Investigating Learning Experience When Lecturer and Learners' Roles are Reversed

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Abstract: The "reversed classroom" involves the reversals of the learning instruction and the lecturer and student roles in class. The study investigates the learners' views of a reversed classroom on their first online learning experience, the development of the competencies targeted by the course, and how the reversed classroom promotes self-direction. On three occasions (at the beginning, middle, and end of the course), learners were required to complete a self-positioning survey and declare their perceptions of their competencies. They were also invited to point out their learning experience using a questionnaire. Data collected were analysed using the descriptive analysis method. Learners also shared their views on how the adopted reversed classroom ensured their self-directed learning in the interview. This data was analysed using thematic analysis. The findings revealed that although this was the learners' first experience of a reversed classroom, they appreciated it and developed various competencies. They further confirmed that the learning setting, the mentoring roles, and the pedagogical styles adopted successfully ensured their self-direction in learning.

Keywords: reversed classroom, flipped classroom, online learning, adult education, self-direction

1. Introduction

Blended and distance learning have become more common in almost every level of education: primary and secondary schools, university, and lifelong education. Various pedagogical approaches and techniques are applied to identify the best practices to promote effective learning. Rimini & Sipezia (2016) reported for the OECD that supporting learners' self-direction, in particular, remains a significant priority as it is one of the essential skills to enable learners to face professional challenges, notably in the digital world. As an advanced form of the flipped classroom, the reversed classroom targets learners' creativity and deep learning by reversing the lecturer and learner roles in the course (Cailliez, 2017). It also gives learners the freedom to take initiative, which implies the ability to identify learning objectives and needs essential in developing self-direction (Hadji, 2012). However, the learning environment of the reversed classroom is not the only dimension that can influence learners' behaviour in learning, as stated by Bandura (cited in Ponton & Carr, 2012). Consequently, it might be possible to expect a peculiar result for a particular audience experiencing an online reversed classroom for the first time. This study investigates the learner perceptions of the learning experience in an online reversed classroom and how it can promote self-direction and help them develop various competencies. To address the research problem, the participants answered a self-positioning survey on three occasions, filled out a questionnaire (the module's report), and participated in a semi-structured interview. With the help of both literature and the study's findings, the authors highlighted the importance of aligned goals between learners' learning progression and lecturers' mentoring roles and pedagogical style.

2. Literature review

2.1 Targeting learners' self-direction

Self-direction was introduced in France in the late 1980s in adult education (Carré et al., 2011). Knowles (1975, cited in Dynan, Cate, and Rhee, 2008) defines self-direction as the ability of an individual to conduct their own learning to promote lifelong learning. Hadji (2012) states that self-direction requires learners to take the initiative in their learning. Indeed, learners should develop the abilities to determine their learning goals and strategies and to identify resources to achieve and evaluate them (Carré, 2010). Hence, self-direction can occur when learners are able to recognise an interest in given goals. It can also emerge when they discover their value and can implement self-determined actions. Consequently, Cosnefroy & Carré (2014) state that self-direction is within the high level of self-regulation, confirming that self-direction has two main dimensions with self-efficacy as a common element related to both:

- Self-determination (The individual has the freedom to act, is proactive, and able to incorporate given goals or to identify their own)
- Self-regulation (The individual can identify a goal and an appropriate strategy to achieve it, to regulate their actions and strategy, and to persist in a task)

Self-direction is a phenomenon taking place in a social context which influences and is influenced, among others, by the learning environment (Hiemstra, 2015). The learning environment consists of various elements including training materials, resources, pedagogical approaches implemented by lecturers, mentoring strategies, etc. (Carré, Jézégou, Kaplan, Cyrot, and Denoyel, 2011). Jézégou (2008) has put forward the potential of self-direction among learners by assuring the openness of the learning environment, particularly in distance learning. However, according to Carré (2003), it is noteworthy that the idea of freedom offered in the learning environment does not automatically promote the development of the students' self-direction. Learners may not perform self-directed behaviour to accomplish a task for different reasons, such as a mismatch between their traits, learning experiences, prerequisites, and learning environment. Hence, it is worthy to carry out a study on isolated pedagogical cases.

Focusing on the aspects of the learning environment, scientific literature pointed out that some of the lecturer's pedagogical style and mentoring role could positively influence the learners' self-direction. As stated by Grow (1991), cited in Bosch, Mentz, and Goede (2019), the learners' self-direction levels in learning can be influenced by the lecturer's choice of pedagogical styles (See Table 1). In other words, when the aim is to assist learners in being highly self-directed, it would be advisable that the lecturer adopts the resource-person pedagogical style.

Table 1: Grow's lecturer's pedagogical styles and learners' self-direction levels (Adapted from Bosch, Mentz, and Goede, 2019)

Expositor	**Guide/motivator**	**Facilitator**	**Resource person**
Content transfer, proactive interventions	*Stimulation, alternating content transfer, and student-centred activities such as the project-based learning*		*Assistance and guidance on request (reactive interventions)*
-- **Low**	**-** **Moderate**	**+** **Intermediate**	**++** **High**
Passive and dependent	Interested and motivated	Involved and committed	Self-directed and initiated

The following framework of mentoring roles (See Figure 1) was developed based on the literature suggesting that learners' self-direction can be promoted by implementing student-centred teaching approaches and adopting the roles of activator and observer.

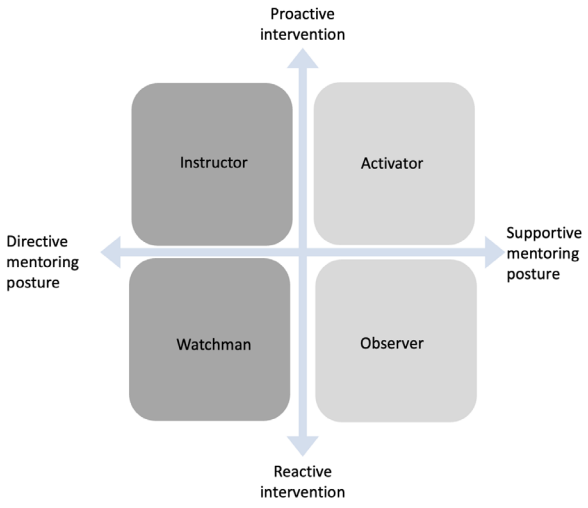

Figure 1: The Framework of mentoring roles (Adinda, 2020)

2.2 Reversed classroom: Opportunities and challenges

The flipped classroom allows student-centred learning activities by taking responsibility for their learning under the guidance of the lecturer. According to Lim, Cho, and Kim (2016), in a flipped classroom, face-to-face sessions focus on student-centred activities (discussions, problem-solving, and practical exercises). It may also concern the presentations of what learners have previously learned or prepared in their online learning environment.

French literature recognizes the reversed classroom as an advanced form of the flipped classroom that aims to promote the learners' creativity and deep learning by reversing the learning instruction and the lecturer and learner roles in class (Cailliez, 2017). One of the first challenges is that the reversed classroom lies in learners producing the contents of their module, ensuring its transfer, and facilitating the assimilation of the contents by the participants or their classmates (Cailliez, 2017). It also involves a postural shift as it asks learners to take on some of the lecturer's responsibilities, notably managing the knowledge transfer for other learners. Consequently, their activities include the definition of the learning objectives, the design and the creation of the learning content, the transmission of the learning content, and the learning assessment. Paul (2020) defines a posture as an individual's way of relating to others and introducing their intention. Indeed, the postural shift does not only influence the design and delivery of the training. It would also change the learner conceptions of the learning and the teaching activities, which are influenced by various aspects, including their learning experiences and beliefs.

In the reversed classroom setting, learners adopt the role of a lecturer and complete various activities to experience deep learning (Cailliez, 2017). This situation requires creativity, willingness, and initiative, which implies learner aptitude to identify their targets and needs (Hadji, 2012). It also includes the best strategies to adopt and the resources they may use to achieve their goal and assess their progress (Carré, 2010). Considering that these elements are necessary for self-direction, we hypothesise that (H1) the reversed classroom promotes learners' self-direction and (H2) encourages the development of the targeted competencies. Regarding the mentoring roles, we also hypothesise that (H3) learners are more likely to self-direct their learning when the lecturer adopts the resource-person pedagogical style and the two roles implying supportive mentoring postures, namely the activator and the observer. However, it is essential to note that online learning was new for learners of the study program. Therefore, this information and the literature review on the studied subjects allow us to ask the following questions: How do learners experience online reversed classroom learning? Does it encourage them to self-direct their learning? What competencies do they develop in the course? Are the competencies targeted by the studied course? Which pedagogical style and mentoring roles are adopted by the lecturer? By focusing on the mentoring roles adopted by the lecturer and the instructional design of the learning environment, our study aims to investigate how reversed classroom learning promotes the learner's self-direction, influences their learning experience, and encourages them to build the competencies targeted by the course.

3. Methods

3.1 The instructional design of the course

This study was conducted in an online course entitled 'Creating Digital Content for Training'. This course aims to enable learners to design and produce training materials using multiple digital tools and platforms. All learners in the group had access as a student to all sandbox pages provided in Moodle® as well as the sandbox page to which they had lecturer access. Therefore, they can experiment and prepare their training module on their respective sandbox page.

Learners had to choose one of ten different tools and platforms suggested by the lecturer and create a training module to be taught to their peers. The aim was to show how to design and create digital training materials using the chosen tool or platform. Learners' tasks include creating training supports (quiz, interactive videos, games, multimedia course contents, exercises), starting and managing discussion on the online forum of their sandbox page, conducting 25 minutes of online synchronous training, and preparing and evaluating participants' final production. For their training support, they were free to use the tools they were familiar with. However, they had to use H5P (Html-5-Package), a plugin tool used to produce and run interactive contents within an LMS such as Moodle®, to prepare at least two training supports.

The main Moodle® page of the course provided detailed instructions on these activities. They also had access to optional digital tools and platforms to enrich their training materials (See Table 2).

Table 2: Available sources of the course

<table>
<tr><th>Competencies targeted</th><th>Suggested tools and platforms to be chosen and presented</th><th>Mandatory tools and LMS to be used</th><th>Optional tools and platforms available</th></tr>
<tr><td rowspan="10">Design training materials

Produce an image, audio, and video with different digital tools and platforms</td><td>PowerPoint</td><td rowspan="10">Moodle®

H5P (available on Moodle®)

Online Forum (available on Moodle®)</td><td>Weebly</td></tr>
<tr><td>Prezi</td><td>Wooclap</td></tr>
<tr><td>Canva</td><td>Socrative</td></tr>
<tr><td>PowToon</td><td>Audacity</td></tr>
<tr><td>Genially</td><td>Kumullus</td></tr>
<tr><td>Kahoot</td><td>Imovie</td></tr>
<tr><td>Framindmap</td><td rowspan="4"></td></tr>
<tr><td>Google Classroom</td></tr>
<tr><td>Movie Maker</td></tr>
<tr><td>WordPress</td></tr>
<tr><td colspan="4">Other available sources:
Memos, articles, and examples of how to provide constructive, formative, and supportive feedback
Example of an assessment form</td></tr>
</table>

3.2 Study sample

All learners' responses remain confidential and anonymous. Participants in the study were undergraduate students at the University of Paris Nanterre, France. Most of them entered the program after several years of professional experience. For them, this was their first online learning experience. However, for other students who did not fit this profile, their only online learning experience was limited to during the Covid-19 crisis.

3.3 Data collection and analysis procedures

The study took place in the first semester of the academic year. On three occasions, all learners (N=8) were asked to complete a self-positioning survey and declare their perceptions of their competencies development. Additionally, at the end of the module, they were invited to describe their online learning experience in a questionnaire highlighting their activities in synchronous and asynchronous online learning. Finally, they also shared their views on how the adopted reversed classroom promoted their self-directed learning. The semi-structured interviews focused on the following aspects:

- The learners' perception of their self-direction, which includes their self-determination, self-regulation, and self-efficacy, in the reversed classroom learning setting
- The learners' perspectives on the lecturers' pedagogical styles (cf. Table 1) and mentoring roles (cf. Figure 1) in the studied context

Table 3 presents the research methods and the instrument analysis framework. We proceeded with a descriptive data analysis for the first and the second instruments. In contrast, the learner interview results (the 3rd instrument) were transcribed and analysed using thematic analysis (Braun & Clarke, 2006).

Table 3: Research methods and analysis framework

Instruments	Objectives	Analysis framework	Number of learners	Hypothesis
Self-evaluation survey (Open-ended questions)	Describe learners' perceptions of their competencies in the online reversed classroom	Descriptive analysis	8	H2: The reversed classroom learning encourages learners to develop the targeted competencies of the observed course
Questionnaire: Learners' report on the module (Likert and open-ended questions)	Describe learners' experience in the online reversed classroom			
Semi-directive interviews	Identify learners' perspectives on how the reversed classroom and the lecturer's pedagogical styles and mentoring roles promote their self-direction	Thematic analysis	3	H1: The reversed classroom learning promotes learners' self-direction H3: Learners are more likely to self-direct their learning when the lecturer adopts the resource person role and the two roles in which he or she is the supportive mentoring postures

4. Results

4.1 Learners' perspectives on their competencies

The learners filled out a self-positioning survey and declare the competencies they acquired. Their answers to the survey can be classified as follows:

- Designing training materials using multiple digital tools and platforms
- Producing an image, audio, and video with different digital tools and platforms
- Using digital tools and pack office (Word, PowerPoint, Excel)
- Using a Learning management system

The first two elements are specified in the course description and at the introduction of the course. The other competencies that cannot be classified within the list are grouped as the "Others."

In the first self-positioning survey, learners identified the available competencies they can use to help them complete various activities of the course and the competencies they think they need to succeed in the course. Table 4 below highlighted that, on the last self-positioning survey that took place in the last three weeks of the training, learners seemed to have all the competencies needed to succeed.

Table 4: The learners' statements on the competencies they have and what they might need to succeed in the course

Time	Competencies available	Competencies needed
T1 (Oct 15th)	Using digital tools and pack office (General use) Other competencies (General use of some of digital tools and platforms provided in the course)	Other competencies (Conducting and managing a training session) Producing an image, an audio file, and a video with different digital tools and platforms
T2 (Nov 11th)	Designing training materials using multiple digital tools Producing an image, an audio file, and a video	Using a Learning management system Other competencies (Manage a group of learners in a training session)

Time	Competencies available	Competencies needed
	with different digital tools Using digital tools and pack office Using a Learning management system	
T3 (Dec 17th)	Designing training materials using multiple digital tools Producing an image, an audio file, and a video with different digital tools Using a Learning management system Other competencies (Conducting and managing a training session)	

4.2 Learners' activities in the online "reversed classroom" learning setting

Through various questions, 100% of learners agreed that the lecturer had clearly announced the competencies targeted by the course program. All learners agreed that the course supported them in building the targeted competencies. In addition, the provided resources and activities were also helpful for their learning. The findings also highlighted that no learners experienced technical difficulties downloading the course material or accessing the synchronous online classes. Moreover, the learner considered themselves involved in the learning process.

Various synchronous and asynchronous activities were planned by the lecturer. According to the learners, synchronous learning assisted by the lecturer allowed them, in general, to have time to process the learning materials, discuss the problems encountered and gather some clarifications on various subjects related to the course. They also appreciated the synchronous interactions with peers, which allowed them to share various questions, subjects, difficulties, practices, and the progress of their module. In addition, they found that synchronous interactions were essential to creating a dynamic and friendly atmosphere within the group. Finally, they appreciated the asynchronous learning for providing them with opportunities to process the learning materials, to discuss topics related to the course, work together, get feedback on their work at their own pace, and have a written record of their discussion.

In sum, these results showed that synchronous and asynchronous learning activities did not indicate a remarkable difference in learners' learning strategies. A significant similarity was highlighted in the activities and objectives of their interactions during the synchronous and asynchronous learning time. These findings were confirmed by their response to our question about using the discussion forum and synchronous talk to help them understand the course materials.

4.3 Reversed classroom to target the learners' self-direction

Various themes related to the learners' self-direction were identified. Learners pointed out that the reversed classroom allowed them to satisfy the learning objectives targeted for each tool and platform, and to identify their objectives:

> *"I decided to choose a tool that I didn't know and that I always considered a difficult tool to work on … I wanted to break this fear and get out of my comfort zone and work on topics that I didn't know...and that I didn't master at all." (Learner 1).*

The interviews also highlighted the freedom to act learners recognised within the course and the fact that they were very proactive during the course in identifying their needs and peers'. In addition, they were also proactive in problem-solving.

> *"... some people tend to be late and to ask for more time, so I solve this problem differently …I offered a bonus for learners who were on time, to reward those who were serious about their work and who wanted to do the job…" (Learner 2)*

> *"I think they had a hard time understanding why, but then I wanted to link it to the theme (Memory) ... but not everybody has the same understanding of the subject (and) has done studies*

> *related to that ... That is why ... I would have given the liberty to execute the task on a theme that interests them the most…" (Learner 3)*

Indeed, our interviews confirmed that the reversed classroom promotes learners' self-direction. The freedom to act, the proactivity, and the capacity to integrate given learning objectives and identify theirs indicate one's self-determination. They also declared they took the opportunity to control their learning activities and strategies and take a critical view of their learning environment and their actions, which related to self-regulation, the second dimension of self-direction. Finally, they also felt capable to set their own goals and execute tasks. These elements related to their self-efficacy.

4.4 Lecturer's mentoring roles and pedagogical style

Regarding the lecturer's mentoring roles and pedagogical style, the interview results pointed out that the lecturer adopted various mentoring roles depending on the objective of the activities. At the beginning of the semester, to present learning activities and assessments and the use of mandatory tools (Cf. Table 2), the learners stated that the lecturer adopted the role of the instructor (with a proactive intervention style and directive mentoring posture). The lecturer also adopted the activator mentoring role to assist learners in preparing their modules. According to Learner 2, this role was mainly adopted. However, for Learners 1 and 3, the observer's role (with reactive intervention style and supportive mentoring posture) was mainly adopted. Indeed, in the same learning situation, students could consider the lecturer adopting a proactive or reactive intervention along with a supportive mentoring posture (role of Activator and Observer) according to their stand on the problem encountered and learning progress.

Regarding the pedagogical styles, the facilitator and the resource person styles were the most present. However, the lecturer adopting the expositor and the guide styles were less remarkable. According to Learners 1 and 3, the expositor style can be perceived through Moodle®'s course description and task instructions, notably during its presentations in synchronous meetings. For Learners 1 and 2, the guide's style was notably adopted at the beginning of the semester, along with the expositor style. These findings show that learners can also have various stands on the lecturer's pedagogical style depending on their understanding of the learning activities and their learning progress. Furthermore, they all agreed that the lecturer's various mentoring roles and pedagogical styles did not bother the learning process. Instead, it helped them adjust their learning strategies for their first learning experience in an online reversed classroom.

These findings revealed that all mentoring roles and styles worked well to promote students' learning in an online reversed classroom. One of the most valuable aspects to note while identifying an appropriate mentoring role and pedagogical styles is the alignment of its aims with the progress of students' learning process in a reversed classroom.

5. Conclusion

Our contribution aimed to investigate a reversed classroom learning setting and its effects on learning. This study explores the learners' experience in their first online reversed classroom, the competencies they develop in this learning setting, the influence on their self-direction and the perception of the lecturer roles and their evolution during the course. Furthermore, three out of the eight enrolled students were interviewed to deepen their understanding of the effect of the reversed classroom on their learning experience, self-direction in learning and views on the lecturer's mentoring roles and pedagogical style for their learning.

The first hypothesis that reversed classroom learning promotes learners' self-direction is confirmed. The findings point out that the reversed classroom scenario allowed learners to integrate the objectives set by the lecturer for the course and identify and pursue their own learning goals and the ones targeted by their modules for classmates. The interviews also confirmed that the reverse classroom allowed the learners the freedom of action and take initiative in preparing their module and its conduct. Moreover, the learners act proactively, especially in identifying and fulfilling their needs and those of their peers. The learners are also more proactive in problem-solving and managing control over their activities. In addition, they also stated that the reversed classroom allowed them to have a critical view of the learning environment and their actions. Finally, it allowed them to develop the competencies they pursue and increase their self-confidence. It represents the self-direction defined by Hadji (2012) and the two essential dimensions of self-direction: self-determination and self-regulation pointed out by Cosnefroy & Carré (2014).

The learners' answers in the interviews and survey prove they felt competent and acquired the target competencies. They even identified some additional skills they have developed not specified in the course description. Moreover, the learner self-evaluation report also highlighted that in the last three weeks of the training, they considered themselves capable of completing the exercises provided in the modules prepared by their peers and successful during the course. Indeed, these findings confirmed our second hypothesis that the reversed classroom promotes the development of the competencies targeted by the course program.

Our third hypothesis is partially confirmed since the findings showed that almost all mentoring roles and all pedagogical styles were adopted. Furthermore, the interviews highlighted the positive impact of these roles and pedagogical styles for learning. As such, the adopted mentoring roles and pedagogical styles promoted the learners' self-direction. The interviews also revealed that each mentoring role and pedagogical style could be effective when it found its goals aligned with the learning progression. In line with Carré (2003), this study confirms that the freedom provided in the learning environment or the adopted learning approach, such as the flipped classroom, through the resource-person style (cf. Table 1) and the role of activator and observer (cf. Figure 1), does not necessarily promote the development of the learners' self-direction. In the observed case, among the pedagogical styles studied, the learners also appreciated the three other styles, namely the facilitator, expositor, and guide, for specific learning time and to answer certain learning needs. As for the mentoring roles, the role of the instructor, in which the lecturer was directive and proactive, did not disrupt the learning process since it was adopted at the right time, so it corresponded to the learners' needs. The adoption of the pedagogical styles and mentoring roles, which are not in line with the presence of self-direction in learning as stated by the literature (Bosch, Mentz, and Goede, 2019; Adinda, 2020), was brief compared to the other mentoring roles and styles stated in our hypothesis. However, it first respected the conditions and aims of a reversed classroom (Cailliez, 2017), and complied with the learners' progress in the course, and their needs.

To conclude, this study pointed out that the positive influence of the reversed classroom on learning is not automatically achieved. Additionally, learners' learning experience and their self-direction in learning were also related to mentoring roles and pedagogical styles the lecturer provided, which were adopted depending on the learning activities and learners' learning progress. This variety in the learning environment promoted the implementation of multi-modal training and allows the learners to have multiple learning episodes (Lieury, 2020) that would foster the learners' engagement in online learning.

The learners appreciated synchronous activities for the opportunity to interact and discuss synchronously. They also valued asynchronous learning for the opportunity to learn and organise their work at their own pace and to have personalised and written answers to their questions. Indeed, the identified learners' activities in the online reversed classroom for synchronous and asynchronous learning modalities are commonly found in other non-reversed online learning. Hence, for further research, it is interesting to know if the reversed classroom could help reduce the transactional distance (Jézégou, 2022) in an online learning context.

Finally, some limitations need to be considered. The sample size is not large enough to obtain results that can be generalised. Having greater diversity in learners' profiles and learning experiences will be useful since this study only managed to interview learners who might have been more ready for self-directed learning. Consequently, our future research aims to study a larger sample of learners and lecturers to compare the influence of different lecturer roles and the teaching strategies to develop the learners' self-direction in an online reversed classroom.

References

Adinda, D. (2020) Stratégies d'accompagnement des étudiants en formations hybrides et effets sur l'autodirection dans l'apprentissage (Doctoral dissertation) University of Strasbourg, Strasbourg.

Bosch, C., Mentz, E. and Goede, R. (2019) Self-directed learning: A conceptual overview. In: Mentz E., De Beer, J. Bailey, R. (eds). Self-directed learning for the 21st century. Aosis, Durbanville.

Braun, V. and Clarke, V. (2006) "Using thematic analysis in psychology". Qualitative research in psychology, Vol 3, No. 2, pp. 77-101.

Cailliez, J.-C. (2017) La classe renversée—L'Innovation pédagogique par le changement de posture. Ellipses.

Carré, P. (2003) "La double dimension de l'apprentissage autodirigé Contribution à une théorie du sujet social apprenant". Canadian Journal for the Study of Adult Education, Vol 17, No. 1, pp. 66-91.

Carré, P. (2010) L'autodirection des apprentissages. In: Carré P., Moisan A., Poisson D. (eds), L'autoformation, perspectives de recherche. Press Universitaire de France, Paris.

Carré, P., Jézégou, A., Kaplan, J., Cyrot, P. et Denoyel, N. (2011) "L'Autoformation: The state of research on self-(directed) learning in France". International journal of self-directed learning, Vol 8, No. 1, pp. 7-17.

Cosnefroy, L. et Carré, P. (2014) "Self-regulated and self-directed learning: Why don't some neighbors communicate?" International journal of self-directed learning, Vol 11, No. 2, pp. 1-12.

Dynan, L., Cate, T. et Rhee, K. (2008) "The impact of learning structure on students' readiness for self-directed learning". Journal of education for business, Vol 84, No. 2, pp. 96-100.

Hadji, C. (2012) Comment impliquer l'élève dans ses apprentissages : L'autorégulation, une voie pour la réussite scolaire. ESF éditeur, Issy-les-Moulineaux.

Hiemstra, R. (2015) "Faciliter l'apprentissage autodirigé des adultes". Savoirs, Vol 1, No. 37, pp. 53-73

Jézégou, A. (2008) "Formations ouvertes et autodirection de l'apprenant". Savoirs, Vol 16, No. 1.

Jézégou, A. (2022) La présence à distance en e-formation. Presses universitaires du septen-trion.

Lieury, A. (2020) Mémoire et réussite scolaire. Dunod.

Lim, C., Cho, Y. H. et Kim, S. (2016) Partnerships and Innovation for Blended Learning at Seoul National University, Republic of Korea. In: Cher Ping L., Libing w (eds), Blended Learning for Quality Higher Education: Selected Case Studies on Implementation from Asia-Pacific, Unesco - Bangkok Office, Bangkok.

Paul, M. (2020) La démarche d'accompagnement : repères méthodologiques et ressources théoriques. De Boeck Supérieur, Louvain-la-Neuve.

Ponton, M.-K. et Carr, P. B. (2012) "Autonomous learning and triadic reciprocal causation : A theoretical discussion". International journal of self-directed learning, Vol 9, No. 1, pp. 1-10.

Rimini, M. and Spiezia, V. (2016) Skills for a digital world. OECD Digital Economy papers.