Teaching Patterns in Technological Curricula

Omar Mahasneh[1]

1 Al-Balqa Applied University

Abstract

This paper aims to explain the patterns of teaching in technological curricula. Using a descriptive analytical approach, 11 teaching patterns were identified through analysis of books and websites: distance teaching, flipped teaching, blended teaching, hybrid teaching, simultaneous e-learning, asynchronous e-learning, network teaching, mobile teaching, self-teaching, programmed teaching, and smart teaching. Each pattern is briefly described along with visual examples. The patterns differ in their use of technology, student-teacher roles, synchrony, and location. Understanding these patterns can help educators select appropriate approaches when designing and delivering technological curricula.

Omar M. K. Mahasneh

Professor of Curriculum and Teaching, Al-Balqa Applied University, Faculty of Shobak University College, Department of Basic and Applied Science, E-mail: Omar_mahasne@bau.edu.jo. PO Box (71911), Shobak (5), Maan, Jordan. ORCID ID: https://orcid.org/0000-0001-6902-9109.

The current article aims to explain the patterns of education in technological curricula. The researcher used a descriptive

analytical approach by analyzing books and websites to provide a brief description of the education patterns. The analysis resulted in identifying 11 patterns of education within technological curricula. The following is an explanation of these patterns:

1. Distance Teaching: This type of education is employed in various educational institutions such as institutes, universities, schools, and training centers. Its purpose is to deliver learning and training to the learner at their place of residence or work. It encompasses several distance education methods including correspondence via regular mail or electronic mail, radio, television, E-learning management systems, and virtual meeting applications. See Figure 1.

Figure 1. An illustrative representation of distance educationFigure source: https://www.raya.com/2020/11/19.

2. Flipped Teaching: A pattern of education utilized in various educational institutions such as institutes, universities, schools, and training centers for education and training. Its core concept involves reversing the roles between the teacher and the student. Students engage in exercises and activities at home, aligning with the ideas of behavioral theories that emphasize the teacher as the knowledge source, and the student as a learner and listener. In flipped education, roles for both the teacher and the student are established at home and in the classroom as outlined below:

Roles of the teacher at home in the context of flipped education: Designing a 5-10 minute video clip on the subject to be taught and electronically sending it to the students through email or various messaging applications. This enables students to watch it at home, take notes, and formulate inquiries. These notes and inquiries are then presented during the class. Additionally, the teacher prepares worksheets and various activities intended to be conducted with the students inside the classroom, workshop, laboratory, garden, or other relevant environments.

Roles of the student at home in the realm of flipped education: While at home, students undertake several tasks including watching the video clip sent by the teacher, taking notes, noting down inquiries and questions for clarification during class, as well as solving worksheets and performing activities corresponding to the video clip.

The roles of the teacher in the classroom within the flipped education framework: Addressing any questions, observations, or inquiries posed by the students and overseeing the implementation of subject-related activities.

The roles of the student in the classroom under the principles of flipped education: Directly asking questions and making inquiries to the teacher, as well as actively participating in classroom activities.
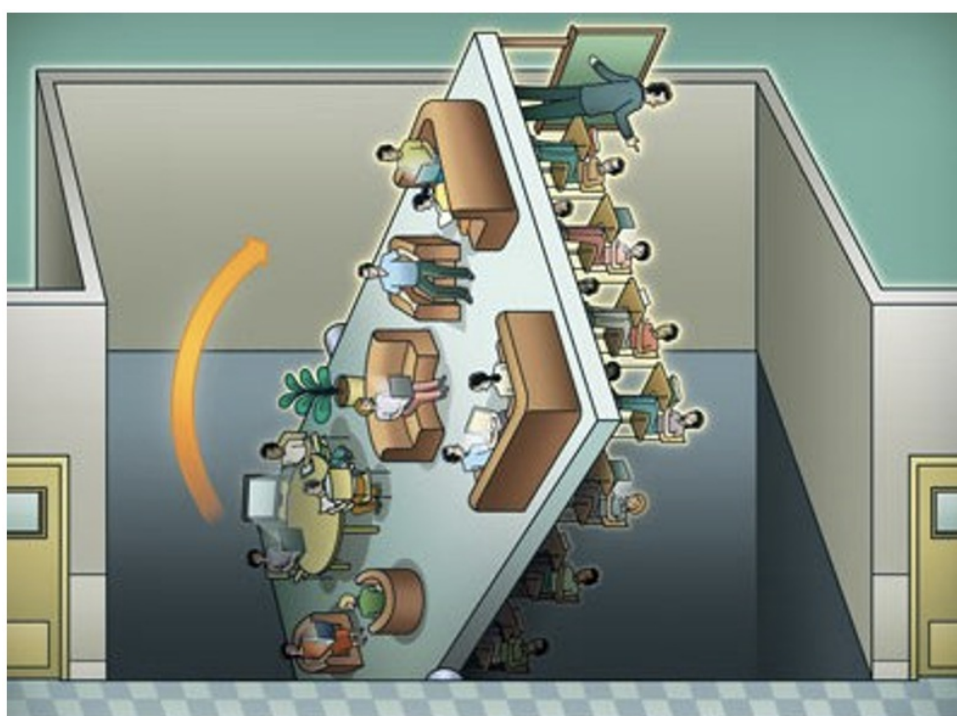
Figure 2. A representative depiction of flipped teaching

Figure source: https://www.new-educ.com/la-classe-inversee.

3. Blended Teaching: A form of education utilized in educational institutions (institutes, universities, schools, and training centers) for education and training. It involves a combination of synchronous or asynchronous electronic methods, in varying proportions. This could be (1:1), signifying one lecture conducted in-person and another lecture delivered through e-learning. Alternatively, it could be in a ratio of (1:2), where one lecture takes place in-person, and two lectures are conducted via e-learning, or even the ratio of (2:1), involving two in-person lectures for every e-learning lecture. Within blended education, teachers have the flexibility to employ multimedia, presentations, and diverse teaching aids to present various topics.

4. Hybrid Teaching: A mode of education employed in educational institutions (institutes, universities, schools, and training centers) for education and training. The concept of hybrid teaching centers on delivering lectures to students simultaneously, with some students attending in-person and others participating remotely from home through various

applications like Teams, Zoom, Meet, etc. In this approach, students can choose to attend lectures in a physical classroom setting or opt to join remotely from their homes. Attendance preferences might vary from lecture to lecture; a student who attends a lecture in person for one session might choose to attend the next one online, or vice versa, using different applications. See Figure 3.
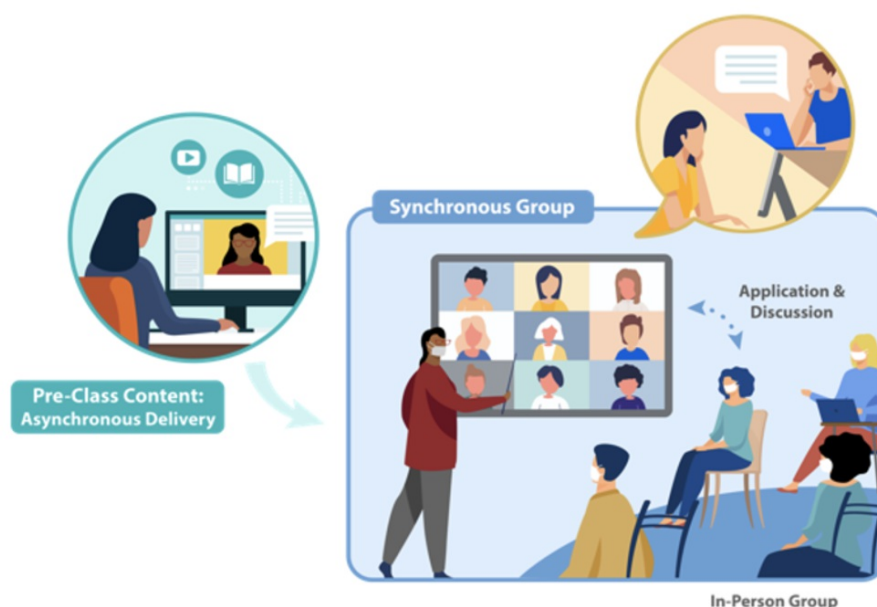

Figure 3. A representative depiction of hybrid education
Figure source: https://www.ctl.ox.ac.uk/what-is-hybrid-teaching.

In Figure 3, the image portrays the teacher and both physically present students and those participating electronically. It showcases discussions and dialogues taking place among them. The teacher may also utilize pre-recorded video clips or any relevant files on topics that were shared with students for their review before the lecture.

According to the hybrid education pattern, the successful application of it requires a set of requirements, including:

1. Equipping the classroom environment with the following supplies: Internet network, display screens, computers equipped with cameras and microphones, spaces suitable for the number of students, interactive boards.
2. Training teachers to handle technical matters, promptly resolve occurring issues, and boost their confidence in this form of education.
3. The presence of assistants for teachers in the field of educational technology or computers to facilitate coordination between students attending remotely and those attending in person.
4. Teachers are obligated to thoroughly plan lessons in advance and design them to cater to the target group and the latest educational theories.
5. **Simultaneous E-learning**: A type of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, where the teacher gives and broadcasts lectures through e-learning management systems or one of the virtual applications. In this setup, the teacher and students are present at the

same time, allowing for interaction. The teacher is also permitted to record the lecture for absent students to access.

6. **Asynchronous E-learning**: A type of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, where the teacher pre-records the lectures through e-learning management systems or one of the virtual applications and publishes them for students to watch at their convenience and from any location.

7. **Teaching via the Network**: A form of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, where the teacher or students share educational content via the Internet.

8. **Teaching via Mobile (Educational Mobile)**: A form of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, where the teacher and students learn using educational equipment on mobile devices.

9. **Self-Teaching**: A mode of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, wherein the teacher directs students to independently view and study the educational content.

10. **Programmed Teaching**: A method of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, where the teacher divides the content into segments and electronically programs them using suitable applications.

11. **Smart Teaching**: A mode of education used in educational institutions (institutes, universities, schools, and training centers) for education and training, where the teacher or students utilize artificial intelligence programs in the educational process.

Reference

- Center for New Designs in Learning and Scholarship. (2023, August 20). Georgetown University USA. Retrieved from https://www.ctl.ox.ac.uk/what-is-hybrid-teaching

- Al-Raya. (2020, November 19). Distance education turns and challenges. Qatar. Retrieved from https://www.raya.com/2020/11/19

- Zohi, N. (2014). What is flipped education. Retrieved from https://www.new-educ.com/la-classe-inversee