

Designing a Model of Student Support in e-Learning Using Qualitative Content Analysis and Analytic Hierarchy Process

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Abstract: Student support services, especially for students who study virtually, increase satisfaction, attract new students, complete the course, and improve overall student performance. Given the importance of student support in e-learning and the fact that student support models should be specific to the culture and economic conditions and technology of their context, the present study set to design a native model of student support in e-learning for post-graduate students. To conduct the research, first a systematic search was performed to extract the existing models of student support. Through forming an expert panel and rating the models, more compatible models with the context of Iran were selected. The interview questions were then extracted from the concepts of the models who scored the most in the expert panel session. In relation to the examples of student support, interviews were conducted with 22 university teachers, education officials, and post-graduate students studying in educational branches leading to a virtual degree of medical sciences. Using content analysis of codes, sub-categories and the resulting categories were extracted from the interviews. Finally, in the expert panel session, using the (analytic hierarchy process) AHP, the categories were prioritized and the model was designed. After analyzing the content of the interviews, four main categories, namely teaching and learning, interactions and communications, empowerment, and structural support were extracted and the final model of student support was designed using the opinions of e-learning instructors. Despite relatively similar similarities between the native model of student support for e-learning students and the existing models, this model, which is designed based on the needs of students and faculty and e-learning officials, places more emphasis on teaching, learning, interactions, and communications.

Keywords: e-Learning; Student Support; Student Support Models; Qualitative Content Analysis

1 INTRODUCTION

Student support is a general term used for a wide range of services and institutions to help students achieve learning goals and achieve knowledge, attitude, and skills [1]. To have effective e-learning, the necessary support must be provided to the student; otherwise, e-learning will fail [2]. E-learning support services include a set of human and non-human resources to guide and facilitate the training course. These resources can include library facilities, media types, software programs, social guides, or include a variety of socioeconomic parameters such as financial aid, self-confidence, and capacities to adapt to their plans and responsibilities in the family and community [3]. In e-learning, the student and the teacher are physically separated. This separation affects the teaching and learning of teachers and students and leads to reduced motivation, reduced student engagement with courses, and their dropout [4].

In addition, some learners feel lonely in e-learning. Also, some students who attend these classes drop out of school due to lack of self-management skills and lack of motivation and sense of belonging to their institution [5].

Student support services lead to student satisfaction, and student satisfaction with e-learning leads to attraction of new students and persistence of current students, improving the overall performance of students, and increasing their progress and employability in the future [6]. Grigori (2018) indicated that students are more satisfied with courses that have a higher level of student support, and the more the amount of interaction between students, content, and interaction among students themselves, the more likely the students complete the course [7]. Lack of student support system is a limiting factor in the development of e-learning [8]. Therefore, e-learning institutions should provide effective and useful student support services to meet the

special needs of e-learning students and improve and enhance their learning experiences [9].

King Stone et al. argued that higher education institutions and universities should change their cultural approach to focus on students' learning needs since culture plays a central role in the provision of support services, and in fact, universities and their support systems should focus on the student and his needs [10]. To achieve this goal, educational institutions must consider their own context, culture, and assumptions to base their actions in this category. How educational institutions and universities provide support for students will ultimately lead to the viability of the chosen path [11]. It is very important that these systems (support services) actually seek to provide what students really need and are interested in Nichols [12]. Student support should be provided in a way that is usable and meaningful to him [13]. Student support services are highly dependent on the structure of the community, the potential of the community, and the facilities and needs of the university, but many aspects of student support systems are common to many universities. Therefore, inventory models that are more consistent with the educational context of another community can be used [14]. Studies show that many factors affect the provision of student support, so providers of student support services should consider various factors involved in the provision of student support in different universities and, accordingly, design the necessary support mechanism that is appropriate for their environment [15].

Considering the importance of student support in e-learning and the important role of student support systems in e-learning and the need to design a student support system in accordance with the needs of e-learning students in Iran, this study aimed to design a native model to support post-graduate students in e-learning.

2 MATERIALS AND METHOD

First, to find models of student support in e-learning, extensive searches were made in PubMed, ERIC, ScienceDirect, Ovid, Google Scholar, ISI, and Scopus databases from 2000 so far using the following formula.

TITLE-ABS-KEY(("student support" OR "learner support" OR "supporting student" OR " support services" OR support system OR "delighted student" OR "delighted learner") AND ("e-learning" OR "open learning" OR "electronic learning" OR "distance learning" OR "online learning" OR "mobile learning" OR "E-learning" OR "distance education" OR "open university" OR "distributed learning" OR "Open and distance learning" OR "M-learning") AND ("post graduate " OR "higher education" OR "University students"))).

2.1 Inclusion and Exclusion Criteria

Based on the search strategy, studies conducted since 2000 were included in the study. Duplicate and unrelated articles were excluded.

2.2 Data Extraction

Data were collected independently based on a standard protocol by two researchers. Disagreements between the two were resolved through negotiation between the two researchers, and if no agreement was reached, the review would be done by a third party. The extracted data included the name of the first author, year of publication, name of the country, type of study, and findings related to the designed model.

Then, in the expert panel formed with the presence of experts and instructors of e-learning, the extracted models were explained, and to find more complete models and in accordance with the context of the country, each model was scored using the Brath Waith checklist. This checklist evaluates five areas: content comprehensiveness, conceptual clarity, logical coherence, level of abstraction, and applicability. Models that received the highest score in the expert group were selected from the existing models extracted from the systematic search. The concepts in the approved models in the expert panel were also used in designing the interview questions, focusing on the purpose of the study.

The researcher used purposive sampling. The study population consisted of post-graduate students of the e-learning course leading to a scientific degree (Department of Medical Sciences), instructors (i.e. the instructors of the mentioned courses, including faculty and non-faculty members), and education officials. The interview time was pre-arranged with the participants. Before starting the interview, the purpose of the research, the reason for recording the interview, voluntary participation, and confidentiality of information and the identity of the interviewees were explained; the participants were asked for their permission to record their audio. To observe the maximum variation, it was tried to select samples from

students, teachers, and education officials with different economic, social, and demographic characteristics (such as age, marital status, being native, nonnative, etc.).

The research environment involved faculties and centers where students and teachers of virtual majors in medical sciences universities of Tehran, Iran, Shahid Beheshti, Shiraz, and the virtual university participated. After the initial agreement of the participants, the interview was conducted in the faculty, workplace, or any other environment they were interested in. Sampling was continued until theoretical saturation of the data.

All these universities, in addition to in-person majors that are not considered in this study, have distanc e-learning majors for post-graduate. They are among the main and leading universities in e-learning in Iran. These universities use LMS for educating; most classes are held asynchronously, and classes are rarely held synchronously. Final exams in most of these universities are held face-to-face with the exception of the virtual university. At the end of the course, students will be offered a distance-learning degree.

At the beginning of the interview, the participants were asked to give a brief introduction, followed by questions about the participant's demographic status. Then, using the questions extracted from the expert panel session, semi-structured interviewe was performed for the participants, and research on the participants' views on various dimensions of student support in e-learning continued, guided by the interviewees. The discussion went on until the interviewer made sure that the interviewee understood the concepts well. The researcher tried to explain the participants' answers to each of the interview questions using follow-up questions and sentences such as can you explain more? or when you say what do you mean?

To analyze and interpret the data, qualitative content analysis method and inductive approach were used. The unit of analysis was the total number of interviews, which were reviewed and re-read several times after typing the recorded interviews. Accordingly, meaning units were identified as sentences or paragraphs from the statements and texts of the interview, and each keyword or sentence was given a code. At this stage, the primary codes were extracted from them, and then similar codes were placed in groups next to each other; thus, primary categories were formed. Then, by continuous comparison, similar sub-categories were merged, and finally the main categories and themes were abstracted. The analysis process continued continuously with the addition of each interview, and the codes and categories were modified.

Then, with the formation of an expert panel in which e-learning specialists were present, the AHP method was used to determine the priority areas of the student support model in e-learning. In this method, the student support domains extracted from the content analysis were compared in pairs, and the members of the expert panel were asked to determine the preference of each domain over the other. After determining the priorities of the domains from the point of view of the panel members, the final model of student

support in e-learning was designed for post-graduate students according to the priorities of the domains.

3 RESULTS

In the first step, which was a systematic review to find existing student support models, a total of 1448 articles were found. The articles were transferred to an endnote document, leaving 733 articles after deleting duplicates. After reviewing

the articles and studying the titles and abstracts, 116 articles related to the topic of student support were found. Then, among these 116 articles, studying the text of the articles, students' support models in e-learning were searched, and six articles were detected in which student support models in e-learning were explained. These articles were then thoroughly studied and reviewed and the extracted dates were reported in Tab. 1.

Table 1 Student support models according to systematic search

Model categorization	Method	Model name	Country	Author and year	Results
Models based on different domains	Case Study	Mac Tague	Germany	Mac Tague [22] (2004)	<ul style="list-style-type: none"> • Help students to improve their research, writing, time management skills, and student support to complete their dissertations on time • Emphasis on the relationship between support methods and students' needs • Mere emphasis on cognitive domains • More emphasis on producers and education officials • Focus on the academic aspect
	Conceptual	Simpson	England	Simpson [2] (2013)	<ul style="list-style-type: none"> • Cognitive domain (promoting students' learning and cognitive skills) • Organizational area (helping to manage students' courses) • Emotional domain (helping the student to face the emotional domain of their learning, which includes helping the student to improve their learning motivation, enhance the student's confidence as a learner, and help the student to manage his stress, especially exam stress.
	Conceptual	Atkins	England	Atkins [24] (2008)	<ul style="list-style-type: none"> • Existence of a comprehensive student support approach • Change in the approach from university- centered to student-centered and participatory approach • Reflective support (strengthening student motivation) • Cognitive support • Emotional support (supporting students about how they feel about learning) • Systematic support
	Content analysis	Jung	South Korea	Jung [16] (2014)	<ul style="list-style-type: none"> • Providing a five-dimensional model of student support in e-learning students • Adding gender category to previous models based on the context of East Asian countries
	Content analysis	Mohammadimehr	Iran	Mohammadimehr [8] (2021)	<ul style="list-style-type: none"> • Providing a seven-dimensional model of student support in e-learning students. In addition to student support, professors and staff need to be supported.
Model based on education stages	Conceptual	Lap	America	Floyd [19] (2004)	<ul style="list-style-type: none"> • Learner perception phase: defining goals and assessing students' readiness • Learner assessment interventions: Student support for personal development and learning • Learner support: Helping the student to improve their skills • Learner transfer: Providing job selection consulting services • Measurement: Assessment of the effectiveness of the program

Table 2 Demographic characteristics of the participants

Variables		No. (%)
Gender	Female	6 (28%)
	Male	16 (72%)
Age	40≤	11 (50%)
	41-49	3 (14%)
	50≥	8 (36%)
Student		12 (54%)
Instructor		4 (18%)
Instructor and the education officer		6 (27%)

In the next stage, at the end of the expert panel session, two models scored higher than the existing models (Jung model and Lap model) and the participants unanimously agreed that these two models are more in line with the culture and conditions of Iranian society than the other models. In addition, are more complete. Then the interview questions are extracted from the content of these two models. The questions extracted were as follows: How familiar are you with the term student support and student support systems?

What is the role of university instructors, the faculty, and the education system in student support? What are student support needs at each stage of study? What are other examples of student support in your idea?

Then, 22: (twelve students), (four university instructors), and (six virtual education officials) were interviewed using questions approved at the expert panel meeting (Tab. 2).

From all interviews, 238 initial codes, 15 subcategories, and four main categories were extracted. The four categories described included "interaction and communication", "learning/ teaching", "empowerment" and "structural support".

3.1 Main Category/Teaching, Learning

Learning/teaching means learning supportive needs that are felt for the student to learn better in the field of knowledge (Tab. 3).

The teaching-learning category consisted of five sub-categories: "diversity of approaches and educational contexts", "support for student learning", "support by the teacher", "monitoring the student's academic status", and "accurate and transparent assessment of the student."

Table 3 Main themes and subthemes related to the student support in e-learning

Theme	Subtheme	Similar codes
Teaching/learning	Monitoring the student's educational status	<ul style="list-style-type: none"> Monitoring student activity in the LMS Following up students with low activity Planning to manage students' study time Monitoring thesis progress
	Support by the instructor	<ul style="list-style-type: none"> Guiding the dissertation process by the professor, from the title selection to the final defense Academic counseling and guidance by the instructor Facilitating learning through appropriate interaction
	Correct and transparent student assessment	<ul style="list-style-type: none"> Reliable and valid assessment Variety in student assessment methods Informing the evaluations method
	Approach variety and educational contexts	<ul style="list-style-type: none"> Holding synchronous and asynchronous classes Holding face-to-face sessions if needed Justifying students for the importance of face-to-face sessions of the program
	Supporting student learning	<ul style="list-style-type: none"> Lesson plan and study guide The teacher's attention to student learning Paying attention to students' learning style Proper schedule for presenting teaching content Increasing learning motivation through providing lessons and practical content Instructor flexibility in educational affairs Appropriate and timely feedback on assignments and learning activities Providing learning activities tailored to the level of competence Proportion between lesson content and learning activities Using the social media platform for student learning
	Interactions and communications	Communication with the instructor
Communication with peers		<ul style="list-style-type: none"> Ability to communicate with peers Forming small groups of peers for learning
Communication with graduates		<ul style="list-style-type: none"> Possibility of communicating with higher year students Formation of alumni associations Holding training courses for graduates Holding a graduation party
Empowerment	Instructor empowerment	<ul style="list-style-type: none"> Empowering IT instructors Empowering instructors to teach in the virtual space Taking advantage of instructors specialized in virtual education
	Student empowerment for e-learning	<ul style="list-style-type: none"> Empowering students to manage personal and academic affairs Empowering students to acquire metacognitive and self-regulatory skills
Structural support	Attention to student affairs	
	Appropriate organizational support in the field of education	<ul style="list-style-type: none"> Holding an introductory and briefing session upon arrival Communicating sincerely with education experts

		<ul style="list-style-type: none"> • Assigning capable and responsive experts in virtual education • Full-time expert support • Transparent informing of educational affairs • Accountability of the education sector to the student • Group flexibility towards the student • Presence of an academic consultant • Clarity of the teaching and learning process
	Material and spiritual support	<ul style="list-style-type: none"> • Students' awareness about the future career of the academic discipline • Increasing learning motivation by recognizing the position of the discipline • Graduate job placement system • E-learning degree accreditation • Financial support system • Establishing similar support as for face-to-face course students such as food stamps, loans, etc. • Special privileges for top students
	Student evaluation of the instructor	
	Suitable infrastructure for e-learning	<ul style="list-style-type: none"> • transparent system of student evaluation of the instructor • Attention to the student evaluation results about the instructor • Attention of educational administrators to students' opinions • Curriculum revision for virtual presentation • Need to provide suitable infrastructure for synchronous and asynchronous classes

1) Variety of approaches and educational contexts

One of the participants mentioned in the interview that the inclusion of in-person sessions in the e-learning program will cause the student to interact more with the teacher and will remove ambiguities and questions related to the lesson, and ultimately lead to better learning of the lessons.

"Certainly, if we see the teacher one, two, or three sessions in person and the classes are held in person, many ambiguities will be removed. Certainly, with in-person classes, we can ask our questions much better and learn the material more deeply and better." (Student No. 1)

2) Student learning support

One of the instructors participating in the interview points out the importance of assisting and virtual networks that can be used to promote students' learning and better understanding.

"I always make a WhatsApp or Telegram group, and most of the learning occurs there when I'm there, and if a student asks a question, I can answer it." (Instructor No. 5)

3) Support by the instructor

One student points out the importance of the teacher's role in the dissertation process from beginning to end.

"Our expectation is that they will show us the way well so that we do not do anything again. Good and acceptable body presentation will help us in the proposal so that we do not suffer too much so that the instructors may correct and return our dissertations and accompany us throughout the dissertations." (Student No. 9).

4) Monitoring the student's educational status

One of the instructors pointed out the importance of student monitoring and not leaving students in e-learning alone. He stated that they should limit education years because this will accelerate the student's graduation."The problem with e-learning is lax students, and humans instinctively relax where they are lax. If they don't have limitations for their education years, we won't know what happens to their education years. They like to finish soon; who doesn't like it?" (Instructor No. 5)

5) Correct and transparent student assessment

One of the interviewed students described her experience of how to evaluate while studying in e-learning in such a way that she believes that evaluation should be comprehensive and complete and should not rely on only one specific aspect."The evaluation was only on the assignments, and the assignments were all copies, and they did not check at all why the type of assignment is just this and there are no other things next to these assignments or online tests. That evaluation should be really a real evaluation of that person. It was not possible." (Student No. 7)

3.2 Main Category/Interactions and Communications

This category refers to the supportive needs that the student feels in communicating between different groups, including three subcategories: "communication with the instructor", "communication with peers", and "communication with graduates."

1) Communication with the instructor

One of the participants pointed out that in e-learning, especially at the postgraduate level, one of the factors that can be supportive for the student is the possibility of quick access to the instructor when necessary."The person should feel that he can send a quick message to the teacher whenever he wants, and he will see and respond; this itself can create a good feeling of support in the student." (Student No. 9)

2) Communication with peers

Regarding the importance of communication with classmates, one of the participants in the interview commented as follows."If an instructor or university does something that students can interact with in groups, it can partially solve this problem (feeling isolated and lonely) and make those connections easier to form" (Student No. 5).

3) Communication with graduates

In an interview, one of the education officials said that the formation of graduation centers after graduation plays a supportive role for the student in various ways and ensures

that the student does not lose contact with the university after graduation."Our students should have graduation centers. The system that gathers students to celebrate graduation. In fact, it provides the support that one is in touch with both the university and his classmates even after graduation, and perhaps if there is support for their profession in those specialized associations, this will happen" (head of education and Instructor No. 2).

3.3 Main Category/Empowerment

Empowerment refers to supportive needs to become more empowered to study in virtual courses and includes two subcategories "instructor empowerment" and "student empowerment."

1) Instructor empowerment

The view of one of the educational deputies participating in the interview was that not every instructor is suitable for teaching in e-learning and instructors who are somewhat capable in working with software and technology, or at least interested in learning and teaching in this field should be selected. "They have a phobia of working with software and technology, you know? Because of this, we should not bring not every instructor; we should employ an instructor who is really interested, knows some technology, or at least not afraid. Some people are actually afraid."

Instructor No. 2 referred to the self-regulatory discussion and the need to teach this to the student and empower the student.

2) Student empowerment for e-learning

"Self-regulatory personality structure discussions should be declared before they enter; they should be highly self-regulated; they should not be very dependent on in-person communications, and that it should not be that someone is looking for them to do something; they should know that this is not possible in virtual education."

3.4 Main Category/Structural Support

It includes structural and organizational support in e-learning and consists of five subcategories: "Appropriate organizational support in education", "material and spiritual support", "appropriate infrastructure for e-learning", and "paying attention to individual affairs of the student", and "the instructor evaluation by the student".

1) Appropriate organizational support of education

Instructor No. 5 said that education experts should be justified that the situation in e-learning is sometimes different from in-person education and the student needs special support. "All of this should be oriented. For example, the expert who is there should not think like an expert in a college. Some education experts still think traditionally. For example, we should ask for something. We should send an official letter. Let's send it and get it signed." (Instructor No. 5)

2) Economical and spiritual support

It is inferred from all the statements of the participants in the interview that material and spiritual support in e-learning is a primary aspect in supporting students. One of the

students expressed the need for student support in this regard: "In terms of the psychological realm of motivation to continue education, for example, one is what the benefit of the field is during one's employment and what its application is, which can also be helpful." (Student No. 1)

3) Suitable infrastructure for e-learning

According to one of the instructors teaching e-learning courses, the need for changes in the e-learning curriculum is felt, and changing the course curricula based on the conditions and characteristics of e-learning can play a supportive role for students.

"In virtual space, I think something has to change in the curriculum itself. Finally, some of the evaluation methods, some of the teaching methods that you wrote in the curriculum are not possible in virtual education; you have to add something else." (Instructor No. 5)

4) Importance of individual affairs of the student

The instructors and students participating in the interview emphasized the importance of paying attention to the individual affairs and problems of the student. A student who was diagnosed with cancer while studying described his experience as follows: "Of course, I was in a state of illness and secluded somehow, because of the side effects of the thoughts that came to me, I might not have had the initial motivation, and continuing my work was questionable. It would have been very helpful if the university or instructor supported me in this field." (Student No. 10)

5) Instructor evaluation by the student

Several students referred to the issue of student evaluation of the instructor. One of the interviewed students complained about the inattention of the education officials and the department to their opinions and evaluations of the instructor. "We evaluated the instructors and said that one of the instructors was scientifically good but did not have the power of communication and his class is boring. We said it, but we did not see any feedback that the instructor wants to change." (Student No. 8).

To design a model of student support in e-learning, the panel of the main categories extracted from content analysis in the expert session was compared in pairs to prioritize the domains through AHP based on [20, 21, 23, 25] (Tab. 4).

Table 4 Results of AHP

Criterion	Weight	Priority	Explanations
Learning – Teaching	0.451	1	coefficient of inconsistency = 0.03
Empowerment	0.119	4	
Structural support	0.261	2	
Interactions and communication	0.169	Learning - Teaching	
		Empowerment	
		Structural support	
		Interactions and communications	

The following model was designed according to the results of prioritization of domains and using the opinion of e-learning experts.

Finally, the following model was designed by forming an expert panel and using the opinion of e-learning experts (Fig. 1).

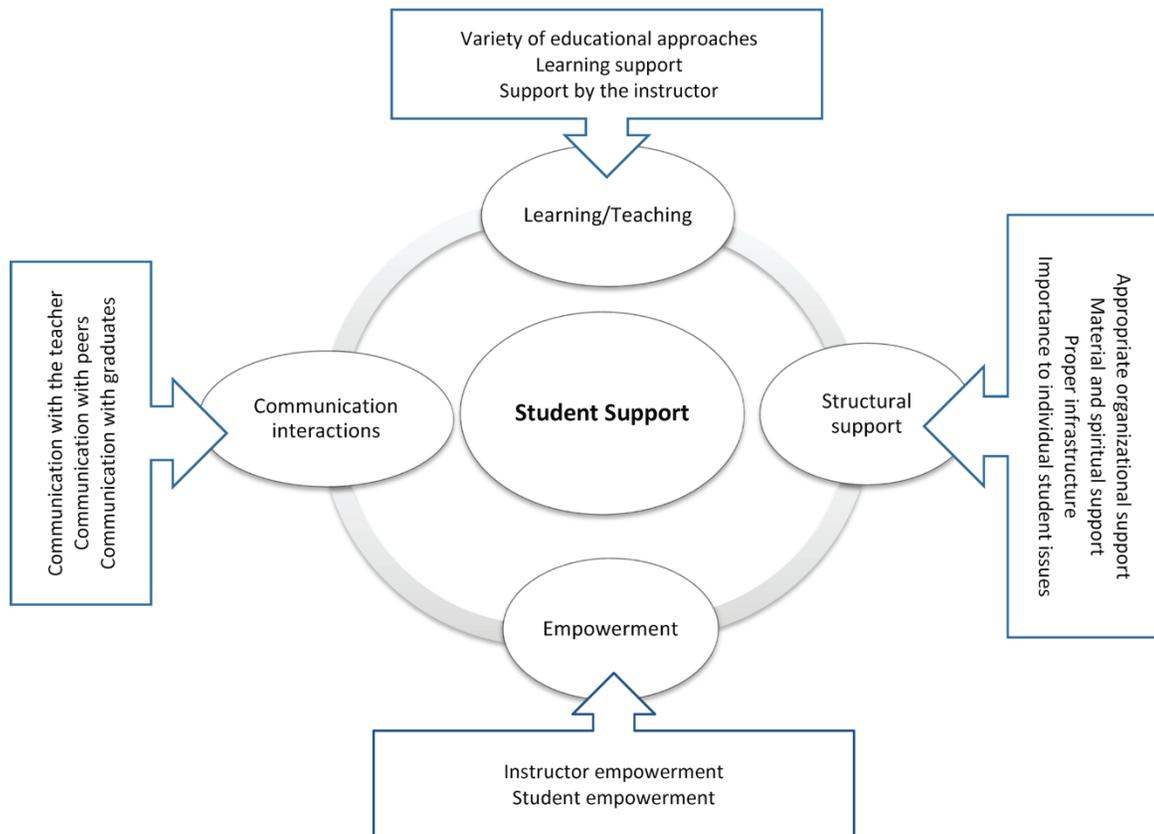


Figure 1 Conceptual model of Student Support in Distance Learning

4 DISCUSSION

The present study was conducted to design a student support model for post-graduate students of medical universities who study virtually and obtain a virtual degree.

According to the participants' items, diversity of approaches and educational contexts, support for student learning, support by the instructor, monitoring the student's educational status, and correct and transparent assessment of students are the examples of student support; it is called teaching-learning category in this model. Simpson presented a three-dimensional model of student support; one of the main categories was dedicated to the cognitive domain, in which student support is taken into account in the field of better learning of courses, proper assessment and correct feedback, and improving learning skills to learn courses better [2]. Also in the Jung model, one of the main classes of the model is dedicated to the cognitive domain, which includes supporting the student in order to evaluate correctly, giving feedback, and other activities in order to better learn and prepare for the exam [16].

The interviewees emphasized the importance of receiving the necessary support to improve the learning of the courses and pointed to the need for support from instructors and the university to learn as many courses as possible. Many of the interviewees mentioned support in communication with the instructor, peers, and the graduates. However, the majority of interviewees emphasized the need for supporting interactions and communications. The

interviewees stated that communication with the teacher is weak in e-learning systems, and in most cases, communication is not performed properly. Also, communication with peers and graduates of the field of study leads to better and deeper learning. However, existing student support models pay less attention to this issue, perhaps due to the difference in the formation of online classes and the possibility of making video calls in the e-learning systems of developed countries due to the availability of high-speed Internet platform [26].

Dalbani [17] wrote that the distance between teacher and student in e-learning has a negative effect on student learning, so proper interaction and communication between teacher and student in e-learning seems necessary so that students do not feel alone.

Interviewees in this model pointed to the importance of teacher and student empowerment as an example of student support in e-learning. Existing student support models do not explicitly address the issue of empowering faculty and students for e-learning, perhaps because e-learning courses are older in the countries that host these models.

Chatpaka Ratana [5] pointed out that the lack of self-management skills in e-learning students causes them to drop out. Adelman [18] also stated that some students drop out of e-learning courses because of poor self-management skills and motivation.

One of the main classes of most of the existing models of student support is structural and systematic support. For example, Jung [16] in his model asked whether the system

and structure of e-learning support the student in the student support system. This area includes support such as assessing student progress during the course, evaluating and validating the university education system, technical support, etc. Adelman [18] stated that all those involved in education and structural resources in the e-learning system should be considered an integral part to support services.

In the five-dimensional model of Jung, presented for East Asian countries, a separate category called gender is addressed, which in the view of recipients of e-learning services, it is necessary to pay attention to this area in supporting students in East Asian countries. In the present study, none of the participants specifically mentioned gender instances in relation to student support. It seems that this issue is related to cultural differences and the conditions of education and work in the e-learning in the country, which is almost equal in both genders. Also, in the Lap model, student support services are divided according to the course and time stages of study [19]. Also, Mohammadi Mehr [8] emphasized different support needs in time stages. Most of the interviewees pointed out that they need different support to continue their education in different stages of their education.

In general, the model presented in this article, which refers to the importance of four areas of teaching-learning, structural support, interactions and communication, and empowerment, is the result of the opinions of the interviewees who mentioned the need to support students in these areas in the interviews.

5 LIMITATIONS

Due to the corona epidemic and travelling problems [27], some of the interviews had to be conducted by telephone, and expert panel meetings were also held virtually. In the systematic search, only English articles were included in the study. Another limitation was the problems that occurred after the coronavirus outbreak, and some of the interviews had to be conducted in distance, and the interviews were limited to people from selected universities in the country.

6 CONCLUSION

Although the present extracted model is in many ways consistent with existing models of student support in the field of e-learning, there is a need to use a student support model consistent with the views of e-learning stakeholders and compatible with the cultural, economic, social, and educational conditions of the country due to cultural, social, and economic differences between countries. Therefore, to establish student support systems, education officials and decision makers are suggested to use the current model, which is in line with the needs of e-learning students and the opinions of instructors and educational officials in the country.

Conflict of Interest

I hereby declare that the authors did not express any conflict of interest.

Acknowledgement

I would like to thank all the people who participated in the interviews.

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