The Experiences, Barriers and Success of Online classrooms during the COVID-19 Crisis: An Educators perspective in Indian Educational Institutions

Abishek Santhosh Raj and Divya Mathur
NSB Academy, Bangalore, India

Purpose:

With WHO declaring the COVID-19 to be a pandemic, the educational fraternity in most of the countries responded by closure of its institution. The crisis forced the institutions to rapidly shift to online classrooms to keep the learning process going. This paper aims to study the experiences and barriers faced by the educators in India in relation to the transition to online classrooms and also provide insights for successful learning during the crisis of COVID-19.

Design/methodology/approach:

Considering a few models and theories of learning and education; namely General Teaching Algorithm (GTA), Constructivism Theory of Learning, Kolb's Experiential Learning theory and Kolb's Model for Classroom Activity, the study brings out the various parameters which are most required for a successful learning process. Based on the derived parameters, an in-depth telephonic interview was conducted with 10 educators from different fields of education. Questions and discussions were focused on the challenges each of the educators faced, the experience of the sudden transition and the methods adopted by each to achieve a successful transition of knowledge and learning.

Findings:

The general observation states that online teaching mode has introduced the educators to a completely new platform. It was found that most of the educators are not very satisfied with the

process and are also finding it very difficult to motivate the students and maintain their interests. Technology was another challenge for a few instructors and the network connectivity was a huge issue for effective functioning of the sessions. It was found that there were a lot of barriers in fulfilling most of the essentials for a successful learning derived from the four models and theories.

Originality:

The study on the transition of classroom learning to online environment during the times of crisis is one of its kind and very few researches have been done on the same lines. The study carried out here was focused towards providing a solution to the barriers faced by instructors and thus the interviews conducted with the instructors from different institutions were one on one over telephone.

Research limitations/implications:

This study is done on a smaller scale yet considering educators from different part of India. The finding and the method of study can be a base for further studies to work on the means for successful transition and learning using the online platform not only during the times of crisis but during normal times as well. The study could further be extended by comparing the challenges faced between educators from different disciplines and can be extended into other countries. Researchers can also consider the use of other theories of learning.

Practical implications:

The main focus of this study is to provide a practical solution to all the educators who go through this challenging phase of transition to the online system of education. The educators would be able to relate with the results of the study and would be able to implement the strategies suggested to ensure smooth and effective learning process.

INTRODUCTION:

The COVID-19 has caused a huge damage to the world at large in all the aspects possible and it has crippled the economy in most of the nations. The impact still continues and it is unlikely to predict when it would come to a halt. The COVID-19 outbreak was declared a pandemic by the World Health Organization on 12th March, 2020 (WHO, 2020). This triggered responses across all sectors in most of the countries and the educational sector also responded to the declaration by taking a call to close the educational educations. The closure of educational institutes was based upon the assumptions and evidences from influenza outbreaks that the transmission can be reduced and interrupted by reduction in social contact (Jackson C, 2016). (Tian H, 2020), the author of a pre-print article stated that school closures has contributed to an extent in the control of spread of the outbreak in China. This however, does not have enough data to support the claim. A systematic Literature review done in the year 2018 by (Bin Nafisah S, 2018) states that the closure of schools reduced the peak of the influenza outbreak and also stated that earlier the closure of schools greater the decrease in the outbreak. A similar literature study in 2015 conveys that social distancing practice inclusive of closure of educational institutions resulted in wide variation in the spread of the outbreak (Rashid H, 2015). Various educational institutions in India took the precautionary step at an early stage and closed the educational institutes.

This gave rise to the option of conducting classes online. Meanwhile, online education was picking up pace in the educational sector where there were many courses, certifications and even degrees being offered through online learning. (Allen, 2014), stated in a study that the online mode of instruction will be very critical for higher education in the years to come. The ease of access to the internet and the flexibility of taking courses online have made the idea of online learning a part of the system of education (Li, 2008) (Luyt, 2013). The considerations of the affordability of the

classes conducted online and the technological feasibilities, the demand of the students seem to be shifting more towards online education (Limperos, 2015). With the demand in place many institutions began shifting or offering few of its courses online. This led to a lot of changes in the management of the online education. Faculty of online education started working on blending online and classroom program way back in the early 90's (Julie Tallman, 2005). The teachers in most of the field had actually started turning to internet and the World Wide Web as a medium for learning and teaching (Chris Hughes, 1998).There were a lot of studies focused on find the challenges and issues faced by the stakeholders of online education which was consolidated in the form of Systematic literature review by (Mansureh Kebritchi, 2017).

Quite a few number of studies done by (Berge, 1998) (Coppola, 2001) (Anderson, 2011) (Baran, 2011) (Chang, 2014) and many others focused on addressing the issues faced by instructors focusing on the various factors such as changing roles, time (Capra, 2011), Teaching styles (Choi, 2006) (Juan, 2011). Though these studies addressed the issues faced by the instructors handling sessions online and came up with solutions, it would not be applicable and be of much relevance in the current context as the situation is completely different. Considering the studies done earlier, they were all done on a well planned online classroom program. The contents were prepared for an online course and the syllabus and multimedia were completely prepared well in advance. It was just a moment of transition challenge for educators to get used to the system which was more supportive. The instructors were provided training on the use of the system and its features before conducting the sessions online (Mansureh Kebritchi, 2017).

The situation at the moment is completely due an unexpected occurrence of event. At this juncture of the pandemic, with the closure of all educational institutions, the educators were forced to take their classes to the online environment with neither any prior experience nor training. They were

completely baffled with the instructions as find the right platform and getting used to it became a challenges. Moreover, with the syllabus designed for an offline classroom setup, the task became even more tedious. The situation was even worse in India as most students had gone back to their hometown due to the lockdown mandate and the Internet connectivity became a huge problem for most of them to connect to the online classes. There also existed the issues of unavailability of computer systems. With all these going around, this study aims to understand the barriers and challenges faced by the instructors in India in conducting the classes online and possibly provide a solution to those challenges. The study takes into consideration a few models and theories namely General Teaching Algorithm (GTA), Constructivism Theory of Learning, Kolb's Experiential Learning theory and Kolb's Model for Classroom Activity and aims to connect the requirements of an instructor in making sure that learning happens with the practices and the effectiveness of the learning process carried out in the online setup. This paper starts with an understanding into the theories and models of learning used in the study, followed by the methodology and then the results of the study is discussed and recommendations are given in the form of practical and theoretical implications.

THEORIES

A good amount of studies have been done on the concept of learning and education and a lot of theories and models have been developed in the past and it continues to be developed. The literatures were focused both from the student's and the instructor's perspective to understand the teaching and learning preferences (Wilson AL, 1989) (Quay, 2003) (Kolb K. A., 2005) . Researchers also focused on integrating theories of learning like integrating social learning approaches into the traditional methods of learning (Nichols, 2009). The theories and models used in this study is discussed here.

Constructivism Theory of Learning:

The theory has its base on the observation and scientific study on how people actually involve in learning (Bada, 2015). The theory of constructivism is a theory found in the field of psychology that tried to understand the pattern of how people acquire knowledge and learn. This considers the learners to be a very active agent in the knowledge acquisition process (Bada, 2015). The theory has been studied by many researchers including (Bruner, 1961) (Piaget, 1980).

The Pedagogical goals of the learning environment of constructivists given by (Honebein, 1996) were considered for the study. Here, the seven goals mentioned focuses on the following aspects:

- Letting the students decide how they would learn
- To provide a scope for multiple perspectives
- To integrate learning in a realistic context
- To provide student centric learning
- To ensure Social experience learning
- To use multiple modes of representations
- To imbibe awareness about the knowledge construction process

From the above pedagogical goals, it is expected that the focus tends to shift from the teacher to the student and it becomes more student oriented. In this type of learning process, the student are said to have at most interest and involve actively. In this theory, there is a lot of scope for interactions between the educator and the student and the instructors assist the students in constructing their own knowledge. Here, the students are meant to work primarily in groups and the process is considered as important as the product. Considering the effectiveness of the learning theory, this was taken to study the effectiveness of the learning process in the online classroom.

Kolb's Experiential Learning Theory (ELT)

The Experiential Learning theory by Kolb explains the intricacies and complexities of teaching in classrooms (Kolb, 1984). The ELT model is used to understand the learning stages and the different ways in which people receive new information and process the information. It also emphasizes on the concept of how experience makes learning effective and meaningful (Akella, March 2010). (Boud D, 1985), describes that this model can be used to describe the learning process with a focus on turning experience into learning. Reflection on experience is also a focus here where it enables comprehension, making sense of the circumstances, responding to questions, making connections that are necessary and thus increasing knowledge and the overall effectiveness in learning (Wilson AL, 1989). ELT describes four stages of learning cycle namely Concrete experience, Reflective observation, Abstract conceptualization and Active experimentation. Learners tend to go through this cycle many times during their learning process (Akella, March 2010). The process of learning is conceptualized by kolb into four major components: "Plan, Act Observe and Reflect" (Zuber-Skerritt, 1992) Focusing on the four stages, the Concrete experience stage explains that students learn by being more open minded and being adaptable. This stage is also termed as the "Do" stage. The Reflective observation stage is the stage where the learners try and reflect on their observation and examine their experiences in the learning process and this stage is the "Observe" stage. Abstract conceptualization stage is where student go about using logics and ideas and develop concepts. This is the stage where more of their cognitive ability is used and is termed as "Think". The fourth is the Active experimentation or the "Plan" stage where theories analyzed are used for future predictions on reality to make decisions.

The components from Kolb's Experiential Learning Theory "Plan, Do, Observe and Think" were considered to derive the essentials an educator needs to consider for a perfect learning process to occur.

General Teaching Algorithm (GTA)

GTA is sourced from a seminal work by (Klauer, 1985) titled "Framework for a theory of teaching". The work contributed to various structures and forms of teaching. Teaching is considered to be an interpersonal activity which is directed towards learning and the effectiveness can be defined with the learning of the students (Klauer, 1985). The literature gives more insights into teaching being an interactional process which must involve a teacher and one or many students. And interactions in the context of teaching must involve teacher exerting an influence over the students' activity and the students exerting influence on the teacher's activity (Klauer, 1985). The General Teaching Algorithm is based on five major questions which act as a core for the Algorithm. These questions address how a teacher has to respond to the students at various phases during the learning process. The GTA contains the following questions:

- Is learner motivated?

- Has learner the information needed?

- Has learner understood everything?

- Can learner remember information?

- Can learner transfer information?

Klauer also states that if a question is answered affirmatively, then the teacher will have to do nothing but if the questions are negative, it is the duty of the teacher to provide aid to the learner. The algorithm clearly portrays the interactive relationship that needs to be there between the

educators and the learners. The flow also clearly shows the journey an educator takes along with the learner. The educator has to make sure that right from the aspect of motivation of the learner till the learner is capable enough to transfer the learnt information the instructor has a role to play.

This study also considers this algorithm to derive the role an instructor has to play from the moment a course starts till it ends. The derived parameters were considered as a part of the interview questions to the interviewees. Considering the role an educator is supposed to be playing, it was tested if they still are able to play these roles in the online environment.

Kolb's Modified Model for Classroom Activity

(Manilla D. Svinicki, 1987)**,** published a work modifying the model of kolb for classroom activity. This modified contribution to the application of learning in an experiential manner is significant as it incorporates a wide range of classroom activities that takes the student through the complete cycle of learning and gives them experiences from multiple perspectives (Alice Y. Kolb, 2006). The model considers students as a receiver and students as actors and various activities which requires the students to be actors and the students to be receivers is listed. This method of experiential learning also calls for holistic evaluation methods that would cover all areas of student learning experiences (Sprau, 2001) (Mellor, 1991). This modified model serves as an integrated framework for the application of the experiential mode of learning in different academic learning environments (Alice Y. Kolb, 2006).

For the purpose of our study, the various methods of teaching that cater towards students as a receiver and students as an actor is considered. From among these, the methods that are used in classroom setup by the educators for experiential learning is discussed with the interviewees and the scope for implementing the same in the online platform was discussed. The idea of experiential

learning being one of the most effectives ways of contributing to the learning process is considered and the level of implemented such in the online space is also noted.

METHODOLOGY

To overcome the challenges face by most of the educators in handling classes in an online setup during the COVID-19 crisis, the authors decided to go ahead with an in-depth interview method to better understand the concerns of the educators. A total of 10 educators who belong to the teaching fraternity in various disciplines were interviewed. The educators interviewed were those who had at least taken classes for one month online. The student audience of the educators ranged from Primary school and high school kids, Undergraduate student of Arts and Science, Engineering, Nursing, Commerce and Post graduate students of Management. The idea behind selecting educators from various fields was also to identify the common challenges faced by all educators irrespective of the domain taught. The study was specifically confined to India and the selected interviewees were from different parts of India.

The theories were carefully picked to provide a solid understanding of the effective methods of learning and the roles of educators to make sure of an effective transfer of knowledge. Four theories and models were identifies and a set of 25 parameters were derived from them. These parameters were further narrowed down by consolidating similar parameters and finally arrived at seven major parameters based on which the educators were interviewed. With an idea of covering the whole process of learning, the questions to the Educators were focused on educator's role as motivators (Klauer, 1985), the various means and methods used by educators to facilitate information sharing (Klauer, 1985) (Honebein, 1996), the opportunity to evaluate the level of understanding of the students (Manilla D. Svinicki, 1987) (Klauer, 1985), the scope for interactions and student participations in the online setup to promote social learning (Klauer, 1985) (Honebein,

1996) (Kolb, 1984) (Manilla D. Svinicki, 1987), the scope for knowledge sharing by the learners (Klauer, 1985) (Honebein, 1996), scope for Activity based learning (Manilla D. Svinicki, 1987) and an opportunity to implement the learning (Klauer, 1985) (Honebein, 1996). The aim was to identify if the educators were able to deliver on the above derived parameters which is required for a successful teaching-learning process.

The Challenges and Barriers faced along these processes were noted and their experience in trying to deliver effectively and the methods they use for smoother transfer of knowledge between the educator and the students were also noted. The Study also touched upon the satisfaction level of the educators. Each of the interviews on an average lasted for about 1 hour 30 minutes and it was conducted over the telephone.

FINDINGS

To present a meaningful and well-defined picture, presented first are findings associated with interviews taken and responses recorded for the same. The findings presented are from the interviews taken from educators during the crisis time of COVID-19.

Motivation was considered to be one of the most important roles of an educator (Klauer, 1985) and the same was felt by all the interviewees. It was very much evident that faculty plays a very important role as a motivator for students whether it is classroom teaching or online mode of teaching. The classroom teaching gives a lot of scope to interact with the students. The educators felt that the facial expressions of the students and their body language acted as an indicator of their understanding and presence in the class which was actually missing in the online classroom setup. Continuous participation can also be encouraged in the classroom where as in online mode of teaching, there is only scope for self-motivation from the students end. This also becomes important as some of them find it as a comfort zone as they can easily hide from the eyes of the

faculty. The students also tend to lack classroom discipline and avoid responding much to the faculty when asked to respond. This makes the task of motivating the learners a very tedious one.

The information sharing in the regular classrooms is maintained by providing students with reading material, notes, books etc. Similar modes are maintained in the online sessions also and in addition to this, educators are extensively using videos, Power-point presentations and Interactive screens. Most educators felt that the only facility students cannot make use of is physical utilization of libraries which to an extent is compensated by digital libraries as most institutions have given access to the online contents.

An opportunity to evaluate the understanding level of the students was another factor considered important (Manilla D. Svinicki, 1987). All the interviewees felt that the topics covered in the previous session need to be revised in the current session so that connectivity between the topics can be maintained in the class. It is practiced in the classroom mode of learning but when sessions are taken in the online mode it becomes cumbersome as student's response rate is low and equal participation from the student's end is not possible.

Most of the educators are continuously stating that students are very selective in responding and participating in the discussions during online session which make it very difficult to understand the overall receptiveness of the students.

The knowledge sharing in the in-campus mode is done by organizing club activities, group presentations, group discussions, simulation games etc. which makes the learning process much more interesting. In the online mode of learning for most of the categories of students these methods cannot be implemented. To an extent faculty are trying to engage students by assigning individual presentations which gets monotonous after a point of time. The scope for knowledge share and social learning as proposed by (Klauer, 1985) and (Honebein, 1996) is very minimal.

Experiential Learning and Activity based learning is completely lacking in online mode of teaching as it requires a lot of personal involvement. The educators did agree with the concept of experiential learning theory by (Kolb, 1984) but it became a challenge for the educators. Live videos or instruction manuals can be shared by faculties but it requires a lot of involvement from the students end which can be implemented for professional courses but for regular school and graduate level, it is not of much use.

The assignments and mini projects are also very effectively used in the regular classroom sessions to authenticate the level of understanding of the students and to provide an opportunity for the learners to implement the concepts learnt. This again is in a much jeopardized state when we go with online mode as data available on the online platforms is utilized. As we are experiencing COVID 19 conditions survey-based studies or visits cannot be organized for the students.

The online mode is still a very new platform for the educators so understanding its resource fullness and various infrastructure issues makes it challenging for them. The classroom discipline, surveillance and face to face interaction are also not possible which makes class engagement very difficult.

The Educators faced a lot of issues with the sudden transition of classes from the offline set up to the online set up. They had to quickly make a few changes about the course outline to suit the online environment by replacing all the activities and discussions planned for the offline environment. All the educators interviewed were not very satisfied with the way things are going and they are trying to do all that is possible to make the learning process smoother for the students with an effective online teaching method. Most institutes have starting working towards equipping their instructors. Faculties are now getting trained in using various tools available online to bring up effective virtual sessions like use of Google classroom, Google forms, Class management

applications like Acadly, online assessment applications like Mettl but these measures can be useful for Post Graduate or Professional courses in general online mode cannot be considered very successful in student engagement.

The responses of the educators can be connected to the major parameters as we can sum up the information into following categories:

Experiences of the Educators

The general observation states that online teaching mode has introduced them to a completely new platform. Most interviewees were experiencing this mode of imparting knowledge for the very first time and they were completely not prepared for something like this. The online mode helps to connect with the students and has been opted for imparting knowledge to all the categories of students from primary to Post Graduate. The educators are experiencing lot of difference in the online mode of learning and trying to enrich it by providing suitable material, videos and references online.

Challenges and barriers

The educators are finding it very difficult to maintain interest of the students in the online mode as it is difficult to keep them active all the time there are many incidences when the session are happening in the dormant manner.

The classroom discipline is a challenge as students gets diverted very easily. Assessment and evaluation methods are not very sturdy in online mode. Activity based trainings are not workable as personal interaction is lacking here. Few educators face challenges with the technology itself and this affects the proper flow of information. Network and connectivity is another huge challenge in India and this affects the online classes to a greater extent. Most interviewee expressed that they

are forced to ask all the students to stop video and audio sharing to ensure good connectivity during the sessions. This makes it difficult for the faculty to teach without looking at the faces of the students. Few students also look at this situation as an opportunity to be more lethargic.

Solutions Suggested

The pandemic has caused a great impact in the educational sector especially for the educators. It is to be noted that this is only temporary yet the educator's fraternity needs to do all that it can to ensure effective delivery of information. Proper trainings should be conducted for the instructors to understand online platform and they should be well equipped with the resources available online to schedule effective sessions.

The learning system should be well fragmented and connected so that learning should be easy for students. The assessment mechanism needs to be well developed by introducing latest applications available. It is also suggested that for a successful transfer of knowledge from the educator to the learners, both the educator and the learners must be motivated for that transactional process during this difficult time of crisis. Instructors can try out and explore various interactive tools and techniques to keep the sessions live. Using a lot of multimedia such as explanatory videos and images inducing cognition can be used during the sessions to keep the students interested.

CONCLUSION AND FUTURE WORK

The outbreak of COVID-19 pandemic brought a lot of businesses and institutions to a halt, but not the education. The outbreak tested the mettle of the educators to go to extents to keep the learning process going. The transition might have not been very easy for both the teachers and the students but the educators seem to be doing all that they can to ensure effective transfer of knowledge. Teachers in the online learning Platform enabled by the Internet need access to tools, processes,

and teaching methods equal to or better than those in the classroom. They may also expect that this new environment will not be new for them or their students and that they can apply prior knowledge and experience of teaching and learning to the challenges posed by the new medium. Identifying and specifying the methods of simplifying classroom or educational interaction, and then developing software tools to support this which will enable something more like the intensity, richness and spontaneity of classroom interaction to be achieved in the online environment. The participation from the students is the biggest challenge that reduces the relevance of online teaching can be corrected by proper induction for the students. The course specific tools need to be developed to facilitate online learning process. This situation might be only for a short period of time, but the experience educators can get from during the crisis would help in the longer run as we see most learning going online. Further researchers can focus on studying the barriers and experiences from the perspective of the students. Various other theories of learning can also be used and the same study can be emulated in other regions of the world.

REFERENCES

Akella, D. (March 2010). Learning together: Kolb's experiential theory and its application. Journal of Management & Organization , 100 - 112.

Alice Y. Kolb, D. A. (2006). Learning styles and learning spaces: A review of the multidisciplinary application of experiential learning theory in higher education. In S. S. RR Sims, Learning styles and learning: A key to meeting the accountability demands in education (pp. 45-91). Nova Science Publishers.

Allen, I. E. (2014). Highered. Retrieved May 5, 2020, from Bay View analytics: https://www.onlinelearningsurvey.com/reports/gradechange.pdf

Anderson, D. I. (2011). Feedback please: Studying self in the online classroom. International Journal of Instruction , 3–15.

Bada, S. O. (2015). Constructivism Learning Theory: A Paradigm for Teaching and Learning. IOSR Journal of Research & Method in Education , 66-70.

Baran, E. C. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. Distance Education , 421–439.

Berge, Z. L. (1998). Barriers to online teaching in post-secondary institutions: Can policy changes fix it? Online Journal of Distance Learning Administration , 1–12.

Bin Nafisah S, A. A. (2018). School closure during novel influenza: a systematic review. Journal of Infection and Public Health , 657–61.

Boud D, K. R. (1985). Reflection: Turning experience into learning. London: Kogan Page.

Bruner, J. S. (1961). The act of discovery. Harvard Educational Review , 21-32.

Capra, T. (2011). Online education: Promise and problems. Merlot Journal of Online Learning and Teaching , 288–293.

Chang, C. S.-Y. (2014). University faculty's perspectives on the roles of E-instructors and their online instruction practice. The International Review of Research in Open and Distributed Learning , 72–92.

Choi, H. J. (2006). Difficulties that a novice online instructor faced: A case study. The Quarterly Review of Distance Education , 317–322.

Chris Hughes, L. H. (1998). Online Interactions: Developing a Neglected Aspect of the Virtual Classroom. Educational Technology , 48-55.

Coppola, N. W. (2001). Becoming a virtual professor:Pedagogical roles and ALN. 34th Annual Hawaii International Conference. Hawaii : System Sciences.

Honebein, P. (1996). Seven goals for the design of constructivist learning environments. In B. Wilson, Constructivist Learning Environments:Case Studies in Instructional Design (pp. 11-24). Englewood Cliffs: Educational Technology Publications.

Jackson C, V. E. (2016). The relationship between school holidays and transmission of influenza in England and wales. American Juornal of Epidemilogy , 644–651.

Juan, A. A. (2011). Teaching mathematics online in the European area of higher education: An instructor's point of view. International Journal of Mathematical Education in Science and Technology , 141–153.

Julie Tallman, M. A. (2005). Blending Online and Classroom Learning Environments: Reflections on experiences and points to consider. Knowledge Quest , 25-28.

Klauer, K. J. (1985). Framework for a Theory of Teaching. Teaching & Teacher Educarion , 5-17.

Kolb. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs: Prentice Hall.

Kolb, K. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. Academy of Management Learning and Education , 193-212.

Li, C. I. (2008). An Overview of online education: Attractiveness, benefits, challenges, concerns, and recommendations. College Student Journal , 449–458.

Limperos, A. M. (2015). Online teaching and technological affordances: An experimental investigation into the impact of modality and clarity on perceived and actual learning. Computers & Education , 1–9.

Luyt, I. (2013). Bridging spaces: Cross-cultural perspectives on promoting positive online. Journal of Educational Technology Systems , 3–20.

Manilla D. Svinicki, N. D. (1987). The Kolb Model Modified for Classroom Activities. College Teaching , 141-146.

Mansureh Kebritchi, A. L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education:A Literature Review. Journal of Educational Technology Systems , 4–29.

Mellor, A. (1991). Experiential learning through integrated project work: an example from soil science. Journal of Geography in Higher Education , 135-149.

Nichols, M. a. (2009). Strategic e-learning implementation. International Journal of Teaching and Learning in Higher Education , 251-61.

Piaget, J. (1980). The psychogenesis of knowledge and its epistemological significance. Language and learning , 23-34.

Quay. (2003). Experience and participation:Relating theories of learning. The Journal of Experiential Education , 105-113.

Rashid H, R. I. (2015). Evidence compendium and advice on social distancing and other related measures for response to an influenza pandemic. Paediatric Respiratory Reviews , 119–26.

Sprau, R. (2001). I saw it in the Movies:suggestions for Incorporating Film and Experiential learning in the college history survey course. College Student Journal , 101-112.

Tian H, L. Y. (2020). The impact of transmission control measures during the first 50 days of the COVID-19 epidemic in China. medRxiv .

WHO. (2020, March 12). Speeches. Retrieved May 01, 2020, from World Health Organization: https://www.who.int/dg/speeches/detail

Wilson AL, L. B. (1989). What makes learning meaningful? Annual Meeting of the American Association for Adult and Continuing Education. Atlantic City NJ.

Zuber-Skerritt. (1992). Professional development in higher education: A theoretical framework for action research. London: Kogan Page.