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# EFL Blended Learning Course: Implementing a Discussion Forum to Enhance Students' Self-Direction

Dina Adinda<sup>1</sup>, Pascal Marquet<sup>1</sup> and Thaddee Ntihinuzwa<sup>2</sup>

<sup>1</sup>LISEC EA-2310, University of Strasbourg, France

<sup>2</sup>Centre de Ressources et d'Apprentissage des Langues, University of Strasbourg, France

[d.adinda@unistra.fr](mailto:d.adinda@unistra.fr)

[pascal.marquet@unistra.fr](mailto:pascal.marquet@unistra.fr)

[tntihinuzwa@unistra.fr](mailto:tntihinuzwa@unistra.fr)

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**Abstract:** The current paper reports on empirical research investigating undergraduate students' readiness to self-directed learning as a response to the use of online discussion forums in an English Foreign Language (EFL) blended learning course. It is known that the asynchronous interactions offered through an online discussion forum allows students to have time to process their thoughts and invites them to think critically (Ritchie and Black, 2012). This critical thinking skill facilitates students' metacognition which is required to develop their self-direction in learning. For that reason, it is hypothesized that the implementation of a discussion forum has a positive impact on students' self-direction. A pre and post-test questionnaire was used to confirm this aspect and the results have shown that only students of the experimental groups have developed their self-direction. This latter is represented by a significant improvement of students' level of readiness to a self-directed learning at the end of the course period.

**Keywords:** blended learning, discussion forum, self-direction, English foreign language learning

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## 1. Introduction

In active learning method teachers are focused on encouraging students to actively participate in the learning process (Wilson and Sipe, 2014) so that they can develop their knowledge or even engage into a conceptual change. In the current digital era, blended learning has become one of the options to facilitate active learning. Its positive impact to enhance students' engagement in learning (Page, Meehan-Andrews, Weerakkody, Hughes and Rathner, 2017), to support their active participation (Deschryver and Charlier, 2012; Kintu, Zhu, and Kagambe, 2017), to improve the flexibility of teaching and learning (Jun and Ling, 2011), and students' self-direction in learning (Uz and Uzun, 2018) are quite persuasive for its implementation. However, the success of a teaching model does not only rely on the use of digital technology. From a pedagogical point of view, Marquet (2011) stated that the teaching content can be one of the determinant aspects of this latter objective.

The duty of a student is related to the mastery of working strategies and methods (Alava, 1999) as well as the knowledge of learning tools and institutional rules. Being capable to perform these competences requires autonomy. According to Annot (2012) autonomy can be built and acquired through experiences and the influence of environment (Freire, 2014; Meirieu, 2015). Raucent, Verzat, and Villeneuve (2010) have summarized constitutive skills related to autonomy into three categories: 1°) the ability to develop a strategy by oneself, 2°) the self-awareness and the knowledge of the working environment, 3°) the competence to cooperate and to collaborate. These three skills can be related to self-direction, which according to Carré (2003) is defined as an aptitude by oneself to take a strategic control over their own actions, objectives or goals. According to the Triadic Reciprocal Causation (TRC) of Bandura (cited in Ponton and Carr, 2012), students' behaviour in learning is influenced by their personal characteristics and their environment. As a matter of fact, since autonomy and self-direction represent learners' behaviour, it is important for the teachers to structure learning contents and delivery methods as a scheme to encourage the expected acquisition attitudes.

The online discussion forum is a tool that is frequently used to include students' collaborative activities in learning (Thomas, 2002). According to Carré, Jézégou, Kaplan, Cyrot and Denoyel (2011), a collaborative dynamic allows learners to practice self-directed attitudes in the group: it encourages them, for example, to participate in making choices and organizing all aspects of their collaborative space while controlling their behaviour and actions during interactions. In relation to the implementation of a computer-mediated communication (CMC) application, such as the online discussion forum, Temperman, Walgraeve, Lièvre and Boumazguida (2017) state that to support a productive interaction among students in a learning scenario, the use of this tool must be adapted to the tasks or the subjects studied. Consequently, this work aims to seek answers to the question: how

does the use of the online discussion forum promote students' self-direction in a blended learning context? It is hypothesized that the implementation of a discussion forum, in two levels of interaction, has a positive impact on students' self-direction.

### 1.1 Online discussion forum and students' self-direction

Temperman *et al.* (2017) have shown that the use of an online discussion forum has a positive impact on students' competence of analysis and conceptualization. By implementing the online discussion forum, Gettliffe, Dittel, and Delhay (2012) have demonstrated its impact to increase students' self-reflexivity in learning and to maximize their participation in a blended learning course. Other researchers also confirm that the online discussion forum can be used to help students to review or discuss course materials prior to the face-to-face meetings, to bolster active learning (Macdonald, 2018), to promote the completion of a collaborative task (Thomas, 2002), to encourage students' interactions on an online learning platform (Cohen, Shimony, Nachmias and Soffer, 2018), and to enhance students' motivation (Ritchie and Black, 2012).

All of those positive aspects of a learning tool cannot be achieved without an effective instructional design (Jun and Ling, 2011) and the organization of the course content (Marquet, 2011). According to Ng, Cheung, and Hew (2012), there are three types of students' interactions in an online discussion forum, and each of them targets a different level: 1°) Participation (Low interaction level), 2°) Interaction (Medium interaction level), and 3°) Construction (High interaction level). Norris and Ennis (1989) cited in Thomas (2002) also distinguish students' interaction into three levels. However, they highlight the different levels of critical thinking, which spans from the lack of critical thinking in the message posted (low interaction level), to a higher level. Concerning collaborative tasks, Henri (1992) cited in Thomas (*ibid*) classifies students' interaction in an online discussion forum under four categories: 1°) Independent, 2°) Quasi-interactive, 3°) Interactive-elaborative, and 4°) Interactive-negotiating. Table 1 below summarizes various categories of interactions in an online discussion forum.

**Table 1:** Collection of interactions' categories in an online discussion forum

Category	Description related to the level of interaction (Ng, Cheung, and Hew, 2012)	Description related to the critical thinking and collaborative tasks (Norris and Ennis (1989), and Henri (1992) cited in Thomas, 2002)
Independent participation	Low interaction level. This category of interaction does not require collaboration because the tasks of each participant are to post a comment independently without any reference to the comments of others	This type of interaction does not encourage collaborative activities and critical thinking (lack of critical thinking opportunities)
Interaction	In this category, participants are invited to post a message by referring to others' messages as a preliminary point of reference but any possible analysis they do in this category of interaction is done in an isolated way.	This type of interaction leads a quasi-interactive collaboration which involves medium interaction level and critical thinking.
Construction	High interaction level. The activities provided are focused to encourage interaction among participants. The aim of the interaction on this level is to establish an understanding of a phenomenon and build or develop a knowledge by interacting with others.	This type of interaction promotes 1°) an interactive-elaborative collaboration which aims to develop the subject discussed, 2°) the interactive-negotiating collaboration, which focuses on encouraging students to debate and negotiate. The interaction in this category matches the characteristic of a high interaction level which involves a high level of critical thinking.

Self-direction is defined as a concept related to the ability of oneself to self-determine and self-regulate one's own actions or objectives (Carré, 2010). In self-direction, personal control is exercised entirely (Hadji, 2012); this makes self-direction a proactive form of autonomy. As defined by Littlewood (1999), proactive autonomy implies learners to manage the direction and their learning activities. According to the Triadic Reciprocal Causation (TRC) of Bandura (1986, cited in Ponton and Carr, 2012), students' behaviour in learning is influenced by their personal characteristics and their environment. Self-direction in a learning context can be understood as a behaviour resulting from a self-directed learning process (Ponton and Carr, 1999). This process, takes place in the environmental determinant of the TRC, provides students with the opportunities to have a control on the

planification, the implementation and the evaluation of their own learning experience (Brockett and Hiemstra, 1991). To develop self-direction in learning, it is necessary for students to elicit critical thinking towards themselves and their environment. If each category of interaction in an online discussion forum encourages different levels of critical thinking, the medium level of interaction can be a stepping stone to this objective. Furthermore, it can be reached by implementing the high interaction level (construction). This starting point constructs the scenario involving two types of interaction in an online discussion forum (the medium and the high level of interaction) which are the experimental scenario of the present study.

## 2. Methods

### 2.1 Population observed

The study is about undergraduate students majoring in Arts, Modern Languages, or Social Sciences, and who enrolled in the Centre de Ressources et d'Apprentissage des Langues (CRAL) to learn English during the 2018-2019 academic year. At the beginning of the first semester in September, a placement test was submitted to the students to determine their language level. Then they were selected to form groups following their results on the test.

CRAL provides blended learning model for their students: every semester, students must spend 12 hours of work in the multimedia centre, 12 hours of workshop with the teacher, and 51 hours of autonomous work. These autonomous working hours are expected to be managed from anywhere (university campus, home, library...). All written or audio materials and exercises are provided on Moodle. In general, on this platform, activities focus on comprehension (listening and reading), while production tasks (writing and speaking) take place in workshops.

The materials constitute various thematic learning tracks that cover several weeks. Each learning track addresses the four language skills (reading, listening, speaking, and writing) which are also evaluated on Moodle and in the classroom (the workshop). Students can undertake from anywhere (on campus or at home) the activities provided on Moodle during their 51 hours of autonomous work. However, to complete the 24 on-site working hours, students must continue their activities on Moodle in the multimedia centre before attending the workshops under the supervision of the teacher. Some of the exercises on Moodle as well as the examinations are only accessible in the multimedia centre, which makes students' attendance compulsory.

The subjects of this study are students with B1 level of English proficiencies. According to the Common European Framework of Reference for Languages (CEFR), B1 level implies the capacity to undertake interaction by the expression of suggestions or opinions in informal discussion between friends. B1 students are also capable to discuss, negotiate, and to solve problems of daily life such as resolving an unpredictable situation in public transportation, organizing a trip, taking initiatives and expressing discontent (Council of Europe, 2018).

62 undergraduate students, from various fields of studies have participated in this experiment, on a voluntary basis. There were 19 students in the control groups and 43 students in the experimental groups (See Table 2). All the 62 participants were assured that their participation was confidential and anonymous. The forum was used by the experimental groups as an extension of the tasks that all the students have to perform. Therefore, the control groups were exposed to similar teaching strategies without the use of the online forum.

**Table 2:** Study sample

Course	Number of enrolments	Participants of the pre-test	Participants of the post-test	Participants of the pre and post -test	Participation rate of the pre and post-test (in %)
<b>Control Groups</b>					
Control Group 1	28	9	9	9	32%
Control Group 2	16	13	15	10	63%
Total	44	22	24	19	
<b>Participation rate of Control group students (in %)</b>					
In relation to the total student enrolment for the course				43%	

Course	Number of enrolments	Participants of the pre-test	Participants of the post-test	Participants of the pre and post -test	Participation rate of the pre and post-test (in %)
In relation to the total number of pre-test participants			86%		
Experimental groups					
Experimental Group 1	30	29	24	23	77%
Experimental Group 2	30	28	20	20	67%
Total	60	57	44	43	
Participation rate of experimental group students (in %)					
In relation to the number of enrolled students for the course			72%		
In relation to the total number of pre-test participants			75%		

Some of the pieces of information given at the introduction session of the forum to the experimental groups were: where to find the forum on Moodle; how to proceed once students have a post from another participant; the rules of politeness on Moodle; the languages styles (written, rather than spoken); the minimum length of messages.

The subjects discussed on the forum are devised as applications of the thematic learning tracks of the CRAL. The online discussion forums are organized in two levels of interaction involving two different subjects. Each level of interaction corresponds to a different subject. To deal with the first subject, the students are asked to engage in the level of "Interaction" (medium level of interaction): they respond to comments/messages of other students; and they use them as a starting point to post a comment without necessarily building knowledge together. For the second discussion subject, the interaction is more elaborated (high level of interaction, so-called "Construction"). The students are divided in small groups of 5 to 6 participants and are asked to discuss on a given topic, and to suggest solutions to problems. This task requires to determine together a common objective and a shared strategy. Actually, the goal of the second subject is to lead the students to express an idea or to elaborate on the discussed topic through arguments and negotiations. Chou and Chang (2018) suggest that a group of 5 students is the most appropriate for a study on learning through problem solving, but a group of 2 to 6 students is the most common. As a follow-up to the online forum, a discussion workshop was organized by the teacher to give feedback on the topics and to ask the students to express themselves in the target language. Table 3 details the schedule for each discussion which occurred every 3 to 4 weeks.

To sum up, for each discussed subject, students belonging to the experimental groups have to work on the forum, at least for two hours in the multimedia centre. During the workshops, they also have to discuss their activities in the online discussion forum for one hour. Furthermore, students are also encouraged to work on the online discussion forum during their 51 hours of autonomous work.

**Table 3:** Example of an online forum activities schedule for the experimental group 1

Topic studied Topic for the forum Level of interaction		: Personality : Dream flat mate : Medium	
Week #	Learning time	Estimated time for work on the forum	Description
Week 2	Workshop with the teacher	30 minutes	Introducing the forum
Week 3	Autonomous work in the multimedia centre	60 minutes	Work on the forum
Week 4	Autonomous work in the multimedia centre	60 minutes	Work on the forum
Week 5	Workshop with the teacher	30 minutes	Summary, discussion on arguments posted on the forum

Topic studied Topic for the forum Level of interaction	: Personality : Dream flat mate : Medium		
			and eventual feedback on written production
Week 6: Evaluation of oral and written comprehension 1			
Topic studied Topic of the forum Level of interaction	: Japan : Prepare a trip to Japan : High level		
Week #	Learning time	Estimated time for work on the forum	Description
Week 7	Workshop with the teacher	30 minutes	Introducing the forum
Week 8	Autonomous work in the multimedia centre	60 minutes	Work on the forum
Week 9	Autonomous work in the multimedia centre	60 minutes	Work on the forum
Week 10	Workshop with the teacher	30 minutes	Summary, discussion on arguments posted on the forum and eventual feedback on written production
Week 11: Evaluation of oral and written comprehension 2 Week 12: Review for CLES 1 and evaluation of oral production Week 13: CLES 1 examination			

## 2.2 Data and analysis procedures

As mentioned above, the main hypothesis of this research is that the implementation of a discussion forum, in two levels of interaction, has a positive impact on students' self-direction. To test this hypothesis, one type of data was collected and used through the Self-directed Learning Readiness Scale (SDLRS). This instrument, aimed to identify students' level of self-direction in learning, was created by Guglielmino (1977). It is a 58-item scale with a 5-point Likert scale, presenting one's attitudes ranging from "almost never true" to "almost always true".

For data analysis the paired samples t-test was applied to each group in order to determine any significant development of students' self-direction level. To better describe the results, an Analysis of difference that provides a gain score for each group was also conducted. The overall methodology is summarized in Table 4.

**Table 4:** Research methods and analysis framework

Objectives	Instruments	Analysis framework
Evaluate students' self-direction in learning before and after the course module	Self-Directed Learning Readiness Scale (SDLRS) (Guglielmino, 1977)	Paired samples t-test for the control and experimental groups

## 3. Online discussion forum and students' readiness to a self-directed Learning

This work aims to evaluate the impact of an online discussion forum for students' readiness to a self-directed learning. To highlight this aspect, students' answers to the SDLRS are compared. The variables of the observed groups are their level of self-direction before and after the course period. With the 86% of participation rate of the control groups and 75% of the experimental groups, a student t-test was conducted to identify any development or regression of students' self-direction over a semester.

### 3.1 Control groups

According to the results of the Analysis of difference, 55.6% of students from Control Group 1 have progressed, and only 33.3% students of the same group have regressed (See Table 5). This group has a gain score of 2.1% but according to the t-test results, their progression is not at a significant level yet (See Table 7). However,

compared to the percentage of their regression, the score progression of Control Group 2 is very low (See Table 6). Indeed, their t-test result is not at a significant level (See Table 7). Figure 1 below represents the results' plot of each control group.

**Table 5:** Results overview for pre and post-test (control group 1)

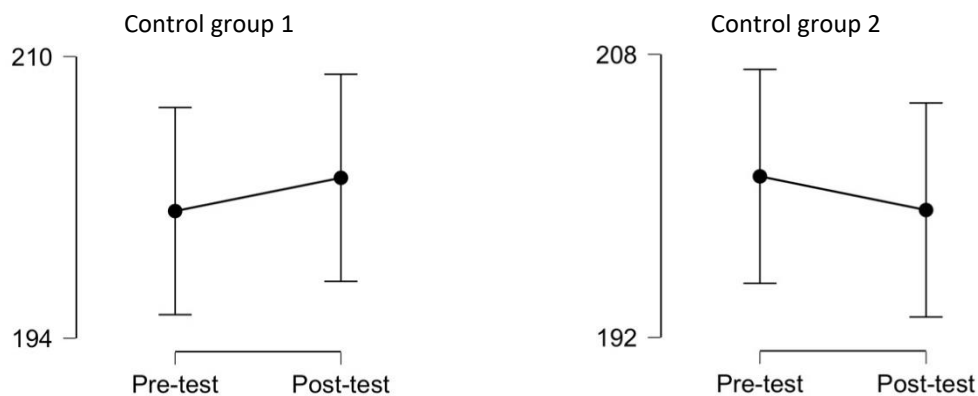
	Number of students in %
Progression	55.6%
Regression	33.3%
Stable	11.1%
Total	100%
Gain score	2.1%

**Table 6:** Results overview for pre and post-test (control group 2)

	Number of students in %
Progression	30%
Regression	60%
Stable	10%
Total	100%
Gain score	-0,94%

**Table 7:** T-test results of control group 1 and 2

Control group	Mean score of the pre-test	Mean score of the post-test	t-test results
1	201.2	203.1	t=-0.524, p = 0.307
2	201.1	199.2	t=0.503, p = 0.686



**Figure 1:** Illustration of t-test results for control group 1 and 2

### 3.2 Experimental groups

According to the results of the Analysis of difference, 65.2% of students from Experimental Group 1 have progressed, and 30.4% students of the same group have regressed (See Table 8). This group has a gain score of 6.8% and according to the t-test results, their progression is at a significant level (See Table 10). Compared to the percentage of the progression score of this group, students of Experimental Group 2 have a higher progression rate (See Table 9). Referring to the t-test results, students in this group have also significantly developed their self-direction over a semester (See Table 10). Figure 2 below represents the results' plot of each control group.

**Table 8:** Results overview for pre and post-test (experimental group 1)

	Number of students in %
Progression	65.2%
Regression	30.4%
Stable	4.3%
Total	100%

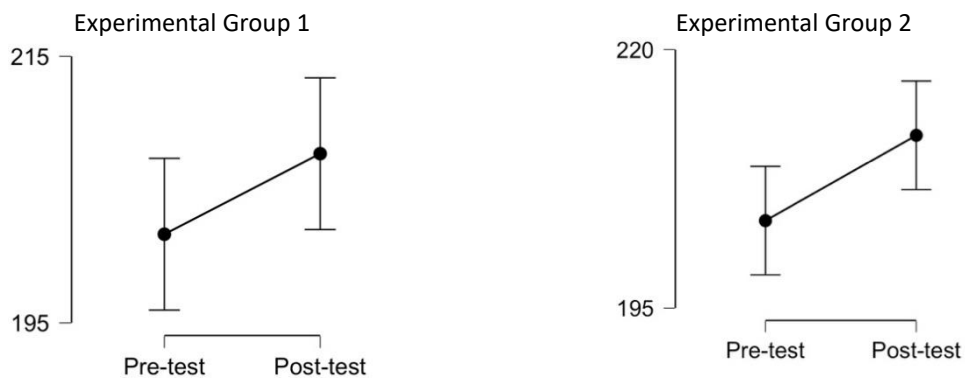
	Number of students in %
Gain score	6.8%

**Table 9:** Results overview for pre and post-test (experimental group 2)

	Number of students in %
Progression	75%
Regression	25%
Stable	0%
Total	100%
Gain score	9.5%

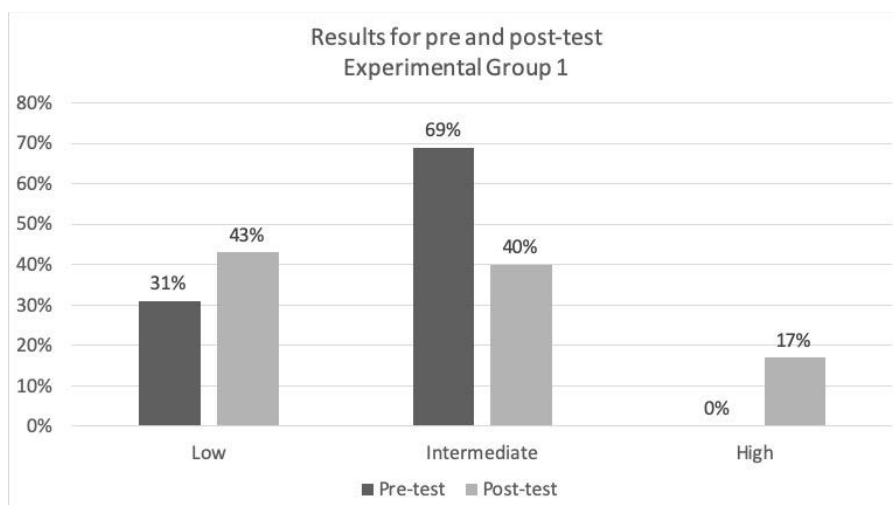
**Table 10:** T-test results of experimental groups 1 and 2

Experimental group	Mean score of the pre-test	Mean score of the post-test	t-test results
1	201.7	207.7	t=-1.557, p <.10
2	203.4	211.7	t=-2.328, p <.05



**Figure 2:** Illustration of t-test results for experimental groups 1 and 2

Figures 3 and 4 below show the dynamics of students' self-direction levels at the pre and the post-test of each experimental group. For Experimental Group 1, it appears that students' post-test results are more scattered, and the progression is more likely to be noticed through the number of students who develop their self-direction to a high level. For Experimental Group 2, however, it is clear that the progression is identified through an increase in the number of students who are at the intermediate level and a decrease in those who are at the low level of self-direction.



**Figure 3:** Students' self-direction levels at the pre and the post-test (experimental group 1)



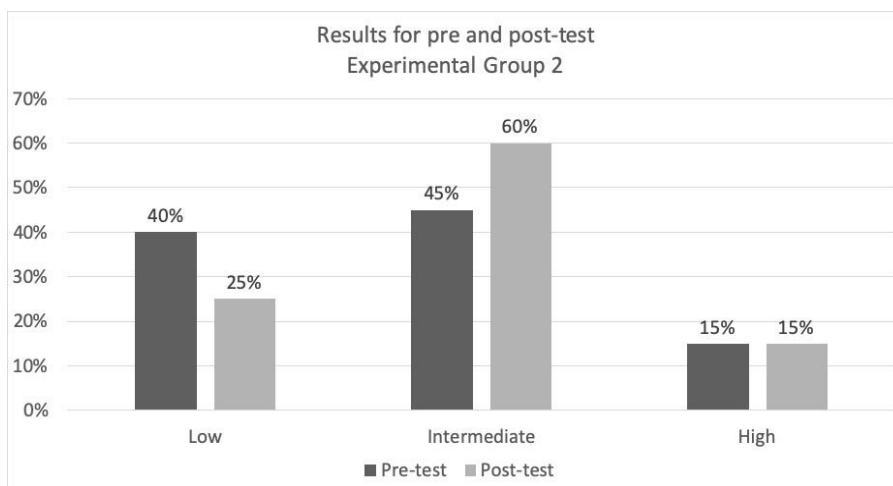


Figure 4: Students' self-direction levels at the pre and the post-test (experimental group 2)

#### 4. Discussion and conclusion

The t-test results show that the development of students' self-direction occurs within the two experimental groups. The use of the forum invites students to complete some collaborative tasks on the online platform. Without the implementation of an online discussion forum, the general learning scenario that control groups have is slightly different from that of the experimental groups: the control groups still have online tasks, and they are related to their face-to-face activities with the teacher, but they are not invited to work on an online collaborative task which is available only in the forum.

For this experiment, the online discussion forums are organized in two levels of interaction. At the medium interaction level, so-called "Interaction" participants are invited to respond to a comment or a message from others. The aim of this stage is to encourage students to review the vocabulary items and the concepts learned. During the introduction of the course and the forum to the experimental groups at the beginning of the semester, most of the students declared that they did not have any experience in participating to an online discussion forum, in academic or non-academic contexts. Indeed, this stage can also be considered as essential to introduce how the forum works and to prepare students for the high level of interaction called "Construction".

At the level of "Construction", students are divided into smaller groups of 5 to 6 participants. One of the reasons of the implementation of an online discussion forum that has been highlighted from the beginning of this project is to support collaborative learning and students' critical thinking that may be beneficial for students' self-direction. Indeed, the group work is not synonymous of collaborative activities. On this matter, Summers and Volet (2010) state that the prerequisite of collaborative learning activities is the shared commitment of the participants to complete the task together. This includes a common understanding of the task in which the cognitive process required to complete it may be (heterarchically) divided into intertwined layers (Dillenbourg et al., 1996). The reason why the interaction level of "Construction" fits the most to support collaborative learning is because it aims to establish an understanding of a phenomenon and develop knowledge or an idea. At this stage of interaction, students are invited not only to discuss a subject but also to solve a problem or to negotiate by using their arguments and critical thinking.

According to Chou and Chang (2018), working in small groups shows a high satisfaction in individual's learning, skill development, and overall learning. Their work also shows that students in small groups demonstrate high satisfaction for learning performance, including writing proficiencies and problem solving. Indeed, referring to the findings of this project, it can be concluded that small group work, critical thinking, and collaborative learning activities introduced through an online discussion forum are beneficial for students' self-direction in learning.

Furthermore, this study offers instructional implications for EFL teachers who are willing to employ an online discussion forum in EFL blended learning contexts, and for instructional designers who attempt to implement collaborative learning. First, applying two levels of interaction in a discussion forum may enable a beneficial collaborative task. Second, collaborative learning involving activities that encourage critical thinking in the small-group format may enable students to develop their self-direction in learning. However, this instructional

suggestion may only be suitable for another second language learning if the participants are recruited by the level of their second language, and the learning scenario provided follows the Common European Framework of Reference for Language, respectively.

According to Temperman *et al.* (2017), the participation to a discussion forum in which the tasks relate to the construction of an argument requires a high cognitive work. The work of Chou and Chang (2018) state also that small group works introduce various benefits for students' learning related to their performance, writing proficiencies, and skill development. Indeed, it can be assumed that the instructional design suggested by this study may also influence students' learning outcomes, but future research is required to verify this hypothesis.

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## **References**

- Alava, S. (1999) "Médiation (s) et Métier d'Étudiant". *Bulletin des bibliothèques de France (BBF)*, pp 8–15.
- Annot, E. (2012) *La Réussite à l'Université: du Tutorat au Plan Licence*. De Boeck, Bruxelles.
- Brockett, R.G., Hiemstra, R. (1991) *Self-direction in Adult Learning: Perspectives on Theory, Research, and Practice*. Routledge, London.
- 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 *L'Autoformation, Perspectives de Recherche*, Press Universitaire de France, Paris.
- Carré, P., Jézégou, A., Kaplan, J., Cyrot, P. and Denoyel, N. (2011) "L'Autoformation: The State of Research on Self-Directed Learning in France", *International Journal of Self-Directed Learning*<sup>®</sup>, vol 8, No. 1, pp 7–17.
- Chou, P.-N., Chang, C.-C. (2018) "Small or Large? The Effect of Group Size on Engineering Students' Learning Satisfaction in Project Design Courses", *Eurasia Journal of Mathematics, Science and Technology Education*, vol 14, No.10.
- Cohen, A., Shimony, U., Nachmias, R., Soffer, T. (2018) "Active Learners' Characterization in MOOC Forums and Their Generated Knowledge", *British Journal of Educational Technology*, vol 50, No. 4, pp 1–22.
- Council of Europe (2018) *Common European Framework of Reference for Languages: Learning, Teaching, Assessment. Companion Volume with New Descriptors*, Cambridge University Press, Strasbourg.
- Deschryver, N., Charlier, B. (2012) *Dispositifs Hybrides, Nouvelle Perspective Pour une Pédagogie Renouvelée de l'Enseignement Supérieur* (Rapport final No. S03228- LLP- I-2009-1- FR- ERASMUS- EMHE), 2012. HY-SUP.
- Dillenbourg, P., Baker, M.J., Blaye, A., O'Malley, C. (1996) *The Evolution of Research on Collaborative Learning, in Learning in Humans and Machine: Towards an Interdisciplinary Learning Science*. Elsevier, Oxford, pp. 189–211.
- Freire, P. (2014) *Pédagogie de l'Autonomie*. Eres, Toulouse.
- Gettliffe, N., Dittel, J. and Delhay, A. (2012) "Guider l'Autonomie par les Forums de Discussions Électroniques", *Les langues modernes*, vol 3, pp 47–54.
- Guglielmino, L. (1977) *Development of the Self-Directed Learning Readiness Scale*, (Doctoral thesis), University of Georgia, United States.
- Hadji, C. (2012) *Comment Impliquer l'Élève dans ses Apprentissages: l'Autorégulation, une Voie pour la Réussite Scolaire*. ESF éditeur, Issy-les-Moulineaux.
- Jun, L. and Ling, Z. (2011) "Improving Flexibility of Teaching and Learning with Blended Learning: A Case Study Analysis", *Hybrid learning*, pp 251–261.
- Kintu, M.J., Zhu, C. and Kagambe, E. (2017) "Blended Learning Effectiveness: The Relationship Between Student Characteristics, Design Features and Outcomes", *International Journal of Educational Technology in Higher Education*, vol 14, No.7.
- Littlewood, W. (1999) "Defining and Developing Autonomy in East Asian Contexts", *Applied Linguistics*, vol 20, pp 71–94.
- Macdonald, S. (2018) "Online Discussion Forum", [online], Graduate Student Instructor: Teaching and resource center. Berkeley University, <https://gsi.berkeley.edu/gsi-guide-contents/technology-intro/gsi-examples/online-discussion-forums/>
- Marquet, P. (2011) "e-Learning et Conflit Instrumental: Entre Didactique, Pédagogie et Technique", *Recherche & formation*, vol 68, pp 31–46.
- Meirieu, P. (2015) "Dictionnaire des Définitions", [online], Philippe Meirieu  
<<http://www.meirieu.com/DICTIONNAIRE/autonomie.htm>>, et  
<<http://www.meirieu.com/CLASSEAUQUOTIDIEN/formationautonomie.htm>>
- Ng, C.S.L., Cheung, W.S. and Hew, K.F. (2012) "Interaction in Asynchronous Discussion Forums: Peer Facilitation Techniques", *Journal of Computer Assisted Learning*, vol 28, pp 280–294.
- Page, J., Meehan-Andrews, T., Weerakkody, N., Hughes, D.L. and Rathner, J.A. (2017) "Student Perceptions and Learning Outcomes of Blended Learning in a Massive First-year Core Physiology for Allied Health Subjects", *Advances in Physiology Education*, vol 41, pp 44–55.

**Dina Adinda, Pascal Marquet and Thaddee Ntihinuzwa**

- Ponton, M.K. and Carr, P.B. (1999) *A Quasi-Linear Behavioral Model and an Application to Self-Directed Learning*, Nasa Center for AeroSpace Information, Virginia.
- Ponton, M.-K. and 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.
- Raucent, B., Verzat, C. and Villeneuve, L. (2010) *Accompagner des Étudiants : Quels Rôles pour l'Enseignant ? Quels Dispositifs? Quelles Mises en Oeuvre ?* De Boeck, Bruxelles, Belgique.
- Ritchie, M. and Black, C. (2012) *Public Internet Forums: Can They Enhance Argumentative Writing Skills of Second Language Learners?* *Foreign Language Annals*, vol 45, pp 349–361.
- Summers, M. and Volet, S. (2010) "Group Work Does Not necessarily Equal Collaborative Learning: Evidence From Observations and Self-Reports", *European Journal of Psychology of Education*, vol 25, pp 473–492.
- Temperman, G., Walgraeve, S., de Lièvre, B. and Boumazguida, K. (2017) "Développer des Compétences de Conceptualisation et d'Analyse avec un Forum de Discussion et un Etherpad", *sticef*, vol 24, pp 151–179.
- Thomas, M.J.W. (2002) "Learning within Incoherent Structures: The Space of Online Discussion Forums", *Journal of Computer Assisted Learning*, vol 18, pp 351–366.
- Uz, R. and Uzun, A. (2018) "The Influence of Blended Learning Environment on Self-Regulated and Self-Directed Learning Skills of Learners", *EUROPEAN J ED RES*, vol 7, pp 878–886.
- Wilson, L.E. and Sipe, S.R. (2014) "A Comparison of Active Learning and Traditional Pedagogical Styles in a Business Law Classroom", *Journal of Legal Studies Education*, vol 31, pp 89–105.