Abstract: Education plays an important role in development of any country that is why this study was conducted in 2018 regarding online live classes at primary level in Khyber Pakhtunkhwa on pilot based. This paper draws on the challenges faced by the facilitators, co-facilitators and teachers in the pilot project. Multiple tools were used for collecting data from facilitators, co-facilitators, and teachers. Data were collected from a total of four facilitators, sixteen co-facilitators, two IT experts, and four observers participated to develop this paper. The data were analyzed using thematic analysis technique. The study highlighted challenges like technology, delivery, and contents related issues. Apart from these Adaptability issue, Time Management and Motivation were also identified as challenges in live classes. The respondents used quick fixed remedies to address the challenges, and highlighted various recommendations for its solution.

Key Words: Live Classes in Pakistani Schools, In-Service Teacher Training, Teacher Training, Challenges in live Classes

Introduction
Teaching is becoming more demanding in today’s ever-changing world. It needs quick adjustments and creative moves in addressing diversity in real classrooms. Pre-service trainings prepare future teachers for understanding the underpinning philosophies of various subjects and their teaching methodologies. However, when they embark on the task, they, generally, find themselves on different abode than what they were prepare for. To scaffold them, the government of Khyber Pakhtunkhwa has institutions for in-service trainings namely Provincial Institute for Teachers’ Education (PITE.) and Directorate of Curriculum and Teachers' Education (DCTE). Apart from these, national/international non-government organizations (NGOs) collaborate to impart professional development courses for in-service teachers.

Live classes project was implemented by one of such organizations to examine its effectiveness, feasibility and challenges in public schools.

One of the already run program was chosen to pilot this project. The program targeted primary school teachers (PSTs). This paper draws upon the challenges faced by the facilitators, co-facilitators and teachers. Also, it describes lesson learned during pilot phase of live classes.

This is a significant study for many reasons. First, as this is the first attempt to conduct live classes in public schools in Khyber Pakhtunkhwa, other school systems may use learning from this paper as their reference point to use live classes strategy in their schools. Second, in todays’ digitalized world this study may become inspiration for researchers to build upon. Third, this study may highlight important ideas in terms of its applicability in developing countries. Fifth, as virtual classes (live classes) is becoming a need of a day, educators and scholars may use this paper to device more context relevant live classes. Finally, it will add to the ever-growing body of knowledge.

Along with other many educational reforms, the Government of Khyber Pakhtunkhwa took initiative of online teaching in virtual/ live classrooms. Online teaching is the teaching that takes place
over the Internet. It is a type of “distance learning”- a generic term for any teaching and learning that takes place across distance and not in a traditional classroom. Live class-one of the types of online class-is an emerging trend in teaching.

**Live Classes**

According to Techopedia, “A virtual classroom is a teaching and learning environment where participants can interact, communicate, view and discuss presentations, and engage with learning resources while working in groups, all in an online setting.” This definition is substantiated by e-lecta.com, which describes,

Live online classes are synchronous events organized in a live virtual meeting room where students and teachers meet together to communicate with voice, video, whiteboard. Live online classes require students and instructors to be online at the same time. Meetings and lectures occur at the same hour. All attendees must be online and connected to the internet at that specific hour.

There are two types of virtual classes first one is unsupervised class, which does not necessarily need a teacher, students study ready-made learning material on their convenience time and take exam. Second type is a teacher led class. Such classes require all students and teachers to be online on the same time to perform activities.

The strategy of live classes emerged as viable option for many countries because the strength of modern technology made it possible to broadcast streamed videos and audio simultaneously (Hrastinski, 2008). Also in this approach the remote students freely interact with each other and with teachers in real-time (Hrastinski, 2008), which is very important for meaningful learning. The simultaneous delivery of streamed video and audio is called synchronous interaction.

Teaching and learning in live classes is different than face-to-face teaching. Teacher will have to consider many questions such as how to: address different learning styles of students; revisit session plans that were prepared for face-to-face sessions because demands of both teaching styles are different; adjust long lectures into more effective and interacting ones; fulfil students’ and teachers’ expectations from the online course; and to fix technological issues that may occur during the sessions. Answering these and many other pertinent questions will help teachers to take full advantage of this relatively new way of teaching.

**Benefits of Live Classes**

Teaching in live classes has many benefits such as: first, research indicates improved relationships, decreased feeling of isolation, and enhanced community building knowledge (Falloon, 2011). It also showed understanding and retention of content through meaningful discussions during the teaching sessions. Second, apart from discussion, it emphasis on writing, use of technology, and honing life skills-time management, independence, and self-discipline-, which may be improved during these classes. Third, online teaching strives to establish an interactive learning environment that stimulate communication between a teacher and students and among students. It requires everyone to play active roles in learning process. The teacher acts as a facilitator who develops and organizes activities that engage students directly rather than relying on lectures. Fourth, it calls for more creative and innovative teaching strategies so it is effective and modern way of teaching that may engage teachers in exploring different ways of teaching. Fifth, research shows improved administration because teacher have flexible schedule and time. Sixth, it can accommodate many students. Finally, it maximizes the utilization of resources. Finally, Haythornthwaite (2002) and Hrastinski (2008) supported the argument of Wang and Newlin (2001) that synchronous interaction may be more effective in promoting the social goals of learning-community development.

**Challenges in Live Classes**

Many empirical studies such as Kebritchi, Lipschuetz, and Santiago (2017) have highlighted issues in delivering online courses. They have broadly divided challenges in three major categories including
issues related to online learners, facilitators, and content development. Learners’ issues were about clash in learners’ expectations, their readiness for learning remotely, fear of distortion of their identities, and participation in online courses. Facilitators’ issues were associated with the changing faculty roles i.e. transitioning from face-to-face to online sessions, time management in their context, and compromising their already developed teaching styles. Content issues encompassed the role of facilitators in content development, integration of multimedia in content, role of instructional strategies in content development, and considerations for content development. This issue is agreed by Mwanza, D., & Engeström, Y. (2005) as well. To address these challenges in online education, higher education institutions need to provide professional development for facilitators, trainings for learners, and technical support for content development.

The Pakistani Education System: An Overview

The Government of Pakistan is committed to educate its citizen. Article 25-A of the constitution of Pakistan (1973) states, “The state shall provide free and compulsory education to all children between the age of five and sixteen years in such a manner as may be determined by law.” After devolution of power 2010, the provincial governments are responsible for curriculum development and other policies for elementary and secondary education (equivalent to k-12) particularly. Though the government of Pakistan is a signatory of Sustainable Development Goals (SDG). Despite its legal commitments, literacy rate is not encouraging i.e. 56.20% (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2008).

Formal education in Pakistan is provided in the public, religious, and private schools. Public sector schools follow the curriculum prescribed by the Pakistan Ministry of Education. Urdu, being national language is the medium of instruction in majority of the public schools. Previously pre-service teacher training was prerequisite for entering public school teaching however, in more recent reform by Khyber Pakhtunkhwa government it is no more a required qualification.

Private Schools Regularity Authority chalks out protocols for establishing, running, and monitoring privately managed schools. However, they follow the national/ provincial curriculum too. These institutions decide on criteria for recruiting teachers.

Religious institutions previously followed their own curriculum and paid to their teachers. Most of the religious schools were established in local Masjids. However, in recent reforms they are required to register all such institutions. They are, also, required to integrate national/ provincial curriculum in their curriculum.

The education itinerary in Pakistan includes three levels: primary level (grade 1-5), secondary level (grade VI-XII include three phases elementary phases-grade VI-VIII, high phase-grade IX-X, and higher secondary phases grade XI-XII), and tertiary level (higher education).

Teacher Education in Pakistan

In Pakistan, the pre-service/initial teacher education courses include Associate Degree in Education (ADE), Bachelor of Science Education (B.S.Ed) and B.Ed. Honors. Generally, ADE and B.Ed (Honors) prepare teachers for teaching primary and secondary level (elementary phase) students. Bachelor of Education (B.Ed) and B.S.Ed prepare teachers for teaching to secondary and higher secondary level students. Currently, these programs are offered by the Institutes of Education and Research (IERs) of public and private sector universities, Colleges of Education, and Elementary Colleges of Education. Induction is a required component of student-teachers that provides them with an opportunity to apply their knowledge in real classrooms (Masood, 2011). During induction, a student teacher is involved in internship at a school.

In-service training programs are arranged for teachers’ continuous professional development. These trainings include seminars, workshops and discussion sessions on pedagogy, andragogy, and other aspects of teaching and learning process. In-service trainings are usually arranged by the government or Non-Government bodies. PITEs is an epic institution for in-service trainings.
Research Questions
The current study aimed to explore the following research question:

- What are the challenges faced by facilitators, co-facilitators, and trainees in teaching-learning process in live classes and how they tackled them?
- This main research question was followed by the following subsidiary questions:
  - What is the technology related challenges in live classes?
  - What is the delivery related challenges in live classes?
  - What is the content related challenges in live classes?
  - What other challenges do teachers face in live classes?
  - What are the implications of the challenges for the future of online classes in public schools in Khyber Pakhtunkhwa?

Methodology
This is a qualitative case study (Creswell; 1996, 1998, 2002, Creswell and Clark (2011) in which four facilitators, four co-facilitators, two IT experts, and four observers participated. According to Bassey (2007), case study critically examines phenomenon to reach to informed decisions for improving educational practices. Also, Yin (1994, p.13) argues that “[qualitative case study] is an empirical inquiry that explores a contemporary phenomenon within natural settings”. As all research questions in present study required exploration and in-depth analyses of the challenges faced in live classes by participants, qualitative case study seemed appropriate design.

Data Sources, Collection and Interpretation
To understand the kind, intensity and nature of the challenges in live classes, there was a need to use multiple data collection tools. Multiple tools including: interview, observation, reflective memos, and informal conversation (Yin, 1989), were employed to view the study from different dimensions.

Participants
As this was a pilot stage of live classes project, for which a firm Live Class was hired to provide technical assistance, the researcher selected participants using purposive sampling technique as it allows for identification of subjects that could provide rich information about the issue in hand (Bashiruddin, Khan, Yunus & Dayan, 2012).

A total of 4 co-facilitators (Male and Female), 4 facilitators (females) and 4 monitors/observers from the participating districts, and two IT experts participated in the study. All the participants were involved in live classes. For example, facilitators, facilitated the sessions from parent classrooms, co-facilitators facilitated live sessions in the schools, monitors were the personnel who visited remote classrooms on session day.

Data Collection and Analysis
Data were collected through semi-structured interviews and review of monitoring forms submitted by the sessions’ monitors as these are widely used for their appropriateness in social science (Cohen et al., 2007). Semi-structured interview enables the researcher to get insight into a participant’s knowledge, perceptions, values and beliefs through probing questions in natural settings (Tuckman, 1972; Barrribal & Whiles, 1994; Cohen et al., 2007). Each participant was interviewed once, which lasted for 30 minutes. The interview’s major focus was on the challenges that the interviewee faced or perceived during live classes. The interviews were conducted at the work places of the participants. Interviews were conducted in Urdu, the national language of the participants, which were later on translated to English by the researcher.

Braun and Clark’s, (2006) framework was followed for data interpretation/analysis that included four steps: translation and transcription of the data; initial coding; identifying themes and developing explanations. Each set of interview’s notes was first translated carefully. For making sense out of the data,
the scripts were thoroughly read multi times and initial codes using colors were assigned to important ideas in each sentence. Initial coding was followed by the development of thematic map, which helped in extracting main themes.

**Structure of the Pilot Project**

The project spanned over six months, which means six live classes were conducted in total. The hired firm visited a couple of times the organization where system was to be installed to do necessary arrangements such as provision of internet, training of facilitators, co-facilitators, and Information Technology (IT) teacher, and conducting mock sessions.

Laboratory-a set up for live classes- was named as Parent Class Room (PCR) because facilitators would conduct session from there. Classrooms at schools were called Remote Class Rooms (RCR) because co-facilitators and students (PSTs) would sit there to learn. Criteria of availability of internet, computer laboratory, one touch screen, and accessibility of the venue was considered to select school as RCR.

Once all arrangements were done, the organizers and implementers decided to conduct one-on-one session, which means PCR would interact with one RCR only. This was important because all of the facilitators and co-facilitators were naïve with live classes approach. One-on-one session required basic skills of operating learning management systems (LMS) while one-on-more session required advanced level skills so it was reasonable to expect that facilitators/ co-facilitators would be more comfortable in one-on-one session.

Second session was conducted on one-on-two session and third, fourth, fifth, and sixth were conducted in one-on-three session mode. The following section present findings and discussion on challenges that respondents faced during live classes.

**Findings and Discussion**

Findings are presented in thematic fashion. It may be noted that the researcher substantiates almost all of the above benefits highlighted in empirical studies. However, participants faced the following issues while delivering online class:

**Technology Related Issues**

It seems like remote classroom (RCR) and parent classroom (PCR) were not provided high bandwidth internet, which resisted the sessions’ delivery process. Moreover, as it was first experience of all participants to teach and learn online, they were uncomfortable and faced problems in handling technology in delivering content.

Apart from the lack of skills of balancing the natural teaching approach and technology-assisted teaching approach, persistent slow internet made the experience harder. For example, one of the facilitators said, “Low signals resulted in blurred videos which resisted clear view of participants’ non-verbal communication so I couldn’t see if they were following me or not?”.

As people on both sides (remote classroom and parent classroom) were naïve to this approach, they lacked expertise in handling software and hardware, which resulted in hampering smooth running of the session. For example, facilitator at PCR said, “co-facilitator would leave a mic on table and would move around the class, so I could not hear what participants wanted to say.” Similarly, co-facilitator said, “we had to repeat each sentence three times, which was irritating at times.”

Moreover, all facilitators were sitting in the same room and everyone had to talk loudly, which created unbearable disturbance. For example, a facilitator said, “It was a fish market rather, I couldn’t hear what people on the other side were saying because of the noise in the room.” Similarly, a teacher said, “frequently we heard two or three different voices coming. It was funny because one face on the screen talked in three different voices and subjects. Actually, it was very disturbing.” Whenever, video was turned off for the sake of clear voice, it felt like speaking on radio than interacting with real participants.
During second session, one PCR was connected to three RCRs. Though the facilitators were relatively comfortable in using technology and delivering content simultaneously, switching from one site to another and grabbing the trainees’ attention was an issue in terms of video and audio a-synchronization. For example, a facilitator said, “as I had to keep mics of the sites off, it was difficult to grab their attention.” All facilitators faced the issue of slow internet and elapsed transmission time, which means time used in reaching from producer to listener. For instance, a facilitator complained, “internet was so slow that I could see only blurred faces with moving lips, voice would come after a long time.” On the other hand, co-facilitator and teachers faced the same issue at their end. co-facilitator said, “We had to wait for ages to hear what facilitator wanted to say, voice was broken and delayed.” Video and audio were not synch, which impeded the flow of the session.

As more sites were added in second session so all new trainees in remote classroom (RCR) were naïve to this approach, they could not keep pace with the old ones, which resulted in unwanted delays in running the session. The issue of interrupted delivery was more severe this time because of slow internet the systems on both sides hanged frequently.

Most of the participants did not even know how to use technology for learning. For example, a facilitator said, “Participants could not follow instructions because they were not aware of this approach.”

The only solution is to provide them with necessary support and equip them with required skills before putting them in live classes for learning. On part of facilitators, this issue was observed too. Many of them were not proficient in using computer skills efficiently which resisted the flow of the content delivery. Therefore, before embarking on the task of teaching in live classes, they need to take basic computer courses to avoid unnecessary disturbances and hindrances.

**Delivery Related Issues**

Delivery related issues were a lot in first session. First, time-elapse between transmitter and receiver hampered learning activities. Facilitator argued, “Though we were told by the organizers that we will face some time delay but it was very long than what we expect.” Second, the facilitators had to follow the lesson plans that were developed for face-to-face classroom, some instructions that were made for face-to-face teaching that did not work in online teaching for example close observation during activities. Finally, feeling of being outsider-insider impeded instructions. Another facilitator stated, “It was a weird feeling, like I had to teach them but could not see directly in their eyes, for example. Also co-facilitator who was physically present there was in much better position to discuss various topics with them.”

Time-elapse issue was, to a greater extent, addressed in second and third sessions because facilitators, co-facilitators and trainees were tuned to wait for at least three seconds to expect response from the listeners. However, due to time delay in getting all sites online concurrently- one group started session while the other two waited till the issue was settled down- it was then difficult to deal with all groups simultaneously.

One facilitator said, “I was taught and trained in tradition class so I have developed that sense it is very difficult for me to switch to this new class.” Therefore, delivering in new setup seems to be an issue for the facilitators. Similarly, co-facilitator shared, “Though it is new and interesting method, it become irritating at times, especially due to the feeling that you are being watch, or you have to follow some one all the time.” So, co-facilitators seem to be not accustomed to new expectations of sharing responsibilities of teaching. Likewise, teacher said, “You are stuck between the two.”

**Content Related Issues**

Facilitators as well as co-facilitators said that content was more than required. It was found that internet issue and more content slowed down teaching time and hence activity designed for 15 minutes took 45 minutes, which further affected the rest of the schedule.

They said that some activities were not appropriate for online teaching. One facilitator said, “As I was switching periodically, I found that co-facilitator at one site was not clear about the content and
could not deliver it with fidelity. I tried to help but as other sites were also online and had done those activities, I could not repeat it because it would waste others’ time.”

The other one said, “As I was switching occasionally, I found that co-facilitators at one site were not prepared for the session. They were not clear about the content so could not deliver it with fidelity.

**Adaptability Issue**

It was a challenge for facilitators and co-facilitators to switch from traditional to virtual classrooms and from face to face teaching to computer-based training. These two challenges made the teaching learning experience entirely different for co-/facilitators on the one hand. On the other hand, students went through totally different emotional and physical transformation in these classes. The natural inertial resistance to change made their adaptability to the online learning environment more challenging. However, it requires time to get accustomed to Learning Management Systems (LMS) and the strategies of computer-based education.

The behavioral expectations of both classes—traditional classroom vs. virtual classroom—are different for example, attentive and silent listening and notes taking is the culture in a traditional classroom, meaningful discussions in live classes demand active engagement. Realistically, most of the students—any level—are trained in traditional classrooms and came with the same mindset so it was difficult for them to adjust in new environment.

**Time Management**

Another big issue in live classes was about time management that facilitators and co-facilitators faced. Time elapse in voice reception that fluctuated between 5 to 30 seconds did not allow facilitators to adhere to their pre-planned lesson plans. As a result, they either skipped some activities or did not spend the required time on some activities.

Online classes, generally and live classes particularly require intensive preparation and practice before actual session. It seems like due to adaptability issue, facilitators could not give its due efforts. Also, adults are relatively rigid in compromising on personal or professional commitments, which may have intensified the time management issue in these classes.

**Motivation**

Motivation is an essential requirement in live classes however, in this project many trainees lacked it. Low internet signals, frequent disturbances, and lack of commitment further lowered their motivation. Motivation is closely related to internal and external benefits to the actors (trainees in this case). Trainees did not see the benefits of live classes in their life except some content learning.

**Suggestions**

Live classes in public school is good initiative, but at its embryonic stage it poses certain serious issues to the trainees, facilitators, and co-facilitators. Bringing attitudinal change and enhancing technological expertise may be helpful for all major stake holders to gain confidence teaching and learning in live classes.

Following are some recommendations to bring the above desired changes in attitude and gaining expertise in using technology. Also, these recommendations include the prerequisites for upscaling this program in Khyber Pakhtunkhwa or anywhere in Pakistan.

As live classes are totally dependent on the internet so first and the most important prerequisite is that all PCRs and RCRs should be provided with high speed internet for smooth running of the sessions?

All facilitators and co-facilitators should be imparted intensive training on developing lesson plans, facilitating live classes and assessing trainees in live classes.
A clear mechanism of sharing responsibilities between facilitators and co-facilitators should be laid out. Science may not be taught in live classes because teaching of science is done more effectively in face-to-face sessions. It requires facilitators to play multi roles at the same time such as supervision, observations, assessor, and discussion leader. For example, while students are busy in hands-on activity, a facilitator supervises them and by asking critical questions she/he tries to engage students in enquiry but in live classes these are easy to do, which hampers the core purpose of science teaching.

**Conclusion and Recommendations**

Live classes, being need of the day, is already winning recognition and acceptance despite challenges associated with it. Both, facilitators and students face challenges in this relatively new way of teaching and learning. The respondents used quick fixed remedies to address the challenges. However, this study recommends using creative models of lesson planning, using high quality learning management system (LMS) for live classes, intensive training for facilitators before starting live classes and flexibility in curriculum to adjust in the given situation. Implications for teacher training programs are: including a course on live classes, blended learning, and strengthening partnership between training institutions and the schools.

In a nutshell, educational institutions and facilitators will have to invest more energy, time and resources to design the instructions, on the one hand. On the hand, students will need to strengthen their technical proficiency to take full advantage of the opportunity.
Perceptions of Teachers Regarding Online In-Service Training in their Professional Development in Khyber Pakhtunkhwa, Pakistan

Reference

Bassy, M. (2007). Case studies. In Ann R J. Briggs and M, Coleman. Research methods in educational leadership and management(pp.142-155). Thousand Oaks, CA: Sage.
Braun, V. &Clark, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77-101.
Cohen, L., Manion, L., & Morrison, K. (2007) Research methods in education, London: Taylor & Francis.
Creswell, J. W. (2002). Educational research: Planning, conducting, and evaluating qualitative and quantitative research. Saddle River, NJ: Merrill Prentice Hall.
Creswell, W. J. (1996). Qualitative inquiry band research design. London: Sage Publications.
Creswell, W. J. (1998). Qualitative inquiry band research design; choosing among five traditions. London: Sage Publications.
Creswell, W. J., & Plano Clark, V. L. (2011). Designing and conducting mixed method research. London: Sage Publication.
Falloon, G. (2011). Exploring the virtual classroom: What students need to know (and teachers should consider).https://www.techopedia.com/definition/13914/virtual-classroom  https://support.electa.com/Knowledgebase/Article/50700
Haythornthwaite, C. (2002). Building social networks via computer networks: Creating and sustaining distributed learning communities. In K. Renninger & W. Schumar (Eds.), Building Virtual Communities: Learning and Change in Cyberspace (pp. 159-190). Cambridge: Cambridge University Press.
Hrastinski, S. (2008). Asynchronous and Synchronous E-Learning: A study of asynchronous and synchronous e-learning methods discovered that each supports different purposes. EDUCAUSE Quarterly, 31(4), 51-55.
Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and Challenges for teaching successful online courses in higher education: A literature review Journal of Educational Technology System, 46(1), 4-29. doi:10.1177/0047239516661713
Mwanza, D., & Engeström, Y. (2005). Managing content in e-Learning environments. British Journal of Educational Technologies, 36(3), 453-463. DOI: 10.1111/j.1467-8535.2005.00479.
Tuckman, W. (1972). Conducting Educational Research. New York: Harcourt Brace Jovanovich.
UNESCO (2008). Institute for Statistics. www.en.unesco.org/country/Pakistan (accessed 10 March 2015).
Wang, A., & Newlin, M. (2001). Online lectures: Benefits for the virtual classroom. T.H.E Journal. Retrieved from http://www.thejournal.com/articles/15513
Yin, R. K. (1994). Case study research: Design and methods (2nd ed.). Newbury Park, CA: Sage Publications.