Need Analysis for Infographic Application in Arabic Grammatical Learning

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Abstract   Teaching methodology and learning Arabic grammar are synonymous to the conventional method which involves learning that uses textbooks and are often teacher-orientated. In line with the present technological development, every academician ought to be receptive at transforming himself when considering the method to deliver information to students. The method of infographic teaching and learning is a revolutionary method in delivering information to students via graphics, which is direct, easy and student-orientated. This study identifies the need for infographics in the learning of Arabic grammar among students of ISM Arabic Language Studies at UniSZA. A questionnaire on learning needs particularly on aspects of knowledge, usage and content of infographic module in the teaching of Arabic grammar was distributed among students who are undergoing the subject The Study of Ibn 'Aqil Syntactical Texts. Results from the analytical findings led to the need of building infographic module as a supporting material and enriches students' learning method. This module will be produced into a form that shall attract students into learning Arabic grammar independently, which fulfills the characteristics of the 21st century learning.

Keywords   Infographics, Arabic Grammar, Module, Independence, 21st Century Learning

1. Introduction

Arabic syntax or Arabic grammar is an important component in learning Arabic language. According to Jaffar and Sha'ari (2016), Arabic grammar is often a reference to rules of Arabic language. Students' grammatical competency is the most important factor when determining their mastery level in Arabic language as a whole. The mastery of language skills, which are the skills of speaking, listening, reading and writing requires knowledge of grammar as the basis to avoid from committing language fallacy.

According to Al-Khuli (1986), Arabic grammar plays a vital role in providing concise and precise understanding the meaning of a sentence, which is formed either in writing or speech. Jabir (2002), on the other hand, highlighted that the subject of Arabic grammar aims to assist students in enriching their language competency, which covers activities like listening, reading as well as writing. This is because Arabic grammar is the basic language component which must be learnt, understood, applied hence mastered by any student who is learning the language. Besides this problem, there are other factors that continuously boggle students such as the perception that methods of learning Arabic grammar are difficult to understand and master. General perception remains that the methods of Arabic grammar are complex in nature, apart from factors like opposing opinions regarding specific methods used among Arabic grammarians (Abdul Karim, 2008).

Numerous researches have been conducted to initiate new directions in the process of teaching and learning languages. Graphic teaching is a revolutionary area explored in order to achieve this objective. Pioneering research on the effectiveness of graphic use as a material for learning was carried out since the 1960s (Lah, 2007). Paivio (2006) in his dual coding theory also believed that the use of graphics is a medium of learning that helps students master specific topics easily where they are able to remember a particular information quickly.

Infographic is one of the visual communication form which has the capability to express the expected meaning of information visually. Thus it is also help the student to identify the information by the carrier of information (Alqudah, 2019).

Whereas Krauss (2012) highlighted that the use of infographics in the process of teaching and learning will train students to think independently, become more analytical and able of understanding topics systematically.

According to Murray et al., (2017), infographics is the delivery of visual information which uses graphic design in order to expand human capacity at identifying patterns and means of information delivered. It is extensively used to assist the dissemination of information. The objective of producing information through graphics is to convey complex data content into orderly and visible visuals. It entails producing graphics in the forms such as images, illustrations, typographies, maps, symbols and others. All these forms provide easy comprehension of extensive and complex information (Dur, 2014).

According to Ozdamli et al. (2016), with the rapid expansion of present digital technology of the day, information and visual is particularly observed in the academic platform and social media. Thus, infographics is becoming more important and obvious as a useful material to disseminate complicated information, especially those that are in long texts, containing numbers and data to be turned into comprehensible visuals.

Infographics provide learners with a comprehensive and larger form of learning and comprehension in instruction. It is not limited only to interpret information visually. (Taspolat et al, 2017).

Students are more to be attracted by graphical representation of information comparatively bigger texts with limited format. Graphical representation helps student to understand the information easily with minimum effort. (Hamad, 2018).

The present 21st century researches are closely related to the use of technology (Ali, Khalid Khan & Abdul Ghani, 2018). The application of infographics in education is one of the methods to apply the teaching of twenty-first century (PAK21). Visual information is used to enhance learning and knowledge retention. For example, this is seen in any visually presented data which uses graphic illustrations to communicate through effective words, relating ideas and facts (Cleveland, 1994).

Noticing the need to make teaching and learning (PdP) of Arabic grammar to be more dynamic, creative and innovative which coincidentally allows students to easily understand, hence there is a need for research to identify students' need for infographic application in the learning of Arabic grammar as a need analysis phase in a Research Design and Development (Richey & Klein, 2007). This phase is an initial phase to collect information in relation to the need of building an infographic module for Arabic grammar. Retrieved data will be used in the module designing and developing phase because of its relevant information to be used in the phase.

2. Problem Statement

The basic foundation in learning any language is the mastery of grammar. In the case of learning Arabic grammar, thorough understanding is needed to be employed in language skills. Debates on this knowledge is variety and unclear as due to teaching traditions, especially for non-native speakers who are often stagnant and traditionalist in nature. Teaching methods are often teacher-centered with lecture in form and less directing to discussions. This method contributes to the lack of interest among students on the subject (Mohamed, Muhammad & Jasmi, 2003).

According to Jaffar and Sha'ari (2016), students in general fail to fully understand Arabic language as due to the lack of emphasis on Arabic grammar. Due to the efforts of previous scholars, new ways of learning grammar was developed. Nonetheless, the mastery of grammar needs to be explored and developed, especially with the present generation where debates are too challenging.

Arabic language is often associated with its status as a monotonous and complicated language that impairs understanding, voids of passion and lacks mastery because sources used in its teaching and learning are limited (Che Hat, 2011).

In this age of developed technology, numerous sources can be turned into applications and this is not limited to a single area of discipline. Technology privileging is seen expanding rapidly, thus calling upon Arabic language to benefit from this. Information delivery through infographics is considered as technology privileging which can be applied in the learning of Arabic grammar. Presented information in the form of graphics, which are simple and precise, is capable of attracting students' interest. According to a research which shows that students tend to be more receptive when information are presented using effective visual communication combined with interesting graphics. Students also believe that delivered information ought to emphasize on the use of appealing colours along with simple and comprehensible texts mixed with related diagrams, charts or figures in order to deliver a systematic and effective information (Amin et al., 2017).

This research also identifies the need to develop a module for Arabic grammar based on the elements of infographics besides aiming to solve a recurring problem in relation to the difficulty of understanding and learning Arabic language.

3. Need Analysis

Developing any module or product requires a need analysis which is a necessary phase to be conducted in

order to gather data that validates the development of such module. Findings from the need analysis will be evaluated and used for such purpose, hence fulfilling the objective of developing a module that is suitable with the target group. Need analysis is a process which involves the collecting of information or data related to specific needs of target clients in industry or education. In the field of research, student learning needs is a primary focus in need analysis. This phase is the initial phase in Design and Development (DDR) research approach. It is among several important phases because this phase provides an opportunity to identify and use research questions in the process of developing a module (Mohd Ridhuan et al., 2014). Hence, this phase is carried out to identify needs in developing an infographic module for the learning of Arabic grammar in UniSZA.

4. Research Objective

Based on the abovementioned problem statements, this research intends on identifying the need to use an infographic module in the learning of Arabic grammar. In order to gather data which will be used to develop a module that fulfills students' needs, the objective this research for the phase of need analysis is:

1. To identify the need for the development of Arabic syntax module based on the elements of infographic and students' feedback.

Based on the aforementioned objective, this study is also conducted to gather answers to the following question:

1. What are the needs for the use of Arabic syntax module based on the elements of infographics and students' feedback?

5. Research Methodology

Need analysis for this research is the first phase based on the DDR approach (Richey & Klein, 2007) before developing a module.

This research paid attention on the course entitled The Study of Ibn 'Aqil Syntactical Texts which is a required course for undergraduate ISM students for the Arabic Language Studies in UniSZA. This course is offered in the third semester of the program study. This research used purposive sampling where samples were chosen based on the researchers' knowledge and selected among those who are considered as reliable at providing information in relation to the research question. A total of 80 students from the fifth semester were selected as respondents for this phase who took the course entitled The Study of Ibn 'Aqil Syntactical Texts in UniSZA. A structured questionnaire which was adapted from a survey on the study of infographic and technological module design, was distributed. A need analysis study required the researchers to collect data on the research context and situation of the students, who are also the end-users of the developed module. In the research context, the researchers collected data of students' perception concerning aspects such as its user ability, their learning needs and infographic module design in the learning of Arabic grammar.

The process of administering the research for the phase of need analysis was conducted using a Five-Scale Likert questionnaire. There are four parts within the questionnaire, which are Part A, comprising demographic information, and Part B, C and D with questions containing Five-Scale Likert, which are (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. Before distributing the questionnaires, experts were chosen based on knowledge and qualification for the purpose of validation. Their comments on items of the questionnaire were taken into consideration for further improvement. What follows was piloting the questionnaire before distributing it to the real research samples.

6. Research Findings and Discussion

Findings and discussions will cover three aspects, which are on the use of infographics in teaching and learning, the need for infographic use and design needed for infographic module in learning Arabic grammar.

6.1. Research Findings on the Use of Infographics as Shown in Table 1 Below

Table 1.   Use of Infographics

	B: Use of Infographics	1	2	3	4	5
B1	I like information in the form of mind-mapping.	5%	4%	3%	42%	46%
B2	I like information in the form of pictures/visual/symbols.	0%	3%	3%	49%	46%
B3	I like information in the form of graphs/charts.	1%	12%	9%	55%	22%
B4	I like colourful information.	0%	1%	0%	46%	53%
B5	I like simple information.	0%	5%	1%	45%	49%
B6	I like receiving quick accessible information.	0%	3%	4%	39%	54%
B7	I like reading information with interesting layout designs.	0%	1%	3%	51%	45%
B8	I like information with fancy fonts.	0%	1%	1%	51%	46%

The percentage distribution for item B4 shows high rate of student respondents indicating strongly agree, which is (53%), suggesting that they like colourful information, as compared to those who do not agree (0%). Similarly, the percentage distribution for item B6 shows a higher rate of response indicating strongly agree (54%), suggesting that they like quick and accessible information as compared to those who strongly disagree (0%). Meanwhile item B3 shows the percentage distribution of 55% agrees that they like information presented in the form of graphs/charts while only 22% strongly agree as compared to other items, which exceed 40% who strongly agree. In general, student respondents either agree and strongly agree on the use of infographics in teaching and learning. They like information which fulfills the features of infographics.

6.2. Research Findings on the Need for Infographics as Shown in Table 2 Below

Table 2.   Need of Infographics in Teaching and Learning

	C: Need of Infographics	1	2	3	4	5
C1	I believe that infographics makes information easier to be understood.	0%	3%	4%	51%	42%
C2	I believe that infographics makes information more simplified.	0%	0%	1%	57%	42%
C3	I believe that infographics adds on focus in learning.	0%	1%	7%	57%	36%
C4	I believe that infographics strengthens understanding in learning.	0%	1%	5%	58%	36%
C5	I believe that infographics motivates students to learn better.	0%	0%	13%	58%	29%
C6	I believe that learning through infographics is more effective.	0%	0%	7%	53%	41%
C7	I believe that infographics makes learning faster.	0%	0%	4%	55%	41%
C8	I believe that infographics assists students to better memorize concepts.	0%	1%	4%	49%	46%
C9	I believe that infographics can improve creative thinking.	0%	0%	3%	64%	33%
C10	I believe that infographics makes learning more enjoyable.	0%	0%	3%	53%	45%

For the infographic need construct, the percentage distribution for item C9 shows students' response which indicates agree is very high (64%), suggesting that they believe that infographics can improve their creative thinking, as compared to those who expressed strongly disagree (0%). This is followed with the percentage distribution for item C4 and C5 which shows infographics can strengthen their understanding in learning and believe that infographics can motivate students to learn better. Item C5 shows a high percentage, which is 13% of respondents who expressed

uncertainty with regards to infographics as capable of motivating students to learn better as compared to other items with lesser total of percentages. In general, student respondents agree with the advantage of using infographics at enhancing skills and understanding of certain information in teaching and learning

6.3. Research Findings on the Infographic Design as Shown in Table 3 Below

Table 3. Infographic design in Arabic language Syntax learning

	D: Infographic Design	1	2	3	4	5
D1	All topics on the learning of Arabic syntax ought to be made in the form of infographics.	0%	4%	16%	57%	24%
D2	Long texts related to the topics ought to be simplified.	0%	3%	1%	66%	30%
D3	Long texts related to the topics ought to be presented in an interesting form.	0%	0%	0%	53%	47%
D4	Simplified information ought to be clarified.	0%	0%	1%	47%	51%
D5	Simplified information ought to be precise.	0%	0%	0%	45%	55%
D6	Choice of colour ought to be appealing.	0%	0%	4%	47%	49%
D7	Appropriate themes ought to be in line with the topic.	0%	0%	3%	54%	43%
D8	The choice of font ought to be legibly interesting.	0%	0%	3%	53%	45%
D9	Graphics chosen ought to be reader appealing.	0%	0%	5%	50%	45%
D10	Information ought to be focused and directed.	0%	0%	0%	58%	42%

The percentage distribution for item D5 shows student respondents expressed high level of strong agreement, which is (55%), where simplified information ought to be precise whereas the remaining percentage of respondents expressed agreement, which is 45%. This is followed by the percentage distribution for item D4 which indicates more respondents expressed strong agreement (51%) where simplified information ought to be clear. Next, item D6 shows percentage distribution as much as 49% strongly agree with appealing choice of colour. For item D1, percentage distribution who expressed uncertainty on the topics for the learning of Arabic syntax which ought to be made in the form of infographics is high as compared to other items, which is 16%. In general, respondents expressed agreement and strong agreement on the suggestion for the design and content of the learning of Arabic syntax module based on the elements of infographics.

In the light of findings, the researchers recommend the following:

1) Provide training for teachers on designing lessons using educational infographics in teaching.

2) Initiate infographics methods or other methods which are focusing on implying visual approach strategies in teaching Arabic grammar.

3) To implement more research studies on using infographics as a strategy to teach the Arabic grammar.

7. Conclusions

Results from this need analysis indicates urgency for the development of Arabic syntax based on infographics to equip students' understanding and attract their interest to learn Arabic grammar. Research findings also show that most students agree that the features included in the infographics assist their understanding of certain information. The syllabus for the course entitled The Study of Ibn 'Aqil Syntactical Texts uses books that needed concise and recreated explanations that pay attention on important aspects. This is appropriate with the features of infographics that aims at simplifying complex information so to appear more concise, easier to comprehend, focused and appealing with numerous colourful graphics.

Results from this need analysis are important in retrieving information about content and design in developing a module. Module development requires the consideration over items that are consensually agreed by the end-users, which are the students besides the use of literature review in relation to the module developed.

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