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INTRODUCING THE FLIPPED CLASSROOM TO PRE-SERVICE TEACHERS DURING THE COVID-19 PANDEMIC ERA

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Abstract

The present paper intended to explore the strategy of flipped classroom. After experiencing the era of the COVID-19 pandemic and its consequences, it became paramount to rethink about other effective ways to teach higher education students. Therefore, we thought it vital to write this paper as an introduction on flipped classroom and its implementation, particularly addressed to the pre-service teachers at Oran Higher School of Education, Algeria. The aim was to get them prepared psychologically to accept this new methodology of teaching as part of their educational process. As an initial experiment, one semester classes of second year British civilisation for English degree were flipped during the new academic year, 2020/2021, after the pandemic lockdown. Our unstructured observations allowed us to detect a number of benefits and shortcomings out of this experience. While the flipped classroom could improve self-confidence in some learners, it was a source of demotivation for others who had issues with the Internet connectivity. Yet, these generated points are still hypotheses that need further research confirmation.

Keywords: *COVID-19, EFL Classes, flipped classroom, internet, pre-service teachers*

1. Introduction

One of the most critical health care issues that have hit the contemporary era is the COVID-19, standing for *Corona Virus Disease of 2019* (i.e. 'CO': COrona, 'VI': VIrus, and 'D': Disease, of 2019), due to the worldwide spread of coronavirus disease. On March 11th, 2020, it was identified by the World Health Organization as a pandemic. Consequently, a strict lockdown was imposed by the authorities to prevent coronavirus contamination in public spaces, such as in educational institutions and was maintained until the new academic year 2020/2021, when a gradual opening of these settings took place. Still, social-distancing and facial mask wearing, were after the lockdown, required everywhere to limit contact and, thus, the virus proliferation (Boulkroun, 2020). During the lockdown however, a transition from in-person classes to online teaching occurred to cope with the pandemic situation, so that the learners would not be frustrated from their right of education.

As an illustrative case, Ecole Normale Supérieure d'Oran, *Oran Higher School of Education*, Algeria, opened officially its doors to its pre-service teachers (PSTs) starting from December 2020, while continuing to follow the above safety measures inside the institution. Yet, the PST's attendance was not mandatory as transportation was not available enough on the one hand and on the other, a good number of PSTs was affected by the virus and needed

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to quarantine themselves at home until they reached full recovery. As a reaction on behalf of many school educators, the flipped classroom was a suggested alternative to adapt to this unstable situation. However, many learners are only a little (or not at all) familiar with this classroom type. The present paper, therefore, attempts particularly to provide English as Foreign Language (EFL) Pre-service teachers with a quick guide to flipped classroom while making use of this new strategy and to get them more acquainted with its features, objectives and implementation. In what follows, the historical background of the flipped classroom will be treated, followed by what it stands for, in addition to its definition. Then, the way the classroom is flipped in terms of space, time, and objectives will be tackled. Next, a generated list of strengths and weaknesses of the implementation of EFL flipped classroom will be given on the basis of unstructured observations inside and outside the physical classroom.

2. Flipped Classroom: How It Emerged?

Bergmann and Sams published, in 2012, their book entitled *Flip your Classroom:Reach Every Student in Every Class Every Day* to explain how their idea of classroom flipping emerged. They referred back to the year of 2006 when they were teachers of chemistry at Woodland Park High School in Woodland Park, Colorado. At that time, Sams shared with Bergmann a technology magazine article"…about some software that would record a PowerPoint slide show, including voice and any annotations, and then convert the recording into a video file that could be easily distributed online. …" (Bergmann & Sams, 2012, p. 3). The two teachers thought of attempting to use the tool as a means of helping students with their classes. Many of their students were, indeed, involved in sport events, cultural activities, or simply lived far away from the high school, and therefore, could miss the chemistry classes recurrently. And as it was hard to catch with all the chemistry sessions, Bergmann and Sams decided to put their idea into practice: "…, in the spring of 2007, we began to record our live lessons using screen capture software. We posted our lectures online so our students could access them" (Bergmann & Sams, 2012, p. 3).

The results were more than satisfactory. Not only students who missed their lectures showed a remarkably favourable attitude towards the recorded lectures, but those who attended regularly their classes displayed a considerable interest and positivity towards their teachers' new strategy, as it allowed them to watch again the videos and reach a better understanding. Still other students found the videos a helpful tool for getting better prepared for exams. The students, all in all, welcomed the idea of flipping their lectures, despite that their original sessions were not all only lectured and that they (original sessions) included also inquiries and projects. On their part, Bergmann and Sams could, thus, avoid spending time re-explaining the whole content during or outside their sessions. What was unexpected, however, was the fact that these videos online attracted more students and teachers worldwide to watch and use them. So, both Bergmann and Sams were more motivated and went for recording all their lectures and posted them online. After flipping their classrooms for one year, they achieved further fruitful outcomes.

Although Bergmann and Sams, on the other hand, are known for having popularised « Flipped Classroom » globally, they admit that they are not the flipped classroom precursors: "(1) We did not lecture exclusively in our classes before flipping; we have always included inquiry-based learning and projects. (2) We were not the first educators to use screencast videos in the classroom…, but we were early adopters … of the tool,…" (Bergmann & Sams, 2012, p. 6). They, too, clarify that they have neither coined nor created the concept of «Flipped Classroom». In fact, the latter terminology has not been designed by any specific educators. It simply does not belong to anyone.

3. What Does Flipped Classroom Stand for?

According to Flipped Learning Network (FLN) (2014), the Four Pillars of F-L-I-P in "Flipped Classroom", have been identified by a number of qualified Flipping Educators, such as Sams, Bergmann, Daniels, Bennett, Marshall, and Arfstrom, and others, as standing for,

F: Flexible Environment

L: Learning Culture

I: Intentional Content

P: Professional Educator

Flexible Environments allow students to feel more comfortable in their new learning space where the Learning Culture is based on a shift from a teacher-centred to student-centred classroom. What is meant by the Intentional Content is selecting the most relevant conceptual content delivery for the learners for a better grasp of knowledge in the physical classroom and outside of it. Last but not least, it is needless to say that flipped classroom educators are Professional Educators who are expected to have an appropriate mastery of technology and ensure that their students' needs are fulfilled enough.

4. What is a Flipped Classroom?

"Basically the concept of a flipped class is this: That which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class. But as you will see, there is more to a flipped classroom than this", according to Bergmann and Sams (2012, p. 13). In other words, flipped classroom is on way of making students go through an individualised learning process as it is fundamentally student-centred outside the traditional physical classroom. It equips students with enough content knowledge before the face-to-face contact with the teacher whose role becomes more as a guide rather than a provider of information. While Bergmann and Sams rely on screencast videos in their new instructional way, they still support flipping on the basis of posting other educational tools (see below) instead.

Yet, Bergmann and Sams (2012) plainly specify that flipped classroom cannot be shaped in one model: "We also hope that as you read, you realize that there is no single way to flip your classroom—there is no such thing as *the* flipped classroom. There is no specific methodology to be replicated, no checklist to follow that leads to guaranteed results" (Bergmann & Sams, 2012, p. 11). Stated differently, flipped classroom is an approach rather than a model; it is employed following the students' needs. It "… is more about a mindset: redirecting attention away from the teacher and putting attention on the learner and the learning. Every teacher who has chosen to flip does so differently" (Bergmann & Sams, 2012, p. 11). Flipping allows the students to, for example, watch videos, read a pdf e-file, listen to podcasts, or follow a powerpoint presentation. Being prepared enough with theory, they go the following day to their school and meet their teacher to put their new knowledge into practice with him/ her, or undertake teamwork among themselves. They may deal with higher-order thinking and problem solving activities, and draw conclusions at this level.

5. How Is the Classroom Flipped?

In our current context, flipping takes place at the spatial and temporal levels, in addition that it allows the inversion of roles, specifically here, between the educator and PSTs at Oran Higher School of Education. The flipped classroom objectives could also be well clarified, below, with reference to Bloom's Taxonomy.

5.1. Spatial Aspect

The first flipping step could be at the level of space which traditionally refers to the physical classroom. It is the place for delivering the content of syllabi, courses, and curricula to PSTs who would have access to the new knowledge provided by the educator. The physical space is the environment for introducing new concepts and explaining the significance and implications they may convey. EFL pre-service teachers are, then, given some homework, exercises and/ or possible projects for outside the scheduled schooling sessions to further support the content delivery and reinforce their learning process. Once at home, every PST is required to recall all information as presented by the educator and attempt to make it into practice. Joining again the physical classroom for this student means checking the task answers with the educator while tackling the projects collectively by forming sub-groups inside the classroom. The following diagram summarises the traditional instruction principle with regard to space,

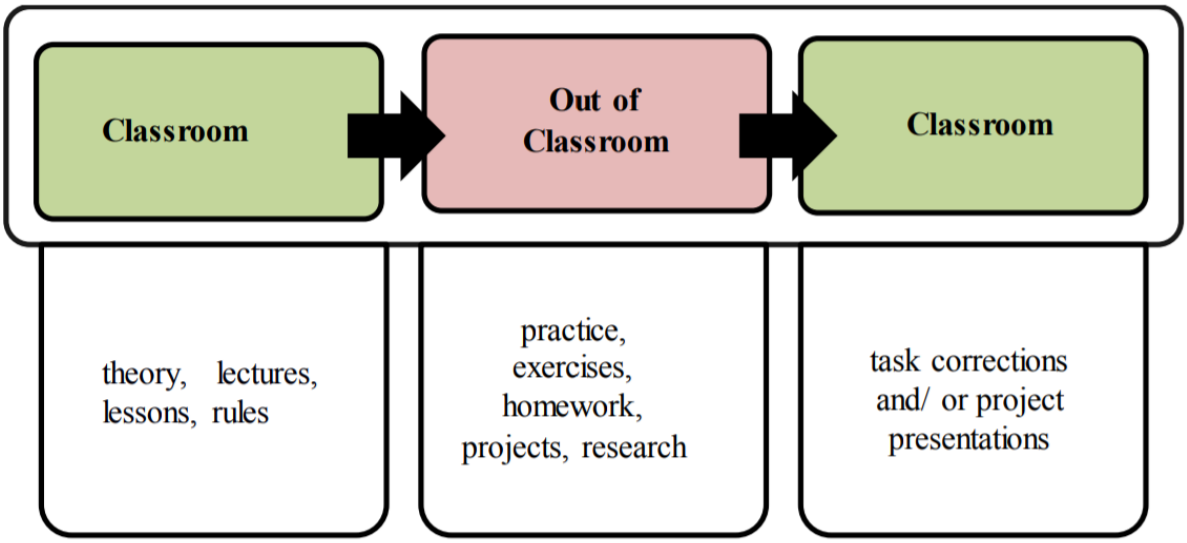

Figure 1. Traditional Classroom Space

What made the flipping more popularised (see 2) was, in fact, the integration of technology in education. It was previously habitual for many educators to invert their classroom by giving PSTs some pre-tasks to perform and prepare about the new lesson or lecture before meeting them face-to-face. What happened was that the student's duties being originally related to the physical classroom were shifted to outside this space. Within a flipped classroom, this student is, at home, expected to get familiarised with new concepts and theoretical principles via screencast videos or other materials (e.g. powerpoint presentations, e-articles or other online tools) posted by the educator. S/he prepares questions and requests for more clarification so that s/he shares them with the educator and other classmates during their physical classroom practices. Once at home again, the PST synthesises and backs up his/ her learning with complementary information by (re-)watching (other) teacher's posted staff and doing more research. As regards the posted material, the educator is in charge of deciding which one is more suitable for a particular learning point. Is it a video design? "If a video is not appropriate, then do not make one just for the sake of making a video. Doing so would be a disservice to your students and would be a prime example of "technology for technology's sake" (Bergmann & Sams, 2012, p. 35-6). Figure 2 illustrates the new flipped space.

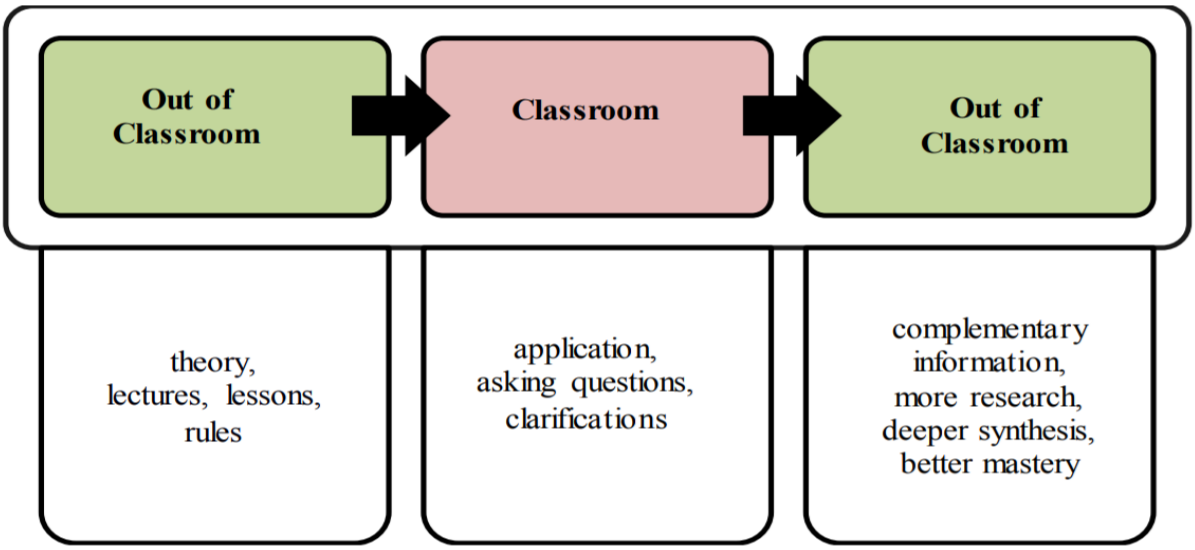

Figure 2: Flipped Classroom Space

5.2.Time Management

Bergmann and Sams (2012) still have provided us with recommendations of how time can be managed while going through a flipped classroom. A span time of 90 minutes is usually allotted to their physical class sessions at school. Traditionally, their students join these sessions after having done some homework at home the night before, but possibly are still struggling with some conceptions. The two instructors tend to devote the first 25 minutes to deal with such students' issues through a warm-up activitiy. The next step is to move to deliver the new content which takes from 30 to 45 minutes. The remaining time (20-35 minutes) is left to application and assignments. Obviously, the time managed for content delivery in the traditional classroom takes the lion's share, as shown in Table 1 below,

Table 1.

Time Distribution in Traditional Classrooms

Traditional class activities	duration
Warm up	5 min
Correcting yesterday's assignment	20 min
New content delivery	30-45 min
Oriented practice	20-35 min

(*Source*: Bergmann & Sams (2012)

The time could be re-managed to be different in the flipped classroom at Oran Higher School of Education, so that PSTs get into a more active engagement. Bergmann and Sams (2012) suggest that the first 5 minutes could be spent to warm up the lecturer's material posted the day before, and 10 minutes devoted to the student's questions and discussion. The remaining 75 minutes could be confined to diverse problem-solving exercises and/ or inquiry activities. "Clearly, this model was more efficient than lecturing and assigning homework" (Bergmann & Sams, 2012, p. 5). Another way for managing time more effectively might be to

show the PSTs how they should handle the online items, such as videos, as posted by their teachers. While watching these videos and focusing on their content, for example, they need first to free themselves from any other distraction device (e.g. cell phone, social media networks or any other ICTs (i.e. Information Communication Technologies). They also need to learn, even recurrently, how to use the techniques of pausing and rewinding the posted videos whenever necessary. In this manner, they can more easily proceed to recapitulation, note-taking or writing questions about what they still find complicated or unclear. Table 2 summarises the two authors' perception of time planning in the flipped classroom.

Table 2.

Time Distribution in Flipped Classrooms

Flipped class activities	duration
Warm up	5 min
Answering quesions about the posted material	10 min
Guiding practical activities and exercises	75 min

(*Source*: Bergmann and Sams (2012)

5.3. Role Shifting

The prominent role in the traditional classroom has always gone to the educator as the primary source of knowledge. As a model at Oran Higher School of Education, s/he has long been supposed to show her/ his PSTs the relevant ways to be followed and make of their learning process the most effective. One of her/ his main task is to decide what to highlight and what to de-emphasize within the offered knowledge content. As for the classical role of the EFL pre-service teacher, s/he is perceived to attend this educator-centred classroom, be sitting down and exclusively listening to the lecturer. S/He passively accesses the amount of information given by his/ her lecturer, writes it down, and refers back to it when answering the examination questions. Nevertheless, the debate about the teacher-centredness in the classroom has subsequently gained fresh prominence for several years. Many scholars argued that the learning process could give more fruitful results if a more active role were assigned to the student. In order to shift to a more student-centred classroom, they have come up with other alternative strategies, such as "…project-based learning, supervised research, laboratory work" (Andrad, 2016, p. 1119).

Moreover, more learning based on the mixture between traditional courses and online tools, known as blended learning (see for example Andrad (2016) for further details) and of which flipped classroom is one type, seems to foster scholarly efforts and lead PSTs and their instructor into a shift on roles. Blending contemporary learning comes from the fact that nowadays' PSTs belong to a generation who have been exposed to digital technology since birth; flipping, according to Bergmann and Sams (2012), can speak these students' language. It comes as a way to cope with traditional classroom challenges especially in terms of needs, styles, and abilities of PSTs. It illustratively allows them to select the material posted by their instructor according to their rhythm and/ or speed and capacity of grasping. Once they join again their physical classroom, their curiosity and motivation to participate and share are expectedly raised.

Applying the student-centredness model does not mean, at all, that the significance of the educator's presence is minimised at the present setting of Oran Higher School of Education. Both the PSTs and their instructor are rather assigned new active tasks. The present role allocated to the educator has more to do with guiding and assisting the learners whenever possible in face-to-face contact. The principle of flipping, as said above, counts for PSTs' different abilities and progression, and therefore it facilitates to the educator to target individualised learning. PSTs can take benefit from effective education as personalised by the educator according to their needs as follows: Within their physical learning environment, the educator can walk around the classroom to check the needs of every PST; interaction between him/ her and his/ her PSTs establishes and reinforces a more positive relationship, and the same is observed among the PSTs themselves. Another new task attributed to the educator is a good technology mastery and constant updating (see 3); the better the educator is acquainted with recent technological tools, the more s/he expected to raise his/ her PSTs' motivation and engagement in their learning process.

5.4. Educational Objectives: Bloom's Taxonomy-Based Flipped Classroom

An important number of scholars agree that the educational objectives behind the flipped classroom could be better understood within the framework of Bloom's Taxonomy: Bloom et al. (1956) designed a theoretical taxonomy at the service of research on education and assessment. It comprises six components, namely knowledge, comprehension, application, analysis, synthesis and evaluation. They are arranged hierarchically such that it is not expected to master one level without having already a good command of the previous one(s). A well-known reviewing attempt took place in 2001 by Anderson and Krathwohl who found it important that each level name would be converted into a verb, in addition to that the two top levels would be swapped. The following figure illustrates the taxonomy as elaborated by Bloom and his team on the left while the same taxonomy revised subsequently on the right. Two main educational objectives are targeted when implementing the flipped classroom according to Bloom's Taxonomy (Andrad & Coutinho, 2016). Both will be talked about in different sections below.

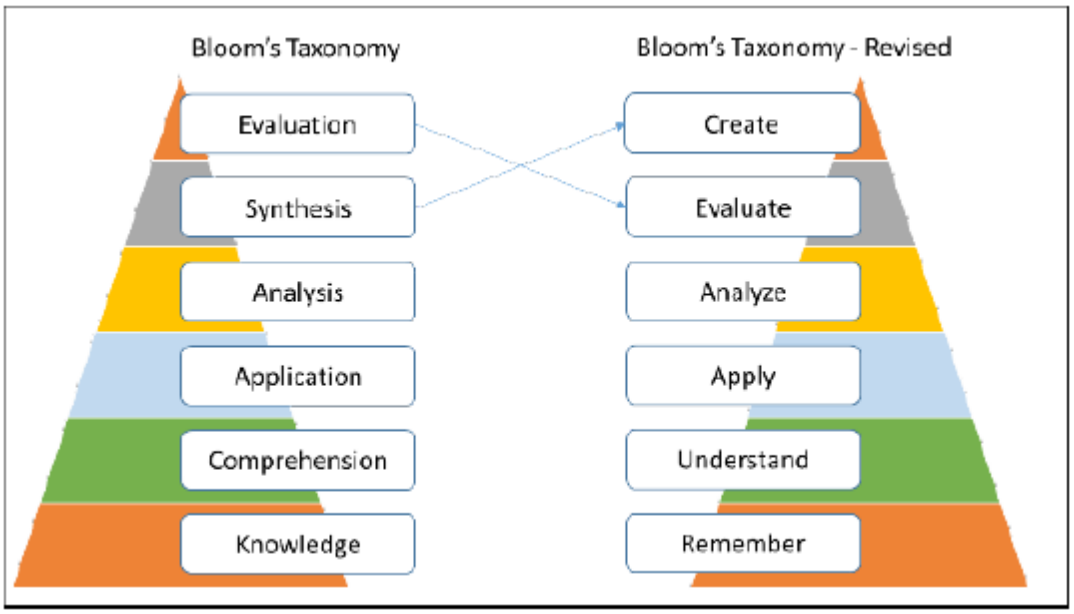

Figure 3. Bloom's Taxonomy based on Krathwohl (2001)
(*source:* Andrad & Coutinho, 2016, p.1119)

5.4.1. Educational Objective One

Flipping the classroom can directly have effect on distributing time and Bloom's Taxonomy hierarchical construction. The distribution of time following Bloom's Taxonomy and as revised by Krathwohl (2001) is exemplified in Figure 4.

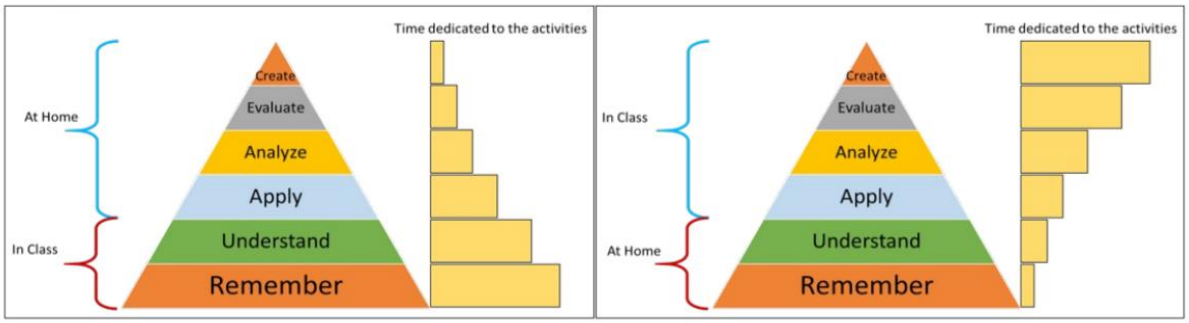

Figure 4. Time Distribution in Traditional Classrooms (left) and Flipped Classrooms (right) (source: Andrad & Coutinho, 2016, p. 1120)

Obviously, Oran Higher School educators (as illustrated above on the left side of the figure) traditionally allocate a lot of their classroom time to low order thinking skills, such as remember and understand (some content knowledge), whereas consider only a little time for higher order thinking skills, such as analyse, evaluate, and create which are rather addressed to PSTs as home activities and assignments (see Andrad & Coutinho, 2016). The educator's guidance is nearly (or even totally) absent when the PSTs are out of their physical classroom.

The first flipping on Bloom's Taxonomy leads PSTs to study, at their level and individually, Bloom's lower order thinking skills (remember, understand, and (perhaps) apply out of their physical classroom. Face-to-face contact priority is re-oriented towards higher order thinking skills (analyse, evaluate, and create) and their promotion: PSTs are invited to share and go through such tasks and activities during the physical meeting with their educator as shown in Figure 4 on the right side. So, the class gets involved in more interaction than teaching in addition to that the educator fosters relationships with his/ her PSTs. Lower order thinking skills are, as said above, supposed to have been already tackled via students' self-study, so they are obviously given a less amount of time in the physical classroom than they usually have in the traditional classroom.

5.4.2. Educational Objective Two

The second version of flipped classroom takes a different meaning to fulfill the requirements of the present educational objective. Bloom's Taxonomy is completely inverted upside-down, such that "… the education process would start by higher levels (Create) and then "come down" to the most fundamental levels" (Andrad & Coutinho, 2016, p. 1120).

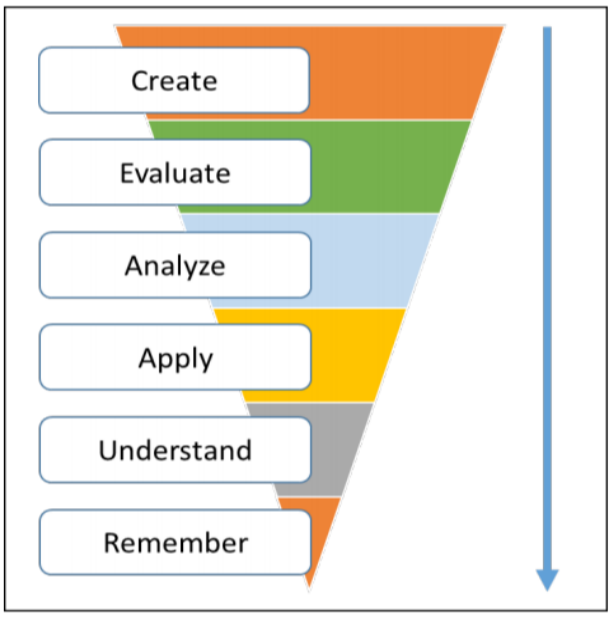

Figure 5. The Second Inversion of Bloom's Taxonomy
(source: Andrad & Coutinho, 2016, p. 1120)

Still in the current case, the PSTs are required to provide a dissertation in their final (fifth) graduation year. So, they also may choose the topic of their work on the basis of observing and exploring the occurrence of issues among secondary school pupils in the training phase. In this case, they formulate a hypothesis, and an empirical plan to check this hypothesis which is based on the higher levels on Bloom's Taxonomy. After that, they go back to literature, read about previous works on the same topic, and start defining and grasping the exact meaning of the various lower level basic concepts they need to incorporate in their dissertation and that are in relation with their practical part.

6. Towards the Flipping Implementation in EFL Classes: Benefits and Pitfalls

The flipped classroom, as mentioned earlier, was proposed as one alternative solution to bridge the gap between educators and their PSTs, during the COVID-19 pandemic and particularly at Oran Higher School of Education. As an experimental case study, the British civilisation classroom of 21 third year EFL pre-service teachers aged between 19 and 22 was flipped during one semester. Every week before meeting them face-to-face for instance, we posted a pdf e-file on Google Classroom, and requested our learners to undertake a further research on the topic and formulate questions with regard to the areas of difficulties they might have encountered: British civilisation lectures could, indeed, be perceived, by PSTs, as a challenge as each lecture could imply a multi-source interpretation. For example, the posted material which had to do with the lecture entitled "Imperialism" listed and explained many theories to comprehend the 19th century imperial mind and conception.

On the basis of unstructured and spontaneous observation in the physical classroom, we could hypothesise that these PSTs benefited from a number of advantages offered by their flipped classroom lecture. They could be summarised as follows,

1- The class was more student-centred than teacher–centred as the PSTs undertook a self-study while we (the educators) acted as facilitators.

2- PSTs' self-study gave them more self-confidence

3- They also showed more interest in the topic

4- There was a remarkable speed in knowledge acquisition and interaction in class

5- The research done was both qualitatively and quantitatively prominent

However, some pitfalls also were observed by the educator and need to be listed below,

1- A number of PSTs could not get involved in the flipped classroom as they were used to rather be "spoon-fed".
2- We could not supply answers, on the spot, to all the students' questions as some of them were challenging and required extra-reading.
3- Some PSTs got confused while doing more e-research on the posted topic and posed questions out of topic. They also did not check the reliability of e-resources.
4- A number of PSTs started devaluing the presence of their educator in the light of the online era, a fact which may lead to future ethical issues.
5- Other PSTs were demotivated and felt excluded from the flipped classroom due their low Internet flow.
6- Still others talked about their defocus due to web-based distraction while using the Internet.

7. Conclusion

The present paper has allowed us to make a brief introduction to the flipped classroom, written specifically for the PSTs and providing a sample implementation of it to come up with some practical results of this type of blended learning classroom. Yet, both the aforementioned benefits and pitfalls are still hypothesised on the basis of an initial experiment and unstructured observation. Therefore, a further research is required to check our hypotheses by more deeply considering the spatial aspect of the flipped classroom, its time management and educational objectives. A questionnaire and/ or an interview could support the experimental flipped classroom study and provide more solid data results and discussion.

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