# A Pathway to Implement AL-TST Model in Hybrid Classroom

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## Abstract

*In the traditional classroom, active learning is known to be a learner-centric instructional approach where constructive knowledge, discussion, role play, collaborative problem-solving activities, and self-assessment are commonly used to engage students with the students-centered course materials. Hybrid classroom is a mixed approach between the physical conventional classroom space for practicing real-time face-to-face learning activities among teachers, students, and learning materials; and the digital learning space for practicing synchronous and asynchronous e-learning activities. However, due to the interruption caused by the Covid-19 pandemic, conventional active learning models may not fit in the hybrid classroom where remote learning tools and various learning technologies are used. For this, the authors introduced a new active learning model for a hybrid classroom named AL-TST (Active Learning-Theory, Strategy, Technology) based on constructivism learning theory. The model is designed for practicing active learning in and out class. In this regard, the authors mapped prominent learning technologies that could fit in adopting various active learning strategies in the context of the hybrid classroom. In this paper, the authors provide a guideline for the instructors who wish to implement the AL-TST model in delivering courses in the hybrid classroom. In addition, this paper reflects on adaptation of this conceptual model for delivering a Multimedia Production Course designed for 4th-grade students. This paper also discusses potential challenges for the instructors while using the model.*

**Keywords:** *Active learning, AL-TST model, Hybrid classroom, Learning interaction, Learning technologies, New normal in education,*

## 1. Introduction

The ultimate purpose of using hybrid classrooms in higher education is to design teaching by which students can easily move between digital and classroom-based learning activities. In the current unprecedented moment in education, the hybrid classroom has gotten much attention because students can join a live class either physically or remotely via digital learning tools. However, connecting in-person and remote students is very challenging because many students while attending a class may feel not participating rather feel like an audience. Besides, many teachers use a tool like Zoom to bring remote students into class but sometimes students become passive and expected learning outcomes may not be achieved to a certain degree.

Active learning can be defined as teaching students how to study, share knowledge, think critically, solve problems, and help students to build required skills and knowledge by themselves [5]. The main goal of using active learning is to support students to understand the knowledge and skills besides engaging students to practice the learning activities. Active learning makes students listen to the teacher and share with the teacher in building their experiences, and have a chance to discuss what they learn [6]. Although many universities count active learning strategies as the key to student-centric education, adopting conventional active learning models in the hybrid classroom has become a challenge for the instructors. Therefore, simplified models are necessary to support active learning activities in hybrid classrooms.

## 2. AL-TST Model

The backbone of this research is an active learning model named as AL-TST model that is designed for active learning activities creation for hybrid classrooms [1]. The AL-TST model is conceptualized to foster active interactions within a hybrid classroom. The model uses constructive learning theory because it suggests that students gain knowledge based on their previous experiences, provides the

required basic skills and knowledge to facilitate learning in a hybrid classroom using learning systems [1]. Figure 1 shows the AL-TST model.
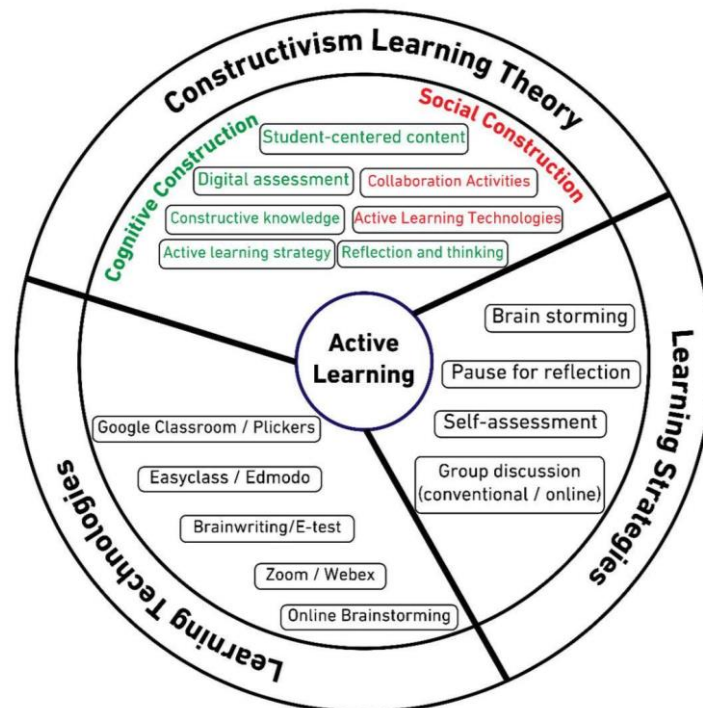


Fig. 1. AL-TST Model in Hybrid Classroom

In this paper, a pathway to implement the AL-TST model is articulated. This guideline is based on the teaching experiences in a Multimedia production course at South Valley University (SVU) in Egypt.

## 3. Implementation of the Model in the Context of a Hybrid Classroom

The current study followed a quasi-experimental research design [7] to investigate how to implement the AL-TST Model in improving students' achievement in the Multimedia production course delivered to 4th grade students in the Faculty of Mass Communication at SVU. The ethical review committee approved the study design and data collection for implementing this conceptual model.

### 3.1 Participants

The initial participants were 40 students, but two of them withdrew later. They were fresh students enrolled in the Radio and Television Department at SVU. They were registered in the Multimedia Production course, and all participants were voluntary. They were assigned into one experimental group (female = 22, average age = 20.83, SD = 0.89).

### 3.2 Method

The course instructor designed the course contents as the student-centered contents. Then, the instructor uploaded the main ideas and required detailed knowledge for each lesson in a PowerPoint file to the SVU's e-learning platform (http://app.svu.edu.eg/ecourses/faculties3.aspx) at least three days before teaching in a hybrid classroom.

Students studied the lecture materials before attending the class, were ready to answer the questions, and were advised to be active learners in the class. They could read the lesson's ideas and had various chances to improve their experiences by relating those ideas with their prior experiences around the lesson. During the class, students collaborated with each other to understand the knowledge and improved their skills on the required skills that were included in the lecture materials ( i.e. PowerPoint file). They also had a chance to ask for help from their instructor through a WhatsApp application. Besides, they used the Egyptian Knowledge Bank (EKB: https://www.ekb.eg) that has a wide range of free learning resources that enables students to study the lesson in depth. The instructor, in the class, rolled as a facilitator to answer students' inquiries. Moreover, the teacher organized the learning activities that students should practice inside and outside the class.

The entire study took an eight-week period from 07 November, 2020 through 02 January, 2021.
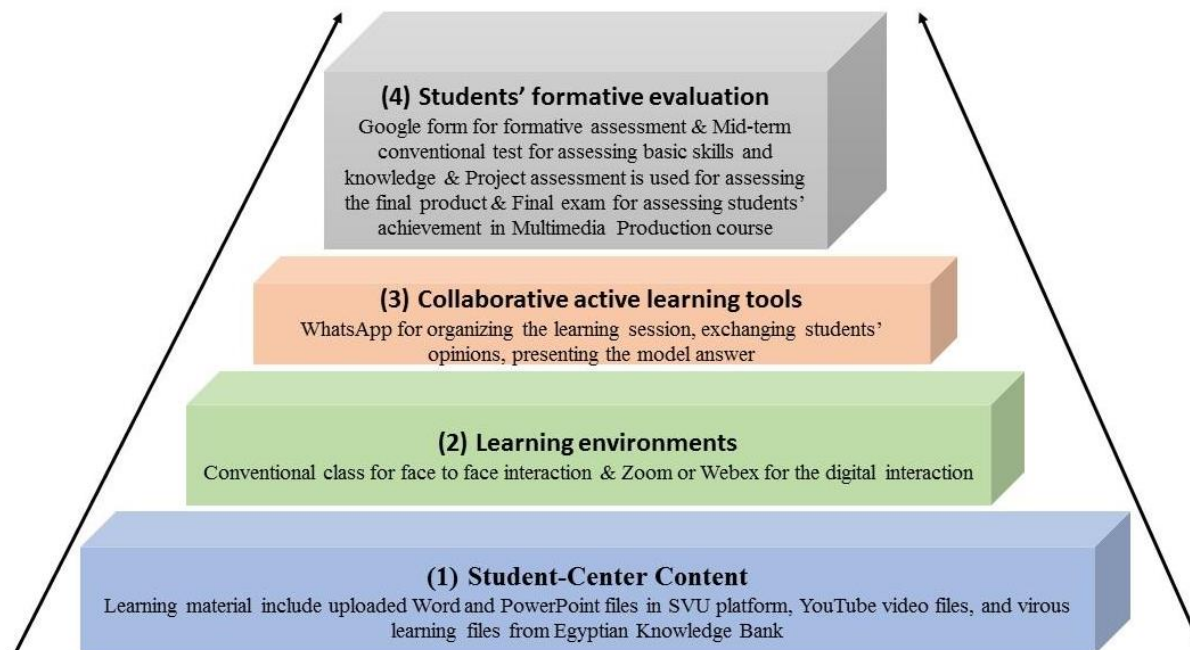


Fig.2. Adoption Method of AL-TST Model in the Multimedia Production Course in the context of Hybrid Classroom

### 3.3 Guidelines on Adaptation of Learning Strategies and Technologies

In the Course, students practiced brainstorming strategies while studying the main ideas of the lesson that was included in the power points file. These strategies can be used individually or in groups for discussing some issues or practicing learning activities in face-to-face or digital meetings. Sometimes, students practiced brainstorming strategies through WhatsApp, to find a good idea for their required video project.

The instructor trained the students how to take a break for 1-5 minutes to reflect on what they learn in the synchronous meeting. The main goal of reflection was understanding to what extent students could learn and what is the shortage of their learning. Furthermore, prepare their questions around the obstacles that they are facing while learning new experiences. Students used email or WhatsApp for sending asynchronous communication, and Zoom or Webex for sharing synchronous activities.

There were various methods of discussion. Method (1), instructor organized the discussion about specific issues or about the suggested issues by students in face-to-face or digital video meetings. Method (2), the learning groups that consisted of 4 to 5 students discussed some issues that were presented in the class. These discussion activities were held in the classroom at the university or in WhatsApp or Facebook messenger. Self-assessment was practiced when students were asked to answer some quizzes through Google Form, and the instructor shared the model answer with them through WhatsApp or presented the model answer to them in the classroom.

Self-assessment also was used in the Mid-term exam when students were asked to answer questions. Then, the teacher presented the model answer face-to-face. The students discussed their answers with classmates or with the teacher. Collaborative assessment was used when the teacher asked the students to make a group that consisted of 5 to 7 students to design a multimedia production project. The purpose of the project was to solve a social problem through producing a 15 minutes (at least) video file that was edited by Adobe Premiere application. After the teacher received the 1st draft of the project, provided feedback to improve the quality of students' projects. Students had a 3-7 days period to modify the video and deliver the final video file. After that, the practical exam was applied to measure the students' practical skills in the course. The score was specified based on students' skills in producing and editing a multimedia project. At the end of the course, all students attended a final exam that was to measure students' achievement in the course.

## 4. Discussion

This study was conducted following a quasi-experimental research design [7] to adopt a conceptual model called AL-TST [1]. This model was used to deliver a Multimedia Production course. According to constructivism, students should discover the information by themselves and integrate the new learned experiences with their prior experiences. And to help students to be aware of how they can use the learned information in their lives.

In integrating the AL-TST model, in general, suitable digital tools in the hybrid classroom for enhancing active learning in the Multimedia Production course have shown an effective method for improving students' achievements and impact on enhancement collaborative learning and positive attitude toward using active learning in the higher education courses. Implementing the AL-TST Model should be continued in various courses in different stages for undergraduate and postgraduate students. Many technologies need to be investigated for enhancing active learning. In general, the model is a suitable method for supporting individual learning or collaborative learning. Students individually studied the basic fundamental knowledge related to the topic in the beginning of class. Collaborative learning is also enhanced among students in various situations. In preparing a video file as a learning project, in discussion and e-discussion, students could exchange their experiences. The AL-TST model's component helped students to be interested due to practicing active learning classes they were taking in the classroom or in the digital meeting tools. Help students also to be alert toward the required learning activities. Producing a multimedia project such as supporting tourism in Egypt, changing unhealthy habits like smoking, and recording interviews helped the students to invest their own experiences and what they learned related to the course. Presenting the final production to the teacher and other students could help the students to avoid failure. Moreover, that supports the students to be more confident in themselves and helps them to understand the multimedia production course much better. Consistent with [3], students enjoyed using active learning in their class. Integrating learning technologies leads students to accept investing the new digital tools in their study. Online learning supports students in finding the required knowledge or skills, which helps improve their self-learning skills [4].

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