COMPETITIVE: Journal of Education
Journal website: https://competitive.pdfaii.org/

ISSN : 2964-2345 (online)
DOI: https://doi.org/10.58355/competitive.v3i2.97

Vol. 3, No. 2 (2024)
pp. 86-101

Research Article

From Lecture Theaters to Online Classrooms: Examining The Growth of the Flipped Classroom

Ouariach Soufiane[1], Ouariach Fatima Zahra[2], Khaldi Mohamed[3]

1. Abdelmalek Essaadi University; soufian.ouariach@etu.uae.ac.ma
2. Abdelmalek Essaadi University; fatimazahra.ouariach@etu.uae.ac.ma
3. Abdelmalek Essaadi University; medkhaldi@yahoo.fr

Corresponding Author: E-mail: soufian.ouariach@etu.uae.ac.ma (Ouariach Soufiane)
A research team in Computer Science and University Educational Engineering, Higher Normal School of Tetouan, Abdelmalek Essaadi University, Morocco.

Copyright © 2024 by Authors, Published by COMPETITIVE: Journal of Education. This is an open access article under the CC BY License https://creativecommons.org/licenses/by/4.0/

Received : January 15, 2023
Revised : March 22, 2024
Accepted : April 06, 2024
Available online : May 25, 2024

How to Cite : Ouariach Soufiane, Ouariach Fatima Zahra, & Khaldi Mohamed. (2024). From Lecture Theaters to Online Classrooms: Examining The Growth of the Flipped Classroom. *COMPETITIVE: Journal of Education*, 3(2), 86–101. https://doi.org/10.58355/competitive.v3i2.97

Abstract. Traditional models of education involve teachers imparting knowledge to students in a classroom setting. However, new learning theories suggest that students do not all acquire information in the same way. Some learn better through independent exploration and discovery, while others thrive in social environments with hands-on instruction. This debate around student-centered versus teacher-centered pedagogy is far from resolved. One approach that is gaining attention is the "flipped classroom," which restructures learning activities so that domestic tasks typically done as homework are performed in class, with teacher guidance. Meanwhile, lectures previously given during class time are accessed autonomously by students at home, often via online video. This model arguably provides flexibility that better caters to varied student needs and learning styles. However, there are also challenges to consider when transitioning to a flipped model. This article explores the arguments on

both sides, providing a balanced perspective on the benefits and limitations of traditional and flipped approaches based on current research in educational psychology. First, the article delves into the term "flipped classroom" and its relationship with the Bloom taxonomy. It then examines different flipped classroom models and finally the benefits and limitations of the flipped classroom application.

Keywords: Flipped classroom, Active Learning, Bloom taxonomy, collaborative learning

INTRODUCTION

The traditional classroom setting as often as possible neglects to offer understudies with down to earth data applicable to their future occupations. Besides, accentuation is centered around repetition memory instead of understanding. Notwithstanding, the presentation of current innovation and media, like the Web and internet learning stages, has given open doors to understudies to procure material beyond the classroom and offer their own encounters.

The classroom strategies are endless and instructors are progressively falling back on the idea of the "flipped classroom", which is another instructive model that has seen colossal development over the course of the last twenty years. The thought is to give valuable open doors to students to find out about subjects beyond class, at their own peace, and come to class educated, more ready to take part in conversations about the point and apply their insight through active learning (Hamdan and McKnight, 2013). In doing as such, it turns into a self-guided and profoundly successful learning technique for the two students and instructors as they can really cover a lot of material quicker than expected while guaranteeing student maintenance. Numerous universities and secondary schools have taken on the flipped classroom model to further develop learning results and increment how much time spent in class on the higher end of the bloom taxonomy categorization. The benefits of the flipped classroom approach are obvious since it allows instructors to cover a lot of content substantially faster while ensuring that students keep the facts. In 1956, Benjamin Sprout fostered Blossom's scientific categorization, which sorts the different phases of picking up, starting with essential information and advancing to complex cognizance. This scientific categorization comprises of six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. As individuals progress through each stage, they foster a more profound comprehension and appreciation for the subject in question. The bloom taxonomy is information, and each progressive level expands on the one preceding it, until arriving at the evaluation. As understudies progress through each stage, their comprehension and appreciation for the subject develops. The advantages of utilizing the flipped classroom worldview are various, influencing the two understudies and teachers. By permitting understudies to learn at their own peace and get a sense of ownership with their own learning way. This technique has the potential to improve learning outcomes while also alleviating the drowsiness associated with traditional teaching methods.

In this exposition, we will take a gander at the unmistakable parts of the flipped classroom approach proposed by prestigious researchers. We attract on their

insight to feature the various advantages given by this worldview. We end by encouraging perusers to painstakingly think about the advantages and downsides of flipped classrooms and lay out a climate good for their effective reception.

Flipped Classroom

Not at all like traditional showing techniques, which arrange students as aloof purchasers of information, the flipped classroom approach puts the understudy, not the teacher, at the middle. This new procedure, known as "flipping," was introduced by Jonathan Bergmann and Aaron Sams, two science teachers in the US, in 2007. This student focused model has been demonstrated to be a more successful learning climate, encouraging significant learning regarding both full of feeling spaces and students' exhibition, as indicated by research directed by Betihavas et al. (2016), Bergmann and Sams (2012), Dumont and Berthiaume (2016), Blair et al. (2016), and Roach (2014). The expression "flipped classroom" is intentionally decided to convey a dynamic and new methodology of learning. It needs a total upgrade of the current classroom structure, joining active learning approaches with traditional educating techniques.

Active learning contains various educational styles that underline understudies' dynamic commitment to the growing experience (Prince, 2004). The "flipped classroom" is another informative model that utilizes innovation to move traditional talks out of the classroom and relegate them as schoolwork, while class time is devoted to cooperative and request based learning (Bergmann and Sams, 2012; Lage et al., 2000; Stone, 2012; Tucker, 2012). In a flipped classroom, the educator's role switches from data provider to facilitator, while understudy manage their learning process and have authority over their turn of events (Lai and Hwang, 2016). Bishop and Verleger (2013) characterize the flipped classroom as a progressive instructing strategy that consolidates nonconcurrent video addresses with reasonable issue tasks. alongside dynamic gathering exercises for critical thinking inside the classroom. The utilization of oral educating, research, preparing, video accounts, assessments, and a scope of learning materials, for example, books and recordings advances the improvement of educator understudy connections in this strategy (Ouariach et al., 2023). The flipped classroom, a kind of mixed learning, utilizes instructive innovation to change or supplant traditional classroom exercises with tasks (Pulley, 2014). Preceding class, understudies work exclusively utilizing advanced learning assets prior to applying their insight in class exercises. As indicated Bryan Goodwin and Kirsten Miller (2013), the flipped classroom idea permits understudies to recognize areas of trouble before class. Moreover, the flipped classroom cultivates an issue-based learning climate by subbing direct guidance with recordings and giving students with effectively accessible educational data (Bergmann and Sams, 2012; Hamdan et al., 2013).

In the wake of considering past translations of the flipped classroom, the creators give their own definition: To get a handle on the thought of the flipped classroom, you should initially comprehend what it isn't. As opposed to normal supposition, the flipped classroom is something beyond another illustration plan for students. Rather, it addresses an original way to deal with instructing that utilizes

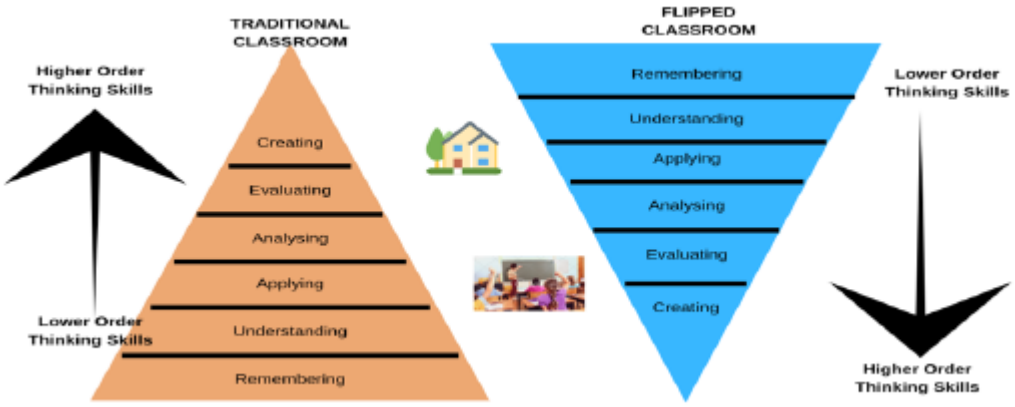
creating innovation. Basically, the flipped classroom is a computerized rendition of traditional schooling. Instructors may now instruct from anyplace in the globe because of mechanical progressions. This permits instructors to draw in with understudies any place they are and at whatever point they need to study. This is made possible by embracing major thoughts like control, independence, and commitment.

Commitment, at its center, requires dynamic commitment to advancing by the two instructors and understudies all through the course. Control is accomplished by giving understudies abilities to help them conquer hindrances that might obstruct their advancement. At last, independent learning supports independence by eliminating outer obstructions to development.

The Flipped Classroom And Bloom's Taxonomy

The flipped classroom model is based on Bloom's taxonomy and aims to move understanding and memorization, which are at the lower levels of Bloom's revised taxonomy (Krathwohl, 2002), outside of the classroom. This frees up classroom time to focus on the taxonomy's upper levels: creating, evaluation, analysis, and application.

Figure 1. Change of bloom's taxonomy in flipped learning (Anderson et al.,2001)



Bloom Taxonomy is utilized in both flipped and traditional classroom (Morton and Colbert-Getz, 2017). Notwithstanding, the educational techniques utilized in each approach fluctuate extraordinarily. As per Bloom modified scientific categorization, the traditional classroom essentially centers around lower-level mental work, for example, reviewing verifiable data and figuring out fundamental ideas, though the flipped classroom urges students to take part in higher-request mental work, like creating, evaluation, analysis, and application (Baeten et al., 2010; Han and Klein, 2019; Stockwell et al., 2015).

Traditional education comprises understudy receiving lectures from their speakers that aim to convey a topic in its entirety, from its inception to its conclusion. This strategy effectively directs students' attention to the explicit portion of a material, so increasing their acceptance of explicit ideas.

Interestingly, the flipped classroom trains understudies to observe brief recordings or read brief talk rundowns prior to leading their own examination on a particular subject. This examination turns out to be essential for their insight and exhibits how contemplations foster to them. By noticing their understudies' introductions, instructors can obtain understanding into their favored learning styles and track down the best ways.

One of the advantages of involving Bloom Taxonomy in a flipped classroom is that it advances active learning. Active learning advances decisive reasoning, thinking, and viable critical thinking (Bonwell and Eison, 1991), bringing about higher scholastic achievement and the improvement of important lifetime learning capacities. Students can retain fundamental information without being derailed superfluous subtleties by partaking in exercises like watching addresses, taking notes, or perusing rundowns early. These exercises assist understudies with creating abilities like skimming through address slides or watching films, which permit them to actually take a look at their grip of explicit subjects prior to continuing on toward a higher level of their review. This concentrated methodology assists them with dominating the significant realities and further develops their general growth opportunity.

The Flipped Classroom Models

The traditional classroom may not be viable for all students, as certain people require a more adaptable and customized learning climate. The flipped classroom tends to this need by putting accentuation on illustrations learned beyond the classroom, as opposed to depending exclusively on in-class exercises. By zeroing in on learning beyond the classroom, students have the opportunity to pick their own timetables and study whenever it might suit them, with the direction of their instructors.

The flipped classroom concept combines elements of both traditional and online learning. Using in-class and after-class to work with compelling learning amazing open doors and points of view (Munir et al., 2018). Students can get to short courses and get brief clarifications and objective materials from any area and gadget, whether it be at home, work, or during their drive. These assets are inspected before every illustration (Thompson and Clive, 2011). Instructors utilize particular devices, like a learning the board framework (LMS), to execute inventive strategies.

Different plans of the flipped classroom model have been proposed lately, including the flipped dominance classroom model (Bergmann and Sams, 2012), the FLIPPED model (Chen et al., 2014), and the SPOC-based flipped classroom model for the inductive approach (Ouariach et al., 2023). Lee and Recker (2013) present an improved-on model of the flipped classroom, which fills in as a valuable beginning stage for those new to flipped learning. Nonetheless, it is vital to take note of that this model misrepresents flipped advancing by depending exclusively on traditional talks as the establishment for all new learning. The model really empowers application and disclosure, as opposed to routine tasks, as the ideal utilization of classroom time (Nederveld and Berge, 2015).

Different methodologies have been portrayed for the flipped classroom, all of which envelop pre-class, in-class instructive exercises, and after-class exercises (Freeman et al., 2014; Hurtubise et al., 2015; Sharma et al., 2015). These three stages are autonomous yet corresponding to each other. They are as per the following:

Pre-class stage

The pre-class period of the flipped classroom fills in as the information move stage in this showing model (Long et al., 2016). It is a significant stage for powerful guidance, guaranteeing that all students have a strong comprehension of the talks prior to participating in class exercises (Bates et al., 2017; Bouwmeester et al., 2016; Kuppili and Venkatachelam, 2017). By sufficiently getting ready students for the undertakings ahead, instructors empower them to apply what they have realized during class time. This stage upgrades maintenance as well as diminishes student tension by giving an unmistakable comprehension of what lies ahead (Kim et al., 2014; Prober and Khan, 2013). By eliminating shocks, disorientation and a lack of focused exertion during class time are mitigated. During this level, pupils mostly engage on self-study to increase their comprehending. (Zupancic and Horz, 2002). While setting up an example, instructors should break down the degree of their students' information. In light of this evaluation, they can choose a strategy to enhance existing information with earlier examination and classroom showings. This considers the lucid and compact show of examples, accordingly improving comprehension and advancing compelling learning. As per Harrison Keller, bad habit chancellor for higher instructive approach at the College of Texas at Austin, “If you do this well, you can use faculty members’ time and expertise more appropriately, and you can use your facilities more efficiently. More important, you can get better student-learning outcomes” (Berrett, 2012).

The "in-class" phase

In the classroom, this stage is known as information solidification. Information alludes to anything that people learn in the wake of grasping it (Dirken, 2015). It includes the method involved with understanding and is a major part of any growth opportunity. Merging information entails storing previously acquired knowledge in one's mind. This stage permits students to figure out the information gained preceding the class. Besides, it cultivates active learning and higher-request thoroughly considering different informative methodologies that energize open conversation, information sharing, and decisive reasoning (Freeman et al., 2014; McLaughlin et al., 2013).

As instructors’ endeavor to harden information, they ought to think about a few perspectives. One of these is guaranteeing that class conversations guide the interaction. Instructors can work with understudy commitment by empowering them to pose inquiries during conversations. Moreover, students ought to work in little gatherings to support what they have realized both in and before class. The pith of flipped learning is to use the saved class time for intuitive and cooperative learning exercises (Abdelshaheed, 2017). Such classroom exercises empower instructors to

distinguish and address information holes, survey and take care of issues, instead of exclusively conveying content (Prober and Khan, 2013).

Another perspective is summing up the examined content, filling in as an update for some time later and guaranteeing that every student gets a handle on the central issues of the example prior to advancing to the following stage. By focusing on these viewpoints from the get-go and reliably carrying out them in the classroom, instructors can guarantee far reaching learning for their understudies.

The "after-class" phase

After class comes the information improvement stage, which includes utilizing information to upgrade one's capacities. This cycle is additionally alluded to as "applying information" (Alavi and Leidner, 2001). Information improvement is vital for the two students and instructors. All through the learning venture, information sets in the student's brain, empowering them to use their newly discovered information really. For example, a clinical understudy who has gotten a handle on the life strategy s and elements of the human body can apply this information in treating patients after effectively finishing the growing experience.

To upgrade their showing abilities, instructors can show the way that their freshly discovered information can work on students' results. This includes improving's comprehension students might interpret ideas, empowering them to really get a handle on the topic more. Instructors can likewise distinguish ways of applying their insight to improve students' cognizance. For instance, a clinical educator could make sense of for their group how expanded patient mindfulness can prompt superior wellbeing results. Successful use of information frequently includes genuine situations or circumstances.

In outline, the flipped classroom model works with dynamic student commitment, making the educational experience more compelling. Students draw in with their instructors through web-based stages like Moodle, Edx, or Claroline, among others. Moodle, a free platform, offers a scope of online instruments for cooperative learning (Fulton, 2012). This model permits students to take part completely in the growing experience, prompting further developed learning results and better maintenance of data by giving context-oriented comprehension of the ideas being educated.

All through the three stages, students can keep focused without neglecting to focus on their advancement. As they complete undertakings, they get prompt critique, allowing them to focus on how they could perceive the subject being taught. Student commitment is a critical part of the flipped classroom model, as instructors' endeavor to effectively include their students, encouraging a student focused approach that upgrades maintenance obviously material and works on scholastic results. Active learning likewise develops a positive educator student relationship, making classes more compelling and charming for all students.

The flipped classroom use innovation to upgrade students' capacities. Through independent guidance, students can get a handle on themes rapidly without steady educator help. This permits instructors to cover a lot of material quicker than expected while guaranteeing student maintenance. In a flipped classroom, students

actively participate in class and collaborate on projects, allowing them to understand and absorb facts at a deeper level than in a typical classroom. For lower-level courses, instructors can distribute additional opportunity to course planning, hence giving enough of a chance to resolve inquiries during class time. Students can get to online video talks or perused course books on their favored stages without constraints forced by the instructor.

Benefits And Limitations Of Using A Flipped Classroom Model

Benefits of using flipped classroom model

The notoriety of the flipped classroom is quickly developing, upheld by various examinations that have shown its advantages. This approach is being utilized in different instructive settings and across various age gatherings (Yiu et al., 2020). It has additionally been effectively carried out in fields like nursing, designing, math, physical science, science, and science schooling, as confirmed by various examination discoveries (Bergmann and Sams, 2008; Baepler et al., 2014). Gaughan (2014) applied the flipped classroom technique in history classes and accentuated its adequacy in advancing normal course material survey and readiness. Turan (2015) carried out this technique for preschool training understudies and saw that when contrasted with the traditional model, students who got instruction through the flipped classroom approach made more elevated levels of progress, inspiration, and lower mental burden. The standing of the flipped classroom has expanded because of its capacity to give more individualized consideration regarding students (Roehl et al., 2013). The advantages of the flipped classroom incorporate the capacity to all the more likely address individual issues and the opportunity to learn at one's own peace. Instructors can fit illustrations to the particular requirements of every student, giving additional assistance to the individuals who are battling with specific points. Furthermore, the flipped classroom considers more free learning, as students can work at a recurrence that suits them best, which is especially invaluable for students with explicit necessities (Wilson, 2013). Various investigations have been led at colleges to analyze the effect of the flipped classroom on understudy execution. These investigations have shown that the flipped classroom model empowers dynamic advancing previously and during the course. Lee and Recker's (2013) research propose that understudies showed utilizing traditional techniques frequently neglect to hold information or apply it to their day-to-day routines. In the flipped classroom model, understudies are expected to watch video addresses before class, permitting them to survey the material at their own rythm. During class, they can draw in with their friends and get support as they learn, practice, and apply what they have realized. In the flipped classroom, addresses are seen before class, permitting understudies to come ready to examine the material. This change in center from talks to individual review has been upheld by different examinations (DeGrazia et al., 2012; McLaughlin et al., 2013). One of the fundamental benefits of the flipped classroom is that it permits students to learn at their own rythm (O'Flaherty and Phillips, 2015; Lai and Hwang, 2016). Recordings can be seen on various occasions, furnishing students with adaptability as far as when and where they study (Coyne et al., 2018; Kanjug et al., 2018). This lines up with the idea of "open realizing," which offers students the

opportunity to pick points, areas, rythms, and techniques for learning (Cedefop, 2014). In a typical classroom context, students may be driven to move at a faster rythm than they are comfortable with, causing frustration, especially when confronted with difficult topics. One more advantage of the flipped classroom is that students are more excited, connected with, and sure about their learning (Davies et al., 2013; McLaughlin et al., 2013). Gross et al. (2015) tracked down elevated degrees of understudy commitment and course fulfillment in their flipped classroom. In a typical classroom, students may need to be interested in the content for teachers to effectively pass on information. In the flipped classroom, students are all the more effectively connected with and open to conversation (Giannakos et al., 2014), permitting instructors to all the more likely convey their points of view. A few examinations have detailed that understudy in flipped classrooms by and large accomplish fundamentally higher scores contrasted with understudies in traditional classrooms (Bhagat et al., 2016; Chao et al., 2015). This can be ascribed to the expanded commitment and intuitiveness that the flipped classroom approach cultivates. Understudies can watch talks and afterward deal with through issues at their own rhythm, empowering them to zero in on understanding ideas as opposed to just remembering them. Furthermore, the capacity to survey addresses on numerous occasions takes into consideration a more intensive comprehension of provoking ideas and the potential chance to pose inquiries on a case-by-case basis. Another benefit is the improved coordinated effort and helpful learning among students. Cooperative learning includes joint scholarly exertion by understudies, or understudies and instructors together (Smith and MacGregor, 1996). In the flipped classroom, learning turns out to be more unique as students are urged to seek clarification on some pressing issues and partake in class conversations. This adjustment of learning elements advances cooperative learning, with students valuing the cooperative and educational video components of the flipped classroom (Love et al., 2014). In a cooperative learning climate, students cooperate and look for input from their companions, cultivating a more open and responsive disposition towards mastering new ideas and abilities. Students are additionally bound to look for input from their friends, which assists them with working on their'".

Furthermore, this strategy has been proved to produce self-direction, dedication, a sense of accountability for work, cooperation, and support in classroom activities among students (Yilmaz, 2017; Panich, 2013). Furthermore, the flipped classroom model has been displayed to work on the aftereffects of pre-class, particularly among starting students (Chick et al., 2020). Another review exhibits the capability of a flipped classroom to decidedly affect grades (Albert and Beatty, 2014).

On the other hand, Millard (2012) uncovered that five motivations behind why the flipped study hall model succeeds exist. Add further developed examples for more seasoned understudies and support group wide abilities through aggressive games. By giving personnel unlimited oversight, enrolling understudies in class conversations accomplishes a common goal. Offer understudies customized direction as an understudy through the examples. These advantages make pupils more open to the learning process and more prepared to retain information.

The flipped classroom enjoys many benefits, yet it additionally has a few downsides. One hindrance is that it tends to be challenging for understudies to stay aware of the material because of the quick moving nature of the class. Another burden is that the instructor should be accessible to respond to understudy inquiries beyond class time (Mok, 2014). Moreover, understudies might find it hard to remain on track and propelled while gaining from home in any case, these downsides can be moderated with legitimate preparation and association. Nivendita Sharma's words (2014) advise us that even the most thoroughly examined plans have the two advantages and disadvantages. It depends on instructors to gauge the advantages and disadvantages and go with an educated choice on what techniques turn out best for their understudies. Considering this, in the following fragment the creators will talk about the weaknesses of the flipped classroom.

Limitations of using flipped classroom model

Getting a sense of ownership with our learning is an idea we frequently catch wind of. It is normally utilized as an equivalent word for recognizing the choices we make and deciding to follow up on those choices. Getting students to choose to concentrate before class is really difficult for instructors, and in the event that a few students choose not to, it could prompt issues with data trade at the "classroom" level. "Learning is useless when it is in the possession of a miscreant or lethargic student."

As per Tacker (2012) states, instructors who utilized the flipped classroom model expected to integrate their recorded recordings into their general helping style for it to find actual success. An educator's capacity to incorporate informative recordings into their general methodology is the way to progress. Thus, from this assertion, without the capacity to incorporate informative recordings connected with Math points, for instance, the educator cannot give understudies the most significant growth opportunity. It ought to likewise be noticed that without the fitting educational recordings, the instructor will be unable to really make sense of intricate subjects (Hiebert and Grouws, 2007). Thusly, this can prompt an absence of understudy commitment and, at last, to bring down degrees of understudy achievement. Accordingly, it is fundamental for the educator to give educational recordings to boost their progress in math (Lee, 2014).

One of the principal worries with the flipped classroom is that instructors need to make sufficient substance to cover the students' all's necessities. This can be troublesome, particularly when students have various degrees of commitment in class. On the off chance that students are less connected with, they may not require as much happy in class. Assuming that students are more connected with, they might require happier in class to remain on track.

A few students are not so spurred as others, and this showing strategy might prompt less accomplishment for these less inspired students (Krueger, 2012). For these less propelled students, the flipped classroom approach can be particularly troublesome, as they might not have a similar drive or devotion to get familiar with the material all alone. Subsequently, instructors must offer extra help for these understudies and guarantee that they figure out the material. This could incorporate exercises, for example, one-on-one coaching meetings, online conversation sheets, or

virtual available time. Giving additional assets and backing can assist these understudies with remaining drew in and guarantee that they are capitalizing on the flipped study hall approach (Enfield, 2013).

One more worry with the flipped study hall is that students will be unable to zero in on different gadgets on the double. Numerous students will generally effectively lose center while doing various things immediately particularly minor students. This can make it harder for students to keep up in class. Assuming students experience issues centering, they will be unable to retain data in class.

One more burden of the flipped study hall is that it isn't compelling with all points (O'Flaherty and Phillips, 2015). For instance, a few subjects are complicated to the point that students will experience issues grasping them. For this situation, the conventional study hall technique would work better compared to the flipped classroom. All things being equal, the conventional study hall would in any case be the favored showing strategy for this situation. It is more helpful for the educational experience and more compelling than the flipped classroom.

To wrap things up, not all students approach similar gadgets while utilizing a flipped classroom model. There might be students who can't get to a gadget or don't have the vital information to utilize their gadget to learn (Frydenberg, 2012). Because of this, students with unique requirements or those from low-pay families might experience issues taking part in the flipped classroom. Besides, Frydenberg brings up that the flipped classroom idea is staggeringly basic yet compelling for connecting with understudies in the growing experience. Regardless of this, its application isn't all inclusive: instructors should think about the ramifications of their extended situation uninvolved. As well as perusing their reading material and getting their work done, numerous understudies track down it important to watch instructive recordings at home.

Okanagan Mission Optional School in Kelowna, English Columbia, utilized a flipped classroom for the 2011-2012 school year because of science educator Carolyn Durley. This educator saw changes in understudies' grasping throughout recent years. They quit depending on her for information, rather getting to data from YouTube or their telephone. They weren't treating her words in a serious way any longer and thought about them as an irregular thought — the overall perspective on all information (Pearson, 2012).

A few specialists (Wanner & Palmer, 2015; Tsai et al., 2015) feel that flipping isn't valuable since it requires additional work with respect to instructors. On the off chance that they as of now invest energy showing their ordinary illustrations, they presently need to zero in on showing an extra learning style too. Likewise, there is an extra responsibility as students are expected to accomplish more in class than expected (Marlowe, 2012).

Although the flipped classroom has possible downsides, it tends to be a powerful method for showing students all the more deftly and work on their scholarly execution. These potential disadvantages ought to be considered prior to carrying out a flipped study hall to guarantee the most ideal scholarly accomplishment for students.

CONCLUSION

In conclusion, traditional teacher-centered models have effectively imparted knowledge for generations. However, new perspectives from educational psychology emphasize the importance of recognizing the variety in students' learning needs and styles. The flipped classroom approach, which involves shifting certain learning activities between class and home, shows promise in promoting student engagement and accommodating differing strengths. Nevertheless, it is crucial to acknowledge that flipped models also present challenges and may not be suitable or effective for all educational contexts. The ongoing debate around pedagogical approaches requires schools to strike a balance between established practices and innovative ideas derived from research on optimal learning methods. By conducting further studies on different implementations, educators can continue refining classroom structures to effectively serve diverse students and maximize learning outcomes for all.

REFERENCES

Abdelshaheed, B. S. (2017). Using Flipped Learning Model in Teaching English Language among Female English Majors in Majmaah University. English Language Teaching, 10(11), 96-110.

Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. MIS Quarterly, 25(1), 107–136.

Anderson, L.W., Krathwohl, D.R., Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J. and Wittrock, M.C. (eds.) (2001). A taxonomy for learning and teaching and assessing: A revision of Bloom's taxonomy of educational objectives. White Plains, NY: Longman, 5(1), 25-45.

Baepler, P., Walker, J.D. & Driessen, M. (2014). It's not about seat time: Blending, flipping, and efficiency in active learning classrooms. Computers & Education,78, 227-236

Baeten, M., Kyndt, E., Struyven, K., Dochy, F., 2010. Using student-centred learning environments to stimulate deep approaches to learning: factors encouraging or discouraging their effectiveness. Educ. Res. Rev. 5, 243–260.

Bates, J.E., Almekdash, H., Gilchrest-Dunnam, M.J., 2017. The flipped classroom: a brief, brief history. In: Santos Green, L., Banas, J., Perkins, R. (Eds.), The Flipped College Classroom: Conceptualized and Re-Conceptualized, first ed. The Switherland: Springer International Publishing, Cham, pp. 3–10.

Bergmann, J. & Sams, A. (2008) Remixing chemistry class. Learning and Leading with Technology. 36(4), 24-27.

Bergmann, J., & Sams, A. (2012). Before you flip, consider this. Phi Delta Kappan, 94(2), 25-25.

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

Berrett, D. (2012). How "flipping" the classroom can improve the traditional lecture. Education Digest: Essential Readings Condensed for Quick Review, 78, 36–41.

Betihavas, V., Bridgman, H., Kornhaber, R., & Cross, M. (2016). The evidence for

'flipping out': a systematic review of the flipped classroom in nursing education. Nurse education today, 38, 15-21.

Bhagat, K. K., Chang, C. N., & Chang, C. Y. (2016). The impact of the flipped classroom on mathematics concept learning in high school. Educational Technology & Society, 19(3), 134–142.

Bishop, J., & Verleger, M. A. (2013, June). The flipped classroom: A survey of the research. In 2013 ASEE Annual Conference & Exposition (pp. 23-1200).

Blair, E., Maharaj, C., & Primus, S. (2016). Performance and perception in the flipped classroom. Education and information Technologies, 21(6), 1465-1482.

Bouwmeester, R.A., De Kleijn, R.A., Ten Cate, O.T., et al., 2016. How do medical students prepare for flipped classrooms? Med. Sci. Educ. 26, 53–60.

Cedefop (2014) "Terminologie de la politique européenne d'enseignement et de formation : Une sélection de 130 termes clés"

Chao, C. Y., Chen, Y. T., & Chuang, K. Y. (2015). Exploring students' learning attitude and achievement in flipped learning supported computer aided design curriculum: a study in high school engineering education. Computer Applications in Engineering Education, 23(4), 514–526.

Chick, R. C., Adams, A. M., Peace, K. M., Bohan, P. K., Schwantes, I. R., Clifton, G. T., ... & Vreeland, T. J. (2021). Using the Flipped Classroom Model in Surgical Education: Efficacy and Trainee Perception. Journal of Surgical Education, 78(6), 1803-1807.

Coyne, E., Rands, H., Frommolt, V., Kain, V., Plugge, M., & Mitchell, M. (2018). Investigation of blended learning video resources to teach health students clinical skills: an integrative review. Nurse education today, 63, 101-107.

Davies, R. S., Dean, D. L. & Ball, N. (2013). Flipping the classroom and instructional technology integration in a college-level information systems spreadsheet course. Education Tech Research Dev, 61, 563–580. doi:10.1007/s11423-013-9305-6.

DeGrazia, J. L., Falconer, J. L., Nicodemus, G. & Medlin, W. (2012). Incorporating screencasts into chemical engineering courses. Paper presented at the ASEE Annual Conference & Exposition, Atlanta, USA.

Dirksen, J. (2015). Design for how people learn. New Riders.

Enfield, J. (2013). Looking at the impact of the flipped classroom model of instruction on undergraduate multimedia students at CSUN. TechTrends, 57(6), 14-27.

Freeman, S., Eddy, S.L., McDonough, M., et al., 2014. Active learning increases student performance in science, engineering, and mathematics. Proc. Natl. Acad. Sci. USA 111, 8410–8415.

Frydenberg, M. (2012), The Flipped Classroom: It's Got to Be Done Right. Retrieved March 25, 2013, from www.huffingtonpost.com

Fulton, K. (2012) The Flipped Classroom: Transforming Education at Byron High School, T.H.E. Journal, p18-20.

Gaughan, J.E. (2014). The Flipped Classroom in World History the History Teacher, 47 (2), 221-244.

Giannakos, M. N., Krogstie, J., & Chrisochoides, N. (2014). Reviewing the flipped classroom research. Proceedings of the Computer Science Education Research

Conference on - CSERC '14. https://doi.org/10.1145/2691352.2691354
Goodwin, B., & Miller, K. (2013). Research says/evidence on flipped classrooms is still coming in. Educational leadership.
Gross, B., Marinari, M., Hoffman, M., DeSimone, K., & Burke, P. (2015). Flipped @ SBU: student satisfaction and the college classroom. Educational Research Quarterly, 39(2), 36–52.
Hamdan, N., McKnight, P., McKnight, K., & Arfstrom, K. M. (2013). The flipped learning model: A white paper based on the literature review titled a review of flipped learning. Flipped Learning Network/Pearson/George Mason University.
Han, E., Klein, K.C., 2019. Pre-class learning methods for flipped classrooms. Am. J. Pharm. Educ. 83 (1), 6922
Hiebert, J., & Grouws, D. A. (2007). The effects of classroom mathematics teaching on students' learning. Second handbook of research on mathematics teaching and learning, 1(1), 371-404.
Hurtubise, L., Hall, E., Sheridan, L., Han, H., 2015. The flipped classroom in medical education: engaging students to build competency. J. Med. Educ. Curric. Dev. 2, 35–43.
J. Krueger, (2012) Five reasons against the flipped classroom, http://www.stratostar.net/blog/2012 /07/02/educate/five-reasons-against-the-flipped-classroom/
Kanjug, I., Srisawasdi, N., Chaijaroen, S., & Kanjug, P. (2018, August). Using constructivist instructional design for flipped classroom to enhancing cognitive learning performance. In International Conference on Innovative Technologies and Learning (pp. 135-145). Springer, Cham.
Kim, M.K., Kim, S.M., Khera, O., Getman, J., 2014. The experience of three flipped classrooms in an urban university: an exploration of design principles. Internet High. Educ. 22, 37–50.
Kuppili, V.R.P., Venkatachelam, R., 2017. Flipped classroom as a large group teaching in anatomy. IOSR J. Dent. Med. Sci. 16 (11), 19–23.
Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. The journal of economic education, 31(1), 30-43.
Lai, C. L., & Hwang, G. J. (2016). A self-regulated flipped classroom approach to improving students' learning performance in a mathematics course. Computers & Education, 100, 126-140.
Lee, B. and Recker, J. (2013), "How to apply the flipped classroom model for buisiness learning", available at: www.elearningguild.com/olf/olfarchives/index.cfm?id_1051&action_ viewonly
Lee, J. (2014). An exploratory study of effective online learning: Assessing satisfaction levels of graduate students of mathematics education associated with human and design factors of an online course. International Review of Research in Open and Distributed Learning, 15(1), 111-132.
Long, T., Logan, J., & Waugh, M. (2016). Students' perceptions of the value of using videos as a pre-class learning experience in the flipped classroom. TechTrends,

60(3), 245-252.

Love, B., Hodge, A., Grandgenett, N., & Swift, A. W. (2014). Student learning and perceptions in a flipped linear algebra course. International Journal of Mathematical Education in Science and Technology, 45(3), 317-324.

Marlowe, C. A. (2012). The effect of the flipped classroom on student achievement and stress.

McLaughlin, J. E., Griffin, L. M., Esserman, D. A., Davidson, C. A., Glatt, D. M., Roth, M. T. et al (2013). Pharmacy student engagement, performance, and perception in a flipped satellite classroom. American Journal of Pharmaceutical Education, 77, 9, 1–8.

Michael Albert & Brian J. Beatty (2014) Flipping the Classroom Applications to Curriculum Redesign for an Introduction to Management Course: Impact on Grades, Journal of Education for Business, 89:8, 419-424, DOI: 10.1080/08832323.2014.929559

Millard, E. (2012) 5 Reasons Flipped Classrooms Work. University Business, p.26-29.

Mok, H. N. (2014). Teaching tip: The flipped classroom. Journal of information systems education, 25(1), 7.

Morton, D. A., & Colbert-Getz, J. M. (2017). Measuring the impact of the flipped anatomy classroom: The importance of categorizing an assessment by Bloom's taxonomy. Anatomical sciences education, 10(2), 170-175.

Munir, M. T., Baroutian, S., Young, B. R., & Carter, S. (2018). Flipped classroom with cooperative learning as a cornerstone. Education for chemical engineers, 23, 25-33.

Nederveld, A., & Berge, Z. L. (2015). Flipped learning in the workplace. Journal of Workplace Learning.

O'Flaherty, J., & Phillips, C. (2015). The Use of flipped classrooms in higher education: A Scoping review. The Internet and Higher Education, 25, 85-95.

Ouariach Soufiane, Khaldi Maha and Khaldi Mohamed, "Conceptualizing an Inductive Learning Situation in Online Learning Enabled by Software Engineering" International Journal of Advanced Computer Science and Applications(IJACSA), 14(12), 2023. http://dx.doi.org/10.14569/IJACSA.2023.0141210

Ouariach, S., Khaldi, M., Mohamed, E., & Khaldi, M. (2023). The Flipped Classroom: From Passive Information Absorption to Active Learning. In S. Karpava (Ed.), Handbook of Research on Language Teacher Identity (pp. 269-293). IGI Global. https://doi.org/10.4018/978-1-6684-7275-0.ch015

Panich, P. (2013). Flipped classroom. Bangkok, Thailand: SR Printing Mass Product.

Pearson, G. (2012), Biology teacher's Flipped Classroom: A simple thing, but it's so powerful,"Education Canada, vol. 52(5), Winter

Prince, M. (2004). Does active learning work? A review of the research. Journal of Engineering Education, 93(3), 223-231.

Prober, C.G., Khan, S., 2013. Medical education reimagined: a call to action. Acad. Med. 88, 1407–1410.

Pulley, P. G. (2014). Blending face-to-face and technology: Implementing flipped k-12 classrooms. In Practical applications and experiences in k-20 blended learning

environments (pp. 105-119). IGI Global.
Roach, T. (2014). International Review of Economics Education. International Review of Economics Education, 17, 74-84.
Roehl, A., Reddy, S. L., & Shannon, G. J. (2013). The flipped classroom: An opportunity to engage millennial students through active learning strategies. Journal of Family & Consumer Sciences, 105(2), 44-49.
Sharma, N., Lau, C.S., Doherty, I., Harbutt, D., 2015. How we flipped the medical classroom. Med. Teach. 37, 327–330.
Smith, B. L., & MacGregor, J. T. (1992). What is collaborative learning.
Stockwell, B.R., Stockwell, M.S., Cennamo, M., Jiang, E., 2015. Blending learning improves science education. Cell 162, 933–936.
Stone, B. B. (2012, May). Flip your classroom to increase active learning and student engagement. In Proceedings from 28th Annual Conference on Distance Teaching & Learning, Madison, Wisconsin, USA.
Thompson, C. (2011). How Khan Academy is changing the rules of education. Wired magazine, 126, 1-5.
Tsai, C. W., Shen, P. D., & Lu, Y. J. (2015). The effects of problem-based learning with flipped classroom on elementary students' computing skills: a case study of the production of ebooks. International Journal of Information and Communication Technology Education, 11(2), 32–40.
Tucker, B. (2012). The flipped classroom. Education next, 12(1), 82-83.Tucker, B. (2012). The flipped classroom. Education next, 12(1), 82-83.
Turan. Z. (2015). The evaluation of flipped classroom method and examination of its effects on academic achievement, cognitive load and motivation. Doktora Tezi Atatürk Üniversitesi Eğitim Bilimleri Enstitüsü, Erzurum.
Wanner, T., & Palmer, E. (2015). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. Computers & Education, 88, 354-369.
Wilson, S. G. (2013). The flipped class: A method to address the challenges of an undergraduate statistics course. Teaching of psychology, 40(3), 193-199.
Yilmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. Computers in Human Behavior, 70, 251-260.
Yiu, S. H., Spacek, A. M., Pageau, P. G., Woo, M. Y., Curtis Lee, A., & Frank, J. R. (2020). Dissecting the Contemporary Clerkship: Theory-based Educational Trial of Videos Versus Lectures in Medical Student Education. AEM Education and Training, 4(1), 10-17.
Zupancic, B., & Horz, H. (2002, June). Lecture recording and its use in a traditional university course. Paper presented at the Annual Joint Conference Integrating Technology into Computer Science Education, Aarhus, Denmark.