

# THE IMPACT OF FORMATIVE ASSESSMENT ON THE DEVELOPMENT OF SOFT SKILLS IN UNIVERSITY STUDENTS.

Soumaya Houari<sup>1</sup>, Nezha Bouhaddou<sup>2</sup>, Bouabid Badaoui<sup>3</sup>, Abdellah Essiyedali<sup>4</sup>

<sup>1</sup> Associate Professor, Department of Languages and Soft Skills, Faculty, Mohammed V University, Rabat, Morocco

<sup>2</sup> Assistant Professor, Department of Biology, Faculty of Sciences, Mohammed V University, Rabat, Morocco

<sup>3</sup> Associate Professor, Department of Biology, Faculty of Sciences, Mohammed V University, Rabat, Morocco

<sup>4</sup> Associate Professor, Regional Center for Education Professions and Training, Mohammed V University, Rabat, Morocco

## ABSTRACT

*This research investigates the impact of formative assessment on the development of soft skills, with a particular focus on oral presentation ability among students. In the context of a university reform that highlights the significance of soft skills, it is essential to identify effective teaching and assessment methods to nurture these transversal skills, which are vital for both academic and professional success.*

*The study was conducted with a representative sample of master's level students at the Faculty of Sciences in Rabat, Morocco. Employing an experimental design based on Salomon's approach, the research compared three groups: a control group 1 (with pretest), an experimental group, and control group 2 (without pretest). The primary criteria for analysis revolved around the oral presentation ability, including aspects such as the preparation of support, relevance of content, and the quality of oral presentation.*

*The results revealed that in cases where no specific treatment was applied, the outcomes were similar between control group 1 (with pretest) and control group 2 (without pretest). However, the experimental group exhibited significant progress in the development of their oral presentation abilities, a finding further supported by inter-group and intra-group verifications.*

*In conclusion, formative assessment emerges as a fundamental factor in fostering transversal competence concerning oral presentation. The study strongly advocates for the systematic implementation of this approach, particularly when enhancing oral presentation skills within the framework of the national university reform. By recognizing the value of formative assessment, educational institutions can better prepare students for the challenges of the academic and professional world by nurturing these essential soft skills.*

**Keyword:** Soft skills, Oral presentation, Formative assessment, Distance learning, Cross-functional skills.

## 1. INTRODUCTION

University education goes beyond academic knowledge. Soft skills, also known as 'transversal skills,' are crucial for students' success in both their professional and personal lives. The transition from education to employment, mainly during the final two years of a master's program, is a critical phase for developing these skills. While master's programs include transversal modules, the teaching methods for these and specialized modules differ [1]. We conducted a comparative study of two teaching methods for developing soft skills, one traditional and the other involving formative assessment, focusing on oral presentation as the transversal skill under examination.

### 1.1 Context

Since the adoption of the LMD system (License-Master-Doctorate) in 2003 at Moroccan universities, the changing job market and technological advancements have highlighted the importance of soft skills for students' professional success. Soft skills have become a critical factor in the employability of graduates, being a key selection criterion in job interviews.

However, until 2022, the Moroccan university system lacked dedicated soft skills modules in the foundational bachelor's programs of open-access institutions. This deficiency extended to primary and secondary education as well [2]. The primary emphasis remained on technical skills, with evaluations primarily focused on domain-specific knowledge, practical abilities, and the application of specific methods and techniques. In this system, professors

mostly assessed technical skills, leaving students without formal assessments of their soft skills until their first job interview. Often, students had to rely on self-evaluation based on interview outcomes.

In 2023, Morocco introduced "University 4.0," a reform aimed at addressing the growing importance of soft skills. This initiative includes new transversal modules, such as languages and power skills, primarily delivered through online learning platforms. However, it's essential to implement teaching and evaluation approaches that foster soft skills' development within these modules, especially in scientific fields.

To identify effective teaching methods for soft skill development, we conducted a comparative study of two exclusively online learning approaches. The first, known as the "classic" approach, follows the teaching method used for specialized modules. The second approach incorporates formative assessment to promote soft skills development.

The 2019 pandemic underscored the importance of soft skills due to the shift to online learning. This heightened awareness led to an increased emphasis on adaptability to new teaching methods, self-directed learning, academic research techniques, utilization of digital resources, and remote interaction with professors—all crucial for successful online learning. This research leverages data from pandemic-era online learning sessions, a key element of the new university reform.

Our study focuses on the development of the soft skill of oral presentation in a scientific context. This skill demands methodological and rhetorical expertise, starting with in-depth research to gather reliable information as a foundation. The next steps involve structuring clear and coherent ideas, creating visual aids to enhance audience understanding, and delivering a coherent presentation. Acquiring this skill is a gradual process that unfolds over time.

## 1.2 Framework

In the context of education, soft skills encompass a diverse set of competencies that go beyond traditional academic knowledge. These include skills such as effective communication, problem-solving, critical thinking, creativity, time management, teamwork, and emotional intelligence [5]. Our research primarily focuses on communication, specifically oral presentations. However, it's crucial to recognize the broader relevance of soft skills within the context of oral presentations, even though our study doesn't directly measure them.

Formative assessment is particularly pertinent in the field of education. It represents an ongoing, learner-centered process designed to provide students with continuous feedback to enhance their learning experience. This approach differs from the traditional summative assessment, which mainly revolves around assigning final grades. Formative assessment, on the other hand, concentrates on refining the learning process itself and plays a pivotal role in identifying specific learning needs. It guides educators in tailoring their teaching methods to meet these needs.

The role of effective feedback in formative assessment is a critical aspect that resonates strongly with pedagogy experts. As emphasized by Hattie and Timperley (2007), feedback, when used effectively, acts as a catalyst for intrinsic motivation, adaptability, personal reflection, and improved communication between educators and students. It is an indispensable element in promoting an active and participatory approach, which is fundamental for nurturing and refining soft skills within the learning environment [Hattie and Timperley 2007].

In our research, we rigorously evaluate oral presentations, a subject of substantial importance in the pedagogical domain. This evaluation is based on a careful assessment of eight pivotal criteria, including content quality, organizational structure, clarity in expression, proficient use of visual aids, mastery of non-verbal communication, adept response to questions, effective time management, creative presentation, and audience engagement.

Importantly, we have deliberately excluded the criterion related to audience interaction from our evaluation grid. This decision is rooted in the recognition that, within the context of our research, this element has the potential to increase student stress and, counterproductively, hinder the development of oral presentation skills.

The advent of the pandemic necessitated a shift towards distance learning and the emergence of various independent learning activities. These include submitting assignments, engaging in online discussions, and creating video content. These tasks require students to effectively utilize a range of technical tools, reinforcing both critical transversal skills and power skills. These proficiencies are integral in modern education, particularly in a digital and technology-driven landscape.

## 2. MATERIALS AND METHODS

The target population comprises first-year master's students specializing in scientific disciplines, specifically "Food Science and Technology," "Biotechnology for Plant Improvement," and "Renewable Energies and Storage." The experiment took place at the Faculty of Sciences in Rabat.

The sample for this experiment includes 137 students, categorized into three distinct groups, in accordance with Salomon's research plan. The first group, referred to as the first control group (T1), consists of 37 students. These students underwent a pretest to assess their oral presentation skills before taking a posttest at the end of the semester, without any exposure to the experiment. The second group, denoted as the second control group (T2), also comprises 37 students who did not undergo a pretest and were not exposed to a teaching modality involving formative assessment. However, they did participate in the posttest at the semester's end. The experimental group comprises 67 students who underwent a comprehensive sequence, including an initial posttest, participation in the experiment, and a final posttest to evaluate the impact of formative assessment on the development of the oral presentation skill. This grouping facilitates the analysis and comparison of results, highlighting the effect of formative assessment on the development of the studied competence.

As part of this experiment, students were tasked with recording their presentations. This measure aimed to familiarize students with technical recording and communication tools, address potential bandwidth issues, and provide them with ample practice to excel in the activity before submitting it to the teacher. The teacher asynchronously reviews the various recordings while completing the evaluation grid. This approach allows the teacher to assess the submitted work without the time constraints that could compromise the quality of synchronous evaluation. Each student was encouraged to share their presentation and view those of their peers. The synchronous session in distance learning was dedicated to interactions related to the presentations. During this session, the teacher provides feedback and justifies the evaluations. The course space is hosted on the institution's platform.

The evaluation criteria for the oral presentations consist of fifteen specific criteria, divided into three categories: Support preparation, Support content, and Oral presentation. Each category encompasses a set of detailed criteria.

#### 1. Support Preparation

1. Choice of Support: The chosen model should align with the advanced academic level, emphasizing clarity and simplicity. Models commonly used by salespeople, graphic designers, or artists should be avoided in this context.
2. Color Consistency: Maintain a maximum of two to three colors consistently throughout the support.
3. Outline: Provide a concise summary.
4. Scientific Content Structuring: Ensure adherence to the logical sequence of scientific writing.
5. Articulation of Information: Present information clearly and concisely, avoiding excessive transitional words.
6. Slide Content: Limit each slide to one or two pieces of information, avoiding lengthy paragraphs. Key information should be presented in a schematic, memorable, or easily notated format.

#### 2. Support Content

7. Relevance of the Plan: Ensure coherence and a logical sequence in the plan.
8. Relevance of Chosen Information: Verify that the content aligns with the selected theme.
9. Balance in Treating Different Parts: Maintain a balanced level of depth in addressing various elements.
10. Illustration: Incorporate images and diagrams to visually support the content.

#### 3. Oral Presentation

11. Voice: Project your voice effectively during the oral presentation.
12. Gestural Formulation: Express ideas with proper gestures.
13. Transition: Use logical connectors to smoothly link pieces of information.
14. Gestures: Complement your voice with appropriate gestures.

15. Eye Contact: Avoid reading directly from the slides; focus on the camera during recording or maintain eye contact with the audience during in-person presentations.

The evaluation grid utilizes a four-level rating on the Lickert scale, ranging from 1 to 4. A score of 4 corresponds to the highest rating (excellent), 3 signifies good, 2 represents acceptable, and 1 indicates a need for improvement.

The results were analyzed using SPSS software, employing the Wilcoxon signed-rank test for paired data (used to compare students' scores between the pre-test and post-test within each group) and the Mann-Whitney U test (used to compare post-test scores between different groups). Both tests were utilized to determine the significance of results by comparing oral presentation abilities between control groups and the experimental group.

The Wilcoxon test is a non-parametric test to determine if two sets of paired data come from the same distribution. In our context, it was used to test if the scores obtained by students before and after the experiment were significantly different.

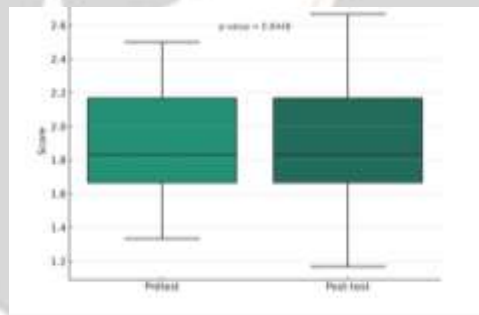
The Mann-Whitney test is a non-parametric test that determines if two independent samples come from the same distribution. In our context, it was used to compare post-test scores between the control group and the experimental group.

Boxplots were used to visualize the distribution of scores for each group and condition (pre-test and post-test). Boxplots help identify the median, quartiles, and potential outliers.

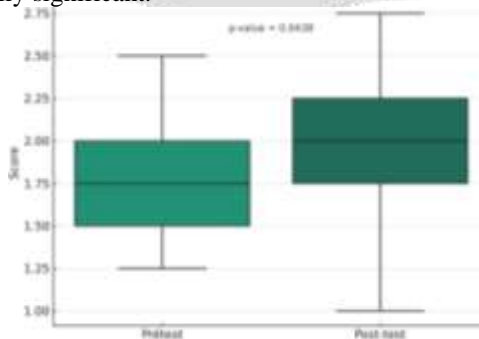
A p-value below 0.05 is considered indicative of a significant difference. If the p-value is above 0.05, it suggests that the observed differences are probably due to chance.

### 3. RESULTS

The results are summarized in the the graphical representations depicted in Figures 1 to 12.



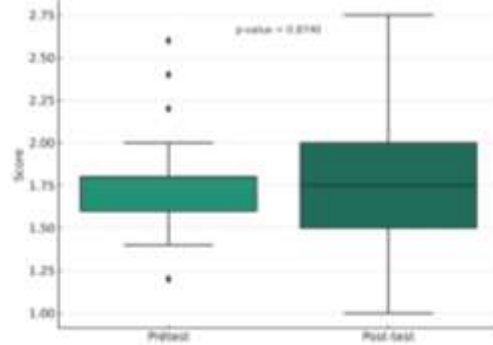
**Figure 1:** Comparison of control group 1 (pretest-posttest) for support preparation. The p-value is 0.08448, suggesting that the difference between the pretest and posttest of control group 1 in terms of support preparation is not statistically significant.



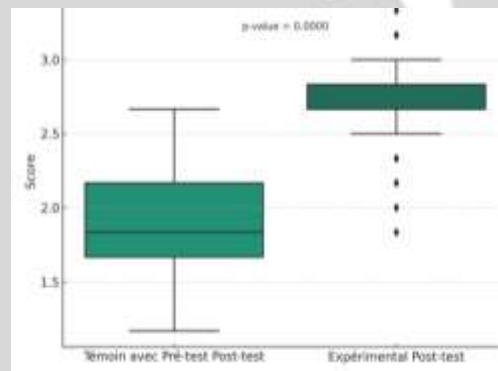
**Figure 2:** Comparison of control group 1 (pretest-posttest) for content relevance



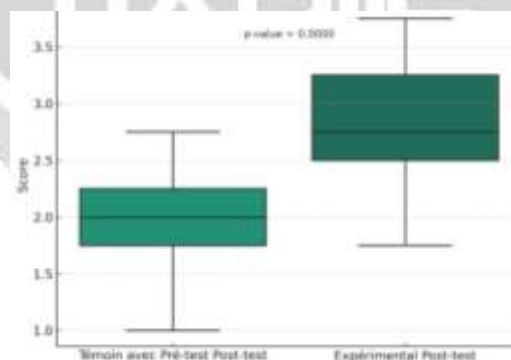
The p-value is 0.0438, indicating that the difference between the pretest and posttest of control group 1 regarding content relevance is on the verge of statistical significance.



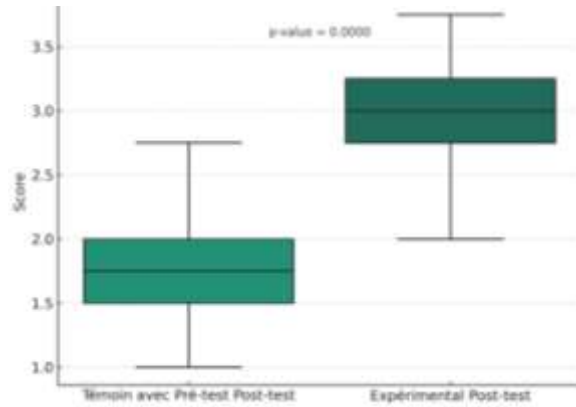
**Figure 3:** Comparison of control group 1 (pretest-posttest) for oral presentation. The p-value is 0.08740, signifying that the difference between the pretest and posttest of control group 1 in relation to oral presentation is not statistically significant.



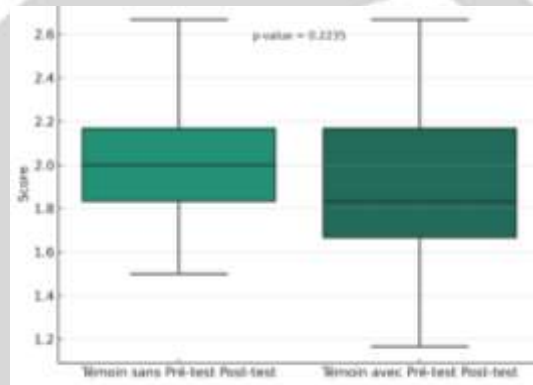
**Figure 4:** Comparison of control group 1 (posttest) / Experimental (posttest) for support preparation. The p-value is 0.00, clearly demonstrating a significant difference between the posttest results of control group 1 and the experimental group in terms of support preparation.



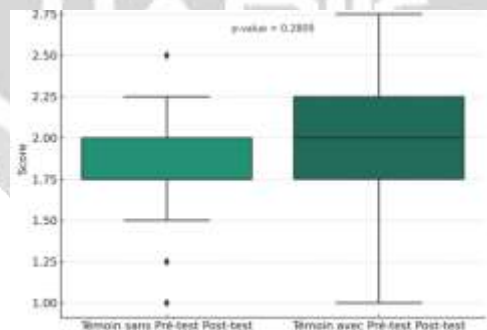
**Figure 5:** Comparison of control group 1 (posttest)/ Experimental (posttest) for content relevance. The p-value is 0.00, unequivocally indicating a significant difference between the posttest results of control group 1 and the experimental group regarding content relevance.



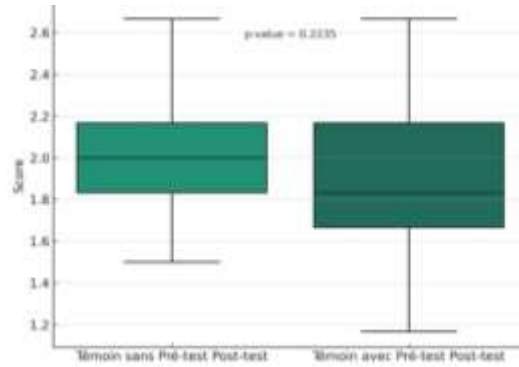
**Figure 6:** Comparison of control group 1 (posttest) / Experimental (posttest) for oral presentation  
 The p-value is 0.00, unmistakably showing a significant difference between the posttest results of control group 1 and the experimental group concerning oral presentation.



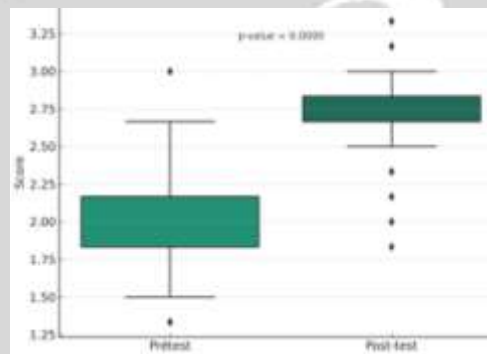
**Figure 7:** Comparison of control group 1 (posttest) / Control group 2 (posttest) for support preparation  
 The p-value is 0.2235, revealing that the difference between the posttest results of control group 1 and control group 2 regarding support preparation is not statistically significant.



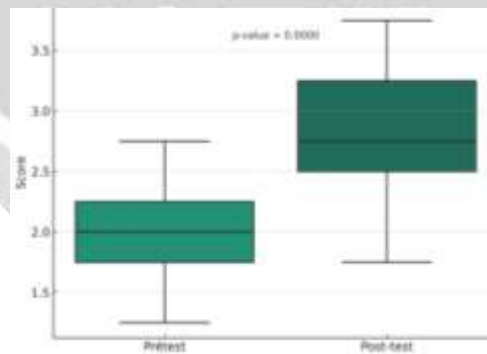
**Figure 8:** Comparison of control group 1 (posttest) / Control group 2 (posttest) for content relevance  
 The p-value is 0.2809, indicating that the difference between the posttest results of control group 1 and control group 2 in terms of content relevance is not statistically significant.



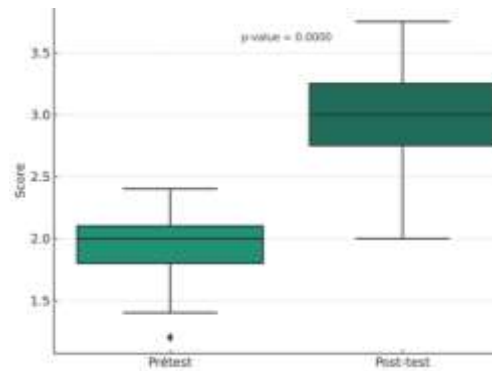
**Figure 9:** Comparison of control group 1 (posttest) / Control group 2 posttest for oral presentation  
 The p-value is 0.2235, signifying that the difference between the posttest results of control group 1 and control group 2 concerning oral presentation is not statistically significant.  
 As evident from Figures 7, 8, and 9, control groups 1 and 2 show comparable results in the three aspects: support preparation, content relevance, and oral presentation.



**Figure 10:** Comparison of the experimental group (pretest-posttest) for support preparation  
 The p-value is 0.000, clearly indicating a significant difference between the pretest and posttest results of the experimental group in terms of support preparation.



**Figure 11:** Comparison of the experimental group (pretest-posttest) for content relevance  
 The p-value is 0.000, unmistakably showing a significant difference between the pretest and posttest results of the experimental group regarding content relevance.



**Figure 12:** Comparison of the experimental group (pretest-posttest) for oral presentation

The p-value is 0.000, definitively demonstrating a significant difference between the pretest and posttest results of the experimental group concerning oral presentation.

As Figures 10, 11, and 12 demonstrate, pretest and posttest results of the experimental group significantly differ in the three aspects: support preparation, content relevance, and oral presentation.

#### 4. DISCUSSION

Based on the obtained results, it is evident that there was no significant progress in the studied skill for the control group, as indicated by the non-significant differences between the pre-test and post-test results. This lack of progression applies to all three aspects: support preparation, content relevance, and oral presentation (see Figures 1, 2, 3).

In contrast, when comparing control group 1 to the experimental group (Figures 4, 5, 6), a significant development in the skill of oral presentation is apparent in all three aspects. This highlights the substantial impact of formative assessment on the enhancement of this skill.

Further comparisons between control groups 1 and 2 (Figures 7, 8, 9) do not reveal any notable progression in the three studied aspects.

Conversely, the experimental group clearly demonstrates significant progress in the skill of oral presentation. These findings underscore the significant influence of formative assessment on the development of this skill.

#### 5. CONCLUSIONS

In conclusion, soft skills transcend the boundaries of domain-specific knowledge and find relevance in various personal and professional contexts. The new university reform, aligned with a digital-friendly perspective, fully recognizes the importance of these competencies. This research, conducted within a distance-learning environment, aimed to identify the teaching method that best fosters the development of oral presentation competence by adopting a formative assessment approach.

Merely verbally encouraging students to develop transversal skills is insufficient; it's essential to raise awareness about the significance of these skills and actively nurture their acquisition. The challenge lies in proactively cultivating them. The results obtained demonstrate that formative assessment is an effective method for developing transversal skills, such as oral presentation.

Formative assessment enables continuous and constructive observation of students' progress throughout the learning process, thereby identifying strengths and weaknesses and engaging their metacognitive strategies. The breakdown of the capacities that constitute a transversal skill makes the task more attainable for students, particularly through the criteria on the evaluation grid. This approach allows for personalized feedback since students may excel in one capacity more than another, even though both are integral to the development of the studied skill.

The formative assessment approach presents itself as a "variable geometry" approach, facilitating personalized targeting of capacities for improvement. This targeting enables students to gain confidence when they observe mastery of a capacity and motivates them to embrace the exercise of developing the less mastered capacity.

Despite being conducted in a distance-learning mode, the proposed teaching modality encourages self-assessment and autonomy. In the case of oral presentation, it also engages emotional intelligence, which includes mastering gestures, facial expressions, and eye contact. Moreover, the research indirectly assessed students' problem-solving abilities, particularly in dealing with technical challenges, such as video recording, editing, and uploading audiovisual content.



In summary, within the scope of this work, formative assessment emerges as an approach that creates a virtuous circle. It fosters continuous, adaptable, and individual-centered learning, promoting students' personal and professional growth. Formative assessment is an indispensable dimension in the development of competence related to oral presentation.

## 6. REFERENCES

- [1]. [https://sunyjefferson.edu/student-life/documents/Hard\\_and\\_Soft\\_Skills\\_Booklet.pdf](https://sunyjefferson.edu/student-life/documents/Hard_and_Soft_Skills_Booklet.pdf)
- [2]. <https://maroc-diplomatique.net/le-nouveau-modele-pedagogique-universitaire-vise-a-ameliorer-le-systeme-lmd/>
- [3]. [http://entrepreneuriat.um5.ac.ma/sites/default/files/Brochure%20Palme\\_cmpd.pdf](http://entrepreneuriat.um5.ac.ma/sites/default/files/Brochure%20Palme_cmpd.pdf)
- [4]. Poellhuber, B., Karsenti, T., Roy, N. et Parent, S. (2021). Le numérique et l'enseignement au temps de la COVID-19, entre défis et perspectives – Partie 3. Enseigner à distance en temps de pandémie : réflexion sur les défis et les succès d'une adaptation dans l'urgence pour les formateurs universitaires. *Revue internationale des technologies en pédagogie universitaire*, 18(1), 1-2.
- [5]. Papadopoulou, M. (2021). Approche ingénierique de la formation ouverte et à distance (FOAD) : une étude empirique réalisée auprès de six formations universitaires à distance en contexte de COVID-19. *Revue internationale des technologies en pédagogie universitaire*, 18(1), 48-61
- [6]. Jérémy Lambert. L'audit de risques en entreprise. Droit. Université de Bordeaux, 2014. Français. NNT : 2014BORD0337
- [7]. St-Jean, C. et Dupuis Brouillette, M. (2021). Contextualisation des pédagogies actives à l'université : comment mettre l'étudiant au coeur de ses apprentissages?. *Revue internationale des technologies en pédagogie universitaire*, 18(1), 114-

