Pragmatism in Online Education. A Case Study Based on the E-learning Practices of Three Adult Trainers

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Abstract

Flipped classroom is a pedagogical method of blended learning. It alternates distant and face-to-face classes. The idea is simple: students learn the theoretical content of the course in distance via the numerical platform; they then apply it during class exercises and group work. The research question is: which model of flipped classroom would permit appropriate use of digital tools in adults' education? Our qualitative research is based on the analysis of three semi-directive interviews of blended learning adult trainers.

Keywords: *flipped classroom, new technologies, alternating education*

1. Introduction[1]

Flipped classroom is a pedagogical method of blended learning. It alternates distant and face-to-face classes. The idea can easily be resumed as follows: students learn the theoretical content of the course in distance via the numerical platform; they then apply it during class exercises and group work. This method is used approximately the same way at all levels of education without being adapted to the specific needs of the public.

The research question of this article is which model of flipped classroom would permit appropriate use of digital tools in adults' education? Researches have shown that learning by doing in a professional environment (experiential learning) and analyzing the professional situation during the action and afterward (reflexivity) is an effective method in adults' education. How can blended learning enable experiential learning? How can we get out of the dichotomy between theory and practice, but also between teaching in distance and learning in face-to-face class (Bachy,

[1] I would like to express my gratefulness to Professor Samuel Renier and Professor Sebastien Baeta for their detailed peer-editing of this document.

2014; Lebrun, Gilson, & Goffinet, 2016)? How can we articulate a double alternating learning: theory-practice and distance-presence in adults' education by using this model?

The study presented in this paper is part of a longitudinal research about experiential and alternating[2] training in blended learning and e learning. It is inspired by and extends our article "Flip the Flipped Classroom. Experiential Reason and New Technologies in Adults' Education" (Papadopoulou, 2019). However, it is written for inter-disciplinary communication (Callaos & Horne, 2013; Callaos N. , 2017) as its purpose is to allow real life problem solving by proposing a content understandable from other disciplines.

The article proposes a reflection on the construction of a model of blended learning in reference to the flipped classroom for adults' education. The theoretical framework is based on a pragmatist approach in education. After exploring the characteristics of the flipped classroom, the article analyzes Denoyel's (1999) theory of "pragmatism of the three reasons". The context and methodology of the research is based on a categorical analysis of three semi-directional interviews conducted with three adult trainers. Questions based on "explicitation" (Vermersch, 2010) interview method were used in order to analyze the professional practices and situations. Finally, the discussion of the results proposes a systemic model of flipped classroom in adults education.

2. The flipped classroom

Flipped classroom is a quite old pedagogical approach that regained popularity after the explosion of the use of new technologies in the educational field. It is considered for many practitioners and researchers as an innovation in education. The idea was introduced in 2012 by two American chemistry professors, Bergmann and Sams[3] (2014). Its principle can easily be resumed as follows: students learn the course in distance by

[2]Alternating education or work-integrated learning is a pedagogical method that combines education in an academic institution with training in a professional setting. More widely, it promotes the alternation between theory and practice in the learning process. "The approach has attracted a renewed interest in Europe in the past few years because of its potential for motivating students, reducing student attrition, and raising the level of entry-level vocational education" (Audet, 1992).

[3]Historically, Jonathan Bergmann and Aaron Sam, chemistry teachers at Woodland Park high school in Colorado, introduced the flipped classroom in the 2000s. It owes its popularity among others, to Salman Khan, founder of Khan Academy. He proposed the use of his education videos in order to flip the classes at his Technology, Entertainment and Design (TED) conference in March 2011 (Bissonnette & Gauthier, 2012).

using videos and digital resources and then apply these theoretical materials by doing group work in a face-to-face classroom (Tucker, 2012). This method changes the traditional way of bringing theoretical knowledge by reversing the roles. The teacher is no longer the sole holder of knowledge but becomes a facilitator in-group and in individual work.

Lebrun (Lebrun, Gilson, & Goffinet, 2016), proposes to put the emphasis on face-to-face moments so that they become meaningful for the student, rather than on the externalization of the school contents. That leads him to define a systematic model of flipped classrooms based on four steps :

1. live an experience in everyday or professional life (in distance)
2. observe the situation (in presence)
3. conceptualize the experience (in distance)
4. active experimentation (in presence)

Therefore, there is not just one type of flipped classroom but many. They correspond to different pedagogical scenarios and are created by the combination of presence-distance and individual or group work.

2.1. Flipped classroom and alternating learning

In order to give meaning to adults' education, it is essential, inter alia, to take into account their experiences. How can flipped classrooms allow the learner's experience to become a formative experience? The conceptual framework for our study is based on the "pragmatics of the three reasons" (Denoyel, 1999).

How does Denoyel's three reasons theory present the connection between theory and practice, lived experience and reflexivity in adult education? Denoyel uses Peirce's triadic theory as a framework to analyze the process of producing meaning in action.

When an adult practitioner is accompanied in his reflective work, it is for him to make the connection between his experience and the theory of the course in order to give meaning to his practice but also to his training process. It is then a question for the learner to rethink his or her habits, which are often overloaded with unconscious meanings. They could then become conscious, thoughtful actions. "Every professional situation involves the implementation of a wide variety of these habits" (p.191). Thanks to the loop between formal reason (habit) and sensitive reason (spontaneity) and experiential reason (experience), habit progresses, changes, is in motion, is creative, produces "a new form" (p. 194).

There are three types of actions (Denoyel, 2012) in this process: 1) an action and deliberation, 2) a dialogue or reflective work and 3) an intentional act.

In the first step, the actor, adult or professional is in action, he lives a personal or professional experience (sensitive reason). In the second step of reflexivity, the adult takes a step back from this experience and reflects on his actions individually and/or collectively (experiential reason). The role of the trainer in this process is to ask the right questions and establish a dialogue with the learner. Finally, the learner produces knowledge by comparing his experiences to academic contents (formal reason).

3. Field study : research background and methodology

How does the loop between sensitive, experiential and formal reason allow us to remodel the flipped classroom? Lebrun's work distinguishes at least two types of alternation: an alternation of daily life (practice) and school (theory) as well as of e-learning via the digital platform and face-to-face training. The research problem of the scientific work presented here is how can we organize a flipped classroom to give meaning to adults' learning process in an alternating training.

3.1. Research background

All three trainers[4] that have been interviewed are employees of the same association. In 2018, they transformed, for the first time, three professional certificates into a blended learning model. We will briefly present the framework of these courses.

The duration of training is from twelve to sixteen and a half months, depending on the type of qualification. The training starts in June 2018 until February 2020. The trainees follow the courses in distance, throughout mostly synchronous courses. This allows the trainers to work closer to them but also to follow the institutional obligations.

Concerning the groups, they consist of 11 to 20 participants, aged 18 to 50 years old. Some have a baccalaureate level or higher, others have qualifications as socioeducational instructors or professional experience in groups' animation.

We have schematized blended learning in the figure 1. The blue marks correspond to e-learning via the online platform, while those in orange correspond to face-to-face classes.

[4] We gave them the fictitious names Ben, Christophe and Daniel. We also named the association Asso1 to respect the anonymity of the data.

Seven face-to-face classes, approximately one per month are organized. A real alternation between distant and present training is proposed. We note that three sessions, October, December, and January, use the platform during face-to-face classes. We also note that sometimes, distant sessions precede face-to-face classes, as is the case for sessions 1 and 2. However, in sessions 4, 5 and 6, face-to-face precedes e-learning.

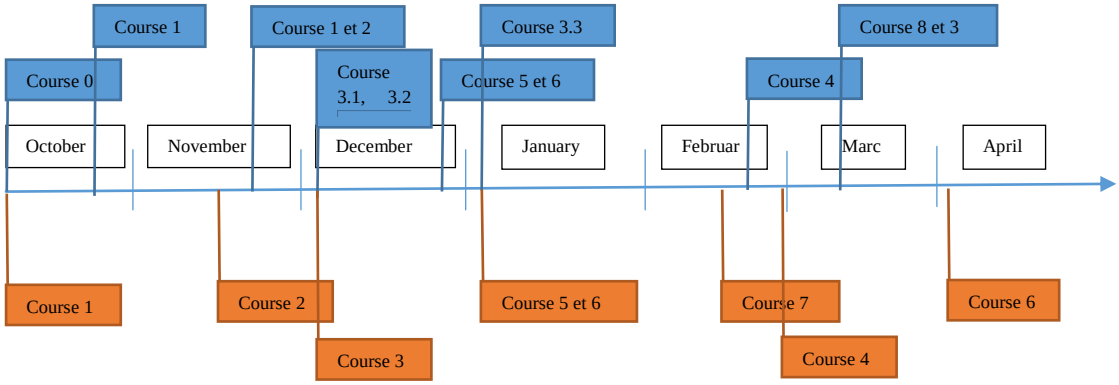

Figure 1: Organization of blended learning

3.2. Research method

Semi-directional interviews were conducted. Questions based on "explicitation" (Vermersch, 2010) interview method were used in order to question the professional practices and situations.

An analysis of our three interviews based on the Bardin (2013) content analysis method, allowed us to identify four axes: their life history, the pedagogical engineering of their trainings, the methodic, emotional and metacognitive accompaniment (Burton, et al., 2011), and finally the use of digital tools. We then constructed a double input table in order to make the link between the data and our flipped classroom model. We have highlighted in blue the references made of the referential, traditional pedagogical logic and in green those of the inferential logic[5] (Breton, Denoyel, Pineau, & Pesce, 2015).

4. A triple-action of a double alternation

The analysis of our data is organized by type of reason according to Denoyel's (1999) model as described above. We note that a strict distinction would not be possible because the three reasons are directly connected in the training process.

[5] Referential logic: the training is based on the school programs. Inferential logic: method based on the experiences of the trainees.

In the analyzed training, which is in an experimental phase, the trainers tested several ways of alternating distance and presence as well as several forms of flipped classrooms. “There are quite a few courses where Daniel and I did not do the distant course before the face-to-face and vice versa,” (C30) tells us, Christophe. They all agree that they focus on the methodological support of the learners for the preparation and redaction of their projects. After that, the trainees can experiment their projects in their internship structures. They then come back to the training institution in order to reflect on their experimentations and produce their final paper by making the connection between experience and theoretical knowledge.

We seek to find out how the experiences lived during their internships were taken, or not, into account during the courses, while focusing on the role of the alternation between distance and presence. We wish to discuss the two alternations, the one between theory and practice, but also between training in distance or face-to-face.

4.1. Deliberative primacy: action

First observation is that distance makes it possible to live experiences in a professional environment, ask questions, make observations to facilitate the redaction of the project, “they had to look for information and they had a document to fill out” (B51), “it is up to you to get the questions there and then. When you get the answers, you can come back to me and we see how we can move forward” (B93). The trainers give an important role in practice. This helps the trainees to build a better quality project. The working environment is considered a source of experience and information. Thus, support from the tutor6 is valued. The trainers admit that the learners "spend twice as much time in the internship than in the training center. We are with them only one-third of the training duration, so the ones who are the most appropriate to accompany them are their tutors" (B70).

On the other hand, the face-to-face courses that concern the sensitive reason refer to the application of contents. The trainers declare that they use face-to-face courses to experiment theories in groups or on individual work. This allows them to offer direct feedback to the trainees. One of the trainers proposes exercises on the e-platform while being in face-to-face class, to help them get familiar with the digital tools: “I may propose games on the forum, during face-to-face lessons […] to promote the use of the tool” (B65). Working together and in face-to-face on digital tools allows, among other things, “to create a community, to identify difficulties, to do a

[6] The tutor is the professional in the company where the learner is doing his/her internship. The role of the tutor is to help the learner in his/her professional project.

horizontal transmission of content, to help them understand that they can also access the forum" (D26). The form of the flipped classroom used in this case corresponds to the classic format where the learners learn the theory through the e-platform and apply it during face-to-face courses: "And then, during the face-to-face course, it's like the flipped classroom, I proposed a case study" (D43). The presence privileges group work, deliberation, practice and helps strengthening the community of learners.

4.2. Reflective primacy: dialogue

Several aspects of the accompaniment of the experiences lived during the internship, were mentioned by our trainers. As far as distance is concerned, peer support is limited; the trainees do not dare to comment on the work of their classmates, to give feedback on their productions and to accompany them in distance. To write online means being exposed, which may block the training, or at least the reflective, process. About studying online and peer-to-peer exchanging, one of the instructors mentioned, "they don't allow themselves to comment online" (B87).

Concerning the link between the tutors and the training center, "each tutor should be able to follow the work of his trainee through the e-platform. Eh, it would be, the accompaniment would be even more effective, as it concerns the reality of the field. On the theoretical aspects, it should be me, but a double point of view would be, it would be perfect." (C58). We notice here a distinction between theory, which is the responsibility of the trainer, and practice, which must be accompanied by the tutor. However, these two aspects of the training can and should interact through the online platform. The platform, offering a third space would facilitate dialogue, a connection between theory and practice and would ultimately allow the experiential continuity of learners.

In addition, distance facilitates individual support on the project, by using "synchronous exchanges" (C17) such as "individual exchanges by phone" (C44). Therefore, we notice a questioning attitude of the trainers in distance, to help the trainees with their project and its redaction. This way a relation is established. It is what Jezegou (2010) mentions as being present in e-learning. In the same time, the trainees themselves must have this attitude of observation and self-questioning during their internship, which will help them collect the data. Thus, "those who are not invested, […] are those who have not a questioning attitude" (B92).

Trainers indicate that e-learning is not sufficient in order to work on the experiences of the learners. On the other hand, distance allows more time for individual support for the realization of the project, the definition of the projects' problem and, finally, the accomplishment of its redaction.

Thereupon, the three trainers mention that “whenever there was the... the distant part I had to go back during face-to-face class in order to complete and to do the individual follow-up” (B66). Also “there are some who block (on their problem) and this is where face-to-face is important […] Identifying a node, eh, to untangle it in distance does not work” (B73).

Moreover, the physical presence facilitates the group work and collective accompaniment “I accompany each one individually but they are all together, in group…They are behind their computers, they work on their projects and I pass from one to the other“ (B75, B76). “You see I accompany them and what is good is that there they are in fss, you see that they are listening. Therefore, that […] allows me to, when I am in... face-to-face it allows me to add theoretical elements of the course or to advise them, saying ah yes this makes me think of…, ah yes this is important for everyone“ (B77). Another trainer uses face-to-face courses to emphasize on the trainees’ lived experiences and propose group work based on specific cases: “I’m going to start with the project of a trainee […] I’m going to ask the group to work on it […]” (D64).

They refer, one more time, to the organization of the flipped classroom and more particularly to an obstacle often encountered by the trainers who apply this method. Experimenting the theory during face-to-face class is not efficient when students have not revisited the theoretical content, by themselves in distance. “I was going to do a speed dating animation, they were supposed to get in pairs for five minutes […] explain, question... It quickly fell apart because half of them had not […] planned, prepared the animation“ (C50). In addition, he mentions, “it is the limit to prepare a face-to-face class after a distant course, saying to oneself it is okay, they will have already read the content” (C50).

Regarding experiential reason, we can conclude by saying that our trainers agree that presence facilitates awareness of the experiences of trainees. A few extracts from Ben’s interview on this subject: “I’m interested in what they know, what they have experienced in the field and how they have been searching for data or not“ (B92), moreover “I rely on their approach of questioning to get their project done” (B93). Christophe explains that the idea of the project methodology is to lead the trainees “from a very general register, […] to take actions that will ultimately help them finish their project” (C39). Finally, Daniel says, “in a face-to-face class, we often make the connection between the experience and the exercises, theories, projections” (D39).

However, the boundary between applying theory and reflecting on the action is not determined. Our trainers often amalgamate these two pedagogical methods when they refer to face-to-face classes: “it could be

applying an exercise or doing a case study; it could also be a reflective time" (D63). They often find it interesting to apply theoretical concepts in face-to-face class, which is a common idea on flipped classrooms. However, sometimes they use group work in face-to-face class in order to do some reflective work. When learners work on their professional experiences, they understand the knowledge that they already have but is hidden in their professional practices (Schön, 1994). "There must be some concrete elements in the course... so that we do not only focus on theoretical knowledge ha, so that there is an application, so that there is implementation in a real situation, so that they (learners) can relate to" (B80).

4.3. Intentional primacy: perspective

Supporting the trainees into learning the theory of the course and transmitting the information and methodology of the project contributed to the e-learning and the use of the digital platform. Various digital tools can play this role "once you have seen the video, you can go back to the course section" (B13), "there was a theoretical part […] and then there was a kind of quiz, for self-evaluation, to check if they understood the concept of diagnosis" (B51), "they do this work (diagnosis) in distance" (B70). About the redaction of the project, they mention, "in distance they are on their own project" (D44), distance allows working and concentrating on the individual project.

Beyond a simple transmission of theoretical contents, human support in distance is also proposed for better assimilation of these contents "When they think they have finished (the project), I look at it, I look at it, and then I give them suggestions for improvement" (B70). Supporting the learners in distance is all about "being available to provide additional information, if, for example, there is any misunderstanding of the instructions […] but also individualizing. If there are some who have finished too fast, […] we can always add additional instructions […] and help those who are a little late" (C18).

Peer review is also proposed in distance during the workshop activity in the Moodle platform "they each had to produce a status report and then read and evaluate two others" (D28). They also did a self-assessment by using the dashboard in Moodle, "we use a document that summarizes all the steps of the project methodology and this is […] the main objective. Elements of all the courses will contribute to complete this dashboard" (C49).
The connection between distance and presence can be reinforced by doing some reflecting work on methodological aspects "When they return in a face-to-face class, I can tell them, well, what was expected, we go back on the instruction, we go back on some work that was done" (B36). This experiential continuity is also mentioned by Daniel "when I identify things

in relation to their productions in distance, it allows me to readjust my face-to-face courses […], the elements that seemed necessary to me to develop furthermore" (D31), or "I repeat (a quiz in presence) to see if it was difficult or not" (D46). Presence allows a closer accompaniment on the temporality of the redaction of their projects «if you do not check in person, well, those who do not progress fast enough, well, after they find themselves left behind and then, and then they don't even necessarily say it» (B69).

There are also some moments of collective assistance for the realization of the project. For example, when "they present orally by using their dashboard, the evolution of their project to the other trainees. They are in groups of five trainees followed by a trainer" (C50). Presence also promotes the analysis of experience in group work "I will […] suggest to a trainee to animate a session to the group based on a specific theme. Afterward, the other trainees react and then we talk about the situation" (D63). His pedagogical scenario begins with some theoretical knowledge «we will do a bit of theory» (D64) and then they continue by connecting theory and practice to help the trainees readjust their projects. Finally, they apply and experiment their project before integrating the knowledge by connecting experience and theory.

5. Articulate application and involvement in the blended learning

Without claiming a generalization based on a case study, we propose a discussion of these results in connection with the flipped classroom model. Regarding the sensitive reason (action), when done in distance, it strengthens the observation, the collection of data, the involvement in the internship missions. In presence, it is mainly used for experimenting the digital tools. Moreover, the trainers wanted to use an "applying" logic of the flipped classrooms but it was without success. Learners do not always learn the theoretical courses in distance, which makes it difficult for them to participate in group work when they are in face-to-face class. We make the hypothesis that, when the adults' alternating training is disconnected from their experiences, it does not facilitate the involvement of the learner, while the top-down pedagogy does not correspond to his/her needs. We can then conclude that sensitive reason, practice, and experimentation are more fruitful when practiced in distance, out of the class.

Regarding the experiential reason, face-to-face provides individual support to the learners, collective assistance, a connection between the experience and the problem setting of their projects. On the contrary, group discussions are not facilitated by distant courses, even if individual support on the project is always possible. Finally, the online platform promotes the experiential continuity between the field and the training center, by letting

the tutors participate in it. The platform constitutes a third space, which allows a dialogical relation between theory and practice.

We do not notice a remarkable difference in the interviews of the trainers between distance and face-to-face class for the transmission of theory and knowledge production. On the one hand, distance facilitates theoretical knowledge through digital tools, knowledge production, progress on the individual project, methodological and cognitive support for the assimilation of theoretical elements as well as self-assessment through digital tools. On the other hand, face-to-face class makes it possible to take into account learners' professional experiences and connect it to the theoretical elements through group work. In other words, trainers use both distance and presence for the transmission of content and for knowledge production. Through this study, we propose the model as shown in the figure 2.

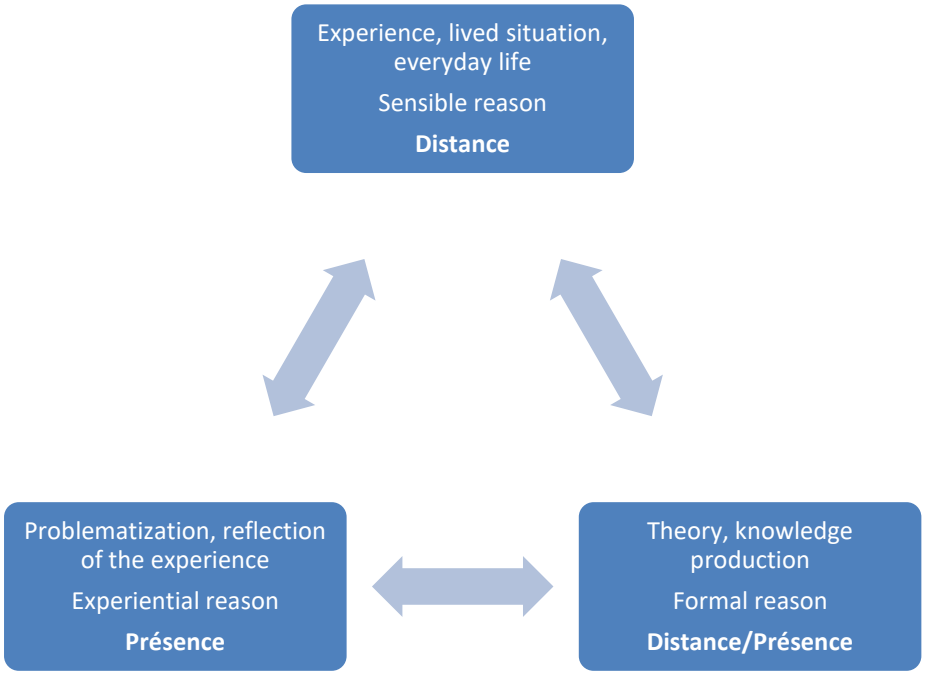

Figure 2: Flipped classroom in adults' training: a triple action in a double alternation

6. Conclusion

In our inter-disciplinarity article, we focused on achieving practical understanding, thanks to the interaction between the solution, in our case the flipped classroom model in adults training, and its social and human environement (Callaos & Thomas, 2020).

We pointed out the primacy of the inferential, inductive logic (from the experience to the theory and not the contrary). The proposed model, based on the learners' experiences to integrate knowledge, complements the already existing models of the flipped classroom. In this article, we discussed the referential logic (top-down pedagogical method) of the flipped classroom, which is based on the spatiotemporal dichotomy of blended learning: teach in distance and learn in face-to-face. Our theoretical framework based on Denoyel's three reasons helped us define the double alternation in adults' training.

Piaget (1924) claims that success in action comes before conceptualization: success is "understanding in action" and understanding is "succeeding in thinking". Piaget "was clearly aware that concepts must be studied not as isolated entities or islands of thought but as parts of much larger knowledge structures" (Keil & Lockhart, 1999). Reflecting on the learners' experiences in a flipped classroom facilitates the construction of meaning by the production of knowledge (inferential logic) and the comprehension of theoretical knowledge (referential logic) in a flipped classroom.

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