2, 2. the Traditional Delphi method, which is the percentage of the expert agreement exceeds 75%, and 3. the alpha cut value should exceed 0.5. The threshold value was calculated from the questionnaire and reflected in a table.

Table 1.8 shows the experts' consensus on the items of the methodology of Quranic exegesis that includes seven items.

Table 1.8 The methodology of Quranic exegesis by experts' consensus

Items' Ranking	Items	Threshold Value (d)	Percentage of Experts' Agreement	Fuzzy Score (A)	Experts' Agreement
1	Interpretation of the Quran using the Quran	0.03849	100%	0.93333	Accepted
2	Interpretation of the Quran using ijtihad (*tafsīr bi al-ra'y*)	0.03849	100%	0.93333	Accepted
3	Interpretation of the Quran using the hadith	0.04811	100%	0.91667	Accepted
4	Interpretation of the Quran using the companions' opinion	0.04811	100%	0.91667	Accepted
5	Interpretation of the Quran using the followers' opinion	0.04811	100%	0.91667	Accepted
6	Interpretation of the Quran using the language	0.05774	91%	0.9	Accepted
7	Interpretation of the Quran using the previously recognised exegetes' view	0.0842	91%	0.85833	Accepted

All items of the methodology of Quranic exegesis in Table 1.8 have met all the requirements to confirm the level of experts' consensus: the average threshold value (d) obtained less than 0.2, the percentage of the expert agreement exceeded 75%, and the alpha cut value exceeded 0.5. Meanwhile, the items were sorted according to priority based on the highest Fuzzy score. According to Table 1.8, experts agreed that the interpretation of the Quran using the Quran should be done in advance. The description of the owner of the Kalām towards his Kalām himself is undoubtedly more profound and more conforming to the truth than other parties' comments towards it [35]. The next is the interpretation of the Quran with *ijtihād* (opinion). This interpretation (*tafsīr bi al-ra'y*) has changed from the seventh position to the second position. In this context, the finding is inconsistent with the methodology of interpreting

[35] Zulkifli Haji Mohd Yusoff, "Tafsir Al-Qur'an Bi Al-Ma'thur: Satu Analisa Terhadap Tafsir Al-Qur'an Bi Al-Qur'an Dan Tafsir Al-Qur'an Bi Al-Hadith," *Jurnal Usuluddin* 5 (1997): p. 23.

the Quran proposed by al-Dhahabī (2000) [36] and al-Tayyar (1999)[37]. This difference may be because the context of the study is the integration of memorised Quranic verses with aqli knowledge. Thus, the experts believed that interpretation using *al-ra'y* (opinion) is more relevant.

The interpretation using the Sunnah followed by the interpretation using *al-ra'y* to coincide with its function as a supporter and clarifier of the Quran and a determinant of a law that the Quran does not enforce. Next is the interpretation using the opinion of the companions. The companions' opinions have value because they have a good understanding of the Quran, mastery of the Arabic language, and knowledge of the state of the Arabs and Jews which the Quran revealed. Similar to the followers' opinions, which is the best generation after the generation of companions. The interpretation of the Quran using the language and opinion of the previously recognised exegetes is in the last two positions based on priority. Interpreting the Quran using the language is necessary because the decline of the Quran is in Arabic. A large part of the meaning of the Quran can be interpreted using the Arabic language itself while interpretation using opinions of the previously recognised exegetes is a part of ijtihad and subject to truth and error. However, the interpretation is still acceptable if it still meets the conditions set by the scholars. The findings of other items are consistent with al-Dhahabī (2000)[38], al-Khālidī (2008)[39], al-Tayyar (1999)[40], and the findings from FGD.

Table 1.9 shows the findings of the experts' consensus on the methodology of Quranic exegesis using *al-ra'y* (opinion), which includes 11 items.

Table 1.9 Methods of Quranic exegesis using *al-ra'y* (opinion) by experts' consensus

Items' Ranking	Items	Threshold Value (d)	Percentage of Experts' Agreement	Fuzzy Score (A)	Experts' Agreement
1	The parallelity of the interpretation with the verse; without reducing the need for explaining the meaning, and without additions unrelated to the topic and unfit the position, as well as vigilance against interpretations that deviate from the meaning and change from what is meant	0.03849	100%	0.93333	Accepted
2	Emphasising the *asbāb al-nuzūl* for each verse that has the reason for its revelation	0.05052	100%	0.925	Accepted

[36] Al-Dhahabī, Muḥammad Ḥusayn. *Al-Tafsīr Wa Al-Mufassirūn*. 7th ed. Cairo: Maktabah Wahbah, 2000, 1:197.
[37] Al-Ṭayyār, Musā'id Sulaymān. *Fuṣūl Fī Uṣūl Al-Tafsīr*. 3rd ed. Damman: Dār Ibn al-Jawzī, 1999, p. 22.
[38] Al-Dhahabī (2000), *Al-Tafsīr Wa Al-Mufassirūn,* p. 197.
[39] Al-Khālidī, Ṣalāḥ 'Abd al-Fattāḥ. *Ta'rīf Al-Dārisīn Bi Manāhij Al-Mufassirīn*. 3rd ed. Dimashq: Dār al-Qalam, 2008, p. 67-75.
[40] Al-Tayyar (1999), *Fuṣūl Fī Uṣūl,* p. 22.

3	Considering the correlation between verses by explaining the type of relation and relating the preceding verses and after until it is clear that the Quran has no division	0.04811	100%	0.91667	Accepted
4	Does not make the initial personal view or inclination a basis in the exploration of meaning and teaching of the verse	0.06174	91%	0.90833	Accepted
5	Considering the *haqīqī* (real) and *majāzī* (allusion) meaning, as the required meaning might be *majazi*, but the conversation is assumed as *haqīqī* or otherwise	0.05774	91%	0.9	Accepted
6	Considering the composition and the purpose shown in conversation, apart from integrating the *mufradat* (vocabularies)	0.05774	91%	0.9	Accepted
7	Be open to differences of views as long as within the scope of guidelines permitted by scholars	0.05774	91%	0.9	Accepted
8	Performing the process of *tarjīḥ* and carefully choose the *rājih* viewpoint if there is more than one viewpoint	0.06976	91%	0.875	Accepted
9	Avoiding the claim of repetition (*tikrār*) in the Quran, avoiding something considered an addition (*ziyādah*) in the interpretation, such as long discussion in the fallacy of *al-nahw*, and avoiding mentioning the untruth regarding the *asbāb al-nuzūl, fadilat hadith* etc.	0.08981	100%	0.83333	Accepted
10	Starting the discussion with things related to the single words from the aspects of *al-nahw*, *al-sarf* and *al-ishtiqaq*. Then, followed by the arrangement of verses	0.0866	100%	0.825	Accepted

	beginning with *al-i'rāb, al-ma'ānī* and *al-bayān,* and continued explaining the meanings and doing the *istinbaṭ* from the Quran within the *shari'ah* bound				
11	Considering the interpretation based on the context of the speech and quoted from the strength of sharia	0.10585	91%	0.825	Accepted

All items of the methodology of Quranic exegesis using *al-ra'y* (opinion) in Table 1.9 have met all the requirements to confirm the level of experts' consensus: the average threshold value (d) obtained less than 0.2, the percentage of the expert agreement exceeded 75%, and the alpha cut value exceeded 0.5. Meanwhile, the items were arranged according to priority based on the highest Fuzzy score.

According to the findings, experts agreed that the parallelity of the interpretation with the verse is a crucial requirement. The Quran is a Kalamullah that cannot be arbitrarily interpreted that deviate from the meaning and change from what is meant. Emphasis on *asbāb al-nuzūl* should also be given to know the history and purpose of the revelation of a verse. Moreover, the individual must consider the correlation between verses by explaining the type of relation and relating the preceding verses and after. At the same time, the individual cannot make the initial personal view or inclination a basis for the exploration of the meaning and lesson of the verse. Next, the individual should consider the meaning of the *haqīqī* and *majāzī* and the fit between the meaning and purpose shown in the conversation and integrate the *mufradāt* (vocabulary). Additionally, individuals must be open to differences in views as long as they are within the scope of guidelines permitted by scholars.

The researcher believes the four remaining elements with the lowest Fuzzy number indicate that all four items are the optional method. The methods are: 1. performing the process of *tarjīḥ* and carefully choosing the *rājih* viewpoint if there is more than one viewpoint 2. avoiding the claim of repetition (*tikrār*) in the Quran, avoiding something considered an addition (*ziyadah*) in the interpretation, 3. starting the discussion with things related to the single words from the aspects of *al-naḥw, al-ṣarf* and *al-ishtiqāq* and followed by the arrangement of verses beginning with *al-i'rāb, al-ma'ānī* and *al-bayān,* and 4. considering the interpretation based on the context of the speech and quoted from the strength of *shari'ah*. The findings are consistent with the opinion of al-Dhahabī (2000)[41], al-'Ak (1986)[42]and the findings of FGD on the methodology of interpreting the Quran using *al-ra'y* (opinion) regardless of the priority ranking of the items involved. This is because the priority of the items is according to the study context, which is the model developed for secondary level students use.

[41] Al-Dhahabī (2000), *Al-Tafsīr Wa Al-Mufassirūn,* 1:197-198.
[42] Al-'Ak, Khālid 'Abd al-Raḥmān. *Uṣūl Al-Tafsīr Wa Qawā'Iduhu*. 2nd ed. Beirut: Dār al-Nafā'is, 1986, p. 81-83.

5 Conclusion

Based on an experts' consensus, integrating the Quran with aqli knowledge using Quranic exegesis methodology can be implemented by the interpretation of the Quran using the Quran, followed by interpretation using the opinion (*al-ra'y*), hadith, the companions' opinion, the followers' opinion, the language, and the previously recognised exegetes' view. For the Quranic exegesis using the opinion (*al-ra'y*), eleven methods are involved, and all the items have been arranged according to priority and suitability of use for secondary school students. This methodology will demonstrate a guideline for interacting the Quranic verses with aqli knowledge. The Quran has its methodology and particular standards in interacting with aqli knowledge.

This study used a different approach: design and development research (DDR), compared to the common Islamic studies that are more focused on textual and qualitative research. The selection of experts according to the context of the study has produced results that can meet the existing needs. Future studies can focus on the standards of integrating Quranic verses with aqli knowledge and the forms of integration.

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