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An Innovative Approach in The Field of Higher Education: Blended Learning and Massive Open Online Courses

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Abstract:

E-learning is currently growing daily, and Blended Learning and massive open online courses are vital tools for implementing this notion. This paper sheds light on the Blended Learning and massive open online courses concepts. Blended Learning is an innovative concept that in the classroom clinches the advantages of both teaching modes, traditional and online teaching methods. MOOCs take place online by default and they are free, which is evident in this research with multiple meanings. The current paper aims to address blended learning and massive open online courses, their main characteristics, benefits, and its implementation in the Pakistani scenario. The recent paper also explores how a blended learning and massive open online courses approach needs to be adopted to attain better results.

Keywords: Innovative Pedagogy, Online Learning, Blended Learning, Massive open online courses

Introduction:

Traditional education is a way students learn more effectively, but as time passes, the need for new technology in education systems increases day by day. In a new era, students need to understand the importance of computer knowledge in their studies. Traditional teaching methods and online access to knowledge need to move side by side. Online learning mode is an effective way too.

Still, a face-to-face interaction is also necessary for the good grooming of the personalities of the students as they modify their behaviors by seeing the personalities of their teachers. Students learn the use of expressions, improve communication skills, be inspired by the teachers, mold their personalities, etc. **(Bryan & Volchnkova, 2016)**.

Lalimal and Dangwal (2016) proposed that traditional classroom settings have some drawbacks too. Such as:

- All the students cannot physically attend the school due to a lack of equal opportunities and facilities.
- Some challenged and physically disabled students cannot reach the school which is far from their home.
- An irregular student-teacher ratio causes absenteeism from the school.
- Teacher training for combined and unified classrooms is not enough in schools.
- Due to the lack of teaching staff, students are not satisfied with their studies.
- Students who came from deprived areas are ignored mostly in traditional settings.
- When only the traditional education system is followed, the students are not trained to meet the modern world's challenges outside due to the lack of modern technologies in education.

To meet the modern world's needs, a new education system includes a combination of traditional education settings and contemporary education settings because it fulfills the demand for face-to-face learning and online learning methods. This system minimizes the errors and deficiencies of teaching, upgrades the level and quality of education, provides new modes and areas in the field of education, and motivates students to improve their understanding of the world's unique demands outside. Traditional and online learning both are important for the education system. A combination of both of these systems makes advancements in the students and teachers (Graham, Woodfield & Harrison, 2013).

Objectives:

- To explain the concept and types of blended learning and massive open online courses.
- To investigate the significance and advantages of blended learning and massive open online courses.
- To identify the influence of blended learning and massive open online courses on Pakistan educational scenario.

- To identify the problems and propose solutions in the field of blended learning and massive open online courses in Pakistan.

Methodology:

The research is purely conceptual. The secondary data has been gathered from various sources, including websites, eBooks, and periodicals.

Blended Learning:

Blended learning can be defined as:

“Integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner” (Kim, & Bonk, 2006).

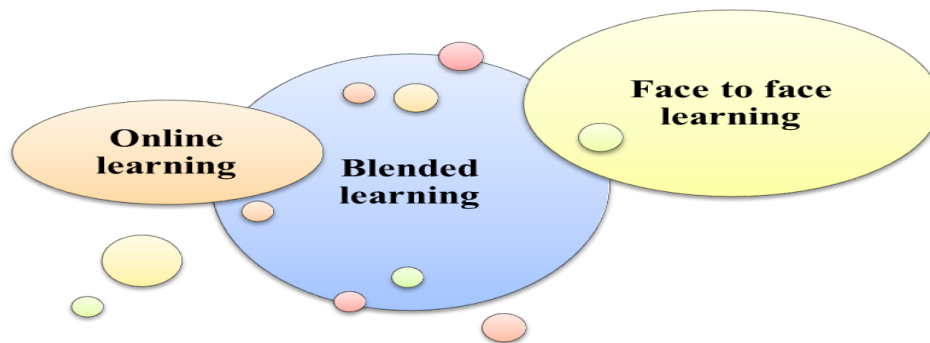


Fig. 1: Blended Learning

Syed and Baker (2014) present blended learning as the mixture of the traditional and modern education system, including face-to-face interaction with teachers and distance education through the electronic way of learning. This system motivates the students to adopt unknown magnitude and proportions of education, which creates a new level of understanding to cope with the modern world's challenges. Blended learning includes various instructional methods such as direct instruction, indirect approach, group studies, individualized computer-assisted instructions, etc. According to Jones, Chew, and Turner (2008), blended learning is a mixture of formal education and modern educational technology. It includes online and offline instruction modes that help the learners improve their learning level and make their teaching more effective.

Blended learning includes the following:

- Face-to-face interaction with teachers. It helps the students interact with the teachers to solve their educational problems and learn in a systematic education mode.

- Interaction with course content occurs in both educational settings but in different ways. Traditional classroom settings help the students to know about the content directly, and in an online environment, it is indirectly but an exciting mode.
- Students can learn formally and informally with the help of peer interaction. They learn various social skills and cultural norms in this system of education.
- Students can widely exchange their ideas.
- Virtual classroom settings help learners to get educated without regularly attending the classes.
- E-libraries are the most significant source of the latest and authorized information for the students.
- When students cannot get enough guidance from the teachers in the classroom, then e-tuitions allow them to solve their educational problems at home.
- Students can participate in various seminars with skype, google, etc., or web conferencing. This mode is known as a webinar (Bonk & Graham, 2012).

Characteristics/ Features of Blended Learning:

According to Lalimal & Dangwal (2016) main features of blended learning are as under:

- **Option to select which mode is better:**
Students are free to select the mode of learning according to the demands and needs of the course content or objectives of the course.
- **Teachers are well aware of both modes of teaching:**
In this teaching model, teachers have a firm grip over the traditional and modern or online teaching methods. So that they can guide and instruct their students effectively and efficiently.
- **Diversity of learning:**
Students can learn in both of the modes with the same instructor or different ones. They have a wide range of options to interact with their peers to improve their learning.
- **Use of latest technology:**
Students are well aware of using new technology to meet the unique and enhancing needs and challenges of the modern world. It helps them cope with the market needs and get new opportunities to polish their abilities and skills to get the latest employment

chances.

- **Improvement in various life skills:**

Students learn life skills such as compassion, rapport, sympathy, etc., from traditional classroom settings and communication skills, critical thinking, management, decision-making skills from the online settings.

- **Physical and mental development:**

Physical development techniques are improved in traditional education systems as they allow them to participate in physical activities. Online learning settings offer an opportunity for the students to improve mental skills such as critical thinking etc.

- **Child-centered system of education:**

This education system is child-centered, which properly focuses on developing children as the growing and improving entity.

- **Diverse role of the teacher:**

The teacher plays diverse roles, such as a mentor, resource person, developer, organizer, etc. He provides complete guidance and counseling to the students as they need it.

- **Makes the teaching-learning process enjoyable:**

Blended learning makes the teaching-learning process more interesting than the only traditional system. It provides more chances for the students to take part in various seminars and discussions.

- **Multicultural approach:**

Students come from different areas and share diverse cultural norms.

Prerequisite of Blended Learning:

Blended learning is an advanced process, but its implementation is not an easy task. Its performance needs a complete list of resources, teachers' training, selection of contents, budget to fulfill the plans, etc. The following are the basic requirements for implementing successful blended learning.

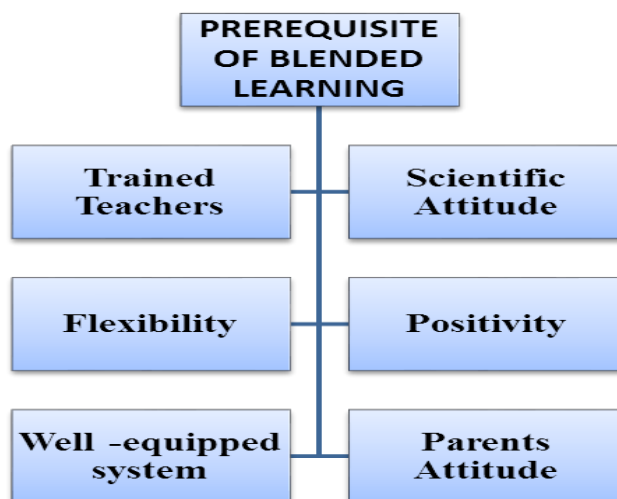


Fig. 2: Prerequisite of Blended Learning

- **Trained Teachers:**

It is the necessity of the time system that teachers must be well trained to properly use the internet and other technologies for content development and teaching. All the content must be provided on the internet by the teachers so that every student has access to that information. Teachers must be trained to combine the two modes of teaching such as traditional and online.

- **Scientific Attitude:**

Teachers must have an attitude to solve problems of students scientifically. He/she must have observation skills, problem-solving, and an optimistic attitude towards the issues. He/she must tackle the issues he/she faced during the implementation of this new approach positively.

- **Flexibility:**

This education system must be flexible and elastic enough in the constraints of time, skills, management, duration, and assessment.

- **Positivity:**

Teachers must ensure positivity in the system to benefit from this new approach and with their great interest.

- **Well -equipped system:**

The system must be well-equipped to be a furnished computer lab, classrooms, content, easy access to online information through digital libraries, managed infrastructure, etc.

- **Parents Attitude:**

Parents must be aware of the system properly so that they will guide help their children positively. If the parents are satisfied, they will train their children at home properly for this innovative system (Graham, Woodfield & Harrison,2013).

Models of Blended Learning:

Volchenkov (2016) stated that there are four models of blended learning:

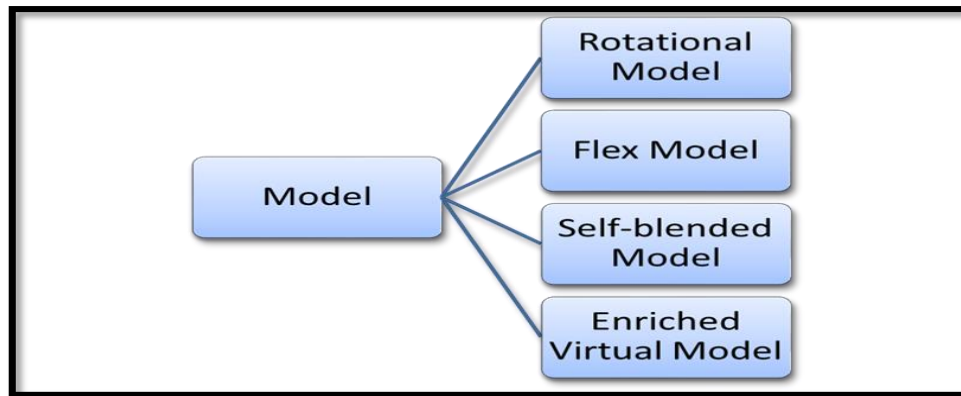


Fig. 3: Models of Blended Learning

Rotational Model:

In a rotational model, students work under the supervision of a teacher and work in a small group or individually using interactive technology. It rotates between the modes of learning. It used both traditional and technological approaches. The rotational model can be divided into four designs: Station rotation, Lab rotation, the flipped classroom, and Individual rotation.

Flex Model:

This model includes online learning in which content is provided to the students at a large pace. Students can interact face to face with their teachers but mostly in small groups. This model provides facilities to students in a way that they can learn at their own pace and feasibility. Social areas, collaboration rooms, and cyber cafes are established for peer interactions. Online

Self -Blended Model:

Students are provided online content within or outside the school. It helps the students to blend their content according to the ease and time. Cyber lounges are provided to students for their individualized learning.

Enhanced virtual Model:

This model has some features of the self-blended model but also the wide range of every content

available online for every student.

Advantages of Blended Learning:

The benefits of blended learning are as under:

- It is a more effective and flexible mode of learning. Which provides education to students in a more effective way?
- Through this model, content is delivered to a wide range of audiences in a short period.
- It is a cost-effective approach and saves money.
- It provides a new way of teaching according to the interest of the students.
- It provides education to the students in a modern way with the firm touch of traditional education.
- Students can learn CAI and use online sources in their education.
- Students become more managed and market competitive (Jacob, 2011).

Barriers of Blended Learning:

Syed and Baker (2014) proposed barriers of blended learning are as under:

- **Lack of infrastructure:**

For the successful implementation of blended learning, financial resources are needed at large. Trained staff, internet connections, suitable content, managed resources are required. Mainly this field faces a lack of infrastructure.

- **Hurdles in the use of technology:**

Students have feared using a computer and the internet to resist them learning through a new education model. It is necessary to aware of the students towards the use of technology.

- **Reluctant towards E-Learning:**

Most teachers want to use the traditional teaching method to ignore the use of technology in the field of education.

- **Difficulties in assessment:**

Due to the many students, it is difficult for a teacher to assess every student with their hands. Online assessment saves time for the teachers, but the traditional evaluation is much more time-consuming.

- **Poor language skills:**

Most students have poor English language skills, and they have not adjusted themselves to the e-learning approach.

Implementation of Blended Learning in Pakistan:

As the world progressed, the role of science and technology increases in our lives. The use of technology becomes a need in the life of students and teachers. Higher education becomes research-centered, and research is not possible without the use of the internet nowadays. A mixture of technological education and traditional education is necessary. Blended learning provides this facility to students and teachers (Syed & Baker, 2014). Implementation of blended learning in Pakistan is as under: In Pakistan, universities become the most significant contributor to blended learning. Allama Iqbal Open University provides the base of blended learning in Pakistan. The program was called as Open Learning Institute of Virtual Education (OLIVE). It was established in 2000. The virtual university is another university that adopted the way of learning through ICT and technology (Jumani, Rahman, Chishti & Malik, 2011). Islamabad started the first session for the fall semester of 2015 for a master's in education Pakistan studies and M.Ed. No other universities provide the blended learning system with real spirit in Pakistan. Higher education commission starts various programs for the implementation and development of online learning in Pakistan. There is a hesitation among the teachers and students of Pakistan to adopt blended learning and other online education systems. There are English language hurdles in the way of the progress of online learning (Jumani, Malik & Akram, 2018).

Recommendations for Better Implementation in Pakistan:

The following are suggestions to promote blended learning in Pakistan.

- The electric power supply must be consistent smooth so that the learners and tutors do their work efficiently.
- Advanced computer libraries must be present in educational institutions to promote blended learning.
- Policies and laws must be developed for the successful implementation of blended learning.
- Technology-based resource centers must be established to train the teachers for the use of technology in classrooms.
- Technological aspects must be included in the courses.

- Seminars, conferences, and meetings must be arranged to develop and implement blended learning in Pakistan.
- Instead of asking for brick and mortar to reinforce existing university infrastructure, virtual or mixed set-ups by Pakistani higher education institutions will create highly competitive jobs and assimilate hundreds of PhDs. We are searching for positions in the state.

Massive Open Online Course (MOOC):

In 2008 the new program of computer and technology-based learning was introduced by David Cormier, termed as Massive Open Online Courses (MOOCs). It provides free of cost online education to the students where ever they are present, education reached at their doorsteps without any hardships. It includes individual and group studies. Since then, the term "MOOC" has been extended to several online and mixed courses. In the 1990s, MOOCs started a new program named Open Educational Resource (OER). This program or movement provides immense content to the teachers which was free for them and easy to access for teachers, students, and for those learners who study by themselves. It also improves the teaching and learning process. When a new technology is experienced then it needs a wide range of support from the represented population who will get benefit from it and the faculty who used it for the betterment of their learners and a combination of other resources for the successful implementation and application of that technology. OER introduced a new era of technology in the field of online learning courses (Hill, 2012).

MOOCs is a term that originated in 2008 for a specific type of open online course layout, with the landscape evolving dramatically over the past 10 months by 2014. We're talking of a few companies that have been spent about \$100 million. On the other hand, millions of students have signed up for MOOCs from all over the world. Several students got admission and got certification from these computer-based educational programs and several universities offer programs that are suitable and effective for the learners. The online curriculum is updated by the universities to facilitate their students (Garcia, 2014). MOOC is affordable for every student. It facilitates the learners to get an education at their home with their ease. No time limits are prescribed in this program. Online blogs are an example of MOOCs (Glance, Forsey & Riley,2013).

Massive open online courses (MOOCs) are a comparatively new concept in higher education trends. MOOCs take place online by default. They might have a college affiliation, but not necessarily. These are bigger, sometimes much larger, than typical college groups. They are free,

which is evident in this research with multiple meanings. Although the literature on this subject is growing, it is still minimal. Scholars take note of MOOC literature in all its aspects, from theoretical to scientific (Lowenthal & Hodges,2015).

Commencement of MOOC:

Different online platforms at the time: a wiki, a website, RSS feed, Moodle forum, Page flakes, Facebook, and the Upstream network. Only in 2011 can MOOCs in the press make a name for themselves. Sebastian Thrum and Peter Nerving, Professor at Stanford University and Research Director at Google, respectively, announced that one of their internet courses would be offered free of charge. "Introduction to Artificial Intelligence" had more than 160,000 enrollees ready to follow the first lessons in just a few weeks. The course's scale and press influence made it one of the most unforgettable in MOOC's short history. The project contributed significantly to the development of MOOCs and America's first online educational platforms, including Coursera, Udacity, and EdX (Devgun, 2013).

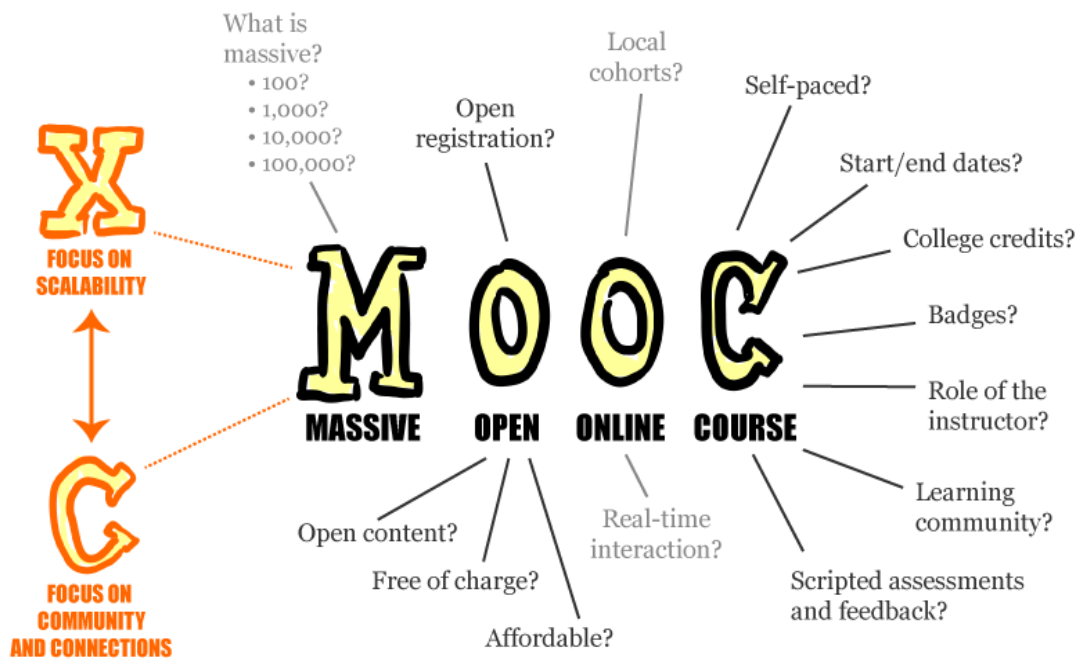


Fig. 4: Massive Open Online Courses

Characteristics of MOOC:

Tang (2017) explains the term of MOOC. In MOOC M Standards massive, O stands for open, O online and C stands for courses.

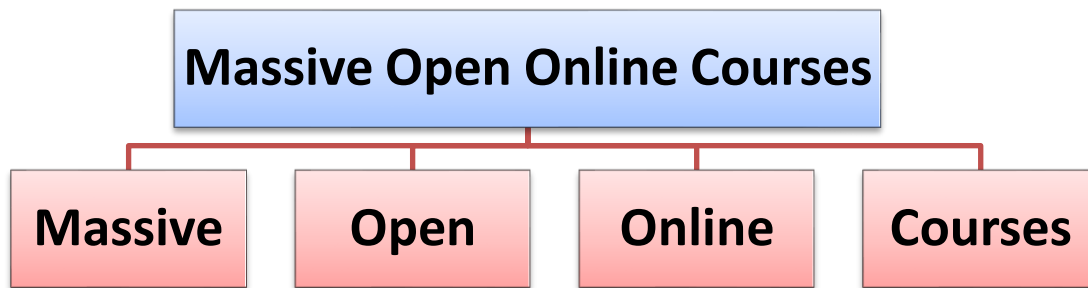


Fig. 5: Characteristics of MOOC

Massive: A course which is planned for several participants through online sources. Many students or participants can be benefited from online courses (> 150 = Dunbar number). The curriculum includes all the resources which help the instructors and participants to fulfill their needs. All the resources are affordable for users.

Open: Participants can reach the information and content at their doorstep and where ever they are. The course has open access for (almost) all people. At least the material of the course is always available. Content is available for every participant online. Open as in space, speed, and free from time boundaries. Nowadays, MOOCs are free from the limits of time, place, and speed. They have a start and end but according to the ease and facility of the participants. Open to all without specified qualifications to join. To take part in the online course, no qualifications /diplomas required. Full course training for students with minimal or no cost.

Online: A complete online course. All elements are supplied. Online, of course.

Course: It include complete unit of study; material for training ,facilitation of peer-to-peer communication (including some yet minimal educational interaction) , activities / tasks, assessments, suggestions , a guide/syllabus for the study ,image–Audio–Text– Games (including simulation) –social Media– Animation ,Communication possibilities for creating a learning community, such as social media channels, forums, blogs and RSS readers, some feedback, a mechanism is given to the participants and the mechanism can be developed on its own with the help of peer feedback.

Principles of MOOC:

The following are the principles of MOOC:

Technical Principle:

Of course, MOOC's technological foundation is linked to distance learning. The distance education history is closely related to technology. Every technology used in the distance education system opens the ways for distance education such as from the postal system to the use of audio-video resources and primarily the internet (Bowden, 2019).

Ideological Principal:

The second founding principle of MOOCs is the concept of "Learning for All." Firstly, Denmark's Nikolai has invented the system of education which was, later on, familiar as the folk high school. These types of schools provide education including traditional and practical education to everyone who wants to get an education through this system regardless of their economic and social background and their gender. Throughout the 20th century, this program remained famous in Europe. Besides the advent of the internet, other programs were also emerged to support the democratization of education (Fini, 2009).

Types of MOOC:

There are two types of MOOCs:

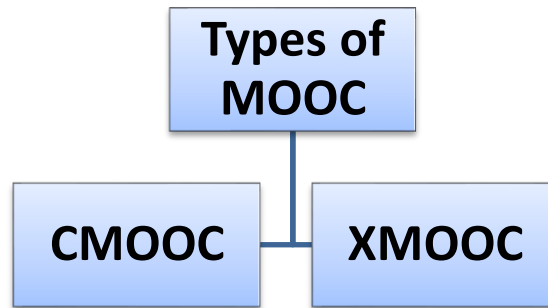


Fig. 6: Types of MOOCs

CMOOC:

Informally built based on the connectivism Theory of learning through networks. Connectivism is the theory in which the information is transmitted through a channel of associations and therefore that learning is the skill to build and pass through MOOC Workshop networks. MOOCs emphasizes linked learning, cooperative learning, and courses that are designed around a network of like-minded "individuals" relatively free of institutional constraints. CMOOC students must work together to find, analyze, and contribute the content of the course, transmits content (through social media or other online sources) to the learning platform. Through finalizing, aggregating, and reviewing the contributions of the students to the course, a cMOOC teacher or instructional

group promotes training (Carreño, 2014).

XMOOC:

Use a more behavioral. s approach inspired by the training strategies of "drill and grill."
*Compliance: a learning philosophy based on the idea that all behaviors are gained by conditioning. Using video clips, screening, and brief quizzes. We concentrate on succinct, tailored, short-video term content rather than full-length lectures to wade through and use automated testing to verify students ' comprehension of how we work through the material. Students receive some information, and then hopefully engage in doing something while receiving some support from peer learners. Traditional teaching and learning methods are used in xMOOCs. The course tutors develop some reading content for the students and already recorded lectures are also uploaded on the internet for the ease of the students (Drake, O'Hara & Seeman, 2015).

For several factors, MOOCs give a strong starting point, including:

- Specified entry requirements are not needed in the MOOCs. All participants can easily get access to the content regardless of his/her qualification.
- A MOOC is repeated twice or thrice a year to ensure the active participation of every participant.
- Subject-matter experts (SMEs) develop and maintain high-quality MOOCs and this is supervised by tutors and supervisors to help participants and learners with access to high-quality education resources.
- MOOC is too easy and feasible for those students who are overburdened and busy in their daily life. Only 1 to 2 hours are needed in this course per week.
- Self-organized but assisted approach – a MOOC motivates participants to plan and work according to their own feasibility and with their own choice of global community group.
- However, most of the MOOCs need some primary and initial basic computer instruments and tools and a good connection of the internet for the better transmission of content. These are free of cost and are in the range of every participant. It overcomes the workload of students (Jung & Lee, 2018).

Advantages of MOOCs:

- Innovative companies, top colleges, and other prestigious institutions have made available through MOOCs a vast array of high-quality education and it is growing all the time.

- Whether you're interested in learning about computer coding, innovation, psychology, or almost anything else, it's likely to be a MOOC.
- Furthermore, many of these courses are free of cost to allow education to be widely used. This is where the acronym's "safe" part comes in. This is a primary benefit for individuals and organizations when opposed to other learning options such as college courses and business workshops which earn thousands of dollars from the students.
- Flexibility is another key feature. In a traditional setup of education, formal training is time-consuming and burdened by the participants. MOOCs, on the other hand, always work best for you and blend into your life.
- And eventually, specific qualifications are not needed to get registered in a MOOC.
- Because there are no specific standards to get started (Fini, 2009).

Drawbacks of MOOCs:

- One drawback to MOOCs is that there is no certification in all programs and so that students give less priority to these programs for their career building.
- Attempts by the course providers to reach a large number of participants and make learning available that leave many students thinking the course was too simple.
- A drawback that has gained more attention as the MOOC movement has progressed is the often-massive propensity to abandon the course.
- The same unstructured versatility that can be a benefit frees students to degrees that often give priority to other personal or professional interests and progress with a slow or stop course.
- The lack of interaction with your teacher is another frequently cited drawback of MOOCs (Dalipi, Yayilgan, Imran, & Kastrati, 2016).

Potentials:

- In Pakistan, distance learning is not old. Allama Iqbal Open University was the first to begin distance learning in Asia in 1974, with 1,3 million students currently enrolled (AIOU, 2016).
- As a developing country, Pakistan has tremendous MOOC potential where most of its students are unable to study at the world's leading academic institutions.

- EdX, a joint venture between Harvard and MIT and a leading provider of MOOCs, has nearly 90,000 Pakistani students. In Lahore, EdX has also set up an international regional office. However, edX CEO Anand Agarwal shared his concern in an interview with Pakistani universities.
- This research idea derived from the researcher's personal experience and interest when I entered the University of Edinburgh's MOOC offering in 2012; it was the same year that the New York Times named it the year of MOOCs due to the sharp increase in MOOC enrollments worldwide.
- Also, Agha Khan University was the first university in Pakistan to introduce drug design bioinformatics MOOCs for three weeks in 2014 (Baig,2019).

Challenges of MOOCs In Pakistan:

MOOCs are widely seen as an avenue for millions of people seeking free or low-cost access to higher education. While academic institutions are joyfully jumping into MOOCs ' electronic bandwagon, the glorious success of MOOCs in recent years has also generated fear among university officials who believe that their share would be cannibalized by this free and low-cost model of education.

- Small numbers of people from developing countries such as Pakistan have access to MOOCs despite their advantages.
- Low rates of literacy, lack of connectivity, and the virtual divide are impeding the introduction of MOOCs in Pakistan. Using online courses, however, VU and AIOU can provide quality education for Pakistani youth.
- Students are mostly unaware of the use of ICT in their education.
- Most learners consider this program as the burdened and time consuming due to a wide range of assignments.
- Due to a shortage of time, students would not prepare their-selves for assessment and evaluation.
- Financial resources for the successful implementation of MOOCs is needed in a large amount (Bergelson, 2016).

Suggestions for Better Implementation:

The following are the suggestions for the implementation and betterment of MOOC in Pakistan:

- Instead of asking for brick and mortar to reinforce existing university infrastructure, virtual or mixed set-ups by Pakistani higher education institutions will create highly competitive jobs and assimilate hundreds of PhDs. Searching for positions in the state.
- Also, initiatives should be given to a contributor to the creation of digital classrooms if courses produced by him/her have global demands.
- The profit should be shared with the individual who creates a specific MOOC.
- There are already different incentives at the national level such as "Research Productivity Allowance" and "Best Teacher Award." THE best MOOC opportunity would encourage young Pakistani teachers to bring about remarkable improvements in Pakistan's higher education sector.
- What is required is a change of mindset among teachers, leadership in higher education, efforts to recognize newly emerging pedagogies, sufficient preparation, and implementation.
- What is required now is a shift in our universities in the public sector set up to integrate and implement well-authenticated MOOCs into their curricula.

Conclusion:

To summarize, blended learning is, to some degree, the solution to the issues that threaten our educational environment. It has the potential to become the future of our educational system if executed in a well-planned, structured manner with the required attitudes. It is in our best interests to continue incorporating blended learning as quickly as possible. Blended Learning is a way of offering creative instructional solutions for instructors, coaches, and students by integrating conventional classroom instruction with mobile learning and online experiences. Now many higher education institutions around the world and in Pakistan have been involved in MOOCs. To recap, proponents claim that MOOCs will help make education more available to as many people as possible, extend an institution's scope, and encourage professors to experiment with the pedagogy of educating large numbers of diverse students in online classes. Opponents, on the other hand, see MOOCs as a potentially dangerous and destructive technology that delivers a distorted curriculum while simultaneously raising the risk of further state school funding cuts. MOOCs can definitely extend an institution's scope and they seem to draw a vast amount of students and the courses are readily available to anybody with an Internet link anywhere in the world. Teaching a MOOC, according to our results, can also assist a teachers in experimenting with the pedagogy of

teaching online courses to a wide number of diverse students. This training has been helpful to some teachers in terms of honing their own teaching abilities as well as enriching their on-campus courses.

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