

## The Main Components of the Tahfiz Teaching Model with ICT Elements: An Evaluation with the NGT Application

Mardhiah Yahaya<sup>1\*</sup>, Azmil Hashim<sup>2</sup>, Raj Ali Zahid Elley<sup>1</sup>, Rohana Zakaria<sup>3</sup>,  
Siti Rosilawati Ramlan<sup>1</sup>, Muhammad Fairuz A. Adi<sup>1</sup>, Miftachul Huda<sup>2</sup>

<sup>1</sup> Kolej Universiti Islam Antarabangsa, Selangor, Malaysia

<sup>2</sup> Universiti Pendidikan Sultan Idris, Tanjung Malim, Malaysia

<sup>3</sup> Universiti Sains Islam, Nilai, Malaysia

**Abstract:** Information and communication technology (ICT) is highly relevant in the education sector at present. In the 21st century education, it is the most important medium that can be the key teaching aid with the current changes in teaching. In this context, the study of tahfiz is not an exception in the changing development of current education. This study aims to evaluate the main component of the tahfiz teaching model based on the ICT elements, also known as the i-QTmar Tahfiz Teaching Model, by using the approach of the Nominal Group Technique (NGT). The design for the main components in the model development is based on the Assure Model. Six items for the questionnaire component were submitted to the experts for assessment. Data analyzed based on percentage value levels need to exceed 70%. The expert analysis result proved that the main components of the model could be used as agreed by the responding experts on the main components of the i-QTmar Tahfiz Teaching Model, which achieved the usability status. The implication of the study shows the possibility of using a variety of methods in answering the research questions, especially one of Islamic Education with the NGT application.

**Keywords:** tahfiz, teaching, nominal group technique, information and communication technology, memorization, i-QTmar.

### 具有信息通信技术元素的 塔菲兹 教学模式的主要组成部分：NGT 应用的评估

**摘要：**目前，信息和通信技术（信息通信技术）在教育领域具有高度相关性。在 21 世纪的教育中，随着当前教学的变革，它是最重要的能够成为关键教具的媒介。在这样的背景下，对塔赫菲兹的研究在当前教育的变革发展中也不例外。本研究旨在通过使用名义组技术 (NGT) 的方法评估基于信息通信技术元素的塔赫菲兹教学模式的主要组成部分，也称为一世-QTmar 塔菲兹教学模式。模型开发中主要组件的设计基于保证模型。问卷部分的六个项目提交给专家进行评估。基于百分比值水平分析的数据需要超过 70%。专家分析结果证明，该模型的主要组成部分可以按照答复专家对一世-QTmar 塔菲兹教学模式主要组成部分的约定使用，达到了可用性状态。该研究的意义表明使用多种方法来回答研究问题的可能性，特别是伊斯兰教育与 NGT 应用程序之一。

**关键词：**塔赫菲兹，教学，名义小组技术，信息和通信技术，记忆，一世-QTmar。

Received: October 17, 2021 / Reviewed: November 13, 2021 / Accepted: December 18, 2021 / Published: January 28, 2022

About the authors: Mardhiah Yahaya, Kolej Universiti Islam Antarabangsa, Selangor, Malaysia; Azmil Hashim, Universiti Pendidikan Sultan Idris, Tanjung Malim, Malaysia; Raj Ali Zahid Elley, Kolej Universiti Islam Antarabangsa, Selangor, Malaysia; Rohana Zakaria, Universiti Sains Islam, Nilai, Malaysia; Rosilawati Ramlan, Muhammad Muhammad Fairuz A. Adi, Kolej Universiti Islam Antarabangsa, Selangor, Malaysia; Miftachul Huda, Universiti Pendidikan Sultan Idris, Tanjung Malim, Malaysia

Corresponding author Mardhiah Yahaya, mardhiah@kuis.edu.my; Azmil Hashim, azmil@fsk.upsi.edu.my

## 1. Introduction

Education has become the central focus in enhancing Information and Communication Technology (ICT) for societal growth, especially in a developed nation. ICT is considered a powerful tool to encourage the improvement of society and the economy. The advancement in the ICT era has brought about waves of changes in people's life aspects. Dependency on ICT is evident in the parallel movement of the society with the Industrial Revolution 4.0 aggressively trending all over the world. Therefore, teachers need to equip themselves to effect changes in their teaching styles and delivery of knowledge through the mastery of advanced technologies to face greater educational challenges, specifically in Islamic Education.

In this context, the tahfiz education in Malaysia has to transform in compliance with the education of the 21st century. The growth of tahfiz schools in Malaysia has created a variety of syllabi and methods which are not standardized. Teachers have begun to use appropriate methods or based on their experience [1]. Besides that, differing skills and knowledge among teachers from an array of educational backgrounds without specific qualifications in tahfiz have augmented the issue of underachievement among students [2]-[9]. Students of tahfiz schools in Malaysia are also weak in Quranic writing [10]-[11], recitation observing the rules for the correct pronunciation of the letters with all their qualities (tajwid) [7], [12]-[14] and in understanding Quranic verses [10], [15]. According to [16], tahfiz teaching and learning require memorization, repetition, inclination and understanding (talqin, takrar, al-Mail, and al-Fahm). Issues related to the four elements involve the four senses. Furthermore, tahfiz teaching and learning should include four categories of materials that aid the memorization of al-Quran, that can be seen, heard, read, and written. Therefore, integrating ICT in tahfiz teaching is not an alien concept, whereby the aforementioned categories can be developed from ICT use. This can generate the students' skills in learning in 21st-century education. This argument is indeed strong in desiring a change in memorization teaching with the integration of the ICT element in the teaching and learning process activities.

Hence, the i-Qtmar Tahfiz Teaching Model is developed to fulfill the needs of integrating ICT in the teaching of tahfiz. The model has six main components based on the existing Assure Model. The components were developed through the FDM method and analyzed based on the triangular fuzzy number and defuzzification process. The threshold value (d) has to be 0.2 or less. The percentage value has to be 75% and above for each item to determine the expert agreement.

It was found that the average values of all items were at the threshold value of 0.2 ( $> 0.2$ ), indicating that the experts agreed upon all items well. The overall

percentage of all items in the main components was 100%, exceeding the required 75% and indicating the acceptance by the experts. After developing the main components of the i-Qtmar Tahfiz Teaching Model based on the agreement of the experts, the researcher carried out the usability evaluation phase as a measurement of the ability of a product to be developed and produced [17]. This result can be observed through the consumers' effectiveness, efficiency, and satisfaction based on the developed product.

### 1.1. Research Objectives and Purpose

This study aims to evaluate the usability of the main components of the tahfiz teaching model based on ICT according to the agreement and views of experts.

## 2. Research Methodology

The Nominal Group Technique (NGT) is used in this study to gauge the usability of the model. The utility of a model is essential, so its production has a noticeable impact in its field. NGT is a process to obtain solutions or resolutions through face-to-face group discussion [18]. The process is semi-quantitative and structured as it combines the qualitative method as well [19]-[21].

This technique has been widely employed in several areas such as engineering, management, education, clinical, and medicine. It is used in large groups consisting of 122 participants in 12 groups [22] as in [20], and also at a smaller scale with 36 participants [21]. The study conducted by [20] only had four to eight participants in each of the four groups formed. Only one group with 11 participants was studied in [19]. Therefore, the number of groups or participants in NGT depends on the need of the study, and only those qualified will be included in the group.

The advantages of NGT include its approach to constructive and structured problem solving to arrive at a consensus and agreement for an issue [23], resulting in suggestions and prioritized solutions [18], [20]. Interaction within the group is controlled by an impartial facilitator [21] who manages group ideas, prevents dominance, and reduces pressure among the group members [18]-[20], [22]. Facilitators are not to challenge participants, reinterpret ideas, or make decisions based on the discussions.

### 2.1. The Nominal Group Technique (NGT) Procedure

According to [23]-[25], the procedure of implementing the NGT is as follows:

#### 2.1.1. The Explanation Phase

In this initial stage, the researcher as a facilitator begins the NGT workshop by explaining clearly the purpose of the study based on the research procedures

and responsibilities of the participants. The developed product or model has to be presented before the participants. They will then be given questions for the discussion. The questions may be distributed earlier and answered in simple and clear language, focusing only on the topics discussed. This process takes approximately 15 minutes.

### 2.1.2. The Brainstorming Phase

At this phase, the participants are allowed to offer ideas and note information from the facilitator's presentation. They are, however, not allowed to discuss among themselves to avoid bias in reaching a consensus. This process takes about 5 to 10 minutes.

### 2.1.3. The Idea-Sharing Phase

This phase involves every participant sharing their ideas. All information received from them is noted and presented to all members using short phrases or simplified sentences without explanation or discussion. Discussion is unnecessary at this stage to allow equal opportunity for members to enhance ideas or otherwise, without prejudice. Each member writes an idea at a time, and the step is repeated and recorded for all members. Suggestions and ideas generated are considered the product or results of the group. This phase may take 25 to 30 minutes approximately.

### 2.1.4. The Item Discussion Phase

In this phase, the facilitator reads and explains each item briefly, after which the participants are allowed to respond or comment on the components. This activity is guided and overseen by the facilitator. Overlapping ideas may be merged or rejected upon consensus. This process is completed within 20 to 30 minutes.

### 2.1.5. The Voting Phase

This phase requires each group member to reevaluate all items and vote for ideas individually. An empty card distributed to the participants will be filled with only five ideas considered the most important. The best ideas are awarded five marks, followed by four, and so on. The cards are collected, and the scores are calculated for each item based on its priority as indicated by the participants. This process is to strengthen the evaluation of each member in a controlled manner. For each item, it takes approximately 2 minutes.

## 2.2. The NGT Application in the Development of the i-Qtmar Teaching Model

The NGT method was applied by the researcher through this study during the evaluation phase on the usability of the Tahfiz Teaching Model based on ICT, or i-Qtmar Tahfiz Teaching Model. The main component of the model is the inclusion of the ICT

element based on the existing Assure Model, which is agreed upon by the experts through the Fuzzy Delphi Method (FDM) at the model designing and developing stages [26]. This phase is implemented prior to the evaluation on usability phase. In the evaluation on usability phase, the NGT is modified to save time while maintaining its effectiveness to determine the views or perception of individuals on a specific topic [23].

The FDM is applied to obtain an agreement and consensus from the group of responding experts to develop a more accurate quantitative instrument and questionnaire set, which is evaluated from the threshold value ( $d$ ),  $< 0.2$  and Fuzzy score ( $A$ )  $\geq \alpha - \text{cut} = 0.5$ . The data validity and reliability for the NGT are based on the agreement consensus of the FDM experts towards the development of the main components of the i-Qtmar Tahfiz Teaching Model.

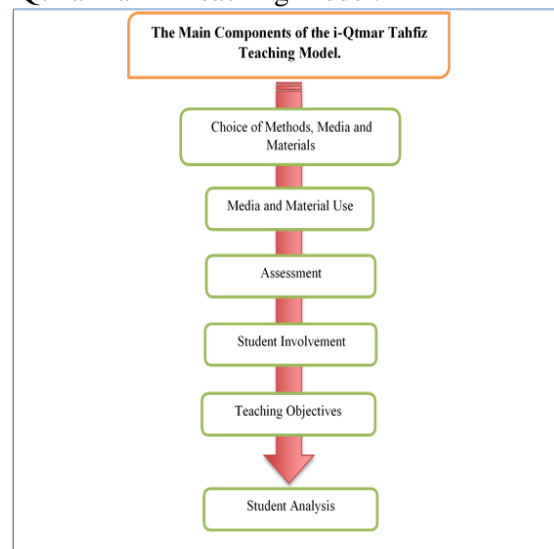


Fig. 1 The development of components and elements of the i-Qtmar tahfiz teaching model based on an existing model

After developing the model, a group of respondents was appointed from among tahfiz teachers with more than five years of experience, according to [27], emphasizing that those involved in a field for more than five years are competent. According to the study context, the respondents in the usability evaluation phase are directly involved in the implementation.

## 3. Results and Discussion

The distribution of the questionnaire to the respondents was carried out during the usability evaluation workshop to gather data. The early stage of this process presented the main components of the model. The respondents were then asked to transfer their views into the provided questionnaire. The items in the questionnaire are as given in Table 1.

Table 1 Questions on the usability evaluation for the main components of the i-Qtmar tahfiz teaching model

Absolutely Disagree	Strongly Disagree	Disagree	Neutral	Moderately Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

No.	Main Component	Scale						
1	Student Analysis	1	2	3	4	5	6	7
2	Teaching Objectives							
3	Choice of Methods, Media and Materials							
4	Media and Material Use							
5	Student Involvement							
6	Assessment							

Based on Table 1, the agreed and suitable values are given by the respondents provide the score value of each evaluated component. The values are then plotted as percentages to interpret their suitability for each main component or otherwise.

Table 2 shows the results of the evaluation scores for every item of the i-QTmar Tahfiz Teaching Model.

Table 2 Data results of evaluation scores on the usability of the i-QTmar tahfiz teaching model

No	Main Component	Total Score by Expert Group of the Study n=30	(%)	Evaluation Status
1.	Choice of Methods, Media and Materials	183	87.1	Appropriate
2.	Media and Material Use	179	85.2	Appropriate
3.	Assessment	189	90	Appropriate
4.	Student Involvement	190	90.4	Appropriate
5.	Teaching Objectives	186	88.5	Appropriate
6.	Student Analysis	185	88.0	Appropriate

Table 2 shows the total percentage value scores for the main components of method choice, media, and materials from the perspective of the expert respondents obtained from the questionnaire form at 87.1%. For the component of media and material use, the percentage value is 85.2%. The total score for the assessment component obtained 90%, and the student involvement component recorded a score value of 90.4%. The score values for teaching objectives and student analysis are 88.5% and 88%, respectively. Briefly, the research findings show that the percentage of the evaluated elements is at the accepted level because the percentage values adhere to the conditions of the NGT, whereby they should exceed 70% as stipulated in [20], [28]. Therefore, the main components of the i-QTmar Tahfiz Teaching Model prove to be usable and achieve their desired status of usability.

#### 4. Conclusion

The NGT proved the ability to determine the usability of a developed model easily and systematically. This technique saves time and helps the researcher obtain accurate and precise views as the responding experts are not influenced. Hence, it has been made apparent on the various methods to answer research questions, especially for Islamic Education with the NGT application.

#### References

- [27] BERLINER D C. Describing the Behavior and Documenting the Accomplishments of Expert Teachers. *Bulletin of Science, Technology & Society*, 2004, 24(3): 200-212.
- [1] NOH M A C. *Pelaksanaan Pendidikan Tahfiz di Malaysia. Prosiding Seminar Pendidikan Islam Sepanjang Hayat*. Nilai: Universiti Sains Islam Malaysia (USIM). 2017: 55-61.
- [2] HASHIM A, & TAMURI A H. Perspektif murid terhadap kaedah pembelajaran Tahfiz al-Quran di Malaysia. *Journal of Islamic and Arabic Education*, 2012, 4(2): 1-10.
- [3] HASHIM A, & JEMALI M. Kajian Mengenai Hubungan antara Teknik Pembelajaran Tahfiz dengan Pencapaian Hafazan al-Quran Para Murid. *Jurnal Perspektif*, 2014, 6(2): 15-25.
- [4] ISMAIL S. Institusi Tahfiz di Malaysia: Prospek dan cabaran. Simposium Tahfiz al-Quran Peringkat Antarabangsa. 23-24 Oktober 2016. Institut Latihan Islam Malaysia (ILIM) Bangi
- [5] JASMI K A, IBRAHIM N, ILIAS M F. Gaya pengajaran guru dalam pengajaran dan pembelajaran pendidikan Islam. *Seminar Antarabangsa Perguruan dan Pendidikan Islam (SEAPPI 2012)*, 8-9 Mac 2012. Le Grandeur Palm Resort Johor Bharu, Johor.
- [6] RAHIM M M A, and HASHIM A. Pendekatan Pengajaran dalam Kalangan Pensyarah Tahfiz Al-Quran di Malaysia. *Perspektif: Jurnal Sains Sosial Dan Kemanusiaan*, 2017, 9(3), 79 - 88.
- [7] YAHAYA M. *Penilaian Program Tahfiz Ulul Albab di Maktab Rendah Sains MARA* (Unpubslied master's thesis). Universiti Pendidikan Sultan Idris, 2017.
- [8] MOHD YUSOFF Z. Guru Tahfiz Murabbi: Mendepani Kecenderungan Masyarakat Terhadap Pendidikan Tahfiz di Malaysia. *Ucuptama Seminar Tahfiz Peringkat Selangor Kali ke 4. Pendidikan.jais.gov.my*, 2019.
- [9] TAMURI A H. Prospek dan cabaran pendidikan Tahfiz dalam sistem pendidikan negara [PowerPoint Slides]. *Ucuptama Seminar Halatuju Pengajian Tahfiz*. Kolej Islam Antarabangsa Sultan Ismail Petra, 2019: 8. Kota Bharu, Kelantan.
- [10] RAHIM M M A, BORHAM A H, HASHIM A, & HASHIM I. Ability in Comprehending Meaning of the Quranic Verses among Tahfiz Students. *International Journal of Academic Research in Business and Social Sciences*, 2018, 8(11): 1646-1656.
- [11] NAZIR J, & PERLIS J K N. *Dapatan Pemeriksaan Penarafan Pelaksanaan Tahfiz Model Ulul Albab (TMUA) tahun 2017*. Putrajaya: Kementerian Pendidikan Malaysia, 2017.
- [12] RAHIM M M A. Pengajaran Mata Pelajaran Hafazan Al-Quran: Suatu Kajian Maahad Tahfiz Al-Quran Zon Tengah. Paper Project master's: Fakulti Sains Kognitif dan Pembangunan Manusia: Universiti Pendidikan Sultan Idris, 2008.
- [13] HASHIM A. *Penilaian Pelaksanaan Kurikulum Tahfiz al-Quran di Darul Quran Jakim dan Maahad Tahfiz al-Quran Negeri*. (Published PhD's thesis) Univercity Kebangsaan Malaysia, Bangi, 2010.
- [14] SALEH M H, ISMAIL I, and HUSSIN Z. Model Penilaian Program Tahfiz Al-Quran Di Nusantara

Berdasarkan Model Penilaian Provus (Discrepancy Evaluation Model). *Jurnal Kepimpinan Pendidikan*, 2018, 5(2): 64-76.

[15] NAWI N H M, & SALLEH N H. Pembinaan model pengajian tahfiz di Malaysia. *Online Journal of Islamic Education*, 2017, 5(1): 1-11.

[16] AL-QABISI. Abi Hasan Ali Muhammad Khalaf. *Ar-Risalah al-Mufasssolah li ahwal al- mua'allimin wa ahkam al-mua'allimin wal mutaalimin*. Kaherah: Dar Ehya' al-Kutub al Arabiyyah, 1955.

[17] MACK Z, & SHARPLES S. The Importance of Usability in Product Choice: A Mobile Phone Case Study. *Ergonomics*, 2009, 52(12): 1514-1528. Dicapai daripada laman web: <http://www.ncbi.nlm.nih.gov/pubmed/19941184>.

[18] MOHD NASURDIN A, OSMAN I, & AHMAD Z A. *Pengantar Pengurusan*. Kuala Lumpur: Utusan Publications & Distributors, 2006.

[19] O'NEIL M J, & JACKSON L. Nominal Group Technique: A Process for Initiating Curriculum Development in Higher Education. *Studies in Higher Education*, 1983, 8(2): 129- 138.

[20] DOBBIE A, RHODES M, TYSINGER J W, & FREEMAN J. Using a Modified Nominal Group Technique as a Curriculum Evaluation Tool. *Family Medicine*, 2004, 36(6): 402-406.

[21] PERRY J, & LINSLEY S. The Use of the Nominal Group Technique as an Evaluative Tool in the Teaching and Summative Assessment of the Interpersonal Skills of Student Mental Health Nurses. *Nurse Education Today*, 2006, 26: 346-53.

[22] LOMAX P. & MCLEMAN P. The uses and abuses of nominal group technique in polytechnic course evaluation. *Studies in Higher Education*, 1984, 9 (2): 183-190. Doi 10.1080/03075078412331378834

[23] WILLIAMS PL, WHITE N, KLEM R, et al. Clinical education and training: Using the nominal group technique in research with radiographers to identify factors affecting quality and capacity. *Radiography*, 2006, 12 (3): 215-224. doi: 10.1016/j.radi.2005.06.001

[24] DANG VH. The Use of Nominal Group Technique: Case Study in Vietnam. *World Journal of Education*, 2015, 5(4): 14-25.

[25] HARVEY N, & HOLMES C A. Nominal Group Technique: An Effective Method for Obtaining Group Consensus. *International Journal of Nursing Practice*, 2012, 18: 188 -19.

[26] MOHD JAMIL M R, SIRAJ S, HUSSIN Z, et al. *Pengenalan Asas Keadah Fuzzy Delphi Dalam Penyelidikan Rekabentuk Pembangunan*. Minda Intelek Agency, Bangi Selangor, 2014.

[28] DESLANDES S F, MENDES C H F, PIRES T O, & CAMPOS DS. Use of the Nominal Group Technique and the Delphi Method to draw up evaluation indicators for strategies to deal with violence against children and adolescents in Brazil. *Revista Brasileira de Saude Materno Infantil*, 2010, 10(1): 29-37.

## 参考文:

[1] NOH M A C. 在马来西亚实施塔菲兹教育。终身伊斯兰教育研讨会论文集。等级：马来西亚伊斯兰大学 (USIM)。2017：55-61。

[2] HASHIM A 和 TAMURI A H. 学生对马来西亚 塔赫菲兹古兰经 学习方法的想法。伊斯兰和阿拉伯教育杂志，2012，4 ( 2 ) : 1-10。

[3] HASHIM A, 和 JEMALI M. 塔菲兹 学习技巧与学生哈法赞古兰经成就之间关系的研究。观点杂志，2014，6(2)：15-25。

[4] ISMAIL S. 马来西亚塔赫菲兹机构：前景与挑战。塔菲兹古兰经国际排名研讨会。2016年10月23日至24日，马来西亚伊斯兰培训学院(伊利姆)班吉

[5] JASMI K A, IBRAHIM N, ILIAS M F. 伊斯兰教育教学中的教师教学风格。伊斯兰教育和教育国际研讨会 (SEAPPI 2012)，2012年3月8日至9日。柔佛州新山大棕榈度假村。

[6] RAHIM M M A 和 HASHIM A. 马来西亚塔赫菲兹古兰经背诵的教学方法。观点：社会科学与人文杂志，2017，9 ( 3 ) ， 79 - 88。

[7] YAHAYA M. 玛拉低科学学院 塔赫菲兹·乌卢尔·阿尔巴布 项目的评估 ( 未发表的硕士论文 )。苏丹伊德里斯教育大学，2017。

[8] MOHD YUSOFF Z. 塔菲兹·穆拉比老师：面对社会对马来西亚塔赫菲兹教育的趋势。小玉。第四次雪兰莪排名 Tahfiz 研讨会。教育，2019。

[9] TAMURI A H. 塔赫菲兹教育在国家教育体系中的前景与挑战。小玉 哈拉图茹塔赫菲兹朗诵研讨会。苏丹伊斯梅尔佩特拉国际伊斯兰学院，2019：8。吉兰丹哥打巴鲁。

[10] RAHIM M M A, BORHAM A H, HASHIM A 和 HASHIM I. 塔菲兹 学生理解古兰经经文含义的能力。国际商业与社会科学研究杂志，2018, 8(11): 1646-1656.

[11] NAZIR J 和 PERLIS J K N. 乌卢尔·阿尔巴·塔赫菲兹模型实施考试 (TMUA) 布城的结果：马来西亚教育部，2017。

[12] RAHIM M M A. 古兰经哈法赞科目的教学：马哈德·塔赫菲兹·古兰经 中区的研究。论文项目硕士：认知科学与人类发展学院：苏丹伊德里斯教育大学，2008。

- [13] HASHIM A. 在 达鲁尔古兰经雅金和 马哈德·塔赫菲兹古兰经国塔赫菲兹古兰经 课程实施情况的评估。(发表博士论文) 马来西亚国立大学, 万宜, 2010。
- [14] SALEH M H, ISMAIL I 和 HUSSIN Z. 基于差异评估模型的群岛 塔赫菲兹古兰经计划评估模型。教育领导杂志, 2018, 5(2): 64-76.
- [15] NAWI N H M, 和 SALLEH N H. 马来西亚塔赫菲兹背诵模式的发展。伊斯兰教育在线杂志, 2017, 5 ( 1 ) : 1-11。
- [16] 阿尔卡比西。阿比·哈桑·阿里·穆罕默德·卡拉夫。将铅笔盒的情况以及铅笔盒和铝穆塔明的裁决的详细信息发送给我。开罗: 阿拉伯书籍复兴之家, 1955。
- [17] MACK Z 和 SHARPLES S. 产品选择中可用性的重要性: 手机案例研究。人体工程学, 2009, 52(12): 1514-1528 。 来 自 网 页 : <http://www.ncbi.nlm.nih.gov/pubmed/19941184>。
- [18] MOHD NASURDIN A, OSMAN I 和 AHMAD Z A. 管理导论。吉隆坡: 前锋报出版与发行商, 2006.
- [19] O'NEIL M J, 和 JACKSON L. 名义小组技术: 启动高等教育课程开发的过程。高等教育研究, 1983, 8 ( 2 ) : 129-138。
- [20] DOBBIE A, RHODES M, TYSINGER J W 和 FREEMAN J. 使用改进的名义组技术作为课程评估工具。家庭医学, 2004, 36(6): 402-406。
- [21] PERRY J, 和 LINSLEY S. 使用名义小组技术作为学生心理健康护士人际交往能力教学和总结性评估的评估工具。《今日护士教育》, 2006, 26: 346-53。
- [22] LOMAX P. 和 MCLEMAN P. 名义小组技术在理工课程评估中的使用和滥用。高等教育研究, 1984, 9 ( 2 ) : 183-190。土井 10.1080/03075078412331378834
- [23] WILLIAMS PL, WHITE N, KLEM R, 等。临床教育和培训: 在放射技师的研究中使用名义组技术来确定影响质量和能力的因素。射线照相术, 2006, 12 ( 3 ) : 215-224。土井: 10.1016/j.radi.2005.06.001
- [24] DANG VH. 名义组技术的使用: 越南的案例研究。世界教育杂志, 2015, 5 ( 4 ) : 14-25。
- [25] HARVEY N, 和 HOLMES C A. 名义小组技术: 获得小组共识的有效方法。国际护理实践杂志, 2012, 18: 188-19。
- [26] MOHD JAMIL M R, SIRAJ S, HUSSIN Z 等人。开发设计研究中的德尔福模糊原理简介。敏达智力机构, 万宜雪兰莪, 2014。
- [28] DESLANDES S F, MENDES CH F, PIRES TO O 和 CAMPOS DS. 使用名义组技术和德尔菲法来制定评估指标, 以制定应对巴西针对儿童和青少年的暴力行为的战略。巴西妇幼保健杂志, 2010, 10(1): 29-37。