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Original Article

Exploring Lived Experiences of Students Studying at Master's Degree of Online Medical Education Regarding Hidden Curriculum

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Abstract

Background: The hidden curriculum has a significant role in students' learning in general and in online learning in particular. However, there are few studies on hidden curriculum of online medical education programs.

Objectives: The present study explored master students' experience of hidden curriculum in an online medical education program.

Methods: A phenomenological study was conducted on 12 students of an online medical education master's degree program at Iran University of Medical Sciences. The results of the semi-structured interviews were analysed by using Colaizzi seven-stage data analysis method.

Results: We extracted 6 categories and 12 subcategories from data analysis, depicting the students' experiences of the hidden curriculum. The categories were interactions and communications factors; motivational factors; reflective and interactive feedback; effective teaching and assessing; educational standards, rules, and discipline; faculty member's roles.

Conclusion: The findings reflect the hidden messages and factors that constitute the hidden curriculum in the online environment. Constructive interaction and communication, encouragement and reward, and reflective and interactive feedback were the most important aspects defining the hidden curriculum in this learning environment. Therefore, each of the afore-mentioned categories can be considered by educational planners to develop strategies for promoting online learning.

Keywords: Hidden Curriculum; Online Learning; Medical; Education

Background

Curriculum is axial for any learning and teaching opportunities (1). The concept and function of curriculum may slightly differ for different researchers and educators. Therefore, there are several definitions of a curriculum, such as curriculum as a set of objectives, courses of study or content, plans, subject-specific document, and experiences. In the definition of curriculum as experiences, set of plans and experiences are amalgamated. In this definition, plans are referred to planned curriculum and experiences attribute to unplanned happenings in educational process and classroom. This interpretation of the curriculum refers to formal, informal and hidden curriculum, which have also been emphasized in the health professional learning

environment as three interrelated spheres of curriculum (2-5).

The formal curriculum is the planned and organized program of objectives, content, learning experiences, resources and assessment that encompass a wide variety of educational and instructional practices. Informal curriculum is the unscripted form of teaching and learning not officially listed in the curriculum. It is sometimes concerned as co-curricular activities adopted from outside setting such as peers, media, community and parents (2).

The hidden curriculum has been defined in studies from different aspects. For example, Skelton describes hidden curriculum as a set of messages about the values, behavioral norms and attitudes that learners implicitly learn during educational processes (6). These messages are not explicitly stated in the official and written documents (7). Yazdani et al. defined the hidden curriculum in medical education as a framework that could include professional ethics, social, and spiritual dimensions (8). In general, hidden curriculum is the behaviors, procedures, unspoken or implicit values, and norms that exist in the educational environment and can shape future attitudes, behaviors, and beliefs (7, 9).

Hidden curriculum is important in medical education. It has an impact on the formation of learners' professional development, professional identity, socialization, professionalism and values (10, 11). Studying and knowing the hidden curriculum factors will be of great help to teachers and educational planners. For example, the teachers will be aware of positive and negative messages in the classroom and will use it to better manage the classes. Teachers will be able to use hidden curriculum as a teaching strategy to send specific message to learners, such as peer and cooperative learning (7).

According to studies and different definitions of hidden curriculum, it can be concluded that the learning environment and its characteristics play an important role in the formation of the hidden curriculum (12). Today, one of the most important learning settings is the online environment. In other words, information Technology, including electronic media and the internet, has become an integral part of educational programs and has made major changes in the process of teaching and learning (13). Online learning, although a broad concept, is based on the assumption that learning is experienced through the internet (14), and is characterized by the separation of the learners and teacher in terms of time and space (12). Typically, and from the pedagogical perspective, online learning is flexible, with a learner-centered approach, engaging learners in different forms of interaction, communication and collaboration (15). Effective online learning depends on the complex combination of several key factors, including students' personal characteristics, effective teacher-student and student-student interactions, educational content and ease of access to technology (16).

According to Anderson, the distinctive physical and interactional context of distance learning environments may define a different conception and experience of the hidden curriculum than that experienced by participants in traditional campus-based education (17). This issue has been confirmed in some of studies. For example, Oztok, focusing on "Discourses of Whiteness", "Social Absence", and "Inequity" issues in graduate programs for online courses at a public research university at Canada, has discussed that the hidden curriculum of online learning, maintains a cultural hegemony and creates an inequitable or unfair learning experiences via cultural differences (18, 19). Meng has shown that online hidden curriculum affected the learning tendency in Covid19 epidemic. According to his study, four dimensions of hidden curriculum with different effects on learner's learning tendency include learning rules and values, learning about teachers, learning to restrain self and gaining confidence in dialogues. He suggested that various universities could achieve the purpose of enhancing students' learning tendency by consciously considering these aspects of hidden curriculum in online courses (20).

Despite the importance of the hidden curriculum, the literature shows that researchers seldom examine hidden curriculum with a format outside the traditional paradigm (17). So that according to the search of the researchers of the current study, there are a few studies on the hidden curriculum in online courses, if any, they are mostly related to areas outside of medical education. On the other hand, given the Covid19 pandemic, most of the universities and departments have adopted online learning to protect the safety of faculty members and students and control the pandemic as well. With this movement towards online learning, the importance of considering hidden curriculum through online learning becomes more pronounced.

In Iran, similar to other countries, a number of programs leading to a bachelor or master's degree are offered via online and face to face modes. One of these

programs is Master of Science in Medical Education. This online program is similar to a two-year face-to-face program. Participants applying for this program are mainly those faculty members who would like to improve the quality of their educational activities (of faculty development) and obtain a master's degree as well. The first three semesters are devoted to online teaching of pre-requisite, core and optional courses, and the final semester focuses on dissertation (almost every semester includes four and a half months). This program, similar to other online programs, has its hidden curriculum, which has not been addressed in any study according to the researchers' review. Moreover, hidden curriculum is a relatively new concept and has rarely been used in the research related to online learning programs. Therefore, there is a crucial need to study the lived experiences of learners in online learning, and online medical education programs, and share these experiences at the international and national levels.

Objectives

This study was an attempt to explore master students' lived experience of hidden curriculum in an online medical education program. The findings can contribute to curriculum planning with regard to both medical education and online learning.

It should be noted that in the current study, the program means the medical education online master's program, based on the approved curriculum by the Ministry of Health that includes core and optional courses.

Methods

Since students' experiences, as the main stakeholder of the educational system, of the hidden curriculum is an important criterion for studying the hidden curriculum (21), a qualitative phenomenological approach was employed to collect and analyse the lived experiences of participants of the phenomena and hidden meanings experienced by e-learners of medical education. Phenomenology is a form of qualitative research which focuses on the study of an individual's lived experiences in the world (22). A researcher who is conducting a phenomenological study explores various perceptions or reactions of participants to a particular phenomenon, and tries to describe them (23).

Participants: The study participants were students of master's degree in an online medical education program at Iran University of Medical Sciences, Tehran, Iran. A purposive sampling with maximum variation in terms of educational semester and sex was used. The inclusion criteria were students experiencing at least one educational semester (from 2nd to 4th semester of the program), and being faculty members in other educational departments of the university pursuing master's degree of online medical education program. Participants' unwillingness was the exclusion criteria of study. Two of the researchers (Z. N and M. R) invited the participants to participate in the study through e-mail. A gift was considered for the participants in the study, but they refused to accept the gift and stated that their purpose was helping researchers and improve existing knowledge.

Data collection: The data collection method was semi-structured individual interviews which continued until data saturation was reached (n=12), when no new data emerged. All interviews were conducted by a researcher (M.R). She had experience and knowledge in the field of qualitative interview. Interviews were conducted face to face and scheduled at a convenient time and place for the interviewees. For the convenience of the participants, the interview locations were Medical Education Department, Center for Educational Research in Medical Sciences, Medical School, Teaching and Treatment Hospitals in Iran University of Medical Sciences. Each interview lasted between 30- 40 minutes and each participant was assigned a code to keep the anonymity. An information sheet was provided to participants by using e-mail and their informed consent forms were obtained. The interview questions were of the open type followed by probing questions. These questions were developed by the research team after a literature review and consulting with the experts of the field (Table 1). The participants' response guided the interviewer to ask the next interview questions. The interviews were fully recorded and verbatim transcription was applied for precise analysis.

Ethical considerations: This study was approved by the Ethics Committee (IR.IUMS.RES.1397.746) of Iran University of Medical Sciences. Details of the study were explained to the participants prior to signing the informed consent via an information sheet. The confidentiality of the participants' information was assured. For this purpose, a code was assigned to each participant. Permission was obtained from the participants to audio record the interviews or take notes from it. The interviews were analysed after the interviewee's confirmation.

Table 1. Interview and probing questions

The interview questions were as follows:
Could you please introduce yourself and talk about your experiences of studying in this master's degree program of online education?
Can you explain negative and positive experiences in this online program?
In your opinion, which part of your experiences was not foreseen in the program?
What hidden messages and lessons did this program have for you?
The following probing questions were asked:
Could you please explain more?
Please give an example.
Please support/ provide evidence for what you said.

Data analysis: Data were analysed according to the descriptive phenomenological approach of seven steps Content analysis of Colaizzi (24). The interviews were transcribed verbatim by one of the researchers (M.R). In order to understand participants' experiences and feelings, three researchers (S.B, A.D, A.Z) independently read and re-read the transcription carefully several times. Units of analysis, which were important words, phrases, and sentences drawn from the interviews, were coded and formulated meanings by the same three previous researchers (S.B, A.D, A.Z). Afterwards, the formulated meanings were classified into subcategories (based on commonalities and communication with each other) and finally by combining all the subcategories into a comprehensive description, the main categories emerged. The researchers (S.B, A.D, A.Z) sent two other researchers (J.S, Z.S) a copy of their results for confirmation and validation. Then they conducted several meetings among researchers to decide on disagreements and finalize the sub categories and categories. The researchers wrote an exhaustive description of the phenomenon (as clearly and unambiguously as possible) by combining the results. Therefore, researchers wrote an explicit and clear explanation of the basic structure of the studied phenomenon. The researchers returned this basic structure to all participants. They were then asked if this was an explanation for their experience. So that, if necessary, according to their feedback, the previous steps in the analysis can be modified. The results were confirmed by the participants and no new data were emerged.

Guba and Lincoln's criteria (1985) of Credibility, Transferability, Dependability and Confirmability were fulfilled to ensure validity and reliability of the findings (25). In this research, data credibility was ensured through a long-term interaction with the study participants, reviewing content of the interview and member checking. For transferability, researchers provided a comprehensive description of the participants' characteristics. For dependability, all the study details and direct quotations from participants were described extensively to be easily audited by others. Finally, the Confirmability criteria were performed by reviewing the data collection, and analysis, and examining the codes and categories extracted by three faculty members (Peer-check).

Results

The participants were 12 students of an online medical education, masters' program: eight female and four male students. From among them, two were second semester students, six were third semester students and four were fourth semester students. Each semester lasted about four and a half months (Table 2).

Table 2. Demographic characteristics of the study's participants

Participant number	Gender	Semester	Experience in online learning
P1	Female	3	Two semesters
P2	Female	3	Two semesters
P3	Female	4	More than a year
P4	Male	3	Two semesters
P5	Female	3	Two semesters
P6	Female	2	One semester
P7	Female	4	More than a year
P8	Male	2	One semester
P9	Female	3	Two semesters
P10	Female	3	Two semesters
P11	Male	4	More than a year
P12	Male	4	More than a year

After removing duplicate codes and merging similar codes, a total of 46 open codes were extracted. On the basis of the findings of the study, we were able to identify some categories related to hidden curriculum of the online medical education program. In this regard, six categories and twelve sub-categories emerged (Table 3).

Examining the extracted categories in the present study demonstrated that these categories generally prevailed in the hidden curriculum from two aspects. First, some of the aforementioned categories reflect the factors that constitute the hidden curriculum in the

online environment, e.g., interactions and communications factors, motivational factors, reflective and interactive feedback. Second, all the categories and subcategories were hidden messages that the participants received in the course, most of which involved the factors associated with the improvement of teaching and learning and the role of various factors in the online system.

Some samples of the statements by the participants:

P6: *Most of my classmates are clinical and there are not many of them. Because we cannot be close to each other physically, we increased communication with each other to learn.*

P4: *We formed a virtual group. For example, in the lesson of learning theories, each of us would explain a chapter by voice in the group, then other classmates would ask questions, and this created interaction and cooperation between us.*

P8: *Even during the previous semester, the education officer contacted us and asked for our opinion on how we access the content, this is good for an education system.*

P11: *There's a positive point that in every moment we need to feel; my colleagues and I were able to contact our teachers who are respectable faculty members at the university.*

Table 3. Students' experiences of hidden curriculum in an online medical education program

Category	Sub-Category	Open code
Interactions and communications factors	Peer group impact on interactive learning	Forming groups in social networks to learn from one another
		Communication between learners via groups on social networks
		Informing via participation in an online group
		Establishing virtual communication with classmates
		The need to synchronous virtual classroom
		Establishing interaction and communication between learners in the online system
	Face-to-face interactions as facilitator of teaching and learning	Establishing face-to-face communication among learners when required
		Performing face-to-face follow-up when required
		Establishing Face-to-face communication with faculty members when required
		Feeling the need to establish face-to-face communication
		Formatting or establishing communication between students
		Establishing communication with faculty members by face-to-face contact
	Working relationships between peers	Meeting with classmates at work to learn
		Establishing further contact with classmates of the same learning team
Motivational factors	Providing reward as motivating a factor for learning	Rewarding points to students who are faculty members
		Master's degree as an incentive system for students who are faculty members
		Free of charge courses for faculty members
	Easy educational processes as incentives to continue education/choosing a field of study	Easy participation in an online education course
		No entrance exam or interview to join the course
		Easy (online) registration process
		Previous acquaintance with the course
Reflective and interactive feedback	Exchange of feedback between students and the education system	Possibility to provide student feedback
		Follow-up to receive feedback from the course supervisor
		Possibility to give feedback to the system
	Constructive feedback between faculty member and student	Providing timely constructive feedback to students by some faculty members
		Doing homework and exercises with receiving feedback in some cases
Effective teaching and assessing	Content consistency with the objectives of the course/lesson	Relevant content to student needs
		Relevant relation between course content and the tests
		Appropriate tests and questions
		Relevant assessment methods
		Teaching the key points
		Brevity of content
	The need to accommodate educational methods with assessment and examination	Practical educational content
		Necessity of using podcasts and audio content for virtual learning
	Dominance of traditional teaching methods	The need of content relationship with developing skills
		Memory-based content
		Theory-based educational content
		Considering homework as a necessary requirement for learning

Educational standards, rules, and discipline	Educational standards, rules, and discipline	Uploading the educational content
		Timely access to the course plan and educational content
		Appropriate homework and exercise check to prevent cheating and copying
Faculty member's roles	Instructor as an influential factor	Sufficiency of time allocated to teaching and learning
		Enhancing comprehension through online synchronous question and answer sections
		Dedicating enough opportunities to educate students
		The need to connect online at the same time as the faculty member
		The importance of the teacher's role in uploading content and assignments on time

P10: *The same thing, sometimes, when there is no feedback, it is a bit annoying. Feedback was important for my learning.*

Discussion

The current study aimed to investigate participants' experiences of an online degree-based medical education program regarding hidden curriculum. Data analysis indicated six categories to hidden curriculum of the online medical education program that included: interactions and communications factors; motivational factors; reflective and interactive feedback; effective teaching and assessing; educational standards, rules, and discipline; faculty member's role. Given that the study sample consisted of faculty members participating in an Online Medical Education Master's Program (for professional development), it is expected that the hidden messages and experiences they gained will influence their professional behaviours and teaching strategy for e-learners.

The following subcategories are placed under the "interactions and communications factors" category: "peer group impact on interactive learning", "face-to-face interactions as facilitator of teaching and learning", and "working relationships between peers". Liturature review indicated that the importantce of interactions and communications factors has been highlighted both in the formation of the hidden curriculum and as an educational experience. Some of these studies were related to face-to-face education and some were related to online education. For instance, the study by Høgdal et al. identified two types of interpersonal interactions as spots for a hidden curriculum: instructor-student interactions, student-student interactions (26). However, participants in the current study experienced different types of interaction (teacher-student, student-student in the form of peer learning, student and online system). The study by Karnieli-Miller et al. similarly revealed that communication and teamwork experiences had the most extensive association with the professionalism hidden curriculum (27). In their scoping review, Raso et al. also identified the formation of hidden curricula through relationships between learners with peers, staff members, instructors, etc (2).

In the current study, the two subcategories of "providing reward as a motivating factor for learning" and "easy educational processes as an incentive to continue education/choosing a field of study" were placed under the "motivational factors" category, suggesting two issues: the impact of reward and encouragement on the formation of hidden curriculum and the transmission of hidden messages to learners about the importance of incentives and motivation in learning. Moreover, a literature review demonstrated significant relationships between the components of the hidden curriculum, e.g., encouragement, punishment, fostering creativity, and learning (28-30). According to published studies, motivation has a significant impact on the success of various types of e-learning for each individual (both teacher and student) and influences the content supplied by the teacher and its appeal to the learner, which is consistent with this apprehended hidden message (31).

The next category of the findings in the present study is "reflective and interactive feedback as the factor ensuring the success of online courses," which includes two subcategories: "exchange of feedback between students and the education system" and " constructive interaction between instructor and student". According to the experiences of participants in the current study, this category encouraged the formation of the hidden curriculum and was interpreted by the learners as a hidden message. The significance of feedback and reflective assessment in the development of hidden curriculum was underlined in some of studies (2, 32, 33). The study by Azadi et al. investigating the function of the hidden curriculum in patient education from the perspective of nursing and midwifery students can only absorb lessons deeply and sustainably if they receive adequate feedback (32).

According current study, three sub-categories of "content consistency with the objectives of the

course/lesson", "the need to accommodate educational methods with assessment and examination", and "dominance of traditional teaching methods" formed the hidden message (category) of "effective teaching and aassessing". In Basyiruddin et al. study, teaching strategy is referred to as a powerful hidden curriculum that is used by the teacher (34). Bigdeli et al. identified effective teaching (clinical and theoretical) as one of the factors of the hidden curriculum in undergraduate medical students (21).

The category of "educational standards, rules, and discipline" indicates hidden messages related to time, duties and educational regulations. Some of studies emphasized the role of rules and regulations in the educational system hidden curriculum and their direct impact on the learning process (2). In their studies, Azimpour and Khalilzade also pointed out that the principles and rules of the faculty, such as methods of development, evaluation, disciplinary problems, incentive and punishment issues, etc., are influential in the formation of a hidden curriculum (35).

The "Faculty member's roles" category demonstrates the significance of the faculty member's position in the hidden curriculum formation. Karimi et al. study indicated that educator's behaviour was as important factors on learning through the hidden curriculum. Students pay attention to educator's behaviour and educational roles in educational setting (36). The current study showed that this paying attention and modeling (positive or negative) also exists in online settings.

Limitation: This study was conducted at one department, university and country. This limitation could be addressed as the future research guidance in this area. Therefore, it is suggested to compare several universities or countries that use different online environments.

Conclusion

According to the current study, the participants of this online medical education program had several positive and negative experiences of online hidden curriculum which was not taken into consideration in advance and not addressed in the official curriculum. In the current study, the learning environment which influenced the categories and subcategories of the hidden curriculum was online. Constructive interaction and communication, encouragement and reward, and reflective and interactive feedback were the most important aspects defining the hidden curriculum in this learning environment. Therefore, each of the aforementioned categories can be considered by educational planners to develop strategies for promoting online learning.

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Ethical approval: This paper is part of a research conducted for the partial fulfilment of a master's degree in medical education. It is approved by Iran University of Medical Sciences (IUMS), Tehran, Iran (design code: 97-02-30-33149). All participants were above 24 years of age. After orally coordinating with the participants and sending the information sheet to them, written informed consent was provided by all participants. All methods were performed in accordance with the relevant guidelines in accordance with the Declaration of Helsinki.

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