

Hybrid E- Learning Model, Integration of Synchronous, Asynchronous, Face-to-Face and Remote Learning

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Abstract—In today's scenario the education system is opting for a more flexible and a more learner centred educational model. A hybrid e-learning model allows learning happen in a more personalized manner. It incorporates mixed learning methods offering a learning mechanism that encompasses a better learner - facilitator relationship. It is a mix of Synchronous, Asynchronous, Face to face and remote learning models. Hybrid e- learning model can provide immense prospects to explore by incorporating various learning mechanisms. This model requires careful planning and analysis in order to have a positive impact on the education system. Using this model, the institutions and the organizations can offer both in-campus and remote learning with the benefits of digital projects and activities. Technology has also enabled the educators to assess learners in a more convenient and pertinent manner. The various digital tools available for analysing and evaluating the teaching outcomes aids in offering a successful hybrid e-learning environment.

Index Terms— Hybrid E-Learning, Face-to -face, Remote learning, Synchronous and Asynchronous Learning, Digital Teaching.

I. INTRODUCTION

Higher education has evolved in recent years, through the integration of social, digital and educational components. The transformation from the traditional education system to the digital and technology driven learning has helped tremendously for the positive outcomes [1]. Online teaching mechanism was accepted by campus – based Face-to-Face (FTF) teaching educational institutions as it started proving its promising features to enhance the traditional education model. Online learning became the integral part of the course planning to improve the learning quality [2]. Information and Communication technology has offered various tools and mechanism to transform teaching and learning process into a more effective and valuable learning model [3]. Hybrid e-learning is one such contribution towards the enhancement of the learning models. For the education system's shift, digital teaching has provided a vital part in allowing learners to stay linked, involved, and inspired. Most of the facilitators of the world are carrying the teaching methodologies for their modules by mixing video, immersive learning, and useful collaboration models into their digital lessons, and learners are appreciating a different form of learning. Section I gives a brief overview of the learning mechanism. Section II gives a detailed description of the Hybrid E-Learning model. Section III explains the need of the Hybrid E-learning model and the growing acceptance towards the model during the COVID 19 pandemic. Section IV encompasses the model description and a detailed explanation of the components involved in Hybrid E-Learning model. Section V gives the list of pre.

II. HYBRID E-LEARNING

Hybrid e-learning is a pedagogical method that incorporates both Face-to-Face (FTF) learning and virtual instructions while delivering the course content [4]. Through Hybrid e-learning, a unique learning experience is created by merging the benefits of FTF communication and online written assignments and tasks. [5]. Hybrid e-learning model provides the learner a flexibility of opting for both regular traditional FTF learning and some sessions of virtual learning. As the learner centric learning mechanism is gaining more of acceptance and appreciation, hybrid e-learning model offers a learner, some control over the pace, place and time of the entire course delivery. [6].

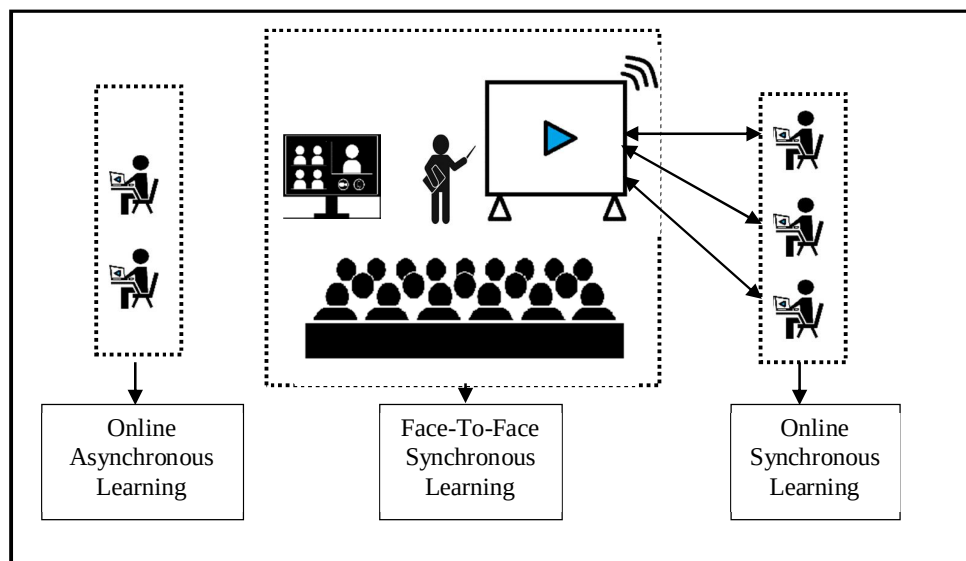


Figure 1. Model Representation of Hybrid E-Learning Environment

There are various methods of implementing hybrid e-learning model. Figure1. Gives detailed representation of how the Hybrid E-learning environment is implemented using synchronous and asynchronous modes. In this model the facilitators need to setup a mechanism that will enable both in-person and remote students attend the class at the same time. Learners are also encouraged to have a flexible learning environment wherein some elements of learning happen outside the regular FTF class time. This can be achieved by online group discussions, recorded sessions, or through self-learning.[7]

III. COVID 19 AND THE ARISING NEED OF HYBRID E- LEARNING MODEL

The Covid 19 pandemic effected lives in many ways, including education and learning outcomes. The shutting of schools has affected children increasing health emergencies. The reports show parent's stress increase in violence against children [11]. The educational institutions had to explore various possible methods to ensure that the learning doesn't stop. There were numerous challenges faced by educational institutions in order to implement remote learning [8]. The issue mainly faced by the educational institutions was the digital divide based on the access, and equity among the learners. This has affected children in various levels depending on some factors, such as their family backgrounds, age, and also the place they live.[9]

The various methods opted by educational institutions during this pandemic are rotational classes, partial attendance. In rotational classes some learners attend the classes on campus and the rest of the learners continue with their remote learning. On the other day/ or the week, the attendance is flipped such that the learners previously attending virtual classes get to attend in campus classes. In the partial attendance mechanism, based on certain criteria's such as age or special needs, the class strength is divided into two categories. On category opts to attend online classes while the other category gets to attend in campus classes. This categorization can also be made depending the complexity of the subject. Combining all these strategies evolve the need of a carefully planned hybrid e-learning environment [10].

IV. MODEL INTEGRATION FOR EFFECTIVE LEARNING PRACTICES IN HYBRID E-LEARNING

Though hybrid e-learning model involves variety of e-learning and traditional learning practices. Hybrid learning is growing as an important part of learning and teaching rapidly. Facilitators and Institutions are now arranging necessary mechanisms to teach in-person and online learners parallelly. It is being accepted by majority of educational institutions and is likely to be adapted more even after the pandemic. Indian educational system has also believed the benefits of Hybrid learning and has started exploring various methods to implement effectively. The majority of methods involved in implementing a meaningful hybrid e-learning environment fall under 4 major components.

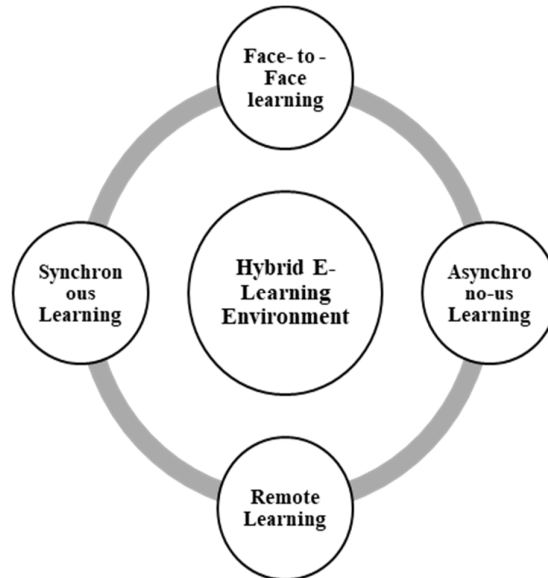


Figure 2. Components of Hybrid E-Learning Environment

Figure2. represents the various components that are involved in designing and implementing a hybrid e-learning environment. Rigorous planning and effective implementation of these components enables the institution and the learners to utilize the time and resources effectively. The educational institutions combine and balance these learning models according to the need of the learner and the module of the course designed. [12]

A. Synchronous and Asynchronous Learning

Synchronous e-learning, incorporates learning that takes place via an electronic mode. In this model learner and the facilitator is both available for teaching and learning at the same time. Synchronous audio/ video conferencing provides an opportunity of collaborative interaction among students and teachers. The chat rooms available facilitate in easy learner interaction [13]. Synchronous e-learning eliminates the geographical divide and brings learners together on one platform making collaborative learning more effective [15]. This method ensures learners participate effectively, having a real-time engagement, which in turn ensures student learning, and reduced attrition [16] It is essential that facilitators plan and follow a guideline and a syllabus for the modules, and also fit in software to comprise all of the skills, so students can have better online learning experience [14].

Asynchronous learning model offers more flexibility to learners. It allows a student to learn at its pace and time. To ensure effective discipline and positive outcomes, a timeframe is fixed for the learner to complete the learning task [15]. In asynchronous learning model the student and the teacher can be offline and the student can learn the lessons on its own. Though this method enables a delayed response, a learner can be benefitted by some extra time for critical thinking. This also enables a learner to be more comfortable and confident of the subject eliminating complex or unhealthy comparisons among the various type of learners [17].

B. Face – To – Face (FTF) and Remote Learning

Face-to-face and remote learning model of instruction delivery have few methods in common. Though the oral communication is more convenient in the FTF model, the remote learning model also supports teacher – student and student-student interactions effectively. The course content and the course quality remain the same in both

the learning models [19]. Though both the learning models offer similar learning outcomes, remote learning can improve professional skills. Remote learning help in time management increasing high problem-solving ability [20]. Depending on individual conditions and preferences, learners opt for the suitable model. As online learning offers self-paced and convenient learning, many learners rate remote learning as higher to FTF learning [21]. The right balance and blending of all these models are known as “hybrid e-learning”. The educators can design and deliver effective programs using hybrid e-learning model.

V. PRECONDITIONS OF IMPLEMENTING HYBRID E-LEARNING

This model involves in-campus learning with digital elements to provide learner- centered approach. It increases teaching/learning quality by solving various learner needs. Table1 enlists the essential components of effective implementation of Hybrid E-learning model.

TABLE I. STRICTURES FOR EFFECTIVE IMPLEMENTATION OF HYBRID E-LEARNING MODEL

Type	Description
Architecture	To implement a hybrid model, campuses need to be upgraded to have both physical and virtual learning spaces, to ensure smooth interaction with in-person and remote learners.
Training the Facilitators	Teachers’ skills need to be upgraded as they are generally trained and experienced to handle in-campus teaching; the institutions will have to provide training sessions to teachers to handle all the learning models simultaneously.
Guidelines	The resources need to be carefully planned to provide a centralized learning environment. Institutions need to establish guidelines and policies both for the learner and the teachers. Guidelines need to prepared after careful planning for all the basic classroom transitions, such as a standardized procedure to seek teacher’s attention, to effectively collaborate and work on assigned tasks or to take attendance
Assessment	A centralized assessment mechanism needs to be inherited to ensure effective learning. The assessment needs to follow a standard mechanism for both online and face-to-face learners to ensure fair treatment. Enough practice sessions need to be provided prior assessment.

VI. CONCLUSION

Hybrid E-learning model integrates varied learning model to provide an umbrella solution that brings in the benefits of each of the learning model as one solution. It combines elements from Synchronous, Asynchronous, Face-to-Face and Remote learning together to provide an all-inclusive learning. These elements are chosen based on various factors such as the requirement of the institution, the age of the audience and the economic privileges. The integrated learning model complement in such a way that it enriches the overall learning experience. The current pandemic situation has proved the necessity of adapting to Hybrid E-Learning Model. The implementation of hybrid e-learning model has various challenges involved, which has raised the need of extensive research in this arena. Hybrid E-learning model provides effective in-campus and remote learning integration.

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