

Identifying and Prioritizing Barriers to Implementation of Blended Education in Lower Elementary Schools from the Perspective of Teachers

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Abstract

Given the advancement of technology and successful human experience in using it in the field of virtual education and considering the benefits of face-to-face education especially in primary education, and finally the global epidemic; the use of Blended Education in primary schools can be very helpful. The present study tries to identify and prioritize the barriers to implementation of blended education in lower primary schools from the perspective of their teachers. The method of this research is survey in terms of purpose. The statistical population is all primary school teachers in District 18 consisting of 340 teachers. With using random sampling method, based on Morgan table, the sample size was determined 180 teacher. The data collection tool was researcher-made questionnaire, consists of 36 questions that count information in nine components regarding barriers to blended education. Curriculum teachers' opinions were used to determine the validity. The reliability of the questionnaire was 0.83 through Cronbach's alpha. Descriptive statistics (mean, standard deviation and coefficient of variation) and inferential statistics (one-sample t-test and Friedman test) were used to analyze the data. The results showed that barriers include: lack of appropriate software facilities for teaching, low evaluation skills in virtual context, low ability of teachers to control students to attend the virtual classroom, students' lack of access to hardware facilities, lack of creativity and innovation in teaching appropriate to cyberspace, insufficient access to students to establish interpersonal emotional communication with students, low level of competition between students for better and more learning, low ability of teachers and students in use of educational software; in order of priority is barriers of blended education. The only component of low motivation of students to participate in virtual education is not significant and is not counted as barrier.

Keywords: Blended Education, Elementary School, Barriers of Implementation, Virtual Education, Traditional Education.

Introduction

Islamic Republic of Iran after the Islamic Revolution, has made significant progress in the field of educational quantitative and qualitative development; in a way that almost all children have opportunity to study, even if they are in remote and border areas of the country (Nasresfahani and Montazernia, 2020). Despite many advances in education development in the field of quality, the use of new educational methods

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is not up to date (Dadgaran and Bagheri, 2020). The lack of necessary quality is related to the theoretical gap in this field on the one hand and on the other hand is related to the gap of applying the theoretical knowledge that produced in education sector.

One of the important aspects of transformation in learning is attention to student-based education in shadow of E-learning. Virtual education is seriously considered as one of the learning methods in the world. But in Iran, it has been implemented in a limited number of universities and has faced many challenges and was not included in educational system until 2019, which coincides with Covid19. Corona is recognized as a public health hazard, the largest catastrophic outbreak since the outbreak of SARS Respiratory Syndrome in 2003 (Wang et al., 2020). Therefore, virtual education was considered with created problem in the world educational system (Mayadas et al., 2009). This change in teaching methods has led countries to switch to E-learning or blended education, which is a combination of E-learning and face-to-face education. Iran also conducted blended education for the first time in its education. It should be noted that at first it was based on television education and then by designing a suitable application for education, the teaching method was shifted to blended education. The urgency of the crisis, on the one hand, forced education to react quickly and enter into blended education on the other hand, it faced barriers and challenges. The training, which is typically done with educational prerequisites, was used at once and for all educational levels. This issue received more attention when elementary school students were suddenly exposed to this education. However, paying attention to this method and barriers that teachers face with this, today is one of the important issues in education. It should be noted that the corona, like other emerging social phenomena, can be considered as an opportunity, which if used, can be used to accelerate educational movement and make the necessary changes and initiatives according to local needs and capabilities.

The 21st century, despite the advanced electronic media, is known as the age of information and communication in which the media give the most information to people (Borjalizadeh and Jafari, 2020). The use of electronic tools in learning has been considered for several decades (Zaer Sabet et al., 2020). Virtual education is one of the most important trainings due to its ubiquity and location, which is increasingly important due to the rapid growth of science in current era and has become an integral part of current educational system. Blended learning refers to the third wave of virtual learning. The first wave included one-way educational methods such as providing education through radio and television (Shirzadegan et al., 2020); and the second wave included mere technologies, such as web-based learning and computer-based learning (Jafari et al., 2020). While E-learning was expected to eradicate all past educational methods; the third wave called blended learning, emerged in which teaching methods were combined to include a way to maximize the benefits of face-to-face teaching methods and multiple technologies.

This type of training became more important during the outbreak of Coronavirus. At a time when maintaining physical distance between people was one of the main guidelines announced in this case, doubled attention to virtual education and blended education. This incident led to fundamental changes in education, which lacked sufficient experience in this field and lack of some infrastructure, faced many challenges in educational system. The Ministry of Education was faced with the phenomenon of having to prioritize student health while maintaining the quality of education. At first, tried to simplify the virtual student-teacher-parent communication by designing the application, and then adopted basic strategies in this field. The importance of this issue becomes clear when the students of lower elementary school also have to get acquainted with this method of education and increase their knowledge. The course that has the

greatest need for face-to-face relationship with teacher that has caused problems for students, teachers and parents.

In other words, the spread of the corona virus and compulsion of education to virtualize education have confronted students, teachers and managers of this organization with a new issue (Mohammadi and Keshavarzi, 2020). This has led education to try different ways from the beginning of this situation until now. Educational television, Student Education Network (SEN) app, use of E-learning platforms, and use of other social networks have been many ways that schools are now moving toward blended learning. Conditions in which the student can only attend school to fix problems and communicate with the teacher. From the beginning of this type of education in different stages, many challenges have been faced in education (Salimi, 2020).

At some point in time, meeting the Internet needs of students and teachers and the technical shortcomings of the field was a serious barrier to providing quality education. Provide the necessary equipment, including a suitable mobile phone for educational purposes, and computers and televisions for some students and teachers, as well as training their use for students and teachers, as well as worrying about possible damage due to the sudden introduction of a new lifestyle and control. Also it is important that students who suddenly and without the necessary bedding and have a mobile phone that connected to the Internet all the time. Coordination of students, teachers and parents was also one of the issues that was considered.

But what is important here is that if the structural and technological flaws are removed from the teachers and students, they will still be involved in new educational conditions that are completely different from the pre-Corona era (Salimi, 2020). This is a new style of teaching in which most of the teaching is done electronically and the student communicates with the teacher in person to solve problems; has created a serious problem for teaching, assessing the understanding of the course content and finally evaluating. On the other hand, issues such as student motivation, the level of competition between individuals are also problematic as well as creating challenges and thinking processes in teaching. But this type of education in elementary school faces more challenges than secondary school. Classes in elementary school, especially in the early years, are based on the teacher and his effort and ability in emotional communication with the student and at the same time using the appropriate teaching method for this age due to the new space and situation for student (Alborzi, 2020). These issues have made doubly sensitive the blended education in elementary school. This issue was considered to some extent in the scientific field, but it could not compensate for shortcomings in educational space and remove barriers in front of teachers and students. Barriers that cover a wide range of issues and have led to unscientific judgments due to personal analysis and presentation of individual experiences. So in elementary school what are the barriers for teachers to implement blended education and what are the dimensions of it? To be more precise, the research questions are:

In implementation of blended education in lower elementary schools from the perspective of these schools' teachers,

- 1- What are the barriers related to ability of teachers and students to use educational software?
2. What are the barriers to teachers' ability to control students attending in virtual classroom?
- 3- What are the barriers related to students' motivation to participate in virtual education?
4. What are the barriers to student access to establishing an interpersonal emotional connection with students?
5. What are the barriers to sense of competition among students for better and more learning?
- 6- What are the barriers to teacher creativity and innovation in cyberspace teaching?

- 7- What are the barriers related to the student's access to hardware facilities?
8. What are the barriers associated with virtual assessment skills?
- 9- What are the barriers related to suitable software facilities for education?
- 10- What is the priority of barriers to implementation of blended education?

Methodology

In terms of nature, this research is a quantitative research; in terms of purpose, practical; and in terms of data collection method, is a survey method. The statistical population of the present study included all primary school teachers in boys' schools in District 18 of Tehran, including 340 teachers. Also, the sampling method was random and the sample size was determined 180 teacher based on Morgan table. The data collection tool was a researcher-made questionnaire form. 9 scales were designed and 4 items were considered for each scale, so that the questionnaire consisted of 36 items and 9 scales and was designed based on the five-point likert scale. To determine the content validity, questionnaire was approved by 12 curriculum specialists. The reliability of questionnaire was determine 0.85 by Cronbach's alpha method with responses of 30 primary school teachers. In the next step, the questionnaire was distributed among the statistical sample and the results were entered and analyzed in SPSS27 software. Data were described and analyzed through descriptive and inferential statistical tests. The statistical methods and techniques used in descriptive section include mean, standard deviation and coefficient of variation; and in inferential section were used one-sample T-test and Friedman test.

Findings

Blended education means using more than one method, strategy, technique or media in education to present educational content. Applying a blended approach to teaching provides teachers with greater freedom of action into the use of educational tools and environments. Blended learning allows instructors to have a balanced presence in face-to-face and online classes, so that online components will naturally increase the learning of traditional classes and ultimately lead to meaningful experience (Savari and Fallahi, 2016).

In fact, blended learning seeks to utilize a variety of resources and tools such as multimedia simulation software, conferences, CDs, books, extracurricular activities, traditional classrooms, virtual classrooms, laboratories, groups and forums to help the learner to learn better. The most important limitation of traditional education is the lack of a combination of text, shapes, images, sound and animation (Bordbar and Hosseinifard, 2009), which is eliminated in blended education. In other words, blended learning is one of the topics from which, like E-learning, are received different interpretations. The term of blended learning generally means the use of online media in curriculum or course with benefits of face-to-face communication to support learners (Saeedpour and Tabasi, 2010). Proponents of this educating seek to find ways to integrate media appropriately to effectively support learners individually or in groups (Garrison & Kanuka, 2004). Nowadays, online learning has lost its fans only in person, and the third view, called blended education, believes that this method of teaching has more satisfactory results (Prinsloo & Van Rooyen, 2007).

According to Ardid et al. (2015), blended education should be considered as an opportunity to redesign new teaching methods in which traditional classroom courses combine, develop and deliver virtual and traditional education. Based on this view, Garrison & Vaughan (2008) also consider blended education

as fundamental coordination of online and traditional methods with technologies, and for better learning intelligent selection of both together. Also, Moskal et al. (2013) consider blended learning as a dynamic, responsive and growing process that is considered from a pedagogical perspective as a basis for designing and developing teaching-learning process. Hence, Ardid et al. in academic circles learn about blended education as a model of intentional integration of traditional and online education experiences through the application of various technologies appropriate to teaching-learning process.

Procter (2003) offers a broader definition of blended learning, in which he sees blended learning as an effective combination of different teaching methods, teaching models, and learning styles. Driscoll and Tomiak (2002) believe that blended learning has a fourfold combination of web-based technology methods to achieve educational goals, combining a variety of pedagogical approaches to optimally produce learning outputs with / without technology, combining any form of educational technology (with face-to-face training and learner-centered) and ultimately combination of educational technology with job tasks. Behnke (2012) also believes that the main concern of educational institutions and educators is more efforts to integrate education and learning, not technology. Hence, the solution is the concept of blended education and the balance of integrated learning versus education, which has brought learner and learning process to forefront of integrated curriculum planning.

So, it can be said that blended education is education that has used various mechanisms in this field to obtain general training solutions. In this type of training, anything can be used in order to help audience to learn knowledge and skills better; such as multimedia software and books. This type of learning also allows users to balance training cost with progress of program, and get good results from their work. Learning delivery mechanisms that can be used in blended learning include traditional classrooms, virtual classrooms, online training, computer-based training, networked training, study and workbooks, online labs, practice tests, groups, and associations. In other words, blended education is a new method of education that has recently been considered in the educational system of countries. For this reason, it is a new method that is being tried and tested. But the efficiency of this method has caused it to be increasingly welcomed as a new and efficient method. It is noteworthy that the spread of coronavirus has boosted the use of this method among countries; in a way, some educational systems have been forced to follow this method which were hardly moving towards virtual and blended education.

In our country, with official announcement of closure of schools, teachers, based on their mission, have always tried to keep in touch with students and their parents, spontaneously produce content and present it on social networks. They continued their students' education (Mohammadi and Keshavarzi, 2020); but after a while, the Ministry of Education introduced the TV education network as an alternative to the school. After continuation of corona virus and closure of schools, the country's educational system decided to create educational network in the virtual area that create an opportunity which students can receive lessons online by teachers, and thus, Student Education Network (SEN) was born and education in Iran entered to new space. It can now be said that all educational activities in country's schools, especially in elementary schools, take place in the context of this program, and millions of students and teachers use this program on a daily basis. The structure of SEN is the same as the structure of real schools, i.e. students enter the virtual classroom and teacher is present at the same time according to class program and follows teaching-learning process. Teaching materials by teacher is the main content of virtual education in SEN (Abbasi et al., 2020); But the teacher is also allowed to use the content that has already been uploaded to SEN. Also, from the beginning of current academic year, it has been possible for teachers to broadcast the class live.

It should be noted that sudden transfer of all burden of current education systems on E-Systems and digital space has created serious barriers and challenges to E-learning. These challenges include: inadequate skills of teachers and educators; negative attitudes toward E-learning; different ways of learners interact with teachers, content and system of teaching; highly personalized learning styles with formal curricula; decline in learners in length of semesters; severe decrease in motivation of learners who were unprepared to continue their education; heterogeneous access to content, unreliable evaluation systems alongside technical problems such as the slow network speed in schools, and the lack of classroom experience in digital space.

The Covid 19 crisis seems to have other effects, such as increasing family involvement and oversight of children's learning process; increases the level of learner involvement in learning process; increases learners' learning style and flexibility in achieving learning objectives. Unfortunately, it causes students to fall in absence of external controls and incentives, because the school is an important factor in maintaining the student's level of motivation and engagement with the lesson in dangerous and difficult situations. At the same time, blended education changes the form and manner of teaching and learning, fosters learning personalization, diversifies learning styles, transforms relationships between key elements of teaching and learning, and the role of teachers and students, expands knowledge and content production, diversifies resources, expands leisure learning, and increases learning time for motivated individuals.

Overall, the explanations provided show that the subject of present study can open a new chapter in the subject of blended education. Researchers, after reviewing the research conducted in this field and various theories, and considering the current conditions of blended education in primary schools and considering the fact that the research is examined from the perspective of teachers, considered executive barriers. These barriers include: low ability of teachers and students to use educational software, low ability of teachers to control students to attend virtual classes, low motivation of students to participate in virtual education, lack of access to students to establish interpersonal emotional communication with students, low sense of competition between students for better and more learning, lack of creativity and innovation of teachers in teaching appropriate to cyberspace, lack of student access to hardware facilities, low evaluation skills in virtual context and lack of existence of software facilities is suitable for training.

In response to the **first** question, based on the results, the average variable of inability of teachers and students to use educational software in implementation of blended education is significant at the level of 0.05 ($t = 19.45$); And with an average of 8.81 is less than the hypothetical average (12). This indicates that the desired variable can be considered as barrier in implementation of blended education. Given that the ability of students and teachers to use software is one of the first skills in this field, this component can be considered an important component. In this component is evaluated the teacher's ability to search for appropriate multimedia content, as well as any material or science that improves the status of blended education. This capability includes the Internet or social networks. For example, a teacher who has an optimal and intelligent activity in social networks, can get acquainted with the latest status of publishing the latest books, as well as presenting the latest articles, theories and the latest solutions to solve current problems. In other words, purposeful activities focused on the subject of education in cyberspace, such as membership in specialized groups of teachers in this field is effective. However, some teachers may be active on social media in a way that is just a waste of time and has little added value to the time they spend. On the other hand, the value of searching in the Internet is not hidden from anyone; some teachers in the fastest time find what they are looking for from a previous individual effort in the world, thereby saving hours of time and use work in favor of their intended purpose. However, if they ignored this option, even if they spent a lot of time, they would not reach this conclusion. In explanation, it should be said that some

teachers use the fragmentation of existing films and animations to teach their subjects, which may increase the speed of comprehension and attraction of students, they are sufficient with just sound and editing changes, which is a remarkable ability to find such films, animations and images in the realm of the world.

In addition, the ability to use the software as well as the production of content at a minimum level is necessary for the correct evaluation. To assess students' learning status, teachers need to continuously receive feedback from students and monitor the progress of the class, and this review is achieved with student feedback, which includes images and videos submitted by students that if the quality and not having the right volume will cause a serious problem for the teacher. Also, the ability of families and students to use the Internet and social networks makes be solved some questions and problems by themselves and less time and money is taken from the teacher. Since blended education is the result of combination of face-to-face and virtual training and the use of software is an integral part of it, it is obvious that the ability in this case is one of the requirements in this type of training. But this is also a major challenge for teachers who have traditionally worked in a traditional way and rarely use electronic tools and media products. But for students, since these students are in elementary school, with the outbreak of the Corona virus, doubled the problem of using software and familiarity with electronic tools. This issue was more common in first grade students than in other grades. From this perspective, students were confronted with educational environment for the first time, and on the other hand, they were illiterate. For this reason, 100% support from parents has been necessary in this case.

In response to the **second** question, based on the results, the average variable of teachers' inability to control students to attend virtual classes in the implementation of blended education is significant at the level of 0.05 ($t = 6.57$); and with an average of 10.97 less than the hypothetical average, which indicates that the variable in question can be considered as an obstacle in the implementation of blended education. One of the main challenges in cyberspace is that it is virtual. Whether what happens in cyberspace is what happens in real space or not; it is one of the main issues that includes not only the educational space, but also the whole of cyberspace. This is all the more important when the student's virtual education and presence in the classroom must be real in order for the lesson to be conveyed properly. The main problems of teachers in this education are the presence of a user other than the student, the constant presence of the student in the virtual classroom, and also the student's concentration in the classroom, which means not being active in non-classroom cases. For this, teachers use a variety of methods, including frequently asked questions, and virtual attendance; but in the end it's hard to come up with a realistic assessment. Because a student may be present in the virtual classroom and attend in absentia, but also work in cyberspace at the same time and even watch TV. Obviously, the teacher's ability to recognize this space and also the student's knowledge is effective in this regard. Therefore, the component of teachers' inability to control students to attend the virtual classroom is one of the important barriers to blended learning. It should be noted that under the studied component, are reviewed the actual student attendance in the virtual classroom and the teacher's willingness to achieve a mechanism to monitor student attendance.

In response to the **third** question, based on the results, the average variable of low motivation of students to participate in virtual education in the implementation of blended education is not significant at the level of 0.05 ($t = 1.25$); and with an average of 12.28 is higher than the hypothetical average. This indicates that the desired variable cannot be considered as an obstacle in the implementation of blended education from the perspective of teachers and the component in the present study is not considered a serious obstacle in this area. One of the items studied in this scale is related to the student's interest in participating in virtual education and comparing the student's tendency to face-to-face and virtual education. But the results show that students do not see a significant difference between these two types of education

and there is no difference in their level of interest from the teacher's point of view. The main reason for this can be considered the age of primary school students. Since many of these children began their education during the Corona; they have no idea about face-to-face education and do not see a significant difference in this regard.

In response to the **fourth** question, based on the results, the mean of the variable of lack of access to student to establish interpersonal emotional communication with students in implementation of blended education is significant at the level of 0.05 ($t = 8.5$); and with an average of 10.43 is less than the hypothetical average. This indicates that the desired variable can be considered as an obstacle in the implementation of blended education. In the items of this component, the teacher's knowledge of the child's emotional space as well as his family space in blended education compared to face-to-face education. The results of this analysis show that teachers needed an emotional relationship with student in order to communicate better, especially elementary school student, and blended education has reduced this relationship. It should be noted that since blended education has been implemented in the country due to coronavirus, during the face-to-face class or debugging class, teacher is obliged to maintain social distance with child, which in itself can increase the emotional connection between teacher and student. It is noteworthy that the emotional connection between teacher and student at primary school age is very important and requires a lot of time. When blended education takes place, the student-teacher communication time is less and in this connection is effective maintaining social distance.

In response to the **fifth** question, based on the results, the average variable of low sense of competition among students for better and more learning in the implementation of blended education is significant at the level of 0.05 ($t = 11.04$); and with an average of 10.18 is less than the hypothetical average. This indicates that the desired variable can be considered as an obstacle in the implementation of blended education. It can be said that assertiveness in real classroom space is more popular among students than assertiveness and success in cyberspace. Since competition is one of the main tools of teacher in increasing students' participation and increasing their efforts to achieve academic success, therefore, a specific mechanism should be developed for blended teaching in this field. If the virtual classroom is just a lecture, there will be no sense of competition between students, and the presence or absence of a particular student will have no effect on other students. To create a sense of competition, one should pay attention to the style of classroom management and change it from lectures to questions and answers and discussions, as well as the executive platform of classroom. Also, the country's internet bandwidth is for holding a comfortable and cheap interactive class with the participation of all attendees.

In response to the **sixth** question, based on the results, the mean of low variability of teacher creativity and innovation in teaching appropriate to cyberspace is significant at the level of 0.05 ($t=11.96$); and with an average of 10.45 is lower than the hypothetical average. This indicates that the variable in question can be considered as barrier in implementation of blended education. In other words, one of the basic issues in blended education is conversion of education content in face-to-face, to content of education appropriate to cyberspace. This inconsistency in current educational system has been created by the forced introduction of blended education method in the time of Corona. This has been one of the main challenges for teachers since entering the space of blended education was mandatory and in a short time. Because sometimes the teacher may not be creative and sometimes the time and environment may be not possible such that creativity. Certainly, the lack of preparation for implementation of blended education causes the teacher to don't have the necessary mental concentration due to the rush, sudden change of circumstances, and the large number of components that must be monitored. This caused content and methods to be

produced spontaneously by teachers. But access to this content and its comprehensiveness has been one of the problems in this field.

In response to the **seventh** question, based on the obtained results, the average variable of low student access to hardware facilities in implementation of blended education is significant at the level of 0.05. ($T = 7.21$) and with an average of 10.92 is less than the hypothetical average. This indicates that the desired variable can be considered as an obstacle in implementation of blended education. From the beginning of outbreak of Corona virus has been one of the most challenging issues in providing hardware facilities, which in this study was one of the barriers to this issue. The importance of this issue has been such that popular groups have sought to provide hardware and mobile phones for underprivileged children. In the meantime, some teachers have taken steps to reduce the lack of hardware. Of course, the issue of hardware in the minds of many includes smartphones and the Internet, but it should be noted that the creation of new platforms should not be forgotten such as the national information network and the country's fiber optic network or satellite Internet, as well as all kinds of hardware facilities to control and monitor student performance on the Internet and many hardware issues in this field.

In response to the **eighth** question, based on the results, the average variable of low evaluation skills in virtual context in implementation of blended education is significant at the level of 0.05 ($t = 3.74$) and with an average of 11.2 is less than the hypothetical average. This indicates that the desired variable can be considered as an obstacle in implementation of blended education. The fact that assessment is difficult to perform when the test is virtual and it is an issue that must be considered in blended education. Since evaluation is one of the most important aspects of education; one of the serious obstacles in education is the teacher's indecision in student evaluation. It would definitely be said that the process of teaching of teacher on the one hand and the process of presenting homework and working with each student on the other hand, depends on proper evaluation. This raises doubles the importance of designing models that can refine evaluation in this training method.

In response to the **ninth** question based on the results, the mean of the variable lack of appropriate software facilities for training in implementation of blended education is significant at the level of 0.05 ($t = 2.42$) and with an average of 12.57 is less than the hypothetical average. This indicates that the variable in question can be considered as an obstacle in implementation of blended education. It would definitely be said that one of the things that caused a lot of turmoil in the Corona era was the policies and executive arrangements of regarding educational platforms. First, education in television under the name of Iran Television School was on the agenda. Next, was designed an application called Student Educational Network. The shortcomings and software flaws of this application caused many problems for teachers and students. This is consistent with the mean obtained above the hypothetical mean. Of course, hardware works when software is mounted on it. It may be possible to imagine limitations for hardware, but you can never imagine limitations for software, and each time you update a particular piece of hardware, new and higher capabilities can be added to the previous hardware. It is conceivable that if the number of automated programs that perform actions intelligently and without the need for user attention (such as the presence of intelligent absence and memory management systems to increase mental efficiency), how much can be helped to increased quality of teaching-learning process. It may not be imaginable what success will be achieved if other features such as artificial intelligence are used in all previous software steps.

In response to the **tenth** question, the results show that the Friedman test was significant in terms of research components and the most important factor affecting the descriptive evaluation is the lack of appropriate software facilities for education (5.84) and the least important factor is the ability of teachers and students to use educational software (2.63). It should be noted that this test is done to prioritize the

identified components to addressing the components in real space is based on its priority and importance. The priorities of mentioned components are as follows:

- Lack of suitable software facilities for education (average rating: 5.84),
- Low evaluation skills in the virtual context (average rating: 4.99),
- Low ability of teachers in controlling students to attend the virtual class (average rating: 4.87),
- Student does not have access to hardware facilities (average rating: 4.77),
- Lack of creativity and innovation of teacher in teaching appropriate to cyberspace (average rating: 4.50),
- Insufficient access to student to establish interpersonal emotional communication with students (average rating: 4.24),
- Low sense of competition among students for better and more learning (average rating: 4.15),
- Low ability of teachers and students to use educational software (average rating: 2.63).

According to the ranking, what the teachers thought was the main obstacle to implementation of education during outbreak of coronavirus and blended education, is appropriate software facilities or SEN program. Lack of attention and investment in this case and designing an application with many flaws, put teachers and students in a dead end tool that forced many teachers to use other platforms and software, which is interesting to know. It was legally a crime for them and they were not formally required to use other platforms. This component is one of the main barriers in this field with a significant ranking difference compared to other components.

The next priorities are the variables of the level of evaluation in cyberspace, the low ability of the teacher to control students to attend the virtual classroom, and the student's lack of access to hardware facilities; are three important components that teachers point out. On the other hand, since teachers have completed this questionnaire, they have first considered external barriers as a primary component, and then to issues such as teacher creativity and innovation, lack of access to the student to establish an emotional connection between Individuals have a low sense of competition among students for better learning. It should be noted that little attention has been paid to the issue of creativity in teachers from one perspective due to the lack of knowledge of some teachers about new methods in the form of blended methods. Finally, with a large distance from other components, the low ability of teachers and students to use educational software has received the last rank.

Conclusion

In general, it can be said that information and communication technology has made a lot of changes in our lifestyle, but one of the important reasons for using this tool is education. Education in the shadow of using this tool can achieve development in quality and implementation of educational materials at the same time and space. But entering this field, because it transforms many aspects of education, requires deep attention to prerequisites and requirements. Because the entry of any educational system without studying in this educational space; and without adopting policies that cannot lead the student to the desired educational goals; it is a hasty action that can divert the educational system from its goals. At the time of the outbreak of the Corona virus, many countries were forced to change due to the many challenges of E-learning and subsequent blended education. The entry of these countries without the necessary presuppositions and preconditions created an unsuitable atmosphere.

The present study tried to find the barriers in front of teachers due to the entry of Iranian educational system into blended education at once and without any predictions. These barriers are based on teachers'

opinions and are not included in the policy and macro-planning levels. Also, this research done while does not have sufficient research and executive records in an environment where blended education in Iran as a new phenomenon. The results showed that the following components in order of priority, are barriers to implementation of blended education in elementary schools of Iran.

In the first priority, the component of lack of appropriate software facilities for education was obtained as barrier to implementation of blended education. It is safe to say that the main barrier that has been clearly seen during blended education in schools is lack of appropriate software facilities. In the field of blended education in Iran, by adopting cross-cutting policies, one of the main blows to blended education was in this regard. SEN program, as the most important software that was supposed to support students, became ineffective in practice and led to dissatisfaction of many teachers and students.

The second priority mentioned by teachers is the low level of evaluation skills in virtual context. In other words, evaluation in this context has faced many problems for teachers. Of course, if the software and platform problem is solved, not only will it no longer be a problem, but it will become a blessing. If the analysis of various student activities is done automatically by software and artificial intelligence, the teacher will spend more time in teaching and can see the effect of his actions on student much more accurately and quickly, and based on that make decision to continue or change the educational process. The system can also instantly show the student's growth or decline chart that compared to himself and others, which can be much more effective than regular encouragement and punishment. Of course, what has been observed is very different from the ideal situation, to the extent that the simplest tasks that can be done automatically by the software, which is the absence, have also been done manually by the teacher, which takes a lot of time and patience from the teacher and student.

The third priority is the low ability of teachers to control students to attend virtual classrooms. In this case, it is important to determine how much the student has heard and been present in class, which affects teachers' feedback and teaching. This issue has been encountered during E-learning. This case, like the previous one, can make dramatic changes in the results by using software and artificial intelligence.

The fourth priority is the student's lack of access to hardware facilities. Due to the lack of hardware facilities in low-income areas, one of the main problems at this time has been the provision of this hardware. Of course, the cost of the Internet should not be overlooked, because even if high-speed Internet and a fast phone are available, the cost of the Internet is high; in areas with poor economic conditions, it can cause inefficiency of phone and available bandwidth.

The fifth component is the lack of creativity and innovation of teacher in teaching appropriate to cyberspace. Given that one of the main issues in blended education is coordination between text and method of education, and at the same time educational system has not changed educational texts, so the role of teacher in this change is very fundamental. This becomes even more important when we know that one of the most important issues in blended learning is teacher's creativity in flexible teaching; so that the course materials can be compiled in accordance with the presence and virtual space.

The sixth component is the lack of sufficient access to student to establish interpersonal emotional communication with students. In this case, in elementary school, when the emotional connection between teacher and student is of great importance, it is considered as a subject for consideration. This issue becomes important when the child, after seven years in a family environment with love and affection, can only adapt to the new environment if he establishes an emotional connection as a family.

The seventh priority of the component is the low sense of competition among students. Lack of competition in blended education compared to face-to-face education is an issue that has caused many students to experience academic failure. At the same time, one of the main tools of teacher for movement

and dynamism of class has originated from this point. This issue should be reinforced by teacher in person during the class, which requires teacher skills.

The eighth and final priority, which differs from other components, is the low ability of teachers and students to use educational software. It seems that teachers did not pay attention to the issue of their ability to use educational software or subconsciously found it less effective in completing the questionnaire.

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