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Application of Fuzzy Delphi Technique in the Design of Balaghah Taysir al-Idah Infographic Module

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Abstract

Today's educational landscape has entered the media age, meaning that using lectures alone to convey knowledge is no longer sufficient; instead, a variety of additional media must be used. The development of technology has now provided more opportunities for educators to improve the Teaching and Learning process (TnL) especially in the Arabic subject. The development of the infographic module is an effort to empower the TnL of the Arabic studies through the use of technology that can increase students' interest and understanding of the knowledge learned. Therefore, the purpose of this research is to employ the Fuzzy Delphi technique to gather expert opinions, suggestions, and consensus regarding the items needed for the design and development of the *Balaghah Taysir al-Idah* Infographic module. Eleven experts, chosen for their specialisation in Arabic rhetoric (*Balaghah*), educational technology, Arabic teaching and learning, and module development -- provided input for the design and development phase. Based on Fuzzy Delphi analysis, the expert panels have generally reached a consensus on the five primary elements of *Balaghah Taysir al-Idah* Infographic module.

Keywords: Infographics, Balaghah, Modules, Technology, Fuzzy Delphi Technique

Introduction

Arabic has been recognised as the language of knowledge and the language of Islamic civilisation since about 14 centuries ago (Muhammad, 2006). Another view states that the Arabic language developed based on two main dialect forms. First, the dialect used in the northern part of the Arabian Peninsula by *Adnani* descendants while the second dialect is used by the *Qahtan* descendants who live in the southern part of the same peninsula. Both dialects have their own special characteristics and differ from one another (Ismail, 1994). He

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also stated that the Arabic language used in the Quran, namely *Fusha* Arabic, is a language that is recognised and certified for use.

Balaghah or Arabic rhetoric is one of the important elements in the Arabic language. This science or knowledge is a branch of Arabic language science that discusses about the regularity of expressions that are produced according to the needs of the context along with their eloquence. The main elements of rhetoric are divided into three aspects; namely Ma'ani, Bayan and Badi'. Ma'ani knowledge serves to avoid mistakes when conveying a meaning, especially in terms of the appropriateness of the words expressed with the wishes of the context. Bayan, on the other hand, functions to convey a meaning in various ways that vary in terms of the clarity of its symbolism. While the knowledge of Badi' works to pay attention to expressions either in terms of pronunciation or meaning (Abdullah, 2008).

The importance of the subject of Arabic *Balaghah* (eloquence or rhetoric) is important in understanding and appreciating the *Al-Quran* and *hadith*, as both utilise the Arabic language which is abundant in rhetoric and consisting of specific language styles. Understanding *Balaghah* helps to understand the meaning and purpose behind the verses of the Quran and hadith. In addition, Arabic *Balaghah* or rhetoric is also important in the understanding and teaching of classical Arabic literature. Many famous Arabic literary works, such as poetry, prose, and famous sermons (*Khutbah*), have a high literary value and is conducted through various rhetorical techniques that can be learned through the study of *Balaghah*. In addition, the understanding of Arabic *Balaghah* is also useful in various other fields, such as linguistic studies, comparative literature, and Arabic as a second or foreign language. Understanding language style, *Balaghah*, and delivery techniques in Arabic helps improve the ability to communicate and write in the language. Overall, the study of Arabic *Balaghah* has wide relevance in the context of religion, literature, and linguistics, and is able to contribute to a deeper understanding of Arab culture and history.

According to Abdullah Tahmim in 1999, even the original purpose of learning Arabic is not completed if the science of *Balaghah* is not studied, which is the Arabic language itself. We do not learn Arabic to speak with the Arabs only. Still, we have a lofty goal behind this, which is to understand the Al-Quran and speak as per the traditions of the Prophet Muhammad S.A.W. Additionally, we can relish and observe with our own eyes the prophet's miracle (*Mukjizat*), which is described as the greatest and lasting miracle.

Many studies conducted regarding Arabic language proficiency in Malaysia found that the level of Arabic language proficiency among students is at a critical level compared to learning other important languages (Ghani, 2011). According to Ariffin and colleagues' (2013) study, a number of issues that come up during TnL implementation have prevented Malaysia's Arabic language TnL from yet achieving its intended goals and objectives. Furthermore, students' interest and motivation to research Arabic may be lost if the provided textbooks are inappropriate for their level and abilities (Zaini et al., 2017).

One of the issues students have, according to Sopian and colleagues' (2013) research, is that they are unable to fully utilise textbooks to the point where they are unable to complete assignments accurately. In contrast, Hazirah (2012) discovered in a prior research conducted at the higher education level that students have not adequately learned this knowledge,

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which is why their abilities have not developed in accordance with their level. If learning Arabic speech is limited to memorisation of techniques and examples, it will become tedious (Samah, 2012).

Previous research on teaching and learning Arabic as a second language in Malaysia reveals that students have difficulties connecting with rhetoric texts. According to Abdullah (2008) research, the majority of the explanations provided in the *Sijil Tinggi Persekolahan Malaysia* (STPM) speech textbook on these themes are rather complex and challenging for students to understand. The results of two studies Azhar et al (2007) that investigated at the use of Higher Arabic textbooks (BAT) and one that discerns speech textbooks for the *Sijil Tinggi Agama Malaysia* (STAM) level Azhar (2006) corroborate this claim. He found that the students could not master the *Balaghah* well due to the use of textbooks that did not pique their interest to learn it.

Given the issues that develop, TnL carried out in a multimedia setting is ideally suited for student implementation. As an example, consider the infographic-based presentation (Idris, 2018). Even though infographics have been used to present information for a long time, they are a modern phenomenon. Attractive graphics are used to present the information. Students are more likely to comprehend material when there is excellent visual communication combined with engaging images, according to research. Students are also of the view that any information presented needs to emphasise the use of attractive colours along with simple and easy-to-understand text with the help of related diagrams, charts or tables to produce a systematic and effective presentation of information (Amin et al., 2017).

Infographics have the ability to clearly explain difficult, complicated and unclear matters in relation to facts and elaborate definitions in a simple way (Yavar et al., 2012). Infographics are also one of the important visual elements in the world of journalism, whether it is print mass media or electronic mass media. Infographics are needed as an effort to make it easier for readers to understand the narrative of a news story or to understand the process of a published scientific research. Infographics in its development has also re-created an event or event in addition to playing a role in pursuing the increasingly advanced aesthetic methods of mass media appearance (Obed Bima Wicandra, 2007).

This study can be observed to ascertain the importance in helping researchers to explore studies related to infographics in Arabic language learning; not only in Arabic *Balaghah* but also in other Arabic language knowledge. This module is able to translate the writing to create a more interesting summary to nurture understanding quickly and casually. In addition, teachers and lecturers can benefit from having a special Arabic *Balaghah* or rhetoric learning module that uses infographics in its production. The results of this study will be able to provide guidelines to lecturers and teachers on the most appropriate teaching and learning methods in providing understanding to students. The students can also practice self-learning related to Arabic *Balaghah* in an interesting and relaxed way without needing a long time to understand a topic because the infographic technology is simple and interactive. This module will also provide easy translations and examples for students in the form of infographics to understand long texts.

The construction of Arabic speech modules based on infographic elements is therefore justified and necessary in order to achieve the researcher's goal of making the TnL process of

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Arabic speech much more dynamic. This is done in accordance with the theory and model that will be discussed as the study's foundation. According to the National Education Policy, this research would create an *Al-Bayan* knowledge learning module called "*Taysir al-Idah*" that is easy to use, of excellent quality, and appropriate for Malaysian students in secondary school and higher education. Using the Fuzzy Delphi method -- expert consensus was used to develop the design of this module.

Methodology

Research Design

The project focuses on the design and implementation of an infographic module for learning Arabic speech. The research's design followed the Design and Development (DDR) methodology Richey & Klein (2007) since it is known for its ability to produce a process, product, and measurement instrument in an organised and methodical way. The four basic phases that make up this technique are as follows (Richey & Klien, 2007):

- I. Needs analysis phase
- ii. Design phase
- iii. Development phase
- iv. Usability evaluation phase

This research will focus on the module design phase that uses the Fuzzy Delphi method. This method involves a process of confirmation or agreement from experts selected to obtain consensus from the experts involved. The selection of this technique is in line with the goals of the phase that requires a detailed evaluation of the developed module

Research Sample

Eleven expert panels made up the research sample: four in the area of Arabic TnL, two in educational technology, three in the development of learning modules, and two in *Balaghah*. The experts are chosen through the application of the purposive sampling technique. This method is employed because the sample is not selected at random; rather, it is chosen with the intention of examining the members' in-depth expertise and knowledge in the topic under investigation.

Research Instrument

An expert assessment questionnaire developed based on the study's highlights served as the research tool for the design and development phase. The instrument's aim was to collect quantitative data using infographics about Arabic speech learning modules. The use of questionnaires is to meet the criteria and conditions for the use of the Fuzzy Delphi Method which involves the use of mathematical formulas to obtain expert agreement.

Data Collection Process and Data Analysis

The design phase of this research uses the Fuzzy Delphi Method which involves data collection through expert opinions and consensus. Experts are identified based on their respective field of expertise. Next, an official appointment letter containing a brief description of the research will be sent to the experts involved.

The panel of experts involved in this research is a total of 11 people. Questions will be distributed to experts who have been identified within a certain period of time. Once the data

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is obtained, the researcher will then analyse it using the Fuzzy Delphi Method. Based on the data obtained, the researcher will convert all Likert scales to Fuzzy Delphi scales. The collected data will be analysed using Microsoft Excel software.

Before the questionnaire was distributed to the experts, content validity was done with 5 experts to see the appropriateness of the elements proposed in the Fuzzy Delphi questionnaire. Responses and expert feedback were recorded and improvement actions were taken in the questionnaire.

Steps in the Research

The data obtained from the set of research questions will be processed through the Fuzzy Delphi Method (FDM). In order to obtain research findings using the Fuzzy Delphi Method, these are steps and procedures that must be followed. Adherence to this procedure is able to obtain empirical findings.

The sequence of steps to be followed is as follows

Step 1

Designing questions for a fuzzy Delphi questionnaire using the following methods:

- i. Literature Review
- ii. Expert Interview
- iii. Focus group Interview
- iv. Existing questionnaire (adaptation)

Creating a specific script for this questionnaire is similar to creating a standard script for a questionnaire. The questionnaire will employ a Likert scale in accordance with the necessary research questions, meaning that it will be used to gauge the researcher's desired outcomes, such as the level of AGREEMENT, level of IMPORTANCE, and STAGE Level.

Step 2

Assuming expert K is asked to assess the significance of the evaluation standards for the variables that will be assessed through the use of linguistic variables. The researcher must take the initiative to gather information and data. The following are some techniques that researchers can employ:

- i. Conduct scientific seminars or workshops and invite experts to participate.
- ii. Meet face-to-face with each expert.
- iii. Online dissemination such as via email to identified experts skilled in the field being studied.

In this phase, the researcher chooses to use online dissemination methods such as emailing scholars identified as experts in the field being studied.

Step 3

This process involves the process of converting all linguistic variables into triangular Fuzzy numbering. The linguistic scale resembles the Likert scale used in other studies but it is added with fuzzy numbering. Three values as shown in figure 1:

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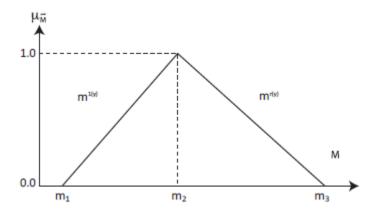


Figure 1: Triangular Fuzzy Number.

(m1 = minimum value; m2= medium value; m3= maximum value)

In other words, the linguistic h scale is used to convert the linguistic variable scale into a fuzzy number.

Table 1
Examples of Linguistic Variable Scales

7 Point Fuzzy Scale		Fuzzy Numbe	r	
	m1	m2	m3	
Extremely agree	0.9	1.0	1.0	
Strongly Agree	0.7	0.9	1.0	
Agreed	0.5	0.7	0.9	
Not sure	0.3	0.5	0.7	
Do not agree	0.1	0.3	0.5	
Strongly disagree	0.0	0.1	0.3	
Extremely disagree	0.0	0.0	0.1	

Step 4

The researcher should convert all Likert scales to Fuzzy scales after successfully obtaining all the data and information from the experts. Microsoft Excel software will be utilised for the analysis of all of this data and information. Next, is to determine the separation between the average ridges for each expert using the vertex approach. (Chen, 2000). The formula for calculating the distance between two Fuzzy integers, m = (m1, m2, m3) and n = (m1, m2, m3), is as follows:

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

Step 5

Cheng and Lin (2002) state that all experts are deemed to have reached a consensus if there is less than a 0.2 threshold between the average and expert rating data. Moreover, go to step 6 if, among m x n experts, the proportion of reaching group consensus is greater than 75%

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(Chu & Hwang, 2008; Murry Jr & Hammons, 1995). The item will be rejected or a second round of the Fuzzy Delphi Method must be completed if the opposite data is discovered.

Step 6

Calculate the fuzzy evaluation aggregate to determine the score value and position of each item as follows:

$$\tilde{A} = \begin{bmatrix} \tilde{A}_1 \\ \tilde{A}_2 \\ \vdots \\ \tilde{A}_m \end{bmatrix} \text{ di mana } \tilde{A} = r_{i1} \times w_1 + r_{i2} \times w_2 + \dots \dots r_{in} \times w_n$$

$$i = 1, 2, \dots, m$$

The calculation and determination of the fuzzy value is by using the formula: Amax = 1/4(m1+m2+m3).

Step 7

The next step is the defuzzification process phase. This process uses the formula Amax = 1/4 (m1+ m2 + m3). If the researcher uses an average Fuzzy Numbers or average response, the resulting score number is a number in the range of 0 to 1.

Research Findings

The findings of this research discussed the opinions and agreement of experts on the elements in the development of the module by using the Fuzzy Delphi method. Among the main elements are:

- i) Objectives of the Module
- ii) Module Content
- iii) Module Criteria
- iv) Module Learning Activities
- v) Module Evaluation

Findings and Analysis of Module Objective Element

The table below shows the main elements of the questionnaire evaluated by the experts, which are the objectives of the module. This element is evaluated based on the Fuzzy Delphi method.

The elements of the module objectives are:

1.	Analysing the elements of <i>Al-Bayan</i> Knowledge that are well-studied
2.	Explaining the language style of Al-Bayan Knowledge found in the text
3.	Presenting the beauty of <i>Al-Bayan</i> Knowledge in the style of Al-Quran and Al-Hadith

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Table 2
Expert Evaluation of Objective Element of the Module

EXPERT	MODULE OBJECTIVE				
	1	2	3		
1	0.090	0.136	0.100		
2	0.090	0.136	0.100		
3	0.064	0.048	0.065		
4	0.090	0.136	0.100		
5	0.090	0.136	0.100		
6	0.064	0.546	0.100		
7	0.064	0.048	0.065		
8	0.304	0.256	0.581		
9	0.064	0.048	0.065		
10	0.090	0.136	0.100		
11	0.090	0.136	0.100		
Threshold value d for each item	0.100	0.160	0.134		
Threshold value d construct d≤ 0.2	0.131				
Percentage of expert agreement %	91	91	91		
Total percentage of items d>75%	91%				
Defuzzification (fuzzy evaluation)	9.967	9.600	9.867		
Defuzzification (average of fuzzy response)	0.906	0.873	0.897		
Element position (ranking)	1	3	2		

The expert panel expressed the level of agreement on the three module development objectives in Table 2. Since the majority of the items have d values of $d \le 0.2$, all objectives have satisfied the first criteria. Concurrently, the second requirement was fulfilled as well since it was discovered that $d \le 0.2$ of all objects exceeded 75%, or 91%. As a result, there is strong agreement among the experts over the degree of agreement, and a second round of Fuzzy Delphi is not necessary because the data collection met both requirements for this method of data analysis.

Findings and Analysis of Module Content Element

The table below shows the second element of the questionnaire that was evaluated by experts; which is the content of the module. This element is evaluated based on the Fuzzy Delphi method.

The elements of the module content are:

1.	Introduction to Al-Bayan Knowledge
2.	At-Tashbih
3.	Al-Haqiqah & Al-Majaz
4.	Al-Isti'arah
5.	Al-Kinayah

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TABLE 3
Expert Rating of Module Content Elements

FVDEDT	MODUL	CONTEN	TS		
EXPERT	1	2	3	4	5
1	0.097	0.087	0.087	0.042	0.042
2	0.056	0.087	0.087	0.042	0.042
3	0.097	0.078	0.078	0.111	0.111
4	0.056	0.087	0.087	0.042	0.042
5	0.056	0.087	0.087	0.042	0.042
6	0.097	0.593	0.593	0.111	0.111
7	0.056	0.087	0.087	0.042	0.042
8	0.056	0.087	0.087	0.042	0.042
9	0.097	0.078	0.078	0.111	0.111
10	0.056	0.087	0.087	0.042	0.042
11	0.056	0.087	0.087	0.042	0.042
Threshold value d for each item	0.071	0.131	0.131	0.061	0.061
Threshold value d construct d≤ 0.2	0.091				
Percentage of expert agreement %	100	91	91	100	100
Total percentage of items d>75%	96%				
Defuzzification (fuzzy evaluation)	10.233	9.967	9.967	10.333	10.333
Element position (ranking)	3	4	4	1	1

Referring to Table 3, the expert panel has stated the level of agreement on the five contents of the module. All of this content has complied with the first condition because the d value for most items is $d \le 0.2$. Concurrently, the second requirement was fulfilled as well since it was discovered that $d \le 0.2$ of all objects exceeded 75%, or 96%. As a result, there is strong agreement among the experts across the degree of agreement, and a second round of Fuzzy Delphi is not necessary because the data collecting fulfilled both requirements for this method of data analysis.

Findings and Analysis of Module Criteria Element

The table below shows the second element of the questionnaire evaluated by experts, which is the module criteria. This element is evaluated based on the Fuzzy Delphi method.

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The elements of the module criteria are:

	The module enteria are.						
		Image					
		Schedule					
1.	Graphic Design	Graph					
		Charts					
		Symbol					
2.	Translation and brief description in Malay						
3.	Variety of colours according to content						
4.	Variety of font sizes according to content						
5.	The use of various forms of writing according to the suitability of the content						
6.	Examples in Malay culture						

TABLE 4
Expert Evaluation of Module Criteria Elements

	MODU	LE CRITERIA	A							
EXPERT										
	1	2	3	4	5	6	7	8	9	10
1	0.149	0.083	0.174	0.056	0.083	0.071	0.122	0.161	0.136	0.069
2	0.243	0.069	0.174	0.056	0.069	0.174	0.122	0.161	0.136	0.083
3	0.043	0.083	0.174	0.056	0.083	0.071	0.056	0.061	0.048	0.069
4	0.149	0.069	0.382	0.056	0.069	0.174	0.122	0.161	0.136	0.069
5	0.043	0.083	0.174	0.056	0.083	0.071	0.122	0.061	0.048	0.083
6	0.043	0.083	0.174	0.056	0.083	0.071	0.558	0.519	0.546	0.069
7	0.149	0.069	0.297	0.097	0.069	0.174	0.122	0.161	0.136	0.083
8	0.535	0.069	0.108	0.097	0.069	0.174	0.122	0.519	0.256	0.069
9	0.043	0.083	0.174	0.056	0.083	0.071	0.056	0.061	0.048	0.069
10	0.149	0.069	0.297	0.097	0.069	0.174	0.122	0.161	0.136	0.083
11	0.149	0.069	1.162	0.097	0.069	1.086	0.269	0.161	0.136	0.083
Threshold value d for each item	0.154	0.076	0.299	0.071	0.076	0.210	0.163	0.199	0.160	0.076
Threshold value d construct $d \le 0.2$	0.148			•	l		l	l		ļ.
Expert agreement percentage %	91	100	82	100	100	91	91	82	91	100
Total percentage of items d>75%	93%	93%								
Defuzzification (fuzzy evaluation)	9.500	10.133	8.367	9.933	10.133	9.300	9.700	9.400	9.600	10.033
Element position (ranking)	7	1	х	4	1	х	5	8	6	3

The expert panel stated the level of agreement on the 10 module criteria in Table 4. Since most objects have a d value of $d \le 0.2$, all of these conditions have met the first requirement. Meanwhile, the second requirement was satisfied as well since it was discovered that $d \le 0.2$

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of all objects exceeded 75%, or 93%. As a result, there is strong agreement among the experts over the degree of agreement, and a second round of Fuzzy Delphi is not necessary because the data gathering met both requirements for this method of data analysis.

Findings and Analysis of Learning Activity Module Element

The table below shows the second element in the questionnaire that was assessed by experts -- which is the learning activity of the module. This element is evaluated based on the Fuzzy Delphi method.

The elements of the learning activity module are:

1.	Mind Map
2.	Quiz
3.	Reflective questions and answers
4.	Presentation
5.	Group Discussion

TABLE 5
Expert Evaluation of Learning Activity Module Elements

EXPERT	LEARNING ACTIVITY MODULE						
	1	2	3	4	5		
1	0.028	0.111	0.111	0.065	0.111		
2	0.028	0.042	0.042	0.581	0.042		
3	0.125	0.111	0.111	0.065	0.111		
4	0.028	0.042	0.042	0.100	0.042		
5	0.028	0.042	0.042	0.100	0.042		
6	0.028	0.042	0.042	0.100	0.042		
7	0.028	0.042	0.042	0.100	0.042		
8	0.028	0.042	0.042	0.100	0.042		
9	0.125	0.111	0.111	0.065	0.111		
10	0.028	0.042	0.042	0.100	0.042		
11	0.028	0.042	0.042	0.100	0.042		
Threshold value d for each item	0.045	0.061	0.061	0.134	0.061		
Threshold value d construct d≤ 0.2	0.072						
Percentage of expert agreement %	100	100	100	91	100		
Total percentage of items d>75%	98%						
Defuzzification (fuzzy evaluation)	10.433	10.333	10.333	9.867	10.333		
Element position (ranking)	1	2	2	5	2		

Referring to Table 5, the expert panel has expressed the level of agreement on the five learning activities of the module. The first criteria have been achieved by all of the module's

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learning activities because the majority of the items have d values of $d \le 0.2$. In the meantime, it was discovered that $d \le 0.2$ of all objects exceeded 75%, or 98%, demonstrating that the second criteria was also fulfilled. As a result, the experts' degree of agreement has reached a good consensus, and since the data collecting complies with both requirements for data analysis using this technique, a second round of Fuzzy Delphi is not necessary.

Findings and Analysis of Module Evaluation Element

The table below shows the second element of the questionnaire that was evaluated by experts, which is the module evaluation. This element is evaluated based on the Fuzzy Delphi method.

The elements of the module evaluation are:

1.	Written test
2.	Oral test
3.	Individual task
4.	Group work
5.	Group presentation

TABLE 6
Expert Evaluation of Module Evaluation Elements

EVEET	MODULE EVALUATION					
EXPERT	1	2	3	4	5	
1	0.042	0.176	0.056	0.056	0.042	
2	0.042	0.176	0.097	0.056	0.042	
3	0.111	0.090	0.097	0.097	0.111	
4	0.042	0.090	0.056	0.097	0.042	
5	0.042	0.176	0.056	0.056	0.042	
6	0.111	0.090	0.097	0.097	0.111	
7	0.042	0.176	0.056	0.056	0.042	
8	0.042	0.176	0.056	0.056	0.042	
9	0.111	0.090	0.097	0.097	0.111	
10	0.042	0.176	0.056	0.056	0.042	
11	0.042	1.271	0.056	0.056	0.042	
Threshold value d for each item	0.061	0.244	0.071	0.071	0.061	
Threshold value d construct d≤ 0.2	0.101					
Percentage of expert agreement %	100	91	100	100	100	
Total percentage of items d>75%	98%					
Defuzzification (fuzzy evaluation)	10.333	9.300	10.233	10.233	10.333	
Element position (ranking)	1	х	3	3	1	

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Referring to Table 6, the expert panel has expressed the level of agreement on the five elements of module evaluation. All of these assessment elements have complied with the first condition as the d value for most items is $d \le 0.2$. Meanwhile, the second condition was also satisfied because it was found that $d \le 0.2$ of all items exceeded 75%, which is 98%. Therefore, the degree of agreement between the experts has reached a good consensus and the second round of Fuzzy Delphi is not required because the data acquisition has complied with both conditions in analysing the data through this technique.

Discussions

The discussion of this design phase focuses on the findings from expert consensus through the Fuzzy Delphi method on the elements of the module's objective, module contents, module designs, module learning activities and module evaluation. The materials provided as a guide and reference in the creation of this *Taysir al-Idah* speech infographics module was generally accepted by the expert panel.

For the objective component of the module, all elements satisfied expert consensus by prioritising the third objective, which is to present the beauty of *al-Bayan* knowledge in the language style of al-Quran and al-Hadith. According to Abdullah Tahmim (1999), learning rhetoric is essential for communicating with Al-Quran and the Prophet's hadith.

Regarding the module's content, every expert agrees with the list of topics included. The selection of the listed topics is the main focus in the syllabus of this module, which is *al-Bayan* knowledge.

The criteria elements of the module were also generally agreed upon by the experts. Tables, charts, and symbols are examples of graphic design elements that have the approval of all experts. Every expert agrees that one of the important characteristics is the Malay culture. By providing an example from Malay culture, the module's material will be more easily comprehended by students. This is because the issue of learning *Al-Bayan* Knowledge calls for a comparison in the translated language to make it more understandable for students.

As for the learning activity elements and module evaluation, all elements were agreed by the experts with a 98% agreement percentage for both components. Activities are an important element in a module to attract student's interest and add value in understanding the topic more deeply. Assessment also plays an important role as an indicator of a students' understanding.

Conclusion

This research was conducted with the aim of developing a module that can improve students' understanding of one of the important branches of the science of rhetoric, which is the knowledge of *Al-Bayan*. This proposed module is called *Taysir al-Idah*. This research is also one of the solution steps to help students overcome the constraints faced in learning conventional Arabic speech. This speech module will be produced in the form of static infographics in a more interesting way, dense content and more student-friendly features. The development of this *Taysir al-Idah* infographic module uses the Design and Development Review (DDR) approach. The design elements of the built module have passed through an expert consensus process to ensure that the built module achieves the desired objective.

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References

- Abdullah, A. H. (2008). Pengajaran Balaghah Peringkat STPM di Sekolah-sekolah Menengah Kebangsaan Agama (SMKA). *Jurnal Islam Dan Masyarakat Kontemporari*, 1, 83–97.
- Amin, M., Noh, M., Salihin, M., Fauzi, H. M., Fang Jing, H., & Ilias, M. F. (2017). INFOGRAPHICS: TEACHING AND LEARNING TOOL (Infografik: Alat untuk Pengajaran dan Pembelajaran). *Malaysian Online Journal of Education Attarbawiy: Malaysian Online Journal of Education*.
- Arifin, Z., Ab Halim, Z., Sham, N. M. M., & Shukry, A. S. M. (2013). The readability of the Arabic prose text. *Middle East Journal of Scientific Research*, 17(3), 338–343.
- Chen, C.-T. (2000). Extensions of the TOPSIS for group decision-making under fuzzy environment. *Fuzzy Sets and Systems*, *114*(1), 1–9.
- Cheng, C. H., & Lin, Y. (2002). Evaluating the Best Main Battle Tank Using Fuzzy Decision Theory with Linguistic Criteria Evaluation. *European Journal of Operational Research*, 142, 74-86.
- Chu, H.-C., & Hwang, G.-J. (2008). A Delphi-based approach to developing expert systems with the cooperation of multiple experts. *Expert Systems with Applications*, *34*(4), 2826–2840.
- Ghani, K. A. (2011). Kebolehbacaan buku teks bahasa arab tinggi berasaskan ujian kloz dalam kalangan pelajar di SMKA. *GEMA Online® Journal of Language Studies*, 11(2).
- Hazirah, R., & Sulaiman, R. (2012). *Penguasaan balaghah dalam kalangan pelajar IPT*. University of Malaya.
- Idris, M. S. B. M. (2018). Kajian tinjauan terhadap keperluan, penerimaan dan ciri-ciri reka bentuk infografik maklumat kronologikal dalam kalangan guru sejarah di Kelantan. Universiti Malaysia Kelantan.
- Ismail, A. R. (1994). Pengajaran bahasa Arab sebagai bahasa kedua: permasalahan dan penyelesaian. Dlm. Muhammad Bukhari Lubis (Pnyt.) Persuratan Islam (Hlm. 38-49). Kuala Lumpur: Dewan Bahasa Dan Pustaka.
- Muhammad, A., Abdullah, A. H., Basiron, B., Jasmi, K., & Noor, S. S. (2006). *Penguasaan pelajar sekolah menengah aliran agama terhadap pengajian ilmu retorik Arab*. Universiti Teknologi Malaysia.
- Murry Jr, J. W., & Hammons, J. O. (1995). Delphi: A versatile methodology for conducting qualitative research. *The Review of Higher Education*, *18*(4), 423–436.
- Obed Bima Wicandra. (2007). Peran Infografis Pada Media Massa Cetak. Dosen Jurusan Desain Komunikasi Visual, Fakultas Seni dan Desain. Universitas Kristen Petra, Surabaya.
- Richey, R. C., & Klein, J. D. (2007). *Design and development research: Methods, strategies, and issues*. London: Erlbaum.
- Samah, R., & Usim, B. U. F. P. (2012). Isu pembelajaran bahasa Arab. *Persidangan Kebangsaan Pengajaran Dan Pembelajaran Bahasa Arab 2012 (PKEBAR'12*).
- Tahmim, Abdullah. (1999), Pengajaran balaghah di Sekolah dan Pusat Pengajian Tinggi. Jabatan Pengajian Arab dan Tamadun Islam, Fakulti Pengajian Islam, Universiti Kebangsaan Malaysia, Bangi.
- Yavar, B., Mirtaheri, M., Farajnezam, M. S., & Mirtaheri, M. (2012). Effective Role of Infographics on Disaster Management Oriented Education and Training.

Vol. 14, No. 4, 2024, E-ISSN: 2222-6990 © 2024

Zaini, A. R., Ghazali, M. R., Ismail, M. R., Zakaria, N., Hamdan, H., & Azizan, M. R. H. (2017). Permasalahan dalam pengajaran bahasa Arab di Malaysia. *Prosiding PASAK*.