Use of digital work spaces by primary teachers in France

Uso de espacios digitales de trabajo por maestros de enseñanza primaria en Francia

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Abstract

The study presents an analyze of implementing the PrimOT platform as a digital workspace in the Central France academic region. The methodology employs a mixed-methods approach, including administering a questionnaire to primary school teachers and conducting semi-structured interviews with school principals. The results offer insights into the level of interaction with the platform, as well as perceptions and satisfaction, the use of digital tools for learning, and PrimOT's impact on various aspects of the educational environment. The study concludes that PrimOT has been widely adopted by teachers, effectively integrating into daily teaching, and learning routines. However, areas for improvement and challenges are identified to maximize the platform's potential in response to the evolving needs of the educational setting.

Keywords: educational technology, teacher, primary education, learning.

Resumen

El estudio presenta un análisis de la implementación de la plataforma PrimOT como espacio digital de trabajo en la academia de la región central de Francia. La metodología utilizada se sustenta en la perspectiva mixta de la investigación social, mediante la aplicación de un cuestionario a maestros de escuelas primarias y de entrevistas semi-estructuradas a directores educativos. Los resultados permitieron comprender el nivel de interacción con la plataforma, así como la percepción y satisfacción, la utilización de herramientas digitales para el aprendizaje y el impacto de PrimOT en diversos aspectos del entorno educativo. Se concluyó que PrimOT ha sido ampliamente adoptada por los maestros, integrándose de manera efectiva en las rutinas diarias de enseñanza y aprendizaje. No obstante, se identificaron áreas de mejora y desafíos para maximizar el potencial de la plataforma, según las necesidades cambiantes del entorno educativo.

Palabras clave: tecnología de la educación, profesor, enseñanza primaria, aprendizaje.

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Introduction

The adaptation of educational systems to digitalization has been transformed into a central axis in today's society. In that sense, diverse countries and organizations allocate programs and budgets to equip schools with devices, connectivity, and digital educational platforms. In the case of the European Union, the Digital Education Action Plan (2021-2027) is adopted, an initiative aimed at a high-quality, inclusive, and accessible digital education that has as its object to support the adaptation of education systems to the digital age (European Commission, 2021).

Due to the global confinement originated by COVID-19, the work environment and daily life are increasingly linked to digital tools. It is thus how the massive use of online educational platforms impacts and integrates into the daily work of different educational actors such as teachers and students. The above implies not only having the necessary infrastructure, it also requires a better capacity to navigate, understand, and effectively utilize technologies.

As part of the digitalization of education in France, the Digital Workspace (Espace Numérique de Travail) is introduced to modernize pedagogy and school management tools. Its implementation, in the French educational system, in the year 2020, responds to a superior level of digital education, in that it promotes opportunities to modernize the management and organization of educational institutions. The definition of the term alludes to *"an ensemble intégré de services numériques choisis et mis à disposition de tous les acteurs de la communauté éducative d'une ou plusieurs écoles ou d'un ou plusieurs établissements scolaires dans un cadre de confiance défini par un schéma directeur et par ses annexes"* [a set of chosen digital services made available to all actors of the educational community of one or more schools or one or more educational establishments within a trusted framework defined by a master plan and its annexes] (Ministère de l'Education Nationale et de la Jeunesse. Direction générale de l'enseignement scolaire, 2024). In practical terms, it can be conceptualized as an integrated digital platform composed of communication and collaboration services, information and documentation, support for student life, pedagogical and educational production, as well as other useful services.

The digital workspace is also denominated, by the academic community, as a digital educational platform. Both terms are framed within the process of educational digitalization, allow the development of new forms of school organization and management, update pedagogical strategies and practices in the classrooms, in addition to promoting the relationships between educational structures. In relation to the above, diverse studies focus their analyses on the incorporation of digital contexts into education, attending to their use by students (Jiménez y Fernández, 2021; Rivera et al., 2024; Velasteguí, 2019; Flores y Meléndez, 2024) and their employment by teachers and professors of different educational systems (Barragán et al., 2024; Chávez, 2021; Mujica, 2020; Chugh et al., 2023).

On the other hand, Jacovkis et al. (2022) explains how the adoption of educational digital platforms influences the family sphere. The introduction of digital workspaces into the French educational system constitutes a support for the relationship between the school and the family. In this manner, it aims to strengthen the cooperation between parents and the school in the territories, involving the family in school life. On the other hand, it seeks to improve the communication between the institution and the parents, in a context of trust and transparency. In that sense, the security and confidentiality of the handled data is guaranteed by applying the General Data Protection Regulation of the European Union (Conseil européen, 2018).

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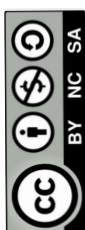
The implementation of digital workspaces in French academies is realized and financed by the local authorities, who offer personalized accompaniment to the users. Said digital tools promote a discourse of change centered on the potential benefits of technology. According to statistics from the Ministry of Education, more than 90% of public colleges and lycées currently count on a digital workspace, which represents an increase with respect to the year after its implementation. Nevertheless, its incorporation in primary schools is progressive but limited (Ministre de l'Éducation nationale et de la jeunesse, 2023).

As has been expressed previously, digital workspaces have generated a change in the practices and relationships among the actors involved in the school context. In that sense, this investigation yields as principal results an analysis of the utility, the usability, and the acceptability of the digital workspace by primary school teachers. It is considered that these spaces can create links among their users, in addition to being a source of pedagogical innovation and facilitating co-education. The idea that they can facilitate access and communication with a distant public is also highlighted.

Another of the investigation's results is to determine the impact of educational digital platforms on diverse aspects of the educational environment, as well as the challenges in the implementation and adoption of these technological tools, from the perspective of primary school administrators. Despite the possibilities offered by educational digital platforms, discrepancies persist between the institutional discourses, the platform designers, and the perceptions of the educational actors.

In correspondence with what is described and based on the review of academic literature, a theoretical void related to the scarce generation of investigations in French primary education is confirmed, which examine the uses of digital workspaces as a central piece of contemporary educational systems and the global educational agenda. In this manner, this inquiry exposes as an objective to analyze the utilization of digital workspaces in primary schools belonging to the Orléans-Tours Academy, located in the central region of France.

Contextual framework of the study

With the purpose of fundamenting the ideas expressed previously and of situating the reader in the context where the investigation is developed, a characterization of the Orléans-Tours Academy and of the digital environment PrimOT is presented. These sections allow establishing the study in a specific educational context, whose digital policies, institutional structure, and technological resources directly influence the observed teaching practices. In investigations of a descriptive-interpretative nature, the comprehension of the institutional and technological framework is key for the rigorous analysis of the data.

Characterization of the Orléans-Tours Academy

Located in the Centre Val de Loire Region, to the South of Paris and part of the Île-de-France region, it is one of the thirty academies that compose the educational system of France. Its headquarters is found in the city of Orléans and has under its charge the supervision and management of the educational institutions of six cities that integrate the region. The educational supervision includes the implementation of national educational policies at a regional level in primary schools, secondary schools, and universities. Another of its functions is the management of human resources, above all teachers

and administrative personnel, as well as the administration of the budget assigned for education in its jurisdiction.

The Academy ensures the quality of education through the evaluation of academic results and the implementation of improvement programs. In that sense, it promotes educational innovation and the use of new technologies in the classrooms. For this, it provides continuous training for teachers, facilitating their professional development and mobility within the educational system.

The students corresponding to the Academy have diverse support services, such as professional and personal orientation, scholarships, and financial aid. In turn, they have programs for inclusion and academic success, also adapted for students with special needs.

The themes of the research projects that the Orléans-Tours Academy promotes are related to educational innovation taking into account the development of modern pedagogical methods, with the integration of digital technologies in teaching and the promotion of educational research. In this manner, it plays a crucial role in the educational development of the region, contributing to growth and social cohesion. Furthermore, it works in collaboration with local authorities, businesses, and other organizations to promote an education that responds to the needs of the labor market and society in general.

In that sense, it can be affirmed that the Orléans-Tours Academy is a key entity in the French educational system, dedicated to guaranteeing a quality education, adapted to the needs and challenges of its region. Its labor is framed, principally, in administrative management, support for students and teachers, and the promotion of educational innovation. Nevertheless, among its challenges can be cited the rapid implementation of national educational reforms and the maintenance of educational quality due to budgetary restrictions. Likewise, among the opportunities that the Orléans-Tours Academy possesses are the strengthening of collaboration with regional and national actors, the application of new technologies and innovative pedagogical methods, as well as the promotion of student and professional mobility programs. The implementation of digital workspaces, starting from the year 2021, provides a cohesive environment that enables teachers to perform their work functions in a more efficient and flexible manner, taking advantage of the benefits of technology to overcome physical or geographical limitations. These virtual platforms integrated by diverse tools and computer applications allow, also, collaborative work among teachers and other actors of education.

The digital workspace PrimOT in the Academy of Orléans-Tours

The digital workspace PrimOT, acronym for Primaire Orléans-Tours, is an online service, under paid subscription, available in early childhood education centers and in the primary schools that belong to the Orléans-Tours Academy.

The purpose of its launch, on December 1st, 2021, was to facilitate administrative and educational management, as well as to improve communication among the different actors of the educational community (teachers, students, parents, and service administrators). Accessible from any device with internet access, it integrates educational and pedagogical tools and resources. In turn, it offers a service to families that allows the monitoring of school life and the activities of their children, as well as communication with teachers.

Figure 1

PrimOT Interface

Nota: Taken from https://www.primot.fr/auth/login

PrimOT is supported on the Beneylu platform interface, destined principally to communication, administrative and pedagogical management in the primary schools of France. In this manner PrimOT presents as essential characteristics: the organization of classes, the management of schedules, academic monitoring, the availability of unlimited resources and learning tools, school-family communication, as well as collaborative work student-student, teacher-teacher. Although it possesses an intuitive design for users of all ages, it guarantees the security of personal data and the sensitive information shared by the users. In that sense, the access control manages the permissions so that only authorized persons can access certain information.

Figure 2

Notebook tool, used to organize the development of the class and the activities of the students

*Note:* Taken from https://www.snc.recia.fr/interface-et-outils-primot

The users of the mentioned platform are the teachers, the students and their families, the school principals, the municipal administrators and public establishments for intercommunal cooperation, administrative structures that promote intermunicipal cooperation to improve the quality of local public services.

According to its user typology, PrimOT differentiates the services it provides: for classes and schools it makes available textbooks, multimedia content for learning, digital library, class challenges, news bulletin, school report, activity agenda, and messaging. For municipalities and public establishments it offers services such as a blog, "parents' corner", publication of municipal information, cafeteria menus, news, leisure center activities, among others. Furthermore, it provides a media library for sharing documents, account creation, and personalization of the digital space with logos and links to external services used by schools and families.
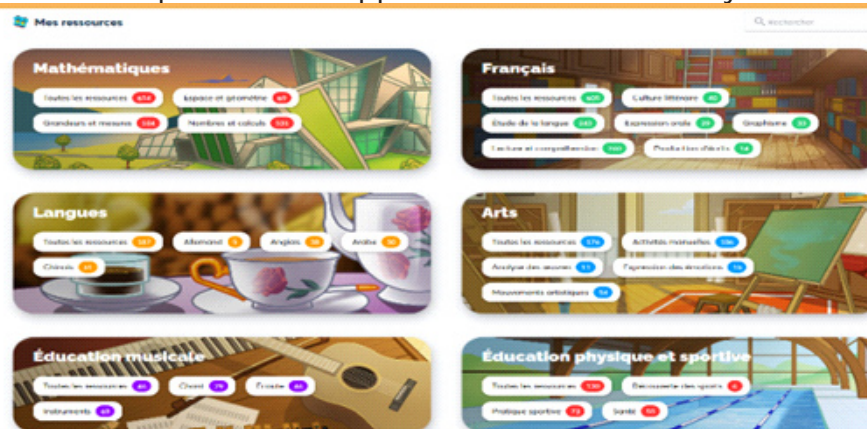
Figure 3

Instant messaging tool "The Parents' Corner", dedicated to transmitting information to families and to parent-teacher communication

Note: Taken from https://www.snc.recia.fr/interface-et-outils-primot
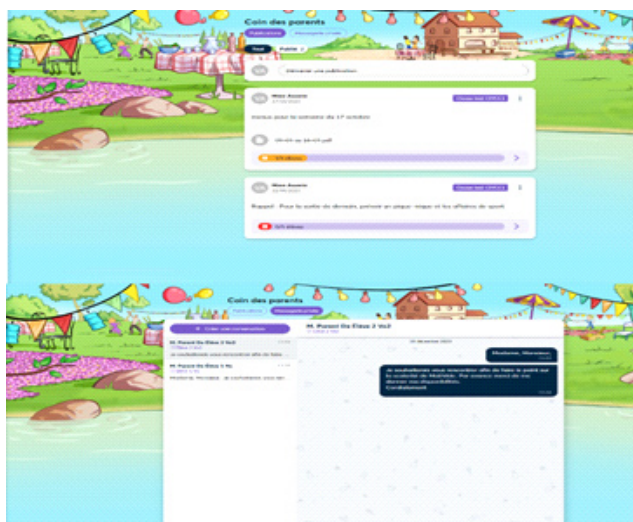
Figure 4

Multimedia resources of the platform as support for the different subjects

Note: Taken from https://www.snc.recia.fr/interface-et-outils-primot

The implementation of PrimOT has brought diverse advantages to primary education in the central region of France, among which are cited its ease of use, its intuitive ergonomics, the performance of work functions in a flexible manner through its dissimilar services, and the security it offers in data treatment. Some years after its deployment in the Academy of Orléans-Tours, it constitutes an aspect of interest for the author of this investigation, as it allows them to analyze the uses of this virtual work platform and establish conclusions about its utility and impact through the criteria of its principal users.

Methodology

The present article is based on the mixed research perspective, by combining qualitative and quantitative instruments. Hernández et al. (2014) indicate that "the necessity of utilizing mixed methods is the complex nature of the great majority of the phenomena or research problems addressed in the different sciences, represented or constituted by two realities, one objective and the other subjective" (p.536). On the other hand, a descriptive investigative scope of the research is assumed due to its most important characteristics among which can be mentioned "theory constitutes a reflection in and from praxis, attempts to understand reality, deepens the different motives of the facts, the individual is an interactive, communicative subject, who shares meanings" (Walker, 2016, p.21).

Attending to what is expressed, firstly, the quantitative phase was developed where a questionnaire directed to the teachers who used the platform was applied. The objective was to investigate the utility, the usability, and the accessibility of the platform. Subsequently, the qualitative approach was proceeded with, through the application of a semi-structured interview to administrators about the adoption of digital workspaces and their specific utilization by teachers in communication with parents.

Sample

In the research participated a total of 34 persons, belonging to three primary schools of the academy under study. A quantity based on the acceptance of informed consent and the adequacy to the selection criteria such as:

For the selection of teachers: (a) Level of experience in the use of PrimOT. (b) Quantity of subjects, areas or disciplines taught using PrimOT.

For the selection of school administrators: (a) Level of pedagogical responsibility (administrator, academic year responsible, pedagogical coordinator, digital referent). (b) Working in a primary school belonging to the Orléans-Tours Academy. (c) Experience with the platform for at least one year.

In this manner, the sample was constituted by 23 teachers and 11 school administrators. The selection of said subjects was motivated by the importance they have in guaranteeing that technology is an effective and secure tool that supports the educational objectives of the institution. Access to the sample was realized in a presential and remote manner, without any distinction, utilizing tools integrated by online chat.

Instruments

For the realization of this study was administered, firstly, a questionnaire about the use that the inquired subjects made of PrimOT. The questionnaire (Annex 1), besides questions concerning professional data and demographic information, was composed of 14 items in which the informant expressed their

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experiences relative to: level of interaction and frequency of use of PrimOT (block 1), perception and satisfaction with PrimOT (block 2), impact on teaching and learning (block 3), technical aspects and support (block 4) and security and privacy (block 5). The instrument was applied virtually during the months of May and June of the year 2022, with the collaboration of educational inspectors from the Cher and Loiret regions, who were responsible for the technological implementation in the primary schools participating in the research.

On the other hand, semi-structured interviews were applied to administrators of primary schools. The guide of the instrument (Annex 2) was focused on the real or perceived uses according to 4 thematic axes: the students, the teachers, the parents and the school.

The duration of the interviews was between 30 and 45 minutes. The ethical requirements of all research process were complied with, formalized through an informed consent for the realization and recording of the interview. Subsequently, the interviews were transcribed literally in their entirety, anonymized and coded with the software ATLAS.ti, web version. The interviews were applied in the months of September and October of 2022.

Data analysis

All statistical calculations were realized through the Microsoft Excel calculation processor, which permitted the graphic analysis of the information collected.

For the analysis of the responses yielded by the interviews, the arguments of the interviewees were grouped and categorized, identifying consensuses and dissensuses. Also, the method of free word associations was utilized, where the order of appearance of the words and their frequency is analyzed (Ramírez, 2024). The theoretical foundations of this method evidence discourse as a social practice based on actions and manifestations of actors. Then, the transcriptions were grouped and the process of coding was developed taking into consideration the axes defined for each participant (director or teacher). Finally, the most pertinent collective narratives directly related to the central objective of this study and the elementary categories managed by the investigation are highlighted.

Results

Consequently, the principal conceptions and positionings of the studied subjects are presented, in relation to the utilization and functioning of digital work environments. In that sense, the collected data are grouped by the application of the research techniques, with the objective of structuring the description of the data following a logical and clear sequence.

Application of the questionnaire to teachers

The first block of the questionnaire focused on evaluating the level of interaction of the users with the PrimOT platform, as well as the frequency with which they utilized the different functionalities it offers. The obtained results reveal a satisfactory level of interaction with the tool, which is reflected in the daily use of PrimOT by the majority of the participants. This frequency of use suggests that the platform has been integrated in a solid manner into the daily routines of the teachers, both for the planning and execution of academic activities. Only a small percentage (10%) of the informants reported sporadic or limited use, which could be related to factors such as the nature of their roles or the availability of time.
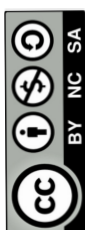
Regarding the perception and satisfaction with the platform (block 2), the participants in the study showed a positive tendency, highlighting the ease of use and the intuitive manner of the interface as the principal factors of satisfaction. However, some informants pointed out areas of improvement, principally related to the visual design of the tool, alleging that the quantity of functionalities hinders the selection of the desired function and the lack of an available technical support to contact in case of problems.

Towards the impact on teaching and learning was focused block 3. The users reported utilizing a wide variety of the functionalities that PrimOT offers. Among the most prominent are: the communication notebook (*cahier de liaison*, in French) employed for communication between the school and the parents, the homework notebook or cahier de texte, resource utilized by the teacher to organize daily school work and ensure that assigned tasks are not forgotten, messaging, as well as other tools for content management, the creation of interactive activities, and evaluation mechanisms. This finding indicates that the platform is not only used as an information repository, but as a dynamic resource that facilitates interaction and the participation of the students. Below, the percentage of utilization of the mentioned tools is represented graphically.

Figure 5

Most used functionalities of PrimOT by teachers, students, and parents
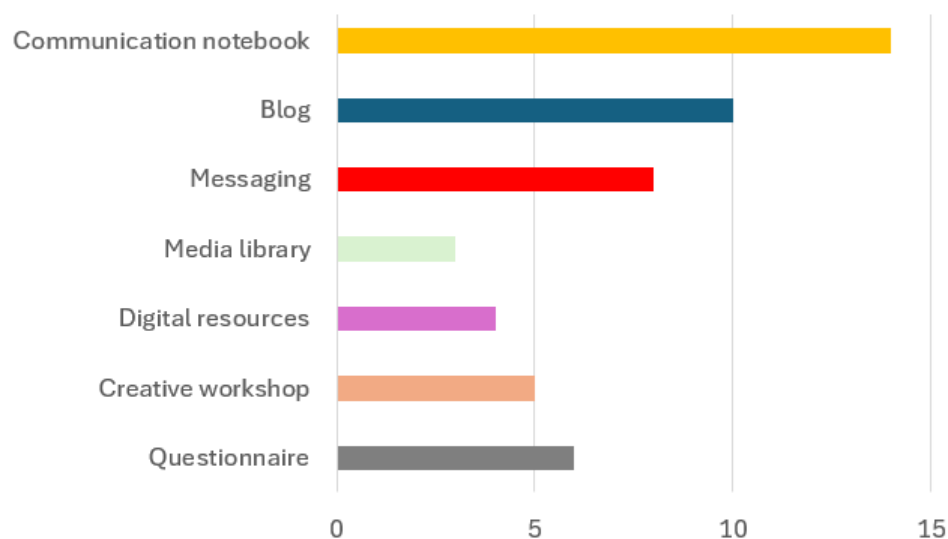
Note: Own elaboration.

The notable utilization of these tools is related to the regularity with which the users explore and apply them in their pedagogical labors. Many teachers described their use of the platform as intensive and constant, which suggests a high degree of confidence in the functioning of PrimOT to support their educational activities. This level of utilization may be related to the perception of PrimOT as a reliable and efficient tool for teaching and learning.

Regarding the technical aspects and support (block 4), the surveyed generally rated these elements favorably. Nevertheless, some mentioned occasional connectivity problems and the necessity of a more agile technical support during critical situations, such as examination periods or evaluative activities.

Finally, in block 5 relative to security and privacy, the participants manifested confidence in the security measures implemented by PrimOT. The majority showed themselves (80%) satisfied with the privacy policies, although some suggested improvements related to transparency in the handling of personal and academic data and the encryption of information shared with the students' parents.

When comparing PrimOT with other similar tools, the surveyed mentioned that they prefer PrimOT due to its consistency in performance and the wide range of functionalities it offers in a single place. The following graphic represents the reasons for preference of the surveyed in the utilization of the platform.

**Figure 6**

Motivations for the utilization of PrimOT
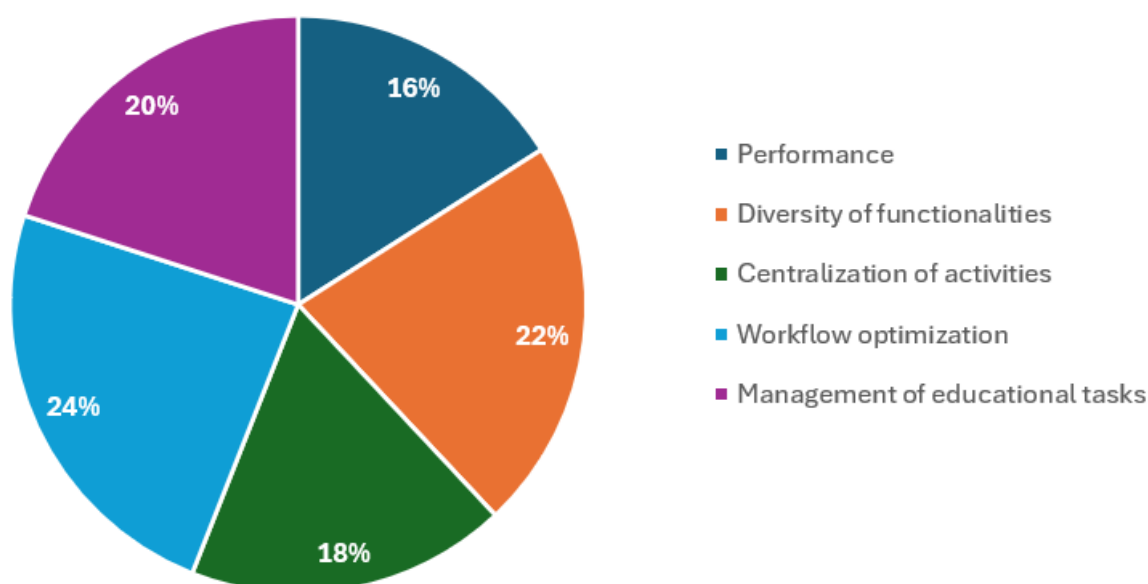
Note: Own elaboration.

The results of the questionnaire verify the utility, the usability, and the acceptability of the digital work environment. These three elements are considered in a positive manner by all the teachers who responded to the questionnaire. One of the most recognized aspects is the benefit for communication with parents, which strengthens the school-family relationship. The obstacles mentioned by the surveyed focus on the recent implementation of the digital platform, therefore, training is necessary both for teachers and parents who do not feel comfortable with digital tools or who simply are not accustomed to using them.

Application of interviews to school administrators

In complement to the applied questionnaire, semi-structured interviews were conducted with administrators from diverse primary schools. These interviews had as an objective to explore the real or perceived uses of the PrimOT platform through the thematic axes alluded to in the methodological section. Likewise, the most relevant positionings for the investigation are explained, above all the key points that emerged during the interviews with the administrators.
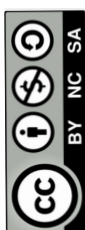
The first issues were directed to the impact of digital work environments on the learners. The administrators highlighted that PrimOT has had a significant effect on the commitment and motivation of the students. It was observed that the platform facilitates the personalization of learning, allowing the students to advance at their own pace and according to their individual needs. Furthermore, some administrators mentioned that PrimOT has improved the digital skills of the students, preparing them better for the use of technologies in future academic contexts.

For the directors, PrimOT is "the school platform at the level of the children", principally "made for the students because they are the ones who will have more actions on the platform". The academic managers refer that the objective is for it to be visually attractive for the children in order to motivate them for learning. On the other hand, it must offer functionalities adapted for teachers and parents.

In relation to the teachers, the administrators agreed that the platform has been a valuable tool for the planning and management of educational activities. It was highlighted that the platform allows a greater organization of didactic materials and facilitates communication among teachers, which has improved collaboration and coherence in teaching. Furthermore, it is perceived that the professors have developed new digital competencies, improving their capacity to integrate technologies into their pedagogical practice.

The directors consider that it is the teacher who will generate uses because they will publish words or information and the parent will receive this information, will respond, will consult the tasks, and will aid in the educational formation of their child. The interviewees specify the importance of access to the platform from a mobile device, which will facilitate use by the parents, especially in preschool when the children do not master the functionalities of the platform. Until now, the platform is only accessible via a computer, which generates inconveniences for some families, as the mobile phone is the most used and most accessible device for the parents.

According to the directors, PrimOT integrates a multitude of applications in constant evolution. Among the most utilized applications are the communication notebook, the school notebook, and email, responses that correspond with the results yielded by the questionnaire applied to the teachers. Nevertheless, the use of other tools such as the media library, which stores educational digital resources, and the blog, which serves especially as a life notebook for preschool where parents convey their concerns about their children's learning, is evidenced. In the case of the communication notebook, its relevance in teacher-parent interaction is highlighted.

Regarding the parents, the interviews revealed that PrimOT has allowed for greater involvement in the educational process of their children. The administrators indicated that the platform offers parents more direct access to information about academic progress and school activities, which has improved communication between the school and the families. However, some administrators also mentioned challenges related to the training of parents for the effective use of the platform.

The directors explained that the tool called The Parents' Corner will facilitate chat communication with the school principal, and will offer the possibility to conserve the conversations, with the objective of rereading them at the precise moment. In this manner, the communication will be more instantaneous and integrated and will offer an update of the platform.

At an institutional level, the administrators expressed that PrimOT has contributed to the modernization of the administrative and pedagogical practices of the schools. The platform has been seen as a

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catalyst for the digital transformation of the schools, promoting a culture of innovation and technological adaptation. Furthermore, a positive impact was identified in the coordination between different areas of the school, improving efficiency in management and the monitoring of educational activities.

In summary, the semi-structured interviews with primary school administrators reflect a positive perception about the impact of PrimOT on diverse aspects of the educational environment. Although challenges in the implementation and adoption of the platform are recognized, the administrators value its contribution to the improvement of teaching, learning, and school management.

Discussion

The results originating from the application of the explicated instruments allow a multifaceted characterization of the use of the PrimOT platform in primary education within the Academy of Orléans-Tours. In this manner, the findings point towards a progressive and functional integration of this digital tool in pedagogical practices, with different but complementary impacts among teachers, students, parents, and educational administrators.

The daily use of PrimOT reported by the majority of the teachers suggests an effective appropriation of the tool, aligned with the considerations of authors such as Liriano (2024) and Meridja and Abdelbaki (2024), who identify recurrence in use as an essential element for technological integration in primary education. Unlike other investigations where an instrumental or marginal use of digital platforms is observed (Pérez and García, 2023), the yielded data reveal an active and frequent functionality, encompassing not only administrative but also pedagogical aspects. In that sense, the potential of PrimOT as a solid and adaptable digital work environment is validated.

The sporadic use of the platform, expressed by a small group of teachers, invites profound reflection on the contextual variables that determine the frequency of utilization. In that order of ideas, the workload, the digital training of the user, and institutional support, could explain the resistance or the scarce technological appropriation, according to the factors found by Arotoma (2024) relative to internal barriers for the adoption of ICT in a research context similar to that of this investigation.

The favorable perception towards the platform's interface reinforces the idea that usability is a key component for technological integration in the educational teaching process in primary education. This affirmation corresponds with the study of Arreola et al. (2022) where usability, utility, administrative management, and digital skills are examined as aspects that allow improving the quality of primary education through the integration of technologies in the teaching process. Nevertheless, the criticisms relative to the visual design and functional saturation point towards a complexity paradox: a tool with multiple options can become, in the eyes of the user, less accessible if it does not count on adequate technical support. The above coincides with the investigation of Carballo and González (2023) that underlines the importance of user-centered design in digital work environments.

In relation to the pedagogical impact, both teachers and administrators highlighted that PrimOT not only facilitates the organization of teaching work, but also enhances the interaction and autonomy of the student body, in concordance with principles of active and personalized learning (Enríquez & Navarro, 2024). From that perspective, the platform is perceived as an added value, to the extent that it allows for management of work pace, an improvement in communication with families, and a strengthening of the school-home link. In this manner, the platform fulfills a role that goes beyond technological support and becomes a didactic and social mediator.

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An emerging dimension of special relevance is the involvement of parents in the educational process offered by PrimOT. The arguments manifested by teachers and administrators about the utility of tools such as the Parents' Corner, is also reflected in recent studies on educational co-responsibility in digital environments to strengthen family accompaniment and improve the academic performance of students (Teherán, 2025). However, the availability of a mobile application of PrimOT represents a barrier in communication with the family, especially in homes where the computer is not the principal device. This situation indicates the necessity of a multiplatform design, if broader participation of families is desired.

From the institutional point of view, the administrators valued the platform as a catalyst for the digital transformation of the schools. This perception is coherent with the results of the study realized by Gonon et al. (2024) that analyzes digital transformation through the objectives, structures, cultures, and practices of the school. The improvement in interdepartmental coordination and the streamlining of administrative processes are positive collateral reasons that evidence the reach of the tool beyond the classroom.

Despite the advances, challenges linked to the training of all involved actors persist. Although teachers have developed digital competencies, a gap in the mastery of these tools by some parents is still perceived, especially in the initial levels. This finding reaffirms the necessity of continuous and inclusive training, not only for teachers, but also for families, in order to consolidate a digitally competent educational community.

In synthesis, the results support the usability and utility of PrimOT in the school environment, but its effectiveness depends on infrastructural factors (accessibility, support, training) and cultural factors (attitudes towards change, digital competence). The study confirms some patterns identified in previous investigations on educational digital environments, but also points out unresolved areas, such as usability from mobile devices or transversal training, which must be addressed for a more equitable and effective implementation.

Conclusions

The present study explored the implementation and impact of the PrimOT platform in the educational context of primary schools, addressing the perspective of teachers and school administrators. The obtained results allow confirming that PrimOT has been widely adopted by the teachers, integrating itself in an effective manner into the daily routines of teaching and learning. The frequency of use suggests that the platform is perceived as an essential resource that contributes to the efficiency and effectiveness of the educational process.

The satisfaction with the platform, yielded by the quantitative data of the questionnaire and the qualitative data of the interviews, reveal a predominantly positive perception towards PrimOT. The users value the ease of use, the intuition of the interface, and the offered functionalities. This generalized satisfaction, however, comes accompanied by the identification of areas of improvement, especially regarding the personalization of the experience and technical support.

The research has demonstrated the significant impact of PrimOT on teaching and learning, facilitating the organization and assimilation of contents. The role of the platform in the development of digital competencies in the teachers is also highlighted, which suggests a transformative effect on pedagogical practices. The platform has improved the communication and participation of parents in the

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educational process, providing direct access to academic information and facilitating greater involvement in the education of their children. At an institutional level, PrimOT has contributed to the modernization of management and coordination practices, driving a culture of innovation within the schools.

Nevertheless, in primary education, there are few direct investigations on the deployment of these digital spaces, which is due in part to the limited deployment of the ENT (Digital Work Environments) at this educational level and to the difficult digital transition of primary schools.

Based on the results of this inquiry, the necessity to improve technical support and offer broader training to all involved actors, especially parents, is identified as important challenges. These challenges suggest that, to maximize the potential of PrimOT, a continuous focus on the improvement and adaptation of the platform to the changing needs of the educational environment is necessary.

The study focused on teachers and administrators because these actors are the principal users and managers of the PrimOT platform in the school environment. The teachers are directly involved in the daily implementation of digital educational tools, while the administrators play a crucial role in the supervision and decision-making about the adoption and use of technologies in the institution. The parents were not included in this study because their interaction with PrimOT is more limited and secondary in comparison with that of the teachers and administrators. This focus allows a more detailed analysis of the efficacy and challenges of the platform from the perspective of those who use it directly in the educational environment.

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In relation to the above, the author of this investigation proposes as a new horizon of study the exploration of the use of PrimOT by the parents of primary education students in France.

Privacy: Not applicable.

Statement on the use of artificial intelligence: The author of this article declares that she did not use Artificial Intelligence in its preparation.

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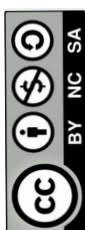
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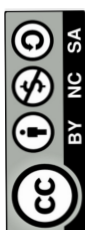
Appendix 1

Questionnaire applied to teachers

Introduction: This questionnaire has as its objective to collect information about your experience and perception in the use of the PrimOT platform. Please, respond to the questions in a sincere manner, based on your personal experience. The collected information will be used exclusively for research purposes and will be kept in confidentiality.

Professional data

Years of professional experience in education: _____

Role in the educational institution: _____

Block 1: Level of interaction and frequency of use of PrimOT

1. With what frequency do you use PrimOT in your daily work?
   - (a) Every day
   - (b) Several times a week
   - (c) Once a week
   - (d) Occasionally
   - (e) Never

2. Which functionalities of PrimOT do you use the most? (Select all that apply).
   - (a) Content management
   - (b) Creation of interactive activities
   - (c) Assessments and monitoring
   - (d) Communication with students
   - (e) Other (specify): _____

3. To what extent do you consider that PrimOT has facilitated your educational work?
   - (a) Very much
   - (b) Quite a bit
   - (c) Moderately
   - (d) A little
   - (e) Not at all

Block 2: Perception and Satisfaction with PrimOT

1. How would you rate your overall level of satisfaction with PrimOT?
   - (a) Very satisfied
   - (b) Satisfied
   - (c) Neutral
   - (d) Dissatisfied
   - (e) Very dissatisfied

2. Which aspects of PrimOT do you consider most positive? (Select all that apply).
   - (a) Ease of use
   - (b) Intuitiveness of the interface
   - (c) Functionalities offered

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(d) Technical support

(e) Other (specify): _____

3. Is there any aspect of PrimOT with which you are dissatisfied? (Specify): _____

Block 3: Impact on Teaching and Learning

1. To what extent do you consider that PrimOT has improved your students' learning?
   (a) Very much
   (b) Quite a bit
   (c) Moderately
   (d) A little
   (e) Not at all

2. Has PrimOT changed the way you organize and manage your teaching?
   (a) Yes, to a great extent
   (b) Yes, to some extent
   (c) It has not changed much
   (d) It has not changed at all

Block 4: Technical aspects and support

1. How satisfied are you with the technical support for PrimOT?
   (a) Very satisfied
   (b) Satisfied
   (c) Neutral
   (d) Dissatisfied
   (e) Very dissatisfied

2. Have you experienced technical problems while using PrimOT?
   (a) Yes, frequently
   (b) Yes, occasionally
   (c) Rarely
   (d) No, never

3. What technical improvements would you suggest for PrimOT? (Specify): _____

Block 5: Security and privacy

1. How do you evaluate the security and privacy measures of PrimOT?
   (a) Very satisfactory
   (b) Satisfactory
   (c) Neutral
   (d) Unsatisfactory
   (e) Very unsatisfactory

2. Do you have any specific concerns about security or privacy when using PrimOT? (Specify):_____

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Appendix 2

Semi-structured interview guide for primary school principals

Objective: To explore the real or perceived uses of the PrimOT platform from the perspective of administrators, considering the impact on students, teachers, parents, and the school as a whole.

Section 1: Impact on students

(a) How would you describe the impact of PrimOT on student learning in your school?

(b) What type of activities or educational resources provided by PrimOT have been most useful for students?

(c) Have you identified any challenges or limitations in the use of PrimOT by students?

Section 2: Teacher Support

(a) How has PrimOT influenced the planning and execution of pedagogical activities by teachers?

(b) What type of training or support has been provided to teachers for using PrimOT?

(c) From your perspective, how has the teaching dynamic changed with the incorporation of PrimOT?

Section 3: Parental Involvement

(a) How has PrimOT influenced communication and parental involvement in the educational process?

(b) What functionalities of PrimOT are most valued by parents, according to your perception?

(c) What challenges have you encountered in the implementation of PrimOT regarding parental involvement?

Section 4: Effects on the School

(a) How would you describe the impact of PrimOT on the overall management and organization of the school?

(b) Has PrimOT contributed to the modernization or digital transformation of the school?

(c) What aspects of PrimOT do you consider most beneficial for the school as a whole?

(d) How has the experience been in terms of technical support and maintenance of PrimOT at the institutional level?

(e) To conclude, is there any other aspect related to PrimOT that you consider important to mention and that has not been covered in this interview?

Section 4: Effects on the School

(a) How would you describe the impact of PrimOT on the overall management and organiza-

tion of the school?

(b) Has PrimOT contributed to the modernization or digital transformation of the school?

(c) What aspects of PrimOT do you consider most beneficial for the school as a whole?

(d) How has the experience been in terms of technical support and maintenance of PrimOT at the institutional level?

(e) To conclude, is there any other aspect related to PrimOT that you consider important to mention and that has not been covered in this interview?

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