

## ORIGINAL RESEARCH ARTICLE

# The integration of technological devices for the development of oral interaction competence in secondary schools

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### ABSTRACT

History tells us about a mutation in the conception of learning: the linear or transmissive conception is succeeded by the interactional conception, which envisages learning as a developmental process based on co-action and collaboration. This conceptual shift has had a major impact on the didactics of foreign languages (FL/L2), where we are witnessing a change in both the object and the teaching-learning method. Indeed, if in the era of behaviorism and structural linguistics, the objective was to develop linguistic competence in the learner through structural exercises, and that during the 1970s–1980s, with the emergence of the cognitivist movement, sociolinguistics, speech act theory and pragmatics, the objective of learning L2s became the development of communication skills in the target language, a little later, and from the beginning of the 90s, having experienced the flagship of the socio-constructivist current and the interactionist theory of development, the individualist concept of learning is widely criticized and it is the interaction skill that we seek to develop among the learner through collaborative activities in person and remotely, the latter becoming possible thanks to the development of information and communication technologies (ICT). The objective of school training is to prepare a citizen capable of integrating into a professional world which is based on interaction and collaboration in the realization of projects and in which the use of technologies continues to expand. increase. The idea that challenged us in our research is to know to what extent the new learning paradigm is interpreted by institutional didactics. The analysis of the school textbook *Le Français au Collège*, designed for the second year of the secondary school cycle, revealed to us a gap between the theoretical anchoring and what is proposed as an oral methodological approach.

**Keywords:** interaction skills; ICT; textbook; ALMT

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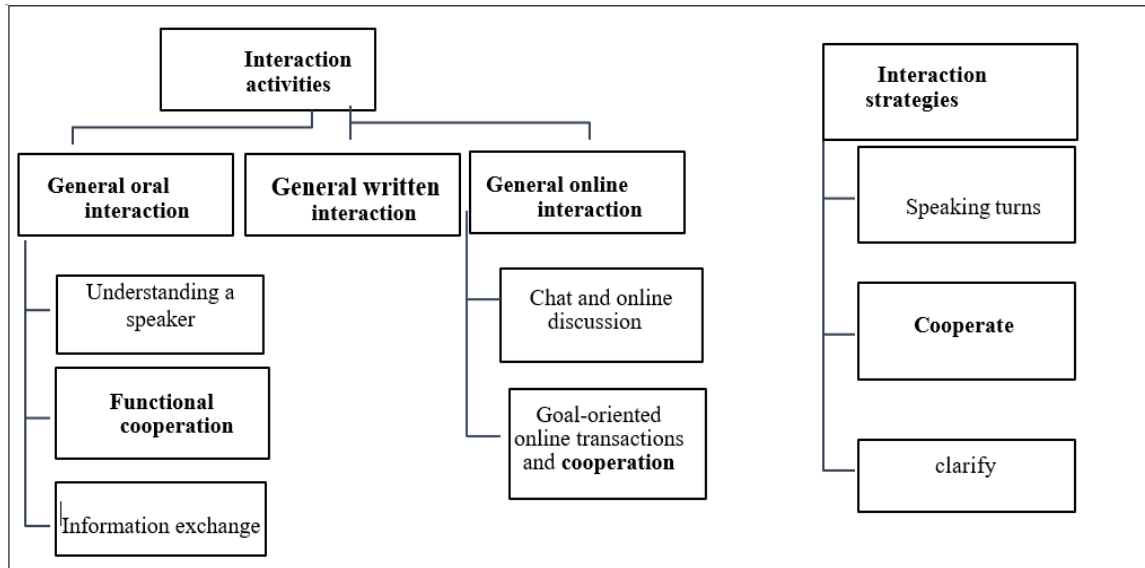
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## 1. Introduction

The history of learning theories informs us of a major conceptual shift. From a linear conception of learning, there has been a shift to a developmental, interactional conception. This change has had a major impact on the field of foreign language (FL) didactics, where there has been a radical shift in the object and mode of learning. Indeed, the stimulus-response mode of learning, based on behaviorism, was strongly criticized by adherents of the cognitivist movement in the 1980s for neglecting the context of utterance production. In cognitivist learning, the focus is on the learning process and the student's way of learning. However, from the 1990s onwards, with the emergence of socioconstructivism and interactionist development theories, taking advantage of the technological explosion of the time, the cognitivist conception was also criticized for conceiving learning as an individualistic act whose content was programmed in advance, without any consideration for the interaction factor in the development of learning. The notion of communicative competence, which consisted

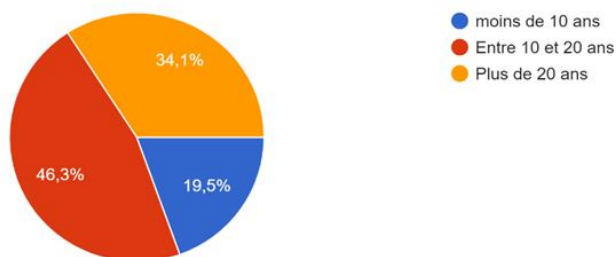
in having the learner master a predefined list of language acts, which he would have to use through simulation in situations close to reality, will give way to the new notion of interaction competence: “The fundamental difference between interactional and communicative competence is that IC is not what a person knows, it is what a person does together with others”<sup>[1]</sup>. Oral interaction has become both a means and an end of learning in cooperative learning, which is one of the new contributions of research in language didactics<sup>[2]</sup>. The learner, as a social actor, should master interaction strategies to be able to interact effectively both at school and in the professional field, where the use of ICT is becoming grandiose and is constantly increasing, given the multiple advantages of digital technology for socio-economic development in the age of artificial intelligence and man-machine interaction. Various means of communication and interaction are now possible: telecollaboration for project implementation, remote organization of conferences and forums, and so on.

The sluggishness between society and school, which requires a match between academic training and the professional and socio-economic profile required for a job, has meant that: “Collaborative work and learning have indeed become familiar terms, as has the collaborative economy, which operates on the idea of exchange and mutualization. The project is omnipresent: innovation project, design project, etc.”<sup>[3]</sup>. The development of the oral interaction skill, in its two categories, face-to-face and remote, is the new learning object in the L2 classroom, the attainment of which requires the effective integration of digital devices, given the advantages they offer for the development of this skill. And it’s no surprise to see oral interaction occupy a valuable place alongside the old four skills, oral and written comprehension, oral and written production, in the 2018 complementary volume of the CEFR, new reference framework for the design of curricula for the teaching-learning of French as a foreign language: “Oral interaction is considered to be the origin of language, with interpersonal, collaborative and transactional functions [...] Interaction is also fundamental to learning.”<sup>[4]</sup>. The designers propose online oral interaction activities and interaction strategies, of which cooperation is a component. We reproduce this concept in **Figure 1**.



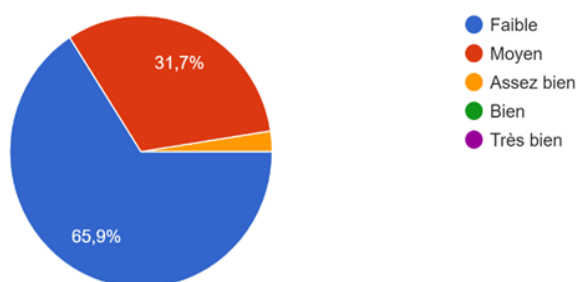
**Figure 1.** Online interaction activities and strategies proposed by the CEFR, 2018, p.85. (adapted). The focus is on cooperation, an essential component of both the activities and the oral strategies, reflecting its role in the development of this skill.

Given that institutional didactics interprets the contributions of research carried out in the didactic field, those in charge of the education system are attempting, through multiple reforms, to rethink the design of school programs so that the proposed pedagogical approach is up to date with the new learning paradigm. As a first step, we felt it important to verify the impact of these reforms on the oral language classroom in secondary schools, through a survey of French teachers. To collect the data, we developed a two-item questionnaire and sent it to them digitally as shown in **Figure 2** and **3**.



**Figure 2.** You have been teachers for: less than 10 years, between 10 and 20 years, more than 20 years.

More than half the teachers who completed the questionnaire have more than 10 years' experience, compared with 19.5% who have less than 10 years.



**Figure 3.** How do you rate the level of oral interaction among students? Poor, fair, moderate, good, excellent.

65.9% of teachers surveyed rated the students' level of oral interaction as poor, 31.7% rated it as average, while only 2.4% rated it as good enough. The other two options (good, very good) were not rated by any of the teachers who provided feedback.

### Synthetic report

The survey showed us that learners' level of oral interaction is low, which is far from interpreting the intentions of the ministry in charge, which through its many reforms aims to ensure that learners' training meets the social reference objective of preparing learners capable of integrating effectively into society with its new demands.

The idea that guided our thinking, and that we formulated at the basis of this result, is to know to what extent what the textbook contains, in terms of knowledge to be taught, could be among the factors behind the low level of learner interaction. The present research has a twofold aim: descriptive-comprehensive on the one hand, since we are seeking, through textbook analysis, to find out to what extent the methodological approach proposed for oral interaction in textbooks designed for the teaching-learning of French, on the other hand, insofar as we hope to contribute to the improvement of the educational system by encouraging curriculum designers to rethink the way they propose oral activities.

## 2. Technology-mediated learning: From behaviorism to socioconstructivism

Both the object and the mode of teaching and learning foreign languages have undergone multiple changes, depending on the epistemological paradigm of the time, in which the methodological approach adopted fits. Indeed, while the traditional method adopted a transmissive teaching approach, with behaviorism and structural linguistics as the reference, the communicative approach of the 1980s saw designers propose oral learning activities based on cognitive theory, The early 1990s saw a paradigm shift and a mutation of learning concepts, with the arrival of socioconstructivist and interactionist developmental theories, trends that took advantage of the technological explosion of the time. To better understand the specific features of the new paradigm, we feel it is important to refer to the analytical study carried out by Warschauer and Meskill<sup>[5]</sup> in which they

reviewed the history of ALM and identified three main approaches: the behaviorist approach, the cognitive approach and the social-cognitive approach.

## 2.1. The behaviorist approach

According to this approach, which drew its foundations from the structural theories of the 1960s–1970s at the time, language was considered outside any production context, and the focus was on the “knowledge” object. The role of the teacher was to transmit, through a lecture, information to the student, a passive receiver of knowledge, and the aim was the latter’s mastery of linguistic competence, a concept whose genesis goes back to Chomsky, which consists of leading him, through structural exercises, to acquire a certain automatism in the use of linguistic structures without consideration of the context of language production. We proceeded by mechanically exploiting the computer, seen as a tutor in the design of structural exercises with repetitive aspects, which were accompanied by feedback of the “true” or “false” kind<sup>[6]</sup>.

This mechanical, even abstract, aspect of language study has made this approach the subject of much criticism from researchers, who find such structural exercises ineffective<sup>[7]</sup>.

## 2.2. The cognitive approach

The 1970s–1980s saw the flowering of the cognitive approach, sociolinguistics, speech act theory and pragmatics. The old linear mode of learning, known as stimulus-response learning, began to be sharply criticized, and importance was given instead to the learner’s way of constructing learning. According to the cognitive approach: “learning is conceived as a process of knowledge construction, not knowledge acquisition. [...] Teaching activities are designed to help build knowledge, not to transmit it.”<sup>[8]</sup> One of the limitations of the previous current was that it neglected the parameters of the communication situation in which the utterance is produced and which give it its full meaning. Hymes, leader of the ethnographic movement, introduces the new concept of communicative competence, which, while not a complete break with the Chomskyan concept of competence, is an enrichment of it. Indeed, in addition to linguistic forms, other components are highlighted, including the non-verbal, the paraverbal and the socio-cultural context in which the utterance is produced. So, while repetitive structural exercises aimed at developing linguistic competence continue to be proposed, interest is beginning to be given to the learning process and to the learner’s way of learning, who is given a degree of autonomy in the control of learning and the opportunity to enter into interactivity with the system through activities that are a little more complex than before. This is the era of computer-assisted instruction (CAI)<sup>[9]</sup>. In the early years of CAI, the emphasis was on individualizing the learning process, or what came to be known as the solitary learner model, based on pre-programmed teaching.

In the L2 classroom, an infinite list of speech acts (inviting, authorizing, refusing an invitation, etc.) is predefined by the teacher, and the learning objective was to lead the learner, through simulation activities, to use these acts in real-life communication situations. The reference social objective was to prepare the learner to be able to communicate in the target language and to live in countries where this language is spoken.

However, with the emergence of socioconstructivism and interactionist linguistics at the end of the 1980s and the beginning of the 1990s, a period of great evolution in information and communication technologies, the use of which becomes increasingly grandiose in society (remote forums and conferences, webinars, etc.).

On an educational level, this technological explosion caused a revolution in teaching habits, similar to that created by the invention of the printing press<sup>[10]</sup>. The old way of learning has become subject to much criticism. Indeed, the lack of interaction in the computerized learning environment constitutes one of the limitations of the cognitivist model which had aroused the concern of many educators<sup>[11]</sup> The absence of interaction between learners and their environment, which had characterized individualized learning, was one of the limitations of the cognitivist model that would be overcome with the new social-cognitive approach.

### 2.3. The social-cognitive approach: An interactionist conception of learning

The contributions of sociocultural theory, led by Vygotski, were to revolutionize conceptions of learning. According to this approach, the construction of learning in the individual takes place from the inter to the intrapsychic, and the learner's participation in interactive social activities provides him with the support he needs to progress in his "zone of proximate development" (ZPD). According to this concept, as learners progress through the learning process, they become increasingly autonomous, freeing themselves from the support provided by the expert, whether teacher or peer<sup>[12]</sup>.

The contributions of sociocultural theory will have a major influence on the field of education in general, and foreign language didactics in particular. Influenced by the work of Vygotsky<sup>[13]</sup>, language educators have adopted a social-cognitive approach to L2 teaching, contemporary with the technological explosion that has made computer-assisted interaction and collaboration possible (forum, webcam, etc.). Emphasis begins to be placed on the use of language in an authentic social context, and "socially plausible" teaching situations are proposed<sup>[14]</sup>. In cooperative learning, one of the most recent developments in the field of oral didactics, interaction - in its two categories, face-to-face and distance learning - is both a means and an end of learning<sup>[2]</sup>.

In order to meet the new challenges and demands of a society in which the use of technology is constantly increasing (artificial intelligence, interactive web), the educational institution is obliged to adapt its teaching-learning methods through the effective integration of new technological devices, which offer numerous advantages for the development of oral interaction skills, especially for a digital native generation, for whom technology is a source of motivation: "L'une des exigences de base de l'école du futur est de préparer les élèves au travail en réseau et de les intégrer à la société de l'information dans laquelle la connaissance constitue la ressource fondamentale pour le développement économique et social"<sup>[15]</sup>.

So, socio-economic realities are driving designers to rethink the quality and effectiveness of student training, and to adapt it to a constantly changing world. According to researchers, ICT is a means to this end: "Les nouvelles technologies de l'information et de la communication peuvent contribuer à transformer l'apprentissage et l'enseignement et à rendre l'ensemble du système éducatif capable d'évoluer et de répondre aux défis"<sup>[15]</sup>.

So, when school curricula are being reformed, designers are trying to take into account the integration of ICT, given the advantages it offers for the development of oral interaction skills:

- the learner's interactivity with the system has a positive impact on his or her learning, since it enables him or her to develop cognitive and metacognitive skills;
- Artificial intelligence (AI), for example, enables personalized learning by adapting the course to the needs and abilities of each student, so that they can progress at their own pace;
- AI can simulate real-world scenarios which helps students become familiar with real-life interaction situations such as business meetings, travel or social events;
- The Internet has the advantage of enabling both asynchronous and synchronous communication between teacher and students, and between students themselves;
- using chatbots, learners can communicate and interact with virtual partners at any time, boosting their confidence and fluency;
- Chat, videoconferencing, voice messaging, etc., are just some of the ways in which remote, real-time collaboration has become possible.

### 3. Materials and methods

The textbook "Le Français au Collège", designed for the teaching of French for the 2nd year of secondary school, edition 2022, which is in use at the time of writing, constitutes the corpus of our research. We are pursuing the comparative analytical method, insofar as we are seeking to understand the degree of conformity

of what is proposed for oral expression with the latest research findings in LE didactics, through analysis of: entry into learning, the status of oral expression (medium or object of learning), the place reserved for ICT.

### 3.1. Analysis of the textbook “Le Français au Collège”

### 3.2. Factual description of the textbook and methodological approach

It’s a state textbook, programmed for teaching French as a foreign language (FFL) in Moroccan secondary schools, in use at the time the corpus was compiled in 2022, as shown in **Table 1**.

**Table 1.** Actual description of the manual “Le Français au Collège”.

• Textbook title	• Publisher / publication date	• Authors	• Target audience	• Use situation
Le Français au collège	Librairie des Ecoles(2nd edition) 2022	Elharrak A., Benmalek A., Jamai K., Otmani J., Mahrir K.	2nd year of secondary school	Teaching and learning French as a foreign language (FLE)

The designers opted for a sequence-based structure and proposed a genre-based entry point: the media genre as an entry point for the first period (1st semester) and theater for the second (2nd semester). The first period comprises 7 didactic sequences (SD). The objectives of the four activities that make up the sequence (reading, language-communication, speaking, written production) work on the general competence of the period, which is reflected in the pedagogical project. The **Table 2** illustrates how the objectives of the sequence’s four activities relate to the period’s skill and project.

**Table 2.** Sequence 5: linking activities, skills and 1st period projects.

Period III (1st semester)		
Competency: Understanding and producing a media genre		
Project: Produce a class newspaper		
Sequence 5: A news item	Activity	Objective
Objective: Produce a news item	Reading, pp. 66-67.	Identify the characteristics and components of a news item.
	language-communication, pp. 68–69.	Use the present perfect tense.
	Oral, p. 70.	Play TV or radio presenter to tell a news story. Present a well-structured news item based on an outline.
	Written, p. 71.	Write a news item based on an outline.

We can identify three key concepts used by designers: competence (for the period), objective (for the sequence and activities) and then the notion of project (the macro-task). The competence of the period, translated by the project, is subdivided into general objectives for the sequences, subdivided in turn into specific objectives for each of the four activities: reading, language-communication, speaking and writing.

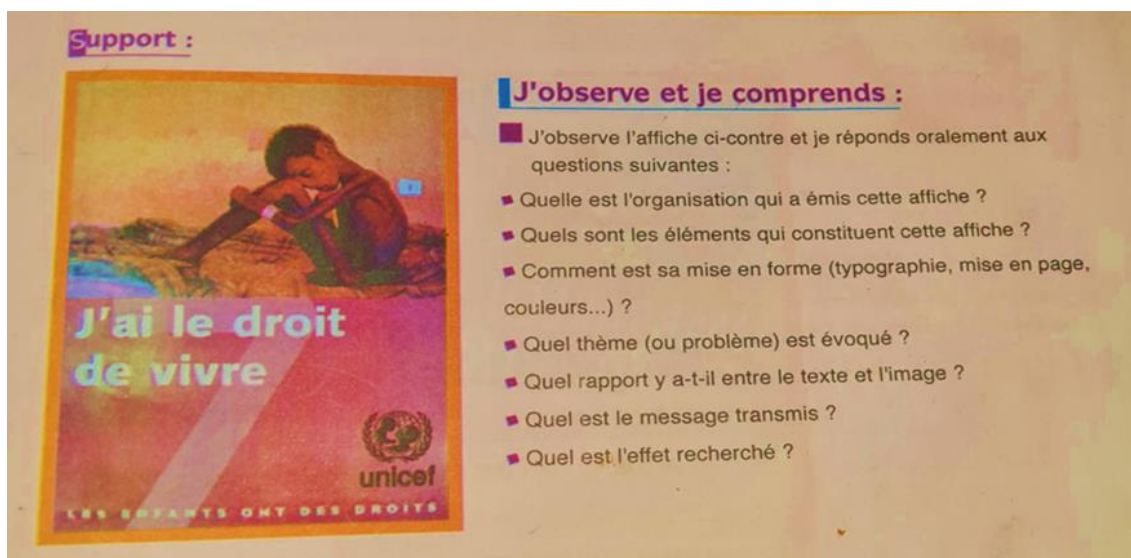
In the sequence, oral expression is placed after reading and language-communication activities, and precedes written production, which crowns the sequence.

In order to gain a better understanding of the methodological approach proposed by the designers, we will analyze the first oral lesson of sequence 3, first period. We’ll focus on a few key elements: the entry point to learning (action or communication), the status of oral expression (medium or end of learning) and the place reserved for ICT. **Table 3** and **Figure 4** reproduce the objective of the sequence and the oral lesson under analysis. Immediately afterwards, we’ll look at the methodological approach and the steps proposed for unfolding the lesson.



**Table 3.** Place of oral expression in the sequence and learning objective.

<b>Séquence 3</b>	
<b>Objective: Reading and producing a poster</b>	
<b>Activity</b>	<b>Objective</b>
Reading	Reading a poster
Language-communication	Situate an element in space
Oral	Present a poster orally
Written	Analyze and comment on a poster



**Figure 4.** Poster to raise awareness of children’s rights. A poster published by UNICEF<sup>[12]</sup>.

Under the heading “I observe and discover”, the learner is given a list of 7 questions and, through a process of identification, is led to identify information concerning: the source of the document, its layout, the message conveyed, the text-image relationship, the targeted effect, dominant color, typography...

The elements identified are listed under the heading “Je retiens”. They constitute the reference knowledge to be used for the oral presentation of a poster. we can read: “Pour présenter oralement une affiche, je dois être en mesure de l’interpréter, d’en dégager le thème et le message véhiculé. Je dois également prendre en considération le texte qui l’accompagne.”<sup>[16]</sup>.

In the next step, “Je m’entraîne”, the learner is asked to present the same poster from the start, using the elements he or she had previously identified. Then, in the “reinvestment” stage, the learner is asked to find other posters and present them in class.

In the final evaluation stage, the learner is given a three-column grid. The first column contains the elements to be assessed (the knowledge built up by the identification work), while the other two contain the boxes (yes/no) that the learner should tick to check that his or her knowledge corresponds to the elements on the grid.

## 4. Results

Our analysis has shown us that there is a gap between the contributions of the latest research, which form the theoretical basis of new didactic and pedagogical approaches, and what is proposed by the designers of oral textbooks: Indeed:

- ICT integration is lacking, which can lead to demotivation for learning among this generation of digital natives;
- At no point is group work used to encourage learners to interact with their peers. Instead, the emphasis is

- on single-group oral production and individualized work;
- The proposed support and accompanying questions work more on the comprehension and production of the written word;
- In the training phase, the learner merely reproduces the knowledge built up in the previous stage, which means that the methodological approach pursued is far from being part of the competency-based approach paradigm;
- The assessment also focuses on the elements that make up the poster (source, theme, layout, etc.), and none of the elements call on the learner's listening comprehension skills;
- Oral expression does not go beyond its former status as a learning medium and does not form a learning end in its own right, since the components of oral expression are not subject to learning (interaction, voice, tone, articulation, gestures, non-verbal, etc.).

## 5. Discussion

The results obtained could not be generalized, given that the corpus on which the analysis was carried out remains limited, and that other elements should be the subject of study, including the teacher in view of the influence of his or her teaching practices on learning, the effectiveness of which largely depends on the choice of teaching aids and the way ICTs are integrated. Our research therefore has the importance of paving the way for other work that could make teacher training an object of study, in order to see to what extent the professional training available to them enables them to integrate digital technology effectively into the oral language classroom, and to inscribe their pedagogical practices in the new learning paradigms, given that it is the pedagogical implementation of technology that determines the effects of ICT, and not just the equipment. According to Hubbard: "l'intégration des TIC dans les pratiques pédagogiques est fortement liée à la formation des enseignants de langue car ces derniers sont des acteurs centraux dès lors que ce sont eux qui choisissent les outils pour assister leur enseignement et qu'ils déterminent à quels dispositifs médiatisés leurs apprenants sont exposés et les façons de les utiliser"<sup>[17]</sup>.

## 6. Conclusions

The lacklustre relationship between socio-economic requirements and educational training has meant that the extensive use of digital technology (remote meetings, collaborative projects, forums, the emergence of artificial intelligence, etc.) has had a major impact on education, where we are seeking to rethink teaching and learning strategies.

In the French as a foreign language classroom, the change has affected both the object and the mode of learning: learning to interact by interacting. The development of the learner's ability to interact, cooperate and collaborate is emphasized by program designers as they attempt to adapt the knowledge to be taught to the latest research in didactics.

However, if on the one hand the contributions of the most recent research in the field of didactics are proving promising for the development of oral interaction competence through the effective integration of new technological tools: interactive websites, artificial intelligence and its advantages for learner autonomy in learning, and the platforms that have made distance teaching-learning, assessment and remediation possible, on the other hand, this mutation is not echoed across the textbook's oral components.

In conclusion, we can say that the non-conformity of what is made available to students in terms of oral activities, with the contributions of research in didactics of the oral, is one of the factors that could hinder the development of oral interaction skills, not forgetting the inescapable role of teachers, since the act of learning depends on their use of this didactic tool, and on the professional technological training available to them, enabling them to align their teaching practices with new learning paradigms: "Les TIC possèdent un potentiel non seulement pour renouveler certaines postures pédagogiques mais pour faire évoluer les pratiques vers les



modèles socioconstructivistes et interactionnistes de l'apprentissage»<sup>[18]</sup>.

## Author contributions

Conceptualization, HB and DL; methodology, HB; software, HB; validation, HB and DL; formal analysis, HB; investigation, HB; resources, HB; writing—original draft preparation, HB; writing—review and editing, DL; visualization, HB; supervision, DL; project administration, DL; All authors have read and agreed to the published version of the manuscript.

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## Conflict of interest

The authors declare no conflict of interest.

## Abbreviations

TMLL, technology-mediated language learning; CAE, computer-assisted teaching; FL, foreign language; DS, didactic sequence; ICT, information and communication technology.

## References

1. Young RF. Interactional competence in language learning, teaching and testing. In: Hinkel E (editor). *Handbook of Research in Second Language Teaching and Learning*. Routledge; 2011. pp. 426-443.
2. Jean-Pierre C. *Dictionary of Didactics of French as a Foreign and Second Language (French)*. ASDIFLE; 2003.
3. Springer C. Journey around the notion of collaborative learning: Language didactics and digital (French). *International Journal of Higher Education Pedagogy*. 2018, 34(2). doi: 10.4000/ripes.1336
4. Conseil de l'Europe. *Common European Framework of Reference for Languages: Learning, Teaching, Assessment Supplementary Volume with New Descriptors (French)*. Conseil de l'Europe; 2018.
5. Warschauer C, Meskill M. *Technology and second language learning*. Handbook of undergraduate second language education. Routledge; 2000.
6. Guichon N. *Towards the integration of ICT in language teaching (French)*. Didier; 2016.
7. Doughty CJ, Long MH. Optimal psycholinguistic environments for distance foreign language learning. *Dans Language Learning and Technology*. 2003; 7(3): 50-80.
8. Legros D, de Pembroke EM, Talbi A. *Learning theories and multimedia (French)*. In: Legros D, Crinon J (editors). *Psychologie Des Apprentissages Et Multimedia*; 2002.
9. Demaizière F. *Computer-assisted teaching (French)*. Ophrys; 1986.
10. Albero B. Coupling pedagogy and technology at the university: Cultures of action and research paradigms (French). *Revue internationale des technologies en pédagogie universitaire*. 2011; 8(1-2): 11. doi: 10.7202/1005779ar
11. Turkle S. *The Second Self: Computers and the Human Spirit*. Twentieth Anniversary Edition; 1984.
12. Grosbois M. TIC, tasks and nativization: Impact on oral production in L2. (French). *Alsic*. 2009; 12. doi: 10.4000/alsic.1239
13. Vygotsky LS. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge; 1978.
14. Beacco JC. *The skills-based approach to language teaching (French)*. Français Langue Etrangère; 2007.
15. Tardif J. *Integrating new information technologies. Which pedagogical framework?* ESF Editeur; 1998.
16. EL Harrak A, Benmalek A, Jamaï K, et al. *French at College-Student's Booklet, 2nd ed*. Librairie des Ecoles; 2022.
17. Hubbard P. CALL and the Future of Language Teacher Education. *CALICO Journal*. 2013, 25(2): 175-188. doi: 10.1558/cj.v25i2.175-188
18. Guichon N. *Vers l'intégration des TIC dans l'enseignement des langues*. Didier; 2016.