Journal of
Education and Practice
(JEP)

Teaching Quality Care for Healthcare Professionals: Delphi Consensus on Designing Drama

CAR
Journa

Journal of Education and Practice
ISSN 2520-467X (Online)
Vol.8, Issue No.3, pp. 1 – 25, 2024
www.carijournals.org

Teaching Quality Care for Healthcare Professionals: Delphi Consensus on Designing Drama

Heba M. Nageh [1*], Samar E. Abdelraouf [2], Samia M. Abd El-Mouty [3]

[1*] Assistant lecturer, Community Health Nursing, Faculty of Nursing, Mansoura University, Egypt.

[2] Professor, Community Health Nursing, Faculty of Nursing, Mansoura University, Egypt.

[3] Assistant Professor, Community Health Nursing, Faculty of Nursing, Mansoura University, Egypt.

https://orcid.org/0000- 0001-6486-8341

Accepted: 20th Apr 2024 Received in Revised Form: 20th Apr 2024 Published: 20th May 2024

Abstract

Purpose: This study aimed to design drama for teaching quality care for healthcare professionals based on the newest evidence for continuous professional development and confront challenges for teaching healthcare professionals through multimedia that shift the trend in education from instructive to constructivist learning.

Methodology: This study was conducted through a three-round stepwise Delphi consensus on a judgmental sample of expert panelists. The researchers identified the expert panelists' demographic and professional characteristics, studied the views and expectations of designing drama for teaching quality care, and appraised the designed drama with a self-administered structured questionnaire and a scale, respectively.

Findings: Study results revealed that expert panelists achieved consensus on several items concerning the drama's content and design. The expert panelists' appraisals of the internal validity and consistency of the designed drama were ($p \leq 0.05$) and (0.767) as measured by the Pearson correlation test and Cronbach α, respectively.

Unique Contribution to Theory, Practice, and Policy: The researchers conclude that expert panelists recommend applying drama in teaching, and with in-depth discussion, they verbalize how drama can improve educational outcomes. The researchers recommend adopting and disseminating the designed drama for teaching healthcare professionals' quality care and instilling drama in teaching curricula to address the gap between theoretical study and what is faced in real fields.

Keywords: *Drama, Healthcare, Professionals, Quality, Teaching*.

1. Introduction

Quality is a concept that has been taught throughout history and continues to be a topic of massive interest today. Over the last three decades, different perspectives have been developed to understand the term quality by quality gurus "Walter A. Stewart, Endward Deming, Joseph Juran, Shigeo Shingo, Taiichi Ohno, Kaoru Ishikawa, Armand Feigenbaum, and Philip Crosby" (Kumar, Raju, & Kumar, 2016).

Currently, the quality of healthcare is addressed in numerous academic publications, training workshops, and scientific conferences. It is the most frequently repeated word among policymakers and the principle that is at the top of the agendas of decision-makers in multiple organizations at national and international levels nowadays (World Health Organization [WHO], Organization for Economic Co-operation and Development [OECD], & World Bank, 2018).

The World Health Organization, on July 20, 2020, assured that up to 15 percent of overall deaths in low-middle-income countries (LMICs) are attributed to poor quality of healthcare each year, which ranges from 5.7 to 8.4 million deaths, in addition to high costs of 1.4–1.6 trillion annually in these countries (WHO, 2020). Lack of healthcare quality (HCQ) can result in adverse health outcomes that may impact the quality of life and even cause death (Allen-Duck, Robinson, & Stewart, 2017).

The World Population Review in 2020 confirmed that Egypt is the second most populous country in the Middle East and North Africa (MENA) region; its population is about 102 million people (Gericke, Britain, Elmahdawy, & Elsisi, 2018). Egypt has thousands of health facilities within 5 km of 95% of Egyptians' homes; thus, it has achieved progress in enhancing the health status of its population in the last decades (Jurjus, 2015). Likewise, the Ministry of Health, in collaboration with the health sector and development partners, is currently working towards achieving universal health coverage (UHC) to ensure that everyone has access to affordable and high-quality healthcare services that are people-centered (WHO, 2018b).

Quality of healthcare is considered a master to achieving UHC and Sustainable Development Goal (SDG) 3.8 (Kruk et al., 2018; World Bank, 2018; WHO, 2020). Therefore, governments began to spend more on health, and their interest is in quality improvement investment as a pivotal entry point for strengthening health systems and enhancing population health outcomes (Buckley & Pittluck, 2015; WHO, 2018a).

Healthcare professionals are pivotal to patient health and satisfaction and the overall quality of individual care due to their direct contact with them, which helps build a unique trust relationship (Wakefield, Williams, & Le Menestrel, 2021). Therefore, graduate students' education regarding quality care will achieve continuous professional development (CPD) in delivering high-quality care by acquiring knowledge and skills that pace with the standards of the newest evidence (Busse, Klazinga, Panteli, & Quentin, 2019; Nilsen, Seing, Ericsson, Birken, & Schildmeijer, 2020).

On account of technological advancements, disease-changing patterns, and new

treatments for diseases, healthcare organizations and healthcare professionals must change constantly. From this standpoint, educational challenges are one of the core challenges and required changes for achieving quality of care (Drotz & Poksinska, 2014).

In the 21st century, in many higher learning institutions, as Ang, Afzal, and Crawford (2021) and Roberts (2019) revealed, there is a trend shift in education from passive lecture-based teaching (instructive) to active student-centered learning (constructivist) that aims to acquire prominent knowledge and skills, including critical thinking, analysis, and problem-solving (Forum, 2020). The delivery of active learning is through multimedia, which argues that academic knowledge and information are digested through verbal (such as text and audio) and visual (such as videos, photographs, diagrams, and animations) channels (Lewis, 2016).

Drama is a tool for teaching using multimedia arts, which has been explored in the last decade in the health and medical fields (Cambra-Badii, Moyano, Ortega, Baños & Sentí, 2021; White, Raphael & van Cuylenburg, 2021). According to Pirmahaleh (2019), drama can successfully be used for making simulations of the real world, where science is recontextualized for specific educational purposes. The characters in drama serve as positive or negative models, which are opportunities to learn and teach desirable professional behavior related to professionalism and bioethical issues, involving communication skills, patient safety, and medical errors that improve the quality of healthcare outcomes (Jefferies, Glew, Karhani, McNally, and Ramjan, 2021; Moudatsou, Stavropoulou, Philalithis, & Koukouli, 2020).

As we pointed out, incorporating dramas into classes' curricula could be a good approach to exploiting their materials (Lehmann, Sulmasy, & Desai, 2018). Therefore, the current study was conducted to design a drama for teaching quality care to healthcare professionals.

1.1 Aim of the Study

This study aimed to design a drama for teaching quality care to healthcare professionals.

1.2 Research Questions

1. What are the expert panelists' views and expectations when designing drama for teaching healthcare professionals quality care?
2. What are the expert panelists' appraisals of the designed drama for teaching healthcare professionals quality care?

2. Methodology

2.1 Design

Expert opinion based on a consensus Delphi method was conducted in this study with a group of individuals who have expertise in the field under investigation (Labrie, Kunneman, Veenendaal, van Kempen & van Vliet, 2023; Iriste & Katane, 2018). The study followed Guidance on Conducting and Reporting Delphi Studies (CREDES) (Jacobs, Foote & Williams, 2023; Jünger, Payne, Brine, Radbruch & Brearley, 2017).

2.2 Setting

The study was carried out in three settings, which included: first, a meeting room that was available and access to expert panelists for filming dialogue scenes, second a private healthcare facility which agreed to do the acting scenes for the film, the two located at El Mansoura city, Dakahlia Governorate, Egypt, and third the World Wide Web (WWW) served as an online platform to contact the participants during the data collection process.

2.2 Participants

The participants included in this study, heterogeneous expert panelists who were enrolled in the Delphi rounds, met the following criteria: being of both genders, being willing to contribute to this study, and having expertise in one or more of the following specialties: healthcare quality, drama, community health nursing, or nursing administration, from diverse academic and professional backgrounds, to elicit a consensus on designing drama for teaching quality care and achieve the aim of this study.

2.3 Sampling Technique

Firstly, a judgmental sample technique was used to recruit participants who met the previously mentioned criteria. Then, a snowball sampling technique was used, whereby the firstly recruited participants were inferred to other potential participants until they reached data saturation.

2.4 Sample Size

According to Jandhyala (2020) and Nasa, Jain, and Juneja (2021), the Delphi studies agreed that there was no standard for the number of experts and no criteria to judge a sample size. Dribin et al. (2020) mentioned that the recent Delphi studies enrolled as few as 19 experts from multidisciplinary fields. The researchers judgmentally recruited expert panelists for the Delphi rounds as shown in Table 1.

Table 1. Response rate and participation during the three Delphi rounds

Participants	1st round		2nd and 3rd round	
	Invited	**Accepted**	**Invited**	**Accepted**
Healthcare quality specialist /manager	6	4	4	2
Community health nursing academic staff	4	2	4	4
Nursing administration academic staff	3	2	3	2
Public health medicine academic staff	2	0	2	1
Drama designers	4	2	2	2
Drama academic staff	12	8	8	3
Healthcare professionals	5	5	5	5
Total (Response rate %)	36	23 **(63.8 %)**	28	19 **(67.8 %)**

2.5 Tools of Data Collection

The study tool was developed for data collection after a literature review on drama-in-teaching and quality care from scientifically published articles, internet searches, and textbooks in the period from 2010 up to 2023, which was constructed from three parts as follows: The first part was a self-administrated structured questionnaire to identify the expert panelists' demographic and professional characteristics, such as age, gender, specialty, working position, and years of experience.

The second part consisted of three consecutive Delphi rounds to explore expert panelists' views and expectations to design drama for teaching quality care through using a self-administrated structured questionnaire in the first and second Delphi rounds. The questionnaire was developed with seven open-ended questions about main themes, scientific content, learning objectives, assessment methods, drama elements, teaching strategies, and principles of the design. Regarding the third part, a four-point Likert scale was used to appraise the validity and applicability of the designed drama before formulating the final version. It was composed of six domains, such as topic and title, educational objectives, content, documentation, technical specifications, and educational drama, which required a response on four options ranging from (4) strongly agree, (3) agree, (2) disagree, and (1) strongly disagree, in addition to a qualitative comments or suggestions question requesting a narrative response.

2.6 Procedure

2.6.1 Preparatory phase

a. ***Administrative process.*** Approval was obtained from the Council of the Community Health Nursing Department and the Vice Dean for Postgraduate Studies and Research, Faculty of Nursing, Mansoura University, to carry out the study.

b. ***Ethical consideration.*** Approval was obtained from the Research Ethics Committee, Faculty of Nursing, Mansoura University, to conduct this study (IRB. 1104). Also, written informed consent was obtained from the participants through email or occasionally, assuring them that their participation in the study was voluntary and that the data gathered would be kept anonymous, confident, and used only to achieve the study's aim, as well as that the results would be used as a component of the research and publications. The participants had the right to ask any questions related to the study and to withdraw from the study in any of the Delphi rounds at any time without providing any reason.

c. ***Face and content validity.*** A jury of eight experts—five from the field of community health nursing, two from nursing administration, one expert from public health medicine, as well as two experts in the drama field—assured the developed tool's face and content validity in December 2022, and according to their opinions, the researchers carried out simple modifications. The second-round questionnaire was validated based on the raters' appraisals and feedback in the first round.

d. ***A pilot study.*** It was carried out on 10% of the study sample (three expert panelists), selected them judgmentally, and excluded them from the main study sample. The researchers modified the identified flaws as some questions were clarified.

2.6.2 Implementation stage

a. ***Initial data collection and analysis.*** Before data collection, the principal researcher introduced herself in person, via phone, and/or email, and briefly explained the study's aim. An invitation letter was sent to expert panelists via email, attached to a consent form. After the principal researcher obtained consent from the participants and confirmed their willingness to participate in the study, data was collected through iterative rounds, following the criteria in Table 2**.**

Table 2. Criteria of Delphi rounds

Criteria	Specify
Purpose of the study	Design drama for teaching quality care to healthcare professionals
Participants	Heterogeneous
Type of Delphi	e-Delphi (due to the expert panelists from geographically dispersed, and the interview was impractical)
Number of rounds	Three
Concurrency of rounds	Consecutive set of rounds
Mode of operation	Remote access (electronic through email and Google Form/WhatsApp)
Anonymity of panel	Full
Communication media	WhatsApp and Emails

First round. The Delphi process traditionally began with an open-ended questionnaire to allow expert panelists to provide a broad range of responses. Each round was conducted through the online Google Form platform or occasionally in Word format, and they responded anonymously and individually to identify expert panelists' demographic and professional characteristics and to assess their views and expectations about the design of drama for teaching quality care.

The principal researcher sent two reminders orally via phone and/or text via email and/or WhatsApp to participants who didn't respond, four days before and four days after the two-week deadline; additionally, a reminder every week after the deadline has passed. It is worth mentioning that for the participants who had difficulty answering the electronic questionnaire, the researcher individually interviewed them. The principal researcher estimated it would take approximately ten weeks to complete the first round.

After first-round data collection, descriptive statistical analysis using the Stand for Statistical Product and Service Solutions (SPSS) program version 20 was used for the demographic and professional data and was presented in the form of frequencies and percentages, as well as the arithmetic mean (M) and standard deviation (SD) for continuous variables. While the qualitative data in the Delphi first round was analyzed through thematic analysis, the responses were analyzed to ensure the synthesis of mutual, similar, and divergent views and expectations among the participants for subsequent re-rating in the second-round questionnaire.

Second round. The principal researcher conducted a four-point Likert scale, a modified version of the first-round questionnaire, to obtain the levels of agreement on the generated items from the first round. The scale consisted of seven domains with 48 items derived from the first-round

analysis. Moreover, there was an opportunity at the end of each section of the checklist for experts to add any comments or suggestions. All responded after about four weeks.

After data collection, the principal researcher calculated the percentage of consensus for each item as indicated in Table 3. Considering values (3) and (4) as consensus and (1) and (2) as no consensus, the median and interquartile range (IQR) were also calculated (Chianchana, 2022; Berger-Estilita, Nabecker & Greif, 2019). The items that reached consensus are included in the final results of the design. The principal researcher sent the second-round feedback to the expert panelists and invited them to the Delphi third-round.

Table 3. Consensus measurement by descriptive statistics (Alkouri et al., 2023; Naughton, Roberts, Dopson, Brindley & Chapman, 2017)

Question type	**Consensus (%)**	**Median**	**IQR**
4-point Likert Scale	**Strong Consensus (SC)** ≥ 70% **Moderate Consensus (MC)** 50% to less than 70% **Low Consensus (LC)** < 50%	< 2 (**Consensus**)	≤ 1 (**Consensus**)

b. Designing and appraising drama for teaching quality care. In designing drama concerning quality care, there were several steps to this procedure. It started with an assessment phase, then developed a script to design a drama video, and ended with an appraising phase to produce the final version.

Assessment (pre-production) phase. The principal researcher obtained the results of the Delphi first-round consensus to write the first version of the script in a simple, understandable, and scientific language.

Development phase (develop a script). According to Aaltonen (2017) and Labrie et al. (2023), the principal researcher first recorded several suggested items related to the content and the design from Delphi first-round analysis, which provided input for shooting script writing as questions for dialogues as well as characters for scenes, then she reviewed and wrote realistic scenarios to be the backdrop for the dialogues into a dramatic story in the post-shoot script, as described in Table 4.

Design phase. At first, the script was converted into video; the shooting was divided into two days, with the first scene shooting, and the second dialogue shooting, in addition to the narration that was recorded by a voiceover in a recording studio. Second, the scenes and dialogue shooting were treated together with the narration appropriately according to the script as well as the collected photos and TV archives. The montage specialist edited and collected it all together.

Appraisal phase (the post-production). The researchers used a four-point Likert scale to elicit the validity, feasibility, clarity, and applicability of the designed drama among expert panelists (n =

19). After data collection, the Pearson correlation coefficient (r) test and Cronbach alpha (α) were used to measure the internal consistency, assess the reliability (degree of agreement), and evaluate the internal consistency of the individual items in each domain, respectively, where scores higher than 0.70 were considered acceptable (Radwan et al., 2017). After that, the researchers documented the comments, and the relevant ones were considered in the final version, which replaced the introduction narrative by the editor with a voiceover and added narration by the voiceover to the final notes in the final title. In addition, add a bar to notify each expert panelist's name and title to the video.

Table 4. Implementation criteria for development of a script (Script description)

Items	**Criteria/Description**	
Synopsis	A patient was admitted to a healthcare institution for an emergency; an adverse event had occurred to him, consequential to poor quality health services. The suggested items regarding themes and the scientific content of HCQ. A description for each scene Create a dramatic context for each scene, taking into account that every action has a reaction Create conflict over a personal need Create a dramatic introduction and summary	
Content	**Introduction (Logline):** Importance of HCQ for patients' safety and quality of life Consequences of poor quality in health services Egypt efforts toward HCQ improvement **Summary:** Importance of teaching HCQ Aim of using drama in teaching the HCQ course Intended target group for teaching HCQ	
Primary Characters	(3) Patients AND healthcare providers (2) nurses, (1) physician, and (1) radiological technician Experts in healthcare quality, nursing, and/or medicine fields	
Presentation Structure/Style	Docudrama viewed through online apps or offline TV or computer devices **Video format:** MP4	
Language	Simple Arabic and English language	
Title (in Arabic)	اِسْتِشْرَاق لَمـــا نَأْمُـــلُ	
Elements	**Sound:** External surrounding sound, soundtrack and some sound effects, actors, and voiceover. **Images:** Shooting scenes, backgrounds, TV photo archives, and any physical thing. **Audio and visual effects (Rhythm)**: Duration of the scene [about 2 minutes] Number of shootings [8 scenes] Location of filming [internal for acting scenes] Time of filming [day and night] The structure of the text or narrative is used [introduction to the story, a middle with conflict in events between characters, and resolution]	**Sound:** Soundtrack and dialogues **Images:** Backgrounds **Audio and visual effects** Duration of the scene [about 20 minutes] Number of shootings [according to the number of accepted experts] Location of filming [external for dialogue] Time of filming [day] Structure of the narrative used [based on questions asked behind the camera]

3. Results

3.1 *Demographic and professional characteristics of expert panelists*

Table 5 shows that 12 and 11 of the expert panelists aged from 30 to 40 years old in the 1st and 2nd, and 3rd rounds, respectively; 13 and 14 of them are women in the 1st and 2nd, and 3rd rounds, respectively. Furthermore, 13 and 12 of the expert panelists had five to less than 15 years' experience in the 1st and 2nd, and 3rd rounds, respectively.

Table 5. Expert panelists' demographic and professional characteristics

Items	**1st Round** *n*= 23	**2nd and 3rd Rounds** *n*= 19
From 30 to less than 40 years	**12**	**11**
From 40 to less than 50 years	4	2
From 50 to less than 60 years	5	4
60+ years	2	2
Mean (SD)	43.434 ± 12.029	43. 157± 12.915
Gender		
Man	10	5
Woman	**13**	**14**
Experiences (Years)		
From 5 to less than 15 years	**13**	**12**
From 15 to less than 25 years	3	1
From 25 to less than 35 years	5	4
35+ years	2	2
Mean (SD)	18.521 ± 11.200	18. 368± 11.786

3.2 *Process of designing drama for teaching quality care through Delphi rounds*

First round. Expert panelists' views and expectations about designing drama for teaching quality care.

Within the first round, the expert panelists suggested 45 items within seven domains for designing drama for teaching quality care through a self-administered open-ended questionnaire.

The underlining of these items was according to the following: The main themes have two items; the scientific content of quality care has nine items; the assessment methods include five items; the learning objectives compromise three items; drama teaching strategy or technique; and elements of docudrama involve ten and six items, respectively, in addition to the principles of designing drama having ten items. Taking into account the principle of designing drama, which consists of five criteria (location, movement/action, rhythm, language, and time). The researchers made some edits and modifications, such as grammar editing, reformulation, and the removal of duplication from some items, to prepare the suggested items to rate on the four-point Likert scale in the second round.

Second round. Expert panelists' views and expectations about designing drama for teaching quality care.

In the second round, as shown in Tables 6, 7, 8 and 9, the expert panelists reached a consensus of more than 70%, as previously detected in the method section for 36 items. In addition, the expert panelists added 10 items, which also reached a consensus of more than 70%. While expert panelists declared low consensus on 11 items.

Table 6. Expert panelists' views and expectations about themes and scientific content in designing drama for teaching quality care **n=19**

Domains	Items	Median (IQR)	C (%) *	Result
Main themes	Overview of healthcare quality	1.00 (0.00)	100.0 %	SC
	Quality tools for continuous improvement of quality of healthcare	1.00 (0.00)	100.0 %	SC
	Healthcare quality improvement models	1.00 (0.00)	100.0 %	SC
	International patient safety goals **	NA	89.5 %	SC
	Risk management in healthcare **	NA	78.9%	SC
Scientific content	History of quality **	NA	73.7 %	SC
	Concepts and importance of quality in healthcare	1.00 (0.00)	100.0 %	SC
	Development of quality in health care	1.00 (0.00)	100.0 %	SC
	Dimensions of healthcare quality	1.00 (0.00)	100.0 %	SC
	. Patients correct identifications	1.00 (1.00)	100.0 %	SC
	. Patients and their families' rights **	NA	84.2 %	SC
	. Effective communication tools	1.00 (0.00)	100.0 %	SC
	. Risk of healthcare-associated infections	1.00 (0.00)	100.0 %	SC
	. Risk of patient harm resulting from falls	1.00 (0.00)	100.0 %	SC
	. Safety and management of high-alert medications	1.00 (0.00)	100.0 %	SC
	. Wastes of lean manufacturing	1.00 (0.00)	100.0 %	SC

* **C (%) Consensus** = Percent of agreement category (Strongly Agree & Agree).

** Items adds by expert panelists through 2nd round **NA** (Not Applicable)

Table 7. Expert panelists' views and expectations about assessment methods and learning objectives in designing drama for teaching quality care **n=19**

Domains	Items	Median (IQR)	C (%) *	Result
Assessment methods	. Formative assessments	1.00 (1.00)	100.0 %	SC
	. Summative assessments	4.00 (1.00)	0.0 %	LC
	. Ipsative assessments	4.00 (1.00)	0.0 %	LC
	. Norm-referenced assessments	1.00 (1.00)	89.5 %	SC
	. Criterion-referenced assessments	1.00 (1.00)	89.5 %	SC
Learning objectives	. An image for each learning objective	3.00 (3.00)	47.4 %	LC
	. Infographics (icons, text, and images) that group and relate multiple objectives	1.00 (0.00)	89.5 %	SC
	. Scenario and present the objectives as solutions	2.00 (1.00)	100.0 %	SC

* **C (%) Consensus** = Percent of agreement category (Strongly Agree & Agree).

Table 8. Expert panelists' views and expectations about drama strategy and elements of docudrama in designing drama for teaching quality care **n=19**

Domains	Items	Median (IQR)	C (%) *	Result
Drama / teaching strategy technique	. Freeze	1.00 (1.00)	84.2 %	SC
	. Hot seating	1.00 (1.00)	89.5 %	SC
	. Meeting	4.00 (2.00)	31.6 %	LC
	. Tableau / Still image	3.00 (2.00)	47.4 %	LC
	. Teacher in role	2.00 (0.00)	84.2 %	SC
	. Role playing	1.00 (0.00)	100.0 %	SC
	. Narration	1.00 (0.00)	94.7 %	SC
	. Storytelling	1.00 (0.00)	100.0 %	SC
	. Flash back and Flash forward	4.00 (2.00)	42.1 %	LC
	. Thought Tracking **	NA	84.2 %	SC
Elements of docudrama	. Dialogue	1.00 (0.00)	94.7 %	SC
	. Interview	4.00 (2.00)	31.6 %	LC
	. Graphics	4.00 (2.00)	42.1 %	LC
	. Scenes	1.00 (1.00)	100.0 %	SC
	. Characters	1.00 (1.00)	100.0 %	SC
	. Descriptions of the action	4.00 (2.00)	31.6 %	LC
	. Narration **	NA	89.5 %	SC
	. Archive footage or photos **	NA	78.9 %	SC
	. Actuality footage shot on location **	NA	78.9 %	SC
	. Transitions and shots **	NA	78.9 %	SC

* **C (%) Consensus** = Percent of agreement category (Strongly Agree & Agree).

** Items adds by expert panelists through 2nd round **NA** (Not Applicable)

Table 9. Expert panelists' views and expectations about principles in the designing drama for teaching quality care **n=19**

Domains	Items	Median (IQR)	C (%) *	Result
Location	. Simulate the healthcare setting and meeting room, as applicable	3.00 (1.00)	47.4 %	LC
	. Real location and image for healthcare settings and meeting room	1.00 (1.00)	100.0 %	SC
Movement / Action	. Using facial expression, posture, and action or movement to pay the viewer's attention	1.00 (1.00)	100.0 %	SC
	. Using subtle cues, particularly with lighting or lines.	1.00 (1.00)	89.5 %	SC
Rhythm " Sound, Music, Shape, Color, Words, Character"	. Create a random rhythm by repeating the design elements without any regular intervals	3.00 (1.00)	31.6 %	LC
	. Create a progressive rhythm with a gradual change or sequence of the design elements that change over a series of clear steps	1.00 (1.00)	89.5 %	SC
	. Exchanges between characters with changes in scenes	1.00 (0.00)	89.5 %	SC
	. Exchanges musical rhythms between high, low, and moderate	1.00 (0.00)	94.7 %	SC
Language	. The appropriate language for the audience with the choice of linguistic expression and ideas	1.00 (1.00)	100.0 %	SC
Time duration	. Contributing to the tension and rhythm of dramatic action	1.00 (1.00)	100.0 %	SC
	. Ranges from 30 minutes to 1 hour **	NA	84.2 %	SC

* **C (%) Consensus** = Percent of agreement category (Strongly Agree & Agree).

** Items adds by expert panelists through 2nd round **NA** (Not Applicable)

3.3 ***Internal validity and reliability of the designed drama for teaching quality care***

Regards the third round, Table 10 implies significant positive correlations between scores of each domain and the overall assessment of the designed drama for teaching quality care ranged from (0.973–0.593) as indicated by the Pearson correlation test, which revealed a consistent validity of the designed drama, with a positive statistically significant value ranged from (0.000–0.070). Furthermore, the analysis of reliability showed that the internal consistency of the individual domains was 0.767, as measured by Cronbach α

Table 10. Correlation of domains' scores from the expert panelists' appraisal with the overall assessment of the designed drama for teaching quality care **n=19**

Domains	***r***	***P***
Topic and title	0.847**	0.000
Educational objectives	0.608**	0.006
Content	0.712**	0.001
Documentation	0.830**	0.000
Technical specifications:		
- Photography & Images	0.643**	0.003
- Lighting	0.844**	0.000
- Sounds	0.684**	0.001
- Texts	0.726**	0.070
- Duration of time	0.717**	0.001
- Language	0.593**	0.007
- Design	0.909**	0.000
- Drama elements	0.973**	0.000
Educational drama	0.901**	0.000
Reliability (Cronbach α)	0.767	

r*:** Pearson correlation ***P: Significant ($P \leq 0.05$) ***P***: Highly significant ($P \leq 0.01$)

4. Discussion

Healthcare professionals and students face more challenges in their working conditions that directly affect their performance because of a lack of knowledge and their unfamiliarity with certain clinical and administrative issues in various healthcare settings. To solve those challenges, there is an urgent need to prioritize continued education that should effectively be addressed through the constructivist approach guided by simulation-based learning, which uses real-life scenarios tailored to the local contexts for enhancing learning (Lee, Mathura, Shkrobot, Kassam, & Aziz, 2023; Silveira, Prado Junior, Siman, & Amaro, 2015).

The World Health Organization recognizes that the arts have an inherent role in clinical students' and healthcare professionals' education (Fancourt & Finn, 2019). In addition, Arveklev,

Berg, Wigert, Morrison-Helme, and Lepp (2015) indicate that drama is one medium that enables undergraduate and postgraduate students to assess difficult or unexpected situations in clinical practice settings and understand how to apply and create responses to these situations.

Armstrong, Shepherd, and Harris (2017) and Berg, Höglund, Arveklev, Larsson, and Lepp (2019) reveal that drama is an artistic didactic method and a favorite approach in healthcare scientific studies like teaching quality of care improvement and patient safety to healthcare professionals. Owing to this, the researchers were motivated to design a drama for teaching quality care to healthcare professionals and eliciting its validity, reliability, and feasibility.

In the current study, the expert panelists' views and expectations regarding the main themes of the scientific content and the content of healthcare quality were explored, as were assessment methods and learning objectives to present in the design, the recommended drama strategies and elements, and the principles that should be followed in designing drama. Therefore, the heterogeneity of participants is intended to address different disciplines required in the current study, including teaching, quality care, and drama. Despite there being no specialist in drama for teaching healthcare professionals, the researchers failed to find out who to enroll, which is considered one of the study's limitations.

According to the main themes of the scientific content that was suggested in the designed drama, the expert panelists in the present study strongly agreed on tools and models of continuous quality of care improvement and international patient safety goals, which is in line with Lavin and Kao (2023), who reported the Accreditation Council for Graduate Medical Education (ACGME) stated the educational elements for medical graduates and trainees include patient safety and all areas of quality improvement.

In the present study concerning appropriate types of assessment, the expert panelists strongly suggested formative, norm-referenced, and criterion-referenced assessments to assess healthcare professionals' learning performance. This agrees with Ismail, Rahul, Patra, and Rezvani (2022) mention that formative assessments help teachers track the student's needs by providing regular feedback on progress toward their aims, boost learners' ability to self-regulate over time during the course length and modify their weaknesses to bridge the gap between their current knowledge and the required learning objectives. Norm- and criterion-referenced assessments are used in student assessment skills (Cuhadar & Gelbal, 2021). Moreover, norm-referenced assessment or relative grading compares the students' skill to that of their colleagues, while criterion-referenced assessment or absolute grading compares the skill of the student against a fixed standard (ATALMIŞ, 2019; Hanssens, Van Soom, & Langie, 2023).

Concerning learning objectives, the expert panelists in the current study strongly agreed with using infographics like icons, text, and images that group and relate multiple objectives or construct scenarios, and the objectives are to analyze root causes and extract solutions. This is in strong agreement with the Medina, Perry, Lee, and Deliman (2021) study, which mentioned that drama practices or methodologies such as hot seating, tableaux/freeze frames, roleplay, and writing in the role are some of the dramatic pedagogical tools to provide students opportunities to

become critical thinkers, observers, and effective problem solvers. However, this finding isn't consistent with Brame (2016), who revealed that learning objectives are explained briefly as a text-out-of-video to reduce the inappropriate load. Indeed, higher levels of cognition and affection are the foundation of teaching graduates as health care professionals, which are considered when designing the drama.

The expert panelists' consensus in the present study regarding the elements of drama strongly agreed that the design of drama should compromise dialogue between characters in the scenes, narration, archive footage or photos, and actuality footage shot, in addition to transitions and shots. The Meiga Ratih (2019) study also points out that students learn via dialogue, the conversation among characters, and verbal and nonverbal communication and movements, which are important elements in drama.

Regarding shooting location, expert panelists in the present study strongly consented to shooting in a real location to facilitate the diagnosis of problematic situations and compare it with reality, which is in contrast with Cheng et al. (2014), Tun, Alinier, Tang, and Kneebone (2015) studies that indicated the important considerations for healthcare education are the physical simulation environment to maintain safety without harm to the environment or risks to people.

The current study musical rhythm expert panelists strongly assured that there was an exchange in musical rhythms between high, low, and moderate, which is in line with Rebrova, Oleksiuk, and Mikulinska (2019), who indicated the music in drama ranged between the beginning of exposure, the development of action, and the end, which is important to point out the linguistic aspects of the performance, the realities, and the conflicts.

Concerning movement and action, expert panelists in the current study strongly agreed with using facial expressions to pay the viewer's attention, in the same vein as Lamé and Dixon-Woods (2020), who emphasized attention to the participants' emotions and physical performance to realize real-life behavior.

According to the suggested spoken language for the characters, narrators, and/or experts, from the results of the Delphi round, the expert panelists strongly agreed to use scientific language for the audiences with the choice of linguistic expression and ideas. This is the same as what was stated in the Miller and Poston (2020) study, which presented that it's important to meet the standards of language choices due to their influence on both the credibility of a speaker during the presentation as well as the clarity of the message since the basic language is useful to audiences who are unfamiliar with the topic.

Regarding the duration of the designed drama, the expert panelists in the present study strongly agreed that the length of the drama should range from 30 minutes to an hour, which agrees with Brame (2016), and Pi and Hong (2016), who mentioned keeping the video brief and dividing it into short multiple videos, each equal to or less than six minutes, to increase students' total watch time and decrease mind wandering.

Moreover, the researchers stated and specifically focused on evaluating the designed drama's internal validity and reliability on verbal and nonverbal script aspects, comprising the topic and title being expressed, the educational objectives being clearly explained and extracted, documenting all information, and saving all rights, content achieving the objectives and including knowledge and skill levels, and technical specifications in relating to photography and image, lighting, sound, texts, duration of time, language, design, and drama elements.

The study shows that Delphi's first round of expert panelists' views and expectations in the design drama could be beneficial, and the second and third Delphi rounds of the expert panelists' appraisal of the designed drama and the Pearson correlation coefficient and Cronbach alpha, internal validity, correlation, and consistency have been verified, which helped to minimize our own biases.

Quality care is a rough and rigorous concept. The emerging idea of drama for teaching healthcare professionals is to bring a conceptual frame to a tangible one, simulate reality, and compromise between learning and pleasure. The researchers take this little leap to be pioneers, at least on the national basis of this subject.

5. Conclusion

The researchers conclude that based on the findings of this study, the expert panelists suggested applying drama in teaching, and with in-depth discussion, they verbalized how drama can improve educational outcomes. The expert panelists appraised the designed drama as valid, effective, efficient, and efficacious in teaching healthcare professionals quality care that incorporates different teaching strategies and learning styles, as well as a valuable and simple method of assessment, all to accomplish healthcare professionals' competencies.

6. Recommendations

The researchers recommend adopting and disseminating the designed drama for teaching healthcare professionals quality care and instilling drama in teaching curricula to address the gap between theoretical study and what is faced in real fields. Moreover, further studies are needed to estimate the external validity of the designed drama for teaching quality care, evaluate the effectiveness of implementing the drama method in teaching quality care on healthcare professionals' achievements and learning satisfaction, and compare drama-combined education with other traditional teaching methods.

References

Aaltonen, J. (2017). Script as a hypothesis: Scriptwriting for documentary film. *Journal of Screenwriting*, *8*(1), 55-65.

Alkouri, O., Khader, Y., Al-Bashaireh, A., Al Marzouqi, A., Zyoud, A., Jarrah, M., ... & Schultz, T. (2023). Development of a telemedicine group educational program for patients with heart failure: A delphi study. Heliyon, 9(3).

Allen-Duck, A., Robinson, J. C., & Stewart, M. W. (2017). Healthcare quality: a concept analysis. *In Nursing forum. 52*(4), 377-386. doi:10.1111/nuf.12207.

Ang, K. C., Afzal, F., & Crawford, L. H. (2021). Transitioning from passive to active learning: Preparing future project leaders. *Project Leadership and Society, 100016(2).*

Armstrong, L., Shepherd, A., & Harris, F. (2017). An evaluation of approaches used to teach quality improvement to pre-registration healthcare professionals: an integrative review. *International Journal of Nursing Studies, 73*(*2017*), 70-84.

Arveklev, S.H., Berg, L., Wigert, H., Morrison-Helme, M., Lepp, M. (2018). Nursing students' experiences of learning about nursing through drama. *Nurse Educ. Pract. 28* (1), 60–65. https://doi.org/10.1016/j.nepr.2017.09.007

ATALMIŞ, E. H. (2019). A statistical comparison of norm-referenced assessment systems used in higher education in Turkey. *Journal of Measurement and Evaluation in Education and Psychology*, *10*(1), 12-29.

Berg, L., Höglund Arveklev, S., Larsson, S., & Lepp, M. (2019). Drama pedagogy in Nursing Education–Learning about care, encounters and communication. Pages: 19-26. Retrieved from: https://gupea.ub.gu.se/bitstream/handle/2077/73945/drama-pedagogy-nursing.pdf?sequence=2&isAllowed=y

Berger-Estilita, J., Nabecker, S., & Greif, R. (2019). A Delphi consensus study for teaching "Basic Trauma Management" to third-year medical students. *Scandinavian journal of trauma, resuscitation and emergency medicine, 27*(2019), 1-11.

Brame, C. J. (2016). Effective educational videos: Principles and guidelines for maximizing student learning from video content. *CBE—Life Sciences Education, 15*(4).

Buckley, G. J., & Pittluck, R. E. (2015). Improving quality of care in low-and middle-income countries: workshop summary. National Academies of Sciences, Engineering, and Medicine. Press. Last accessed: December 18, 2023. Retrieved from: http://www.nap.edu/21736

Busse, R., Klazinga, N., Panteli, D., & Quentin, W. (2019). Improving healthcare quality in Europe: Characteristics, effectiveness and implementation of different strategies. World Health Organization and OECD. Last accessed: August 23, 2023. Retrieved from: https://apps. who. int/iris/rest/bitstreams/1248308/retrieve

Cambra-Badii, I., Moyano, E., Ortega, I., Baños, J. E., & Sentí, M. (2021). TV medical dramas: health sciences students' viewing habits and potential for teaching issues related to bioethics and professionalism. *BMC medical education*, *21*(1), 1-11.

Cheng, A., Auerbach, M., Hunt, E. A., Chang, T. P., Pusic, M., Nadkarni, V., & Kessler, D. (2014). Designing and conducting simulation-based research. *Pediatrics*, *133*(6), 1091-1101.

Chianchana, C. (2022). Development of an Educational Sustainability Assessment Model: Application of the Delphi Technique and Pilot Study. *Journal of Education and e-Learning Research, 9*(2), 119-128.

Cuhadar, I., & Gelbal, S. (2021). An Evaluation of Pass/Fail Decisions through Norm-and Criterion-Referenced Assessments. *International Journal of Assessment Tools in Education, 8*(1), 9-20.

Dribin, T.E.; Sampson, H.A.; Camargo, C.A.; Brousseau, D.C.; Spergel, J.M.; Neuman, M.I.; Shaker, M.; Campbell, R.L.; Michelson, K.A.; Rudders, S.A.; et al. (2020). Persistent, refractory, and biphasic anaphylaxis: A multidisciplinary Delphi study. *J. Allergy Clin. Immunol, 146*(2020), 1089–1096.

Drotz, E., & Poksinska, B. (2014). Lean in healthcare from employees' perspectives. *Journal of health organization and management, 28*(2), 177-195.

Fancourt, D., & Finn, S. (2019). What is the evidence on the role of the arts in improving health and well-being? A scoping review. World Health Organization. Regional Office for Europe. Last accessed: August 28, 2023. Retrieved from: https://iris.who.int/bitstream/handle/10665/329834/9789289054553-eng.pdf?sequence=3&isAllowed=y

Forum, W. E. (2020). The future of jobs report 2020. Last accessed: November 23, 2023. Retrieved from: http://hdl.voced.edu.au/10707/555914.

Gericke, C. A., Britain, K., Elmahdawy, M., & Elsisi, G. (2018). Health system in Egypt. Health Care Systems and Policies. Health Services Research, Springer, New York, NY.

Hanssens, J., Van Soom, C., & Langie, G. (2023). The stability of pre-enrolment prediction of academic achievement: criterion-referencing versus norm-referencing. 51st Annual Conference of the European Society for Engineering Education (SEFI). Retrieved from: https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1128&context=sefi2023_respap.

Hoffman, B. L., Hoffman, R., Wessel, C. B., Shensa, A., Woods, M. S., & Primack, B. A. (2018). Use of fictional medical television in health sciences education: a systematic review. *Advances in Health Sciences Education. 23*(2018), 201-216.

Iriste, S., & Katane, I. (2018). Expertise as a research method in education. Rural Environ. *Educ. Personal, 11*(2018) 74-80.

Ismail, S. M., Rahul, D. R., Patra, I., & Rezvani, E. (2022). Formative vs. summative assessment: impacts on academic motivation, attitude toward learning, test anxiety, and self-regulation skill. *Language Testing in Asia, 12*(1), 40-49.

Jacobs, C., Foote, G., & Williams, M. (2023). Evaluating user experience with immersive technology in simulation-based education: A modified Delphi study with qualitative analysis. *Plos one, 18*(8), e0275766. https://doi.org/10.1371/journal.pone.0275766.s001

Jandhyala, R. (2020). Delphi, non-RAND modified Delphi, RAND/UCLA appropriateness method and a novel group awareness and consensus methodology for consensus measurement: A systematic literature review. *Curr. Med. Res. Opin. 36*(2020), 1873–1887.

Jefferies, D., Glew, P., Karhani, Z., McNally, S., & Ramjan, L. M. (2021). The educational benefits of drama in nursing education: A critical literature review. *Nurse Education Today. 98*(2021)104669.

Jünger, S., Payne, S. A., Brine, J., Radbruch, L., & Brearley, S. G. (2017). Guidance on Conducting and REporting DElphi Studies (CREDES) in palliative care: Recommendations based on a methodological systematic review. *Palliative medicine, 31*(8), 684-706. https://doi.org/10.1177/0269216317690685

Jurjus, A. (2015). The health system in Egypt: an overview. *Human and Health J, 31*(2015), 17-21.

Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., ... & Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: time for a revolution. *The Lancet global health, 6*(11), 1196-1252.

Kumar, P., Raju, N. V. S., & Kumar, M. V. (2016). Quality of quality definitions-an analysis. *International Journal of Scientific Engineering and Technology, 5*(3), 142-148.

Labrie, N., Kunneman, M., van Veenendaal, N., van Kempen, A., & van Vliet, L. (2023). Using expert opinion rounds to develop valid and realistic manipulations for experimental video-vignette research: Results from a study on clinicians'(un) reasonable argumentative support for treatment decisions in neonatal care. *Patient Education and Counseling. 112*(2023), 107715.

Lamé, G., & Dixon-Woods, M. (2020). Using clinical simulation to study how to improve quality and safety in healthcare. *BMJ simulation & technology enhanced learning, 6*(2), 87-93.

Lavin, J., & Kao, L. S. (2023). Building infrastructure to teach quality improvement. *In Seminars in Pediatric Surgery, 32*(23), 151283.

Lee, D. H., Mathura, P. V., Shkrobot, J., Kassam, N., & Aziz, K. (2023). Teaching quality improvement concepts to pharmacy students using the Evidence-based Practice for Improving Quality (EPIQ) workshop. *Currents in Pharmacy Teaching and Learning, 15*(8), 748-753.

Lehmann, L. S., Sulmasy, L. S., Desai, S. (2018). Hidden curricula, ethics, and professionalism: optimizing clinical learning environments in becoming and being a physician: a position paper of the American College of Physicians. ACP Ethics, Professionalism and Human Rights Committee. *Annals of internal medicine, 168*(7), 506-508.

Lewis, P. J. (2016). Brain friendly teaching—reducing learner's cognitive load. *Academic*

radiology, *23*(7), 877-880.

Medina, C. L., Perry, M., Lee, B. K., & Deliman, A. (2021). Reading with drama: relations between texts, readers and experiences. *Literacy*, *55*(2), 136-144.

Meiga Ratih T (2019). The implementation of drama technique in english literature class. Indonesia 3rd English Language and Literature International Conference (ELLiC). 3(2019), 427- 434.

Miller, C., & Poston, M. (2020). Exploring communication in the real world: An Introduction to Speech Communication. College of DuPage Digital Press. Retrieved from: http://dlib.hust.edu.vn/handle/HUST/22963

Moudatsou, M., Stavropoulou, A., Philalithis, A., & Koukouli, S. (2020). The role of empathy in health and social care professionals. *In Healthcare. 8*(1), 26-32.

Nasa, R. Jain, D. Juneja (2021). Delphi methodology in healthcare research: how to decide its appropriateness, World J. Methodol. 11 (4), 116-122.

Naughton, B., Roberts, L., Dopson, S., Brindley, D., & Chapman, S. (2017). Medicine authentication technology as a counterfeit medicine-detection tool: a Delphi method study to establish expert opinion on manual medicine authentication technology in secondary care. *BMJ open*, *7*(5), 013838.

Nilsen, P., Seing, I., Ericsson, C., Birken, S. A., & Schildmeijer, K. (2020). Characteristics of successful changes in health care organizations: an interview study with physicians, registered nurses and assistant nurses. *BMC health services research. 20*(2020), 1-8.

Pi, Z. & Hong, J. (2016). Learning process and learning outcomes of video podcasts including the instructor and ppt slides: a Chinese case. *Innovations in Education and Teaching International 53*(2), 135–144.

Pirmahaleh, S. A. S. (2019). Examining Mathematical Modeling of Fifth Grade Students Using Interactive Simulations. Ohio State University. Doctorate Dissertation.

Radwan, M., Akbari Sari, A., Rashidian, A., Takian, A., Abou-Dagga, S., & Elsous, A. (2017). Appraising the methodological quality of the clinical practice guideline for diabetes mellitus using the AGREE II instrument: a methodological evaluation. *JRSM open*, *8*(2), 2054270416682673.

Rebrova, O. Y., Oleksiuk, O. M., & Mikulinska, O. S. (2019). Dramatic Hermeneutics as a Perspective Technology in the Artistic Education. *Journal of History Culture and Art Research*, *8*(3), 100-112.

Roberts, D. (2019). Higher education lectures: from passive to active learning via imagery? Active *Learning in Higher Education*, *20*(1), 63-77.

Silveira, T. V. L., Prado Júnior, P. P. D., Siman, A. G., & Amaro, M. D. O. F. (2015). The importance of using quality indicators in nursing care. *Revista gaucha de*

enfermagem. 36(2015), 82-88.

Tun, J. K., Alinier, G., Tang, J., & Kneebone, R. L. (2015). Redefining simulation fidelity for healthcare education. *Simulation & Gaming, 46*(2), 159-174.

Wakefield, M., Williams, D. R., & Le Menestrel, S. (2021). The future of nursing 2020-2030: Charting a path to achieve health equity. National Academies of Sciences, Engineering, and Medicine Press. Retrieved from: http://sadil.ws/bitstream/handle/123456789/781/The%20future%20of%20Nursing%202030.pdf?sequence=1&isAllowed=y

White, P. J., Raphael, J., & van Cuylenburg, K. (2021). Science and Drama: Contemporary and Creative Approaches to Teaching and Learning. Retrieved from: https://link.springer.com/content/pdf/10.1007/978-3-030-84401-1.pdf

World Bank (2018). Fragility, conflict and violence. Last accessed: October 28, 2023. Retrieved from: https://www.worldbank.org/en/topic/fragilityconflictviolence/overview.

World Health Organization [WHO] (2018a). Handbook for national quality policy and strategy – A practical approach for developing policy and strategy to improve quality of care. Geneva: WHO. National Academies Press.

World Health Organization [WHO] (2018b). Egypt: health systems profile (No. WHO-EM/PHC/174/E). WHO. Regional Office for the Eastern Mediterranean.

World Health Organization [WHO] (2020). Quality health services. Last accessed: October 28, 2023. Retrieved from: https://www.who.int/news-room/fact-sheets/detail/quality-health-services

World Health Organization [WHO], Organization for Economic Co-operation and Development [OECD] & World Bank (2018). Delivering quality health services: a global imperative for universal health coverage. Geneva. License: CC BY-NC-SA 3.0 IGO.