Lecture halls or flipped classrooms: Which best fits today's digital students?

Bouchra EL Kemma

National School of Business and Management, Cadi Ayyad University, Marrakech, Morocco

Abstract— In traditional academic settings, professors have historically relied on delivering lectures during class time, while students take notes. In recent years, the flipped classroom has gained prominence as a modern pedagogical approach that presents an alternative to traditional classrooms. However, despite its potential benefits, this approach also comes with its own set of drawbacks. In today's digital age, where students are deeply engrossed in their mobile phones and computers, the effectiveness of the flipped classroom model is called into question. This paper aims to delve into a comparative bivariate analysis of two teaching methods: the flipped classroom and the traditional classroom, with a specific focus on exploring their potential emotional impact on students within the classroom setting. Results indicate that students exhibit reluctance to take responsibility for their learning, leading them to favour the traditional educational system over flipped classrooms. Today's students encounter various challenges, including excessive use of the internet and mobile devices, which can result in diminished preparedness for class. The successful implementation of the flipped classroom model relies on students taking part in activities like independently reviewing pre-class learning materials and actively participating in classroom discussions.

Keywords— flipped classroom, traditional classroom, students' academic performance, pre-class learning materials, teaching method, traditional teaching.

I. INTRODUCTION

The field of education has witnessed substantial evolution in teaching methods over the years, embracing varied approaches to accommodate diverse learning styles and educational objectives. One of the modern approaches is the flipped classroom, where students engage with instructional materials at home and then apply the knowledge through interactive activities in the classroom (as cited in Sosa Díaz et al., 2021). Students are introduced to new content through video lectures and readings. Another method is the traditional lecture format, where educators deliver content during class time, often followed by homework assignments. Students listen, take notes, and feel free to ask questions to understand the material clearly. Both methods come with unique benefits and obstacles, influencing the way educators transmit information and students interact with the subject matter. In this regard, this paper seeks to conduct a comparative analysis of these two different

teaching methods and their impact on students' emotional well-being and academic performance.

II. LITERATURE REVIEW

2.1. Flipped classroom (FC) vs traditional classroom (TC)

Extensive research supports the assertion that flipped classroom (FC) instruction leads to improved academic performance, enhanced content comprehension, and decreased failure rates compared to fully online and traditional teaching methods (as cited in Sosa Díaz et al., 2021). In contrast to traditional lectures, the FC offers a more conducive environment for collaborative learning, which can be advantageous for students' academic development (as cited in Hyypia et al., 2019). Also, academic studies indicate that graduates tend to find their communication and analytical thinking skills more

effectively developed in a flipped classroom learning setting compared to traditional teaching environments (as cited in Väisänen & Hirsto, 2020). Additionally, research suggests that student absenteeism was reported to be higher in the traditional classroom setting than in the flipped classroom (as cited in Chowdhury, 2019). However, it is important to note that flipped FC requires more effort and time for learning from both teachers and students in comparison to traditional teaching methods (as cited in Durrani et al., 2022). To conclude, numerous studies have indicated that FC is more effective in terms of perceived learning outcomes than traditional classroom instruction.

2.2. The drawbacks of the flipped classroom approach

FC is an active learning method that engages students in the learning process by transitioning them from a passive role to an active one (as cited in Sosa Díaz et al., 2021). This approach requires students to assume responsibility for their own learning *(*as cited in Väisänen & Hirsto, 2020). However, not all students are receptive to this teaching method. Some students are hesitant and resistant to working under a flipped classroom model (as cited in Palazon-Herreraa & Soria-Vílchezb, 2021). Some express reluctance to engage in active learning and carry out tasks beyond the classroom, stating that they are not accustomed to taking control of their own learning (as cited in Sosa Díaz et al., 2021). So, according to the literature, there exist two distinct groups of students with contrasting views on the (FC) model. Some students perceive it positively, reporting increased satisfaction, improved attitudes, and greater motivation toward learning; however, other studies suggest that FC may decrease student motivation (as cited in Palazon-Herreraa & Soria-Vílchezb, 2021). Similarly, It is important to note that research examining the emotions experienced during flipped classroom (FC) activities has shown that students who participated in FC reported positive feelings towards this approach, finding it enjoyable, engaging, and practical; nevertheless, other studies have also revealed that some students experienced negative emotions, such as confusion, insecurity, or disorientation (Sosa Díaz et al., 2021). As a result, while the overall experience with FC was positive, not all students agreed that it had a significant impact on improving their learning outcomes (as cited in Sosa Díaz et al., 2021).

Students have expressed that implementing an FC demands a significant amount of time and effort to acquire basic knowledge and prepare for the face-to-face class (as cited in Palazon-Herreraa & Soria-Vílchezb, 2021). Students find it challenging to implement FC across all subjects due to timetable constraints and the substantial time commitment required for autonomous learning (Sosa Díaz et al., 2021).

2.3. The challenges of implementing the flipped classroom model

When applied across different fields, the flipped classroom model offers numerous potential benefits, but it also poses certain challenges (Al-Samarraie et al., 2020). The transition to the teacher's role in FC comes with some challenges. Firstly, it requires a shift in mindset and the ability to adapt to a new approach, focusing more on student-centred educational practices (as cited in Väisänen & Hirsto, 2020; as cited in Sevillano-Monje, 2022**)**. Secondly, in all areas of study, one of the main difficulties with this approach is related to the length of the pre-recorded videos and the amount of time students need to effectively comprehend the material (Al-Samarraie et al., 2020). Thirdly, it demands a high level of commitment from the teachers. teachers need to carefully choose or create high-quality teaching materials prior to each session, necessitating technological proficiency (as cited in Sosa Díaz et al., 2021). Fourthly, the absence of immediate feedback for students can have a detrimental impact on the successful implementation of the flipped classroom model in a university setting (Al-Samarraie et al., 2020). Lastly, some studies indicate that certain students do not positively perceive this change in the teacher's role and prefer a more prominent presence of the teacher during the learning process (as cited in Sosa Díaz et al., 2021). Instead of being a "sage on the stage," the teacher becomes a "guide on the side," serving as a mediator between knowledge and the student (King, 1993 p, 30). Teachers take on an active yet collaborative role throughout the teaching process, offering guidance, support, and feedback to the students in order to meet their needs (as cited in Sosa Díaz et al., 2021). Thus, the FC presents a new concept of the teaching role.

III.   DATA AND METHOD

The research project was conducted at the National School of Business and Management, Cadi Ayyad University, situated in Marrakech. This particular institution was chosen due to my current role as a university teacher, which provided me with the advantage of easy access to the required data owing to my familiarity with the environment. In order to ensure a comprehensive and insightful analysis, data was collected from a total of 1140 participants. My objective was to delve deeply into the specific challenges and experiences that students encounter, with the aim of generating more insightful and meaningful conclusions.

For my research project, I conducted a thorough investigation into the declining levels of student engagement in academic environments. To gather data, an extensive questionnaire was distributed to different groups of participants within the age range of 19 to 22. My primary

objective was to delve into the various factors that contribute to this decline. To do a comparative analysis, I meticulously designed a questionnaire comprising a wide array of inquiries focusing on two distinct teaching methods: the flipped classroom and the traditional classroom. These inquiries were carefully crafted to elicit detailed responses from students, aiming to capture their perceptions and experiences with each method. My ultimate goal was to uncover valuable insights into the efficacy of these teaching approaches and to pinpoint any potential barriers that hinder student engagement.

To evaluate the emotional impact of the two teaching approaches, I put forward two hypotheses to identify the influencing factors that could either impede or enhance students' performance in the classroom. I utilized bivariate analysis and chi-square tests to scrutinize the connection between the flipped classroom, the traditional classroom,

and students' emotional well-being. The specific hypotheses under consideration are as follows:

1) The flipped classroom is positively associated with students' learning preferences and performance in class
2) The traditional classroom is strongly correlated to students' preferences and performance in class

IV. RESULTS AND DISCUSSION

To explore the potential relationship between flipped classrooms, traditional classrooms, and student academic performance, I undertook a comprehensive survey to collect data on participants' encounters with these two distinct teaching settings. It is important to highlight that the survey sample included 1140 students from the same academic institution, ensuring a diverse representation. The following table visually represents the frequency and percentage of students from separate class levels.

Table 1: The frequency and percentage distribution of students belonging to separate class levels

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Teaching_approaches * Students_feelings_towards_the_ two_approaches	1140	100,0%	0	0,0%	1140	100,0%

The following bivariate table displays students' feelings toward two teaching approaches: the traditional classroom approach and the flipped classroom approach.

Table 2: The percentage distribution of students who either like or dislike the flipped classroom versus the traditional classroom

			Students_feelings_towards_the_two_approaches		Total
			Likes	Dislikes	
Teaching_approaches	Traditional classroom	Count	498	75	573
		% within Teaching_approaches	86,9%	13,1%	100,0%
		% of Total	43,7%	6,6%	50,3%
	Flipped classroom	Count	125	442	567
		% within Teaching_approaches	22,0%	78,0%	100,0%
		% of Total	11,0%	38,8%	49,7%
Total		Count	623	517	1140
		% within Teaching_approaches	54,6%	45,4%	100,0%
		% of Total	54,6%	45,4%	100,0%

Table 2 indicates that a significant majority of students, amounting to 86.9%, express a preference for the traditional classroom setting, while 13.1% have a negative view of it. These students have a strong inclination towards relying on the teacher as the primary source of knowledge dissemination. They perceive the teacher as an authority figure who imparts knowledge, and they are keen on engaging in active listening, note-taking, and seeking clarification through asking questions. On the other hand, 78.0% of the students have an aversion to the flipped classroom approach, while only 22.0% express a liking for it. Their reasoning for this choice revolves around their reluctance to assume the role typically held by the teacher. They are resistant to the idea of the teacher acting as a mentor, someone who serves as a guide in the learning process and as a mediator between knowledge and students. Furthermore, they seem unwilling to assume responsibility for their own learning. The flipped approach requires students to exert more effort and be active participants in the learning process. They prefer the traditional model, where the teacher serves as the primary source of knowledge and instruction. They have also mentioned that time constraints due to their schedules make it difficult for

them to review content outside of class. Additionally, some students have cited a lack of internet access as a barrier to accessing pre-class learning materials. It is worth noting that despite these challenges, many students ironically spend significant amounts of time on social media platforms. Ultimately, the majority of students prefer the traditional classroom setting, attributing their preference to a reluctance to take on more responsibility in their learning process.

After analysing the results of the chi-square tests presented in the table below, it becomes apparent that there is a statistically significant association between the utilization of the traditional classroom approach, the flipped classroom approach, and the preferences for students' learning environments. The chi-square test table indicates a p-value of 0.001. Because of the fact that the p-value (0.001) is below the significance level (0.05), we are obliged to accept the two correlational hypotheses. Consequently, we can confidently assert that a strong relationship exists between the flipped classroom approach, the traditional classroom approach, and students' learning preferences.

Table 3: Chi-square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	483,823[a]	1	<,001		
Continuity Correction[b]	481,209	1	<,001		
Likelihood Ratio	527,600	1	<,001		
Fisher's Exact Test				<,001	<,001
Linear-by-Linear Association	483,399	1	<,001		
N of Valid Cases	1140				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 257,14.

b. Computed only for a 2x2 table

V.   CONCLUSIONS

The choice between traditional lectures and flipped classrooms depends on students' learning preferences. Many students exhibit a preference for traditional lectures over flipped classrooms due to their lifestyles and perceived laziness. In the traditional classroom setting, the teacher plays a central role in imparting knowledge while the students primarily act as spectators and listeners. The traditional classroom is a teacher-centred approach where the teacher is seen as an expert who provides all the information. Today's students often face challenges such as being drawn to internet usage and mobile devices, which can lead to a decrease in their preparation for class through

reviewing course materials. They exhibit a reluctance to take responsibility for their learning. This tendency can cause them to lean towards favouring the traditional educational system over the flipped classroom approach, where active participation in class activities is encouraged. Therefore, the successful implementation of the flipped classroom approach relies on the students' willingness to engage in activities such as reviewing course materials at home and actively participating in the learning process. Today's students lack the necessary academic skills to take on the active role required by the FC model. Educators can enhance   student   learning   and   achievement   by

understanding the strengths and limitations of each approach and tailoring their teaching strategies accordingly.

REFERENCES

[1] Al-Samarraie, H., Shamsuddin, A., & Alzahrani, A. I. (2020). A flipped classroom model in higher education: a review of the evidence across disciplines. *Educational Technology Research and Development, 68* (3), 1017–1051. https://doi.org/10.1007/s11423-019-09718-8

[2] Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. Eugene, OR: International Society for Technology in Education.

[3] Bergmann, J., & Sams, A. (2022). *Flip your classroom: Reach every student in every class every day. Electronic Journal of Social and Strategic Studies.* https://doi.org/10.47362/EJSSS.2022.3208

[4] Chowdhury, T. A., Khan, H., Druce, M.R., Drake, W. M., Rajakariar, R., Thuraisingham. R., Dobbie, H., Parvanta, L., Chinegwundoh, F., Almushatat, A., Warrens, A., & Alstead, E. M. 2019. Flipped learning: Turning medical education upside down. *Future Healthcare Journal, 6* (3), 192-195.

[5] Durrani, U. K., Al Naymat, G., Ayoubi, R. M., Kamal, M.M., & Hussain, H. (2022). Gamified flipped classroom versus traditional classroom learning: Which approach is more efficient in business education? *International Journal of Management Education, 20* (1), 100595. https://dx.doi.org/10.1016/j.ijme.2021.100595

[6] Hyypia, M., Sointu, E., Hirsto, L., & Valtonen, T. (2019). Key Components of Learning Environments in Creating a Positive Flipped Classroom Course Experience. *International Journal of Learning, Teaching and Education Research, 18* (13), 61-86. https://doi.org/10.26803/ijlter.18.13.4

[7] Palazon-Herreraa, J., & Soria-Vílchezb, A. (2021). Students' perception and academic performance in a flipped classroom model within Early Childhood Education Degree. *Heliyon, 7*(4), e06702. https://doi.org/10.1016/j.heliyon.2021.e06702

[8] Väisänen, S., & Hirsto, L. (2020). How Can Flipped Classroom Approach Support the Development of University Students' Working Life Skills? University Teachers' Viewpoint. *Education. Sciences, 10* (12), Article 366. https://doi.org/10.3390/educsci10120366

[9] Sevillano-Monje, V., Martín-Gutiérrez, Á., & Hervás-Gómez, C. (2022). The Flipped Classroom and the Development of Competences: A Teaching Innovation Experience in Higher Education. *Education Sciences, 12* (4), Article 248. https://doi.org/10.3390/educsci12040248

[10] Sosa Díaz, M. J., Guerra Antequera, J., & Cerezo Pizarro, M. (2021). Flipped Classroom in the Context of Higher Education: Learning, Satisfaction and Interaction. *Education Sciences 11* (8), Article 416. https://doi.org/10.3390/educsci11080416

[11] Unceta, A. (2008). Cambios sociales y educación. Revista de Educación, 347, 419-432. http://www.educacionyfp.gob.es/dam/jcr:8e8cb43a-4411-4369-86b5-ff71b87b09a6/re34719-pdf.

[12] Zain, F. M., & Sailin, S. N. (2020). Students' Experience with Flipped Learning Approach in Higher Education. *Universal Journal of Educational Research, 8*(10), 4946–4958. https://doi.org/10.13189/ujer.2020.081067