SMART art
INTELLIGENT ART HISTORY LEARNING

Universidad de Valladolid

Wordpress as a support tool in higher education courses: a virtual learning proposal for students in the Faculty of Education and Social Work

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Preliminary considerations

This document, and the information, guidance and resources it presents, is one of the intellectual outputs of the SmartArt project and is freely accessible via the SmartArt website and can be used on other freely accessible websites. In the following link you can consult the project website and other associated resources: https://srlsmartart.eu/proyecto

Introduction

The development of new information and communication technologies (hereinafter ICT) provides one of the bases for understanding the economic, social, political and cultural changes to have taken place over the last two decades, and has had a particularly notable impact on education (Venegas-Loor & Moreira-Aguayo, 2020). The definition of ICT has evolved constantly as a result of the different transformations it has undergone since it was first introduced. Today, ICT consists of digital technological tools designed to facilitate communication (Cabero, 2017). ICT processes, collects, condenses, presents and manages information in a variety of ways (Corrales, 2009). It also displays a number of important features such as interactivity, immateriality, immediacy, innovation, and stands out for its high quality sound and images as well as the interconnection and digitisation offered (Cabero, 2000). Technologies now form such an integrated part of our everyday lives and routines that we often fail to reflect on them or to give them a second thought. Prior to the 1980s, little did we suspect the impact they would have on different areas of our social and professional lives and, in particular, on education (Riascos-Erazo et al., 2009). It was in fact in the 1980s when we first began to talk about technology being applied to information, and in the early years of the 21st century the key role which such technologies would play in society was finally recognised (Sánchez-Otero, 2019).

ICT spread rapidly in the latter part of the 20th and early part of the 21st century, and every walk of life has been impacted by their development; the labour market, finance,

telecommunications, health, industry and, of course, education. Newly introduced technology expands and grows at breakneck speed and is distributed almost instantly (Barcia-Carrillo et al., 2017). Linked to this social recognition in the early 21st century, people began to reflect on what the world of education would be like in the future, given the enormous expansion that was occurring in the field of technology: how do we integrate technologies into the training we create? What will the role of students and teachers be with the inclusion of ICT in the teaching-learning process? What will the best strategies be for achieving the right inclusion of these tools for both students and teachers? (Cabero, 2005).

These and other reflections have been applied to various levels of education. We are aware that correctly integrating new technologies in educational centres and at the different levels of education could bring major benefits in terms of strengthening communication, innovation and collaboration for the teaching-learning process, both for the centres as well as for students and teachers themselves (Cebrián & Ruiz, 2008). The higher education establishment *par excellence* is the university, and here we distinguish three basic functions: teaching, research, and extracurricular activities. Knowledge is generated through research, and is conveyed to students through teaching and applied to the social context through transfer from the students themselves via practical training and projects for the community (Barcia-Carrillo et al., 2017).

Taking into account these three functions, we commenced this project with the aim of making research practical and applicable to the social milieu and to the field of education, which requires constant innovations that adapt to the new forms of teaching and learning demanded by today's world. The main goal of this project has been to design, implement and constantly update a Wordpress webpage as an educational resource that supports the development of content for the course in *Educational Intervention in Learning Difficulties and*

Developmental Disorders offered in the second year of the degree in Infant Education at the Faculty of Education and Social Work at the University of Valladolid.

ICT in education

The gradual impact technologies have had on various professional fields –particularly education– has given rise to a wide range of innovative and creative strategies for students and teachers alike (Gallardo et al., 2019). ICT provides education with a vast array of resources and specific materials for teaching at the various levels of education, and which prove to be beneficial and motivating for students, since they can be adapted to students' own pace, tastes, preferences, needs and interests (García-Valcárcel et al., 2014).

Some notions of educational reform consider that the emergence of ICT has had a decisive effect on the improved quality of teaching-learning processes since the former have impacted both teaching practice and education (Venegas-Loor & Moreira-Aguayo, 2020). The classical World Declaration on higher education in the 21st century, the UNESCO 1998 vision and action, set out the importance of a significant shift at all levels of education so that they should adapt to the social, cultural and technological development of today's society (UNESCO, 1998).

Yet the use of technological tools in education is not just a fact but also a challenge (Flavin, 2017) since they aim to ensure improvements in teaching practice, grounded on the educational policies issued by UNESCO (2008), where the emphasis is placed on students embracing the knowledge acquired into their day-to-day practice. Higher education institutions are charged with guaranteeing the conscious use of technologies in the various courses, leaving to one side the mistaken belief that they should be included merely as a formal requirement (Domínguez & Carmona, 2017).

Through its inclusion in the teaching-learning process, ICT boosts teaching performance, enables more participative and interactive lessons, and aids dynamic

communication between teacher and student (Astudillo, 2016). ICT fosters learning that is autonomous, collaborative, meaningful, efficient, effective and, above all, flexible, with the ultimate aim of enabling students to develop technological skills and put them into practice in their everyday activities (Farid et al., 2018).

Implementing the use of ICT at the various levels of education has led to a number of benefits for students, such as greater motivation in class, cutting costs when printing documents, or not having to buy the books or materials required for each course/year (Vinueza & Simbaña, 2017). ICT has spawned the creation of new learning spaces (synchronous-asynchronous virtual lessons), provided access to new types of learning (virtual, blended) and afforded the chance to take part in training activities using new methods (San Martín & Bonet, 2008).

We might conclude this section by stating that educational institutions not only face the challenge of embracing new ICT as content but also of being aware of what students know about the use of new technologies and using this as a starting point. This challenge must also be met by teachers, who must design, develop and evaluate teaching practices that foster a reflexive development of knowledge and that encourage the correct use of technological resources by their students (Venegas-Loor & Moreira-Aguayo, 2020).

More than just a 21st century fad, ICT must be approached from an educational training standpoint, from a perspective of providing skills and constant updating, from a profound vision of knowledge (López, 2014), so that teachers can incorporate ICT not only into day-to-day education but also into the various specific areas of learning. Teachers must also see ICT as a positive tool for catering to the different learning difficulties which may emerge in the classroom (Cacheiro, 2018).

Amongst the main features highlighted vis-à-vis the implementation of ICT in the various areas of learning, García et al. (2016) suggest that ICT allows for the creation of flexible

elements (with no barriers or time and space limitations), that it fosters interactive spaces, boosts independence and cooperative learning, and enables a huge amount of information to be obtained. ICT acts as a source of communication and, to a certain degree, helps students who have learning difficulties or some kind of deficit or disorder. In this latter vein, examples include: the use of screens that facilitate learning for those who display different abilities (Castro & Mallón, 2019); technological resources that favour the teaching-learning process for autistic children (García et al., 2016; Gallardo et al., 2019); improvements in dyslexia through the use of technologies (Manzano-León et al., 2017), and educational technological innovation for children who have difficulty with mathematics (Pichardo & Puente, 2012). In a study covering fifty articles on ICT and education between 2016 and 2019, 99% supported the possibilities offered by mobile devices for catering to student diversity (Castro & Mallón, 2019).

In addition to focusing on the benefits as regards difficulties, research has also explored technologies in various disciplines such as in the application of dynamics with interactive resources for teaching mathematics (Nicolete et al., 2017), the inclusion of technological resources to help learn natural sciences (Hernández et al., 2014), an ethnographic study for teaching natural sciences (Rojas, 2017), strategies for implementing apps in heritage education (Luna et al., 2019), and intervention programmes to develop language skills (López et al., 2018) and arts skills (Bernaschina, 2019).

Technological resources have been somewhat side-lined and marginalised in schools due to their being seen as devices that lead to distractions as well as inappropriate or disruptive behaviour amongst students. Yet gradually –and backed up by numerous studies that highlight the importance of such resources in the classroom (Alcántara, 2009; Grajales & Osorno, 2019; Gómez-Macedo & Gallardo, 2010; Hernández, 2017; Morales et al., 2015; Novillo et al., 2017)– there has been a certain shift in teachers' perspectives with regard to their use. A greater

awareness and understanding of these technologies has been encouraged, which has led to less reluctance to embrace them. Society as a whole –and schools in particular– have witnessed an almost full-blown integration of technology in day-to-day activities (Brazuelo et al., 2017).

For this reason, ICT should not be viewed as a resource to be applied in educational establishments merely in response to the requirements of today's globalised world but should be seen as an opportunity to bring about major changes in teaching-learning methods. They must be viewed as an element that will allow for different action processes (Bates, 2001), and that will trigger theoretical-practical responses to create consistent designs, applications and evaluations in line with the various resources in the different educational activities (López & Flores, 2008). The new generations are increasingly less motivated by the conventional educational paradigm (Huertas & Pantoja, 2016), which begs the need for the educational system to develop and embrace strategies that draw on technological resources which can attract students' attention and so facilitate their learning (Linne, 2020).

As highlighted previously, the role of the teacher is key to the motivation displayed by students. Teachers must arouse within their students an appropriate empowerment of knowledge by considering the application of innovative and efficient methods and strategies (Núñez et al., 2018) and by promoting meaningful experiences that help to develop specific skills that are in line with students' needs and interests (Torres et al., 2018). Getting students to develop these (academic and digital) skills should be a goal for all teachers working at the different levels of education. To accomplish this, educational spaces should be created that take into account the new dynamics that technological resources offer for learning (Núñez & Tobón, 2006). This new dynamic does not solely consist of incorporating technological resources into the classroom but also requires proposals for action that are suited to the needs and interests of teachers, students, and society. Such actions include (Brazuelo, 2015):

- Fostering the educational use of technologies within the framework of learning through initiatives that encourage and disseminate publications which teach experiences and offer proposals that can be carried out by others.
- Creating specific content and executing methodological adaptations, taking into account the possibilities and characteristics of the technological resources.
- Training teachers to learn to integrate the array of technological resources into their day-to-day routine in the classroom. Such training should be integrative, dynamic and practical.
- Including technologies in the school curriculum as a standard support tool.
- Amending educational norms related to learning the various technological resources (mobile, computer…) based on reflection and adapting to changes, such as controlling their use in schools, always bearing in mind when and where their use is allowed.

Putting into practice the methodological principles to introduce ICT requires the commitment of educational centres, teaching staff, the family, and the students themselves (Cabrero & Marín, 2010). Nevertheless, the main actors in this shift in education are the teachers, who must gradually change the way they teach so as to ensure proper implementation (Vallés, 2000). Teachers must be aware that the role they play in today's education is that of a learning moderator, that the student is a seeker of knowledge, and that it is the technological tools that enable and intervene in this process (Núñez et al., 2019); hence the need for the teacher to apply a practical, participative and interactive approach, drawing on the conscious support of technological resources (Van and Diepstraten, 2016), which will ensure access to the right virtual spaces and guarantee meaningful learning for students.

Limitations of technological resources in education

On many occasions, the principal uses of ICT are linked to non-instructional tasks such as administrative duties, contacting parents or the use of platforms like Moodle (Usluel et al.,

2007), with this often being seen as the true use of technologies, when they are not in fact being used as virtual learning tools (Fernández-Rodrigo, 2016). In certain schools, the computer room can only be used once or twice a week and for a very short period of time, which proves insufficient vis-à-vis developing the digital skills and knowledge that help to enhance academic and professional performance (Kozak, 2016).

Another of the problems encountered arises when looking at virtual (online) learning since, on occasions, the connection may be lost due to a poor quality Internet service. We may also find that teachers or students experience background noise. Some students may also not become as engaged or involved through this means, such that assessment may prove to be complex (Macías-Silva et al., 2020). As a further drawback, Morduchowicz (2018) found that students had difficulty choosing what information from the web was relevant, which led them to copy and paste the information obtained from the first results to appear in their search hits.

Although the real integration of ICT in the classroom is gradually improving, several authors have drawn attention to other disadvantages and hurdles that may be linked to technologies in the context of education (Huertas & Pantoja, 2016; Sánchez-García, and Galindo-Villardón, 2018):

- The skills and traits inherent to the teacher, such as gender, age or educational attainment.
- Lack of infrastructure, resources and content or lack of financial means.
- Attitude of the school board.
- Teacher rejection of the use of ICT in the classroom.
- Lack of software licences or out of date licences.

Taking into account the limitations set out, we see how bringing technology into the classroom is not merely a question of its physical introduction but also involves working with other teaching considerations (attitudes, teaching skills, guidelines for integration…) so that

the usefulness of technologies proves to be far more efficient for all its beneficiaries (Thorsteinsson, 2015).

Benefits of technological resources in the classroom

Technological resources enable new models of communication to be created, which is then reflected in models of education and forms of learning. These models focus on discovery and participation, leaving to one side the conventional paradigm for conveying knowledge, and providing students with the tools that allow them to become self-taught and critical (Coppo, 2019). ICT also helps to enhance teaching practice by favouring cognitive change at the personal level, since embracing ICT makes teachers feel more qualified and can even improve their relationship with students. Moreover, by having a wider array of work tools available, teachers have greater access to information (Riascos-Erazo et al., 2009).

Another factor to take into account is that technology can help to create learning contexts in which emotions play a key role thanks to interactivity and sensorial experience (Butz et al., 2015). In fact, when attributing positive feelings to something, the likelihood of pursuing it and the interest taken in it increases because the neural connectivity underlying the event experienced is strengthened (one will learn) and the student will seek to repeat it with greater frequency (Elizondo et al., 2018). As a result, students who have had most contact with technological resources during their lessons learn more and better than in a normal lesson. Moreover, there is collaborative, active and participative learning and an atmosphere of greater interest and motivation to learn is created (Aguaded & Tirado, 2008).

One of the most important advantages in the use and implementation of technological resources in the classroom concerns time, independence and autonomy with regard to the inclusion of procedural skills, since students are able to continue working with them once the lessons have concluded (Avalos et al., 2020). Summing up some of the main advantages and

dividing them amongst the various beneficiaries in order to gain a clearer understanding, we find (Gómez-Macedo & Gallardo, 2010):

Benefits for students: they are constantly active as a result of interacting with the computer and with their colleagues, and they display greater motivation, interest and initiative. They receive feedback from their mistakes, and exhibit a high degree of interdisciplinarity and greater technological literacy in addition to improving their skills in expression and creativity. They profit from a personalised teaching and learning process, and have access to more information. Their self-evaluation is benefitted, and they enjoy greater flexibility in their studies. Moreover, there are greater possibilities for students with difficulties.

Benefits for teachers: they enjoy a wider range of educational resources, a better process of individualisation, and are released from having to do repetitive tasks. There is also greater student-teacher interaction, greater teacher-teacher interaction, and greater teacher-family interaction. Teachers improve their evaluation and control time, and can hold virtual meetings. They keep up to date in professional terms, added to which these technologies offer a good resource for research processes in the classroom.

Benefits for the centre: teacher training can be enhanced in economic terms since it can be carried out online, added to which it can reach more people. There is better administration and management of the institution as well as greater educational effectiveness as a result of being able to draw on new resources and tools that offer new teaching proposals. Communication with education authorities is enhanced, and information can be shared with other centres. It is also possible to provide webpages offering information on educational curricula, timetables, services, and so on.

Teaching perspectives and attitudes in the introduction of technological resources

The introduction of technology in education has meant that the traditional role played by the teacher as a conveyor of knowledge has changed, since students now acquire knowledge

helped by technological means when they so require (Riascos-Erazo et al., 2009). Broadly speaking, there are two profiles of teachers vis-à-vis the use of technological resources in the classroom: some teachers resist the use of new methods and forms of teaching, believing that the approaches they have always applied have worked well, while other teachers are permeable to change and seek to innovate when teaching (Riascos-Erazo et al., 2009) and become generators of multimedia content (De la Iglesia, 2019).

Teachers must still assume their traditional function, yet they also need to innovate in order to create learning situations that motivate students. For every requirement there must be a solution and this poses fresh challenges for a teacher's knowledge, which must be merged not only with declarative, procedural and attitudinal content but must also embrace technological resources (Sánchez-García & Galindo-Villardón, 2018).

Flórez et al. (2017) claim that the general teaching perspective with regard to the inclusion of technology in the classroom is positive, that teachers believe it opens up the way to ongoing training, favours equal opportunities and that they see it as an important medium of socialisation. Nevertheless, they also point to the still scant use of technology and internet in the classroom (García & Villardón, 2018) or to the fact that most of the resources used come from the education portals of certain administration services and publishing companies (Huertas & Pantoja, 2016).

Teachers who insist on teaching that is purely traditional avoid the use of technological resources in most cases out of fear, because they feel incapable of applying them and because they are aware that there are students who know a lot about these technologies, which makes the teachers afraid of making a mistake (Viñals & Cuenca, 2016).

In the social sphere, teachers are aware that technologies form a part of everyday life (Cabero, 2004). From a global perspective, teachers point to how useful these resources are in their professional work, in developing knowledge, in the quality of education, in economic and

social sustainability and vis-à-vis making major scientific-technological progress (Kozma, 2005). Taking into account all the perspectives held by teachers, there is the need –indeed the "obligation"– to reconsider becoming a modern and innovative teacher, and to seek different alternatives to ensure that teachers' work is consistent with the needs, interests, and preferences of their students, and to make a commitment to adopt techniques as well as teaching and methodological skills so as to use these resources (Miranda & Estrada, 2009).

Digital skills correspond to all the abilities and capacities teachers need to correctly develop and improve the teaching-learning process, their research work and, above all, their ongoing professional development (Vargas-Murillo, 2019), so that they can guide their students towards building knowledge and developing those skills themselves (Santiago & Navaridas, 2012).

Students and the use of ICT

The new generation of students has been in contact with technological tools since they were born, such that they are used to obtaining information on any topic, from anywhere on the planet and in an instant. This means that, on occasions, they feel no need to learn things off by heart when the information can be found in just a few seconds with a quick search in internet. This leads us to think that we must seek new interaction dynamics, which include digital devices as key actors in this process and which can drive students to learn with them (Coppo, 2019). Today's generation is marked by many changes, prominent amongst which is the development of quite specific technological skills, which poses a challenge to teachers, who strive to integrate traditional methods into modern methods that include the use of ICT (González-Fernández & Salcines, 2015).

The presence of technology in students' lives is fundamental since, if we focus on what use young people make of this technology we see that it is increasingly being used for entertainment and for interacting in social networks (Ortiz-Colón et al., 2018; Martín, 2018).

Youngsters' penchant towards the leisure side of ICT can therefore be used to include gamification in the classroom and thereby boost student motivation, stimulate teamwork and, consequently, develop technological skills (Qian & Clark, 2016; López, 2016). Yet, if students are to use technologies for educational purposes, then it is the academic institution itself that must gradually train them as digital users, thereby fulfilling the educational role which these resources can play (Sereño, 2016).

Technological resources in the classroom

In order to offer a broader contextualisation of our understanding of the various facets involved in ICT, this section is devoted to explaining the different tools that make up these technologies as well as the physical resources with which ICT is most commonly included in teaching. We may briefly cite the following tools, classified by categories (Pinto & Leite, 2020):

- Learning Management Systems (LMS): Blackboard, Moodle, WebCT, on-line course platforms, etc.
- Tools for publishing and sharing: blogs, wikis, Flickr, YouTube, podcast, social markers, electronic portfolio, digital narration, electronic book, videoconferences, etc.
- Collaborative systems: Google Docs, Social Bookmarking, Mind Maps, Wikis, Blogs, etc.
- Social networks: Facebook, Twitter, Hi5, LinkedIn, Ning, Academia.edu, etc.
- Interpersonal communication tools: e-mail, MSN, Skype, forums, videoconference, etc.
- Tools for adding content: RSS sources, NetVibes, Google Reader, etc.
- Virtual 3D worlds: Second Life, Habbo, augmented reality, games, virtual laboratories, etc. Assessment and feedback systems: electronic market, Clickers, audio feedback, note-taking by computer, etc.
- Mobile tools: applications.

It is important to take into account that very often the preference for one tool or another is determined the teacher's predisposition and tastes. The same occurs with the extent to which the type of resource is adopted (Fuentes & Albertos, 2016). An array of resources can be found in the classroom:

Computers: a valuable informational resource and an interesting support medium for teaching systems (Tondeur et al., 2007). Their connection to internet substantially increases the possibilities of accessing information (Gil, 2012) not only in schools but also in other contexts since there are more and more computers in homes (Li and Kirkup, 2007). Yet the growing inclusion of the computer should not take place without bearing in mind the human factor (Seoan-Pardo & García-Peñalvo, 2014): quite the opposite, it should be seen as a way to enhance relations between teacher and student through a new means of presenting content digitally (García-Peñalvo, 2014).

The *digital whiteboard:* described as a touch screen that functions in conjunction with a computer and a projector (Álvarez & Martinell, 2016). The use of Interactive Digital Whiteboards (IDW) has increased the level of technology in the classroom (Cala et al., 2018) although in fact they are not that new, since they were developed in the early 1990s by Smart Technologies and first used in British schools in the same decade (Higgins et al., 2007). They allow for learning with the student by applying various forms of teaching at the same time and by expanding the possibilities of learning (Arancibia & Bustamante, 2019; De Vita et al., 2014; Huertas & Pantoja, 2016).

The *ebook* is an electronic device that serves to read digitised text and which enjoys the same copyright protection as printed documents (Chaves, 2009). It is one of the latest resources to have appeared and has evolved in line with the technological development of digital writing and reading devices (Armañanzas, 2013). As a teaching tool it is of enormous use and is effective and versatile, since it helps to merge technological and computer skills with the

didactic functions of the curriculum, helping to build knowledge and develop cognitive skills through self-management, self-administration, and self-assessment (Medina, 2017).

The emergence of *tablets* as a teaching resource is relatively recent. This technology as we know it today first emerged in January 2010 when the iPad was officially launched (Fuentes & Albertos, 2016). Use of the tablet in the very early stages of education is open to debate because of the risks as well as the advantages involved. Its user-friendly nature –simply sliding a finger to interact– and being able to see images, listen to different languages and the like makes it useful for all kinds of student, regardless of age (Altan & Karalar, 2018). Moreover, it is easy to carry and is economical (Hassan & Geys, 2016). It can also be used as an e-book, thereby facilitating student access to collections of literature for children and teenagers (Marés, 2012).

Access to *mobile devices* is spreading and as their affordability and functionality improve, new challenges also emerge in terms of adapting their use to the educational communication and informational potential these new resources can offer us (Badía & Gómez, 2014; Cabero, 2014). The mobile phone will revolutionise educational practices by granting levels of freedom which other previous technologies have been unable to provide: the possibility of being able to connect anywhere and of having access to sources of knowledge in a pocket device (Ramírez-Montoya & García-Peñalvo, 2017). However, use of the mobile should not only be a technological resource but also a teaching resource involving an awareness of how important it is to manage this correctly in order to learn through it (Huaiquián & Vázquez, 2018). This is even more the case if we remember that the mobile is the main device used to access the internet –much more than the computer, the tablet or other devices that offer access to an internet connection. 91.5% of people in Spain use the mobile to connect to the internet compared to 69.8% who use the laptop (Ditrienda, 2020).

We are aware that technology forms part of the daily life of every citizen, which is why we insist it should be included in education in order to take advantage of its educational potential. In this way, the mobiles and computers used by university students to communicate can be a tool that integrates naturally into formal education (Kortabitarte et al, 2018).

After this short classification of the tools and resources most commonly found in the classroom, we now move on to talk about the internet, the computer network that can be present and boost the possibilities for using many of the resources referred to. The impact which the internet has had –and is still having– on learning at the various levels and in the various contexts of education is enormous (Sanz et al., 2006) and those who use it in their daily lives consider it to be essential (Hernández & Gracida, 2013).

Technology, and in particular the internet, are resources that have come to form a part of society since they were first introduced. Education initially embraced these resources to help educators to teach and therefore to better manage student learning (Sánchez et al., 2014). The arrival of these resources and technologies brought with it major and significant changes in educational models, such as online learning (Hernández & Salazar, 2018).

Since the internet is a network of networks that aids interconnection with other computers it has become a dynamic and stimulating medium that allows teachers and students to strengthen their knowledge and professional work by accessing up-to-the-minute information from all over the world (Sanz et al., 2006). Activities can also be undertaken from home, connected to a computer with internet, thereby encouraging collaborative learning and inspiring people of all ages to share and publish personal, social and scientific information (Martínez et al., 2011).

Applications and their inclusion in education

Over the last decade, applications have become elements offered by public and private institutions, fulfilling the mission of informing, teaching and aiding communication as well as

brining different areas of learning closer (Luna et al., 2019). One report that can help us to appreciate the enormous evolution we witness each year in the development of applications is the Ditrienda report, which examines the digital environment based on a range of sources, with the support of the Spanish Association of Marketing –MKT– and the Mobile Marketing Association –MMA. Below are some of the data concerning consumption of applications (Ditrienda, 2020):

- In 2019, two hundred and four thousand million mobile applications (apps) were downloaded worldwide, which is 6% more than in 2018. In all, users spent a hundred and twenty thousand million dollars on applications –20% more than the previous year. In fact, 91% of the time is spent using applications compared to 9% of the time spent using browsers.
- During the COVID-19 pandemic, the time devoted to using mobile applications in Spain rose by 5% in the first month, although in countries where the lockdown was first imposed, such as China and Italy, the figure was even higher.
- In Spain, the internet is mainly accessed through mobile applications (65%), although 5.1% of users claim they never use them.
- If we analyse the use of applications by categories, Spaniards are above the global average in the use of apps in all categories, except dating apps.

Data such as those mentioned above probably help to justify the fact that mobile learning is sparking ever-increasing interest since because we use apps more often there is also increased innovation in their functions and uses (Brazuelo & Gallego, 2011).

This mobile learning helps to build students' knowledge, assists them vis-à-vis learning in an independent manner, boosts the development of skills for solving conflicts (Brazuelo & Gallego, 2011), fosters social learning (Taylor et al., 2006) and helps students to focus more

on activities than on content by incorporating games as a learning strategy (Bin-Tuwaym & Berry, 2018).

When speaking of mobile device-mediated learning –focusing particularly on smartphones or tablets– apps or digital applications have become one of the most widely employed tools (Kortabitarte et al, 2018) although their use in centres of education is influenced by the personal perceptions of each teacher (Morales et al., 2020). Apps are applications specifically designed to offer a given function in many areas of knowledge and are currently seen as attractive tools for learning. Many of them are available on different platforms via payment and/or are free, such that they are easy to use in the classroom. They can have an enormous impact on lessons (Avalos et al., 2020; Cruz-Barragán & Barragán-López, 2014; Torres & Bañón, 2017) and on student motivation, since 79.6% of students believe that learning is more interesting, and indeed improves, with the use of apps in lessons (Morales et al., 2020).

WordPress as a tool in the classroom

Taking into account the theoretical contributions highlighted, we see how the use of mobile devices, tablets and computers amongst students at the different levels of education has grown exponentially. As a result, if we focus on these findings, WordPress can be an extremely valuable tool to support courses at different levels of education, particularly in universities. A webpage created in WordPress offers access from mobile devices, from its own specific app and from any tablet or computer. A Wordpress webpage adapts to all kinds of users since it is an open access page that does not require the creation of an account or having a username or password to access the information shared by its creator. Wordpress is a platform which occupies a large part of the market and is in fact the most widely used, not only thanks to its user-friendliness but also because of its extensibility (Valenti, 2017).

Of all the tools for creating blogs that are available on the net, we opted for WordPress as it is an advanced semantic personal publication platform, is free and is geared towards

aesthetics, web standards and usability (Chirinos et al., 2013). Since it was launched on 26 May 2003, it has evolved into a hybrid blog and social network, with this being the design currently preferred by users, since they intuitively know how it works and can use it with ease, which therefore ensures a repeat visit (Flores, 2018).

WordPress possesses numerous features that enable a blog to be created after simply registering. It offers up to 3GB free storage capacity, has an interface in several languages, and allows for the inclusion of sections for comments, links with other interesting webs/portals (in our case to the virtual university campus), the creation of categories and subcategories for entries, a multimedia library to include files of all kinds such as jpg, pdf, doc or ppt, amongst others (Ávila, 2011).

Centres of education, and in particular, universities have had to adapt to social change in order to continue sharing knowledge, drawing on new teaching and academic proposals that encourage the use of support tools to aid education and which –through the use of new technologies– help to complement and further the traditional style of teaching (Viñas, 2017).

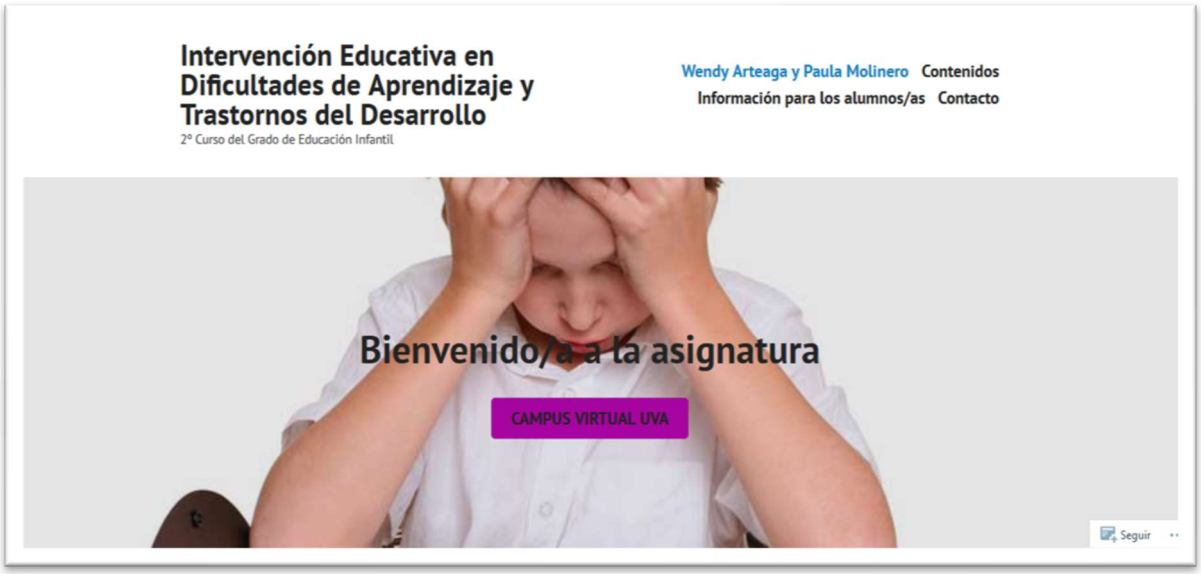
As a result, we designed, implemented and constantly updated a Wordpress webpage, considered an educational resource to support the development of content for the course in *Educational Intervention in Learning Difficulties and Developmental Disorders,* offered in the second year of the Degree in Infant Education at the Faculty of Education and Social Work at the University of Valladolid.

Methodology

Procedure for designing and implementing a webpage

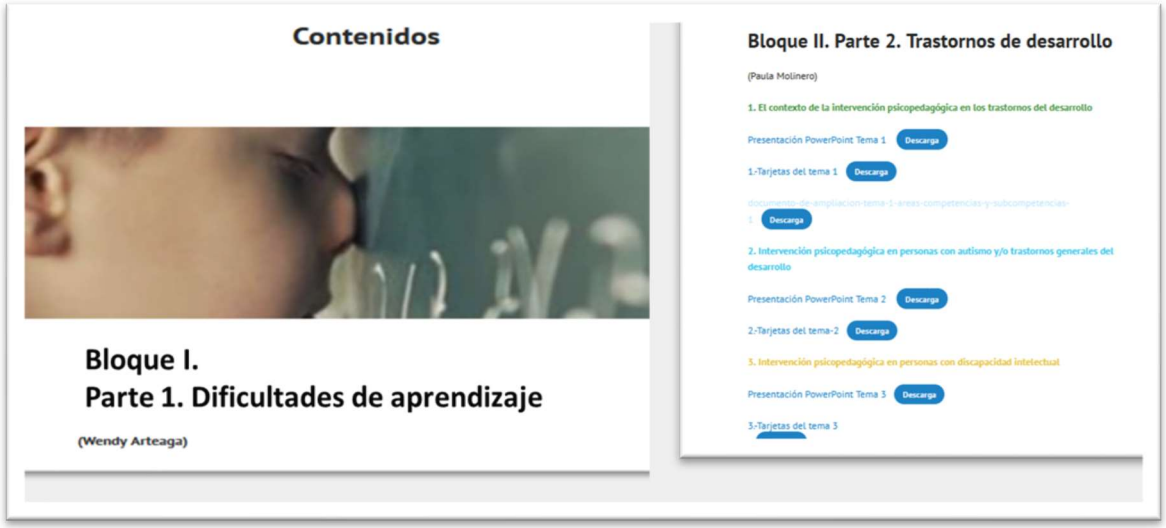
In order to create the webpage, we considered the WordPress content management system. For the general structure of the page, we established a menu with specific options that would enable students not to feel overwhelmed by too many alternatives. We considered three sections: content, information for students, and contact with teachers. We also thought it would be a good idea to insert a box that would enable students to be directly redirected to the virtual campus, which they could access with the username and password (see Figure 1).

Figure 1.
Initial presentation of the webpage.



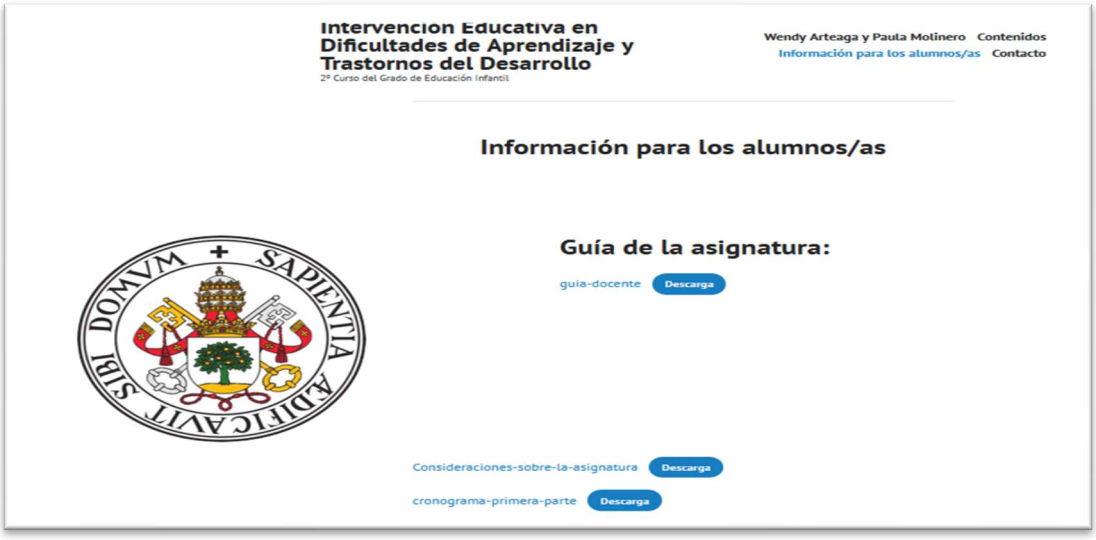
The first alternative offered by the page is content. In this section, the course content is organised into two blocks. The first block focuses on learning difficulties, and the second on developmental disorders. The two blocks shared a lot of material such as: PowerPoint presentations developed in class, complementary material for practical training (individual and group), links in Microsoft Forms as well as scientific articles, to which students were given direct access. During each online lesson, a link was shared to Forms so as to control student attendance. This form could be accessed directly from the WordPress webpage (see Figure 2).

Figure 2.
Alternative "content" from the general menu.



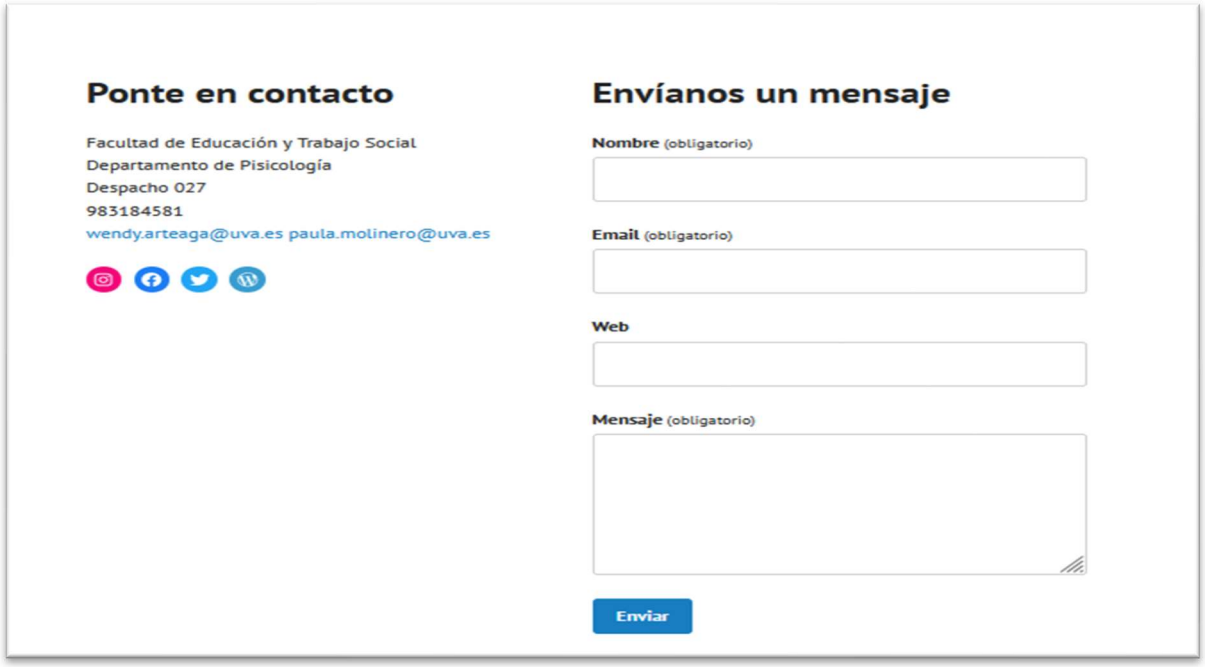
In the information for students section, we felt it important to share general aspects related to the subject such as a teaching guide for the course, general considerations and the work timeline established by the teachers (see Figure 3).

Figure 3.
Alternative "information for students" from the general menu.



In the contact section, we included teachers' email addresses and the telephone number of the office so that any needs students might have during the course could be addressed (see Figure 4).

Figure 4.
Alternative "contact" from the general menu.



The procedure was carried out during the design, implementation and updating of the webpage, and was organised, structured and well planned. We considered the needs and interests of both students and teachers alike so as to ensure well-coordinated work. We believe it is important to encourage students to access all the materials that are shared, which is not always the case with the virtual campus. In order not to flood the latter with long lists of documents, these are sent directly by email to the student. Seeing them from a visually well-structured webpage proves far more motivating.

Results

We now show the results in the statistics section of the webpage created as a tool to manage the content for the course in *Educational Intervention in Learning Difficulties and Developmental Disorders*. We start with data by year, for both 2021 and 2022.

Figure 5 shows how the webpage created for a specific course and for specific students has been visited by people who are located in different countries, probably because we also have Erasmus students who, during the holidays, have returned to their countries of origin.

Figure 5.
Visits by countries in 2021 and 2022.

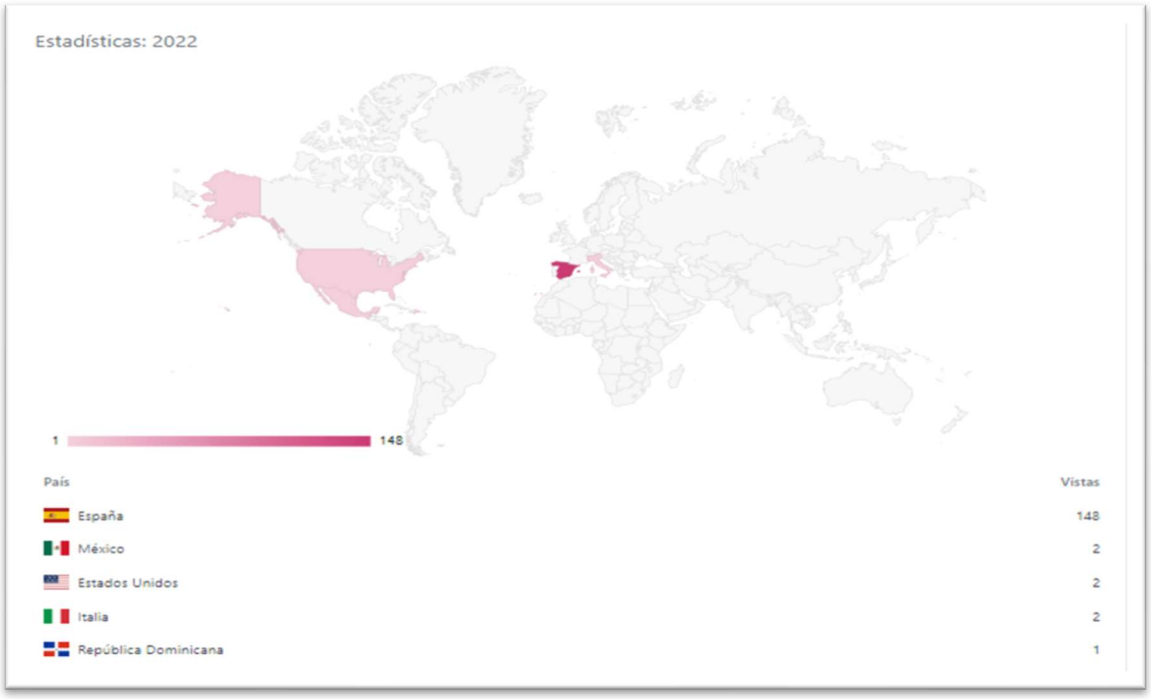
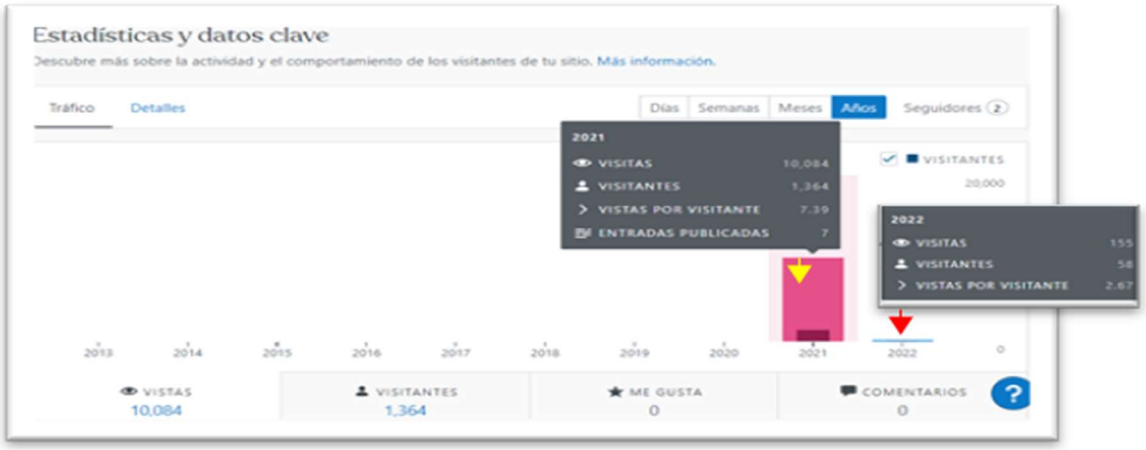


Figure 6 shows how during 2021 the webpage received a high number of visits, unlike 2022 when the number tended to be lower.

Figure 6.
Visits and visitors in 2021 and 2022.



Figures 7 and 8 show how the entry with the highest number of visits in 2021 and 2022 was content, and that the reference/link to receive most views in the two years was campusvirtual.uva.es. It can be seen how the page has been consulted by people from different countries in not too great a number, with the highest number of visits –as is to be expected– coming from Spain, since this is the country where the webpage was built and posted. This statistic also shows that the document with the greatest number of downloads in 2021 was the presentation of the course, whereas in 2022 it was topic 5.1 "Psycho-educational Intervention in Persons with Visual Disability". Also worth noting in the webpage is that the link with the highest number of clicks corresponds to WordPress.com.

Figure 7.
Access to the different webpage services in 2021.

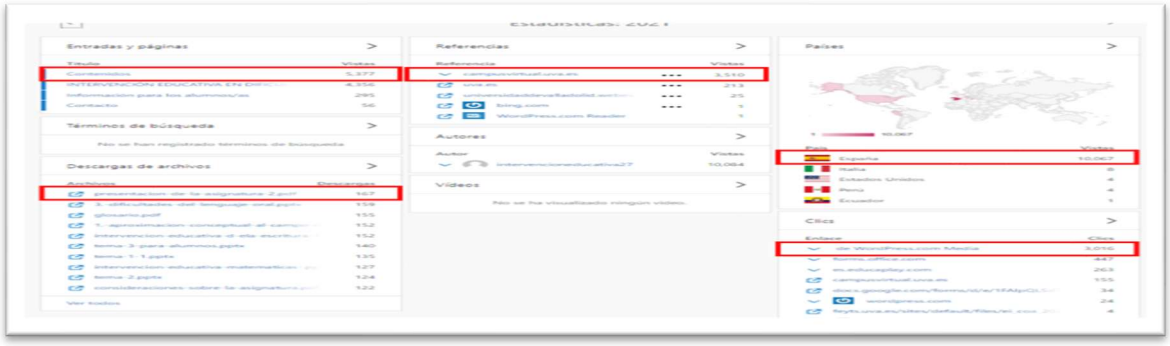


Figure 8.
Access to the different webpage services in 2022.

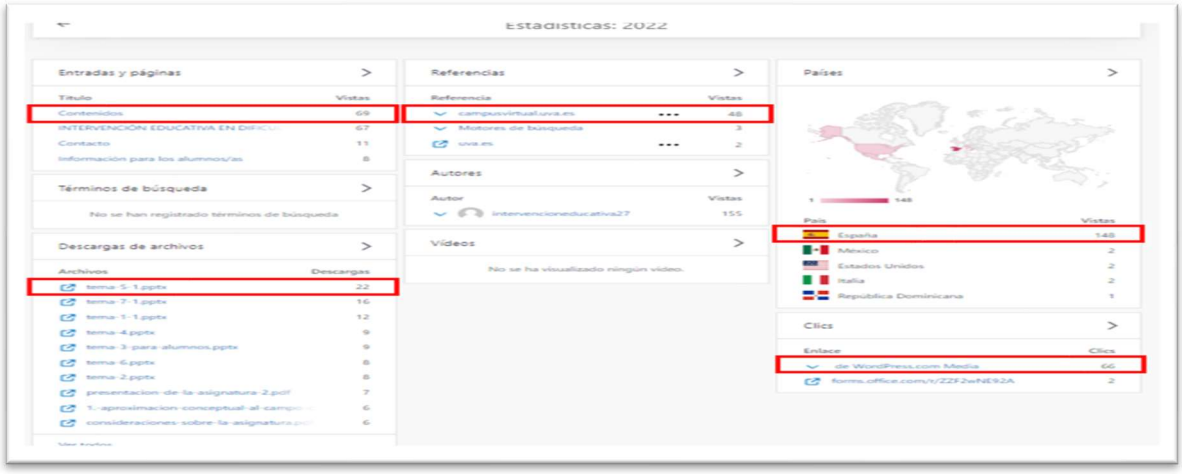


Figure 9 shows the data by month. It is clear that the month with the greatest number of webpage visits was September. Nevertheless, the highest number of visitors was recorded in November.

Figure 9.
Access to information by months for 2021 and 2022.

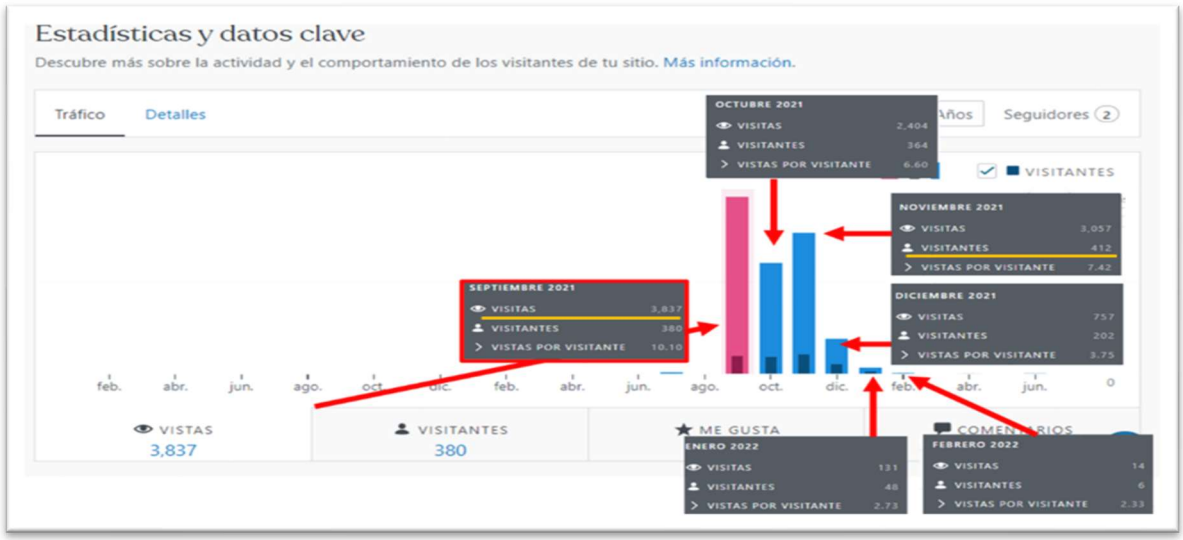
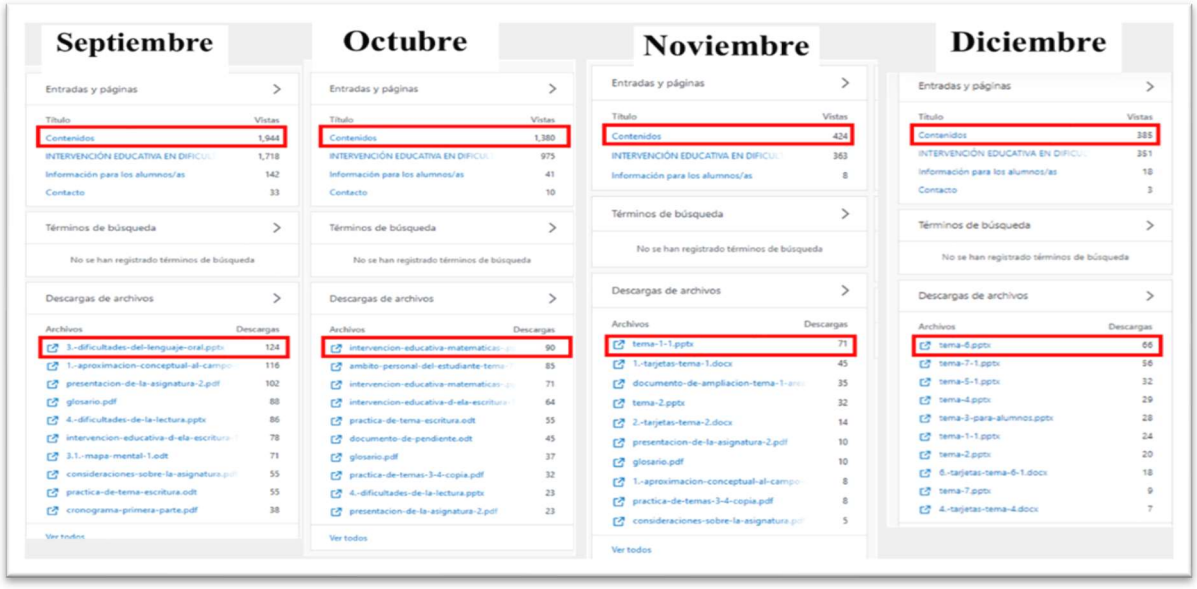


Figure 10 shows the four months with the highest number of visits, corresponding to the months in which the course was being taught, where the entry "contents" remains the most visited. We also see how student preferences in terms of downloads are in line with the topics being taught at that moment in the course timetable.

Figure 10.
Access to entry and download of files during the four months of 2021 with most visits.



We can also see the data by weeks. Figure 11 shows how the weeks to receive most visits from students correspond to the second week of September and the first week of November. Taking into account the timeline of the course, these weeks reported the most visits because they were the first weeks of presentation for the first and second block and corresponded to different teachers; in other words, during these weeks new guidelines were shared by those responsible for each block.

Figure 11.
Access by weeks to the WordPress webpage during the months of September 2021 to February 2022.

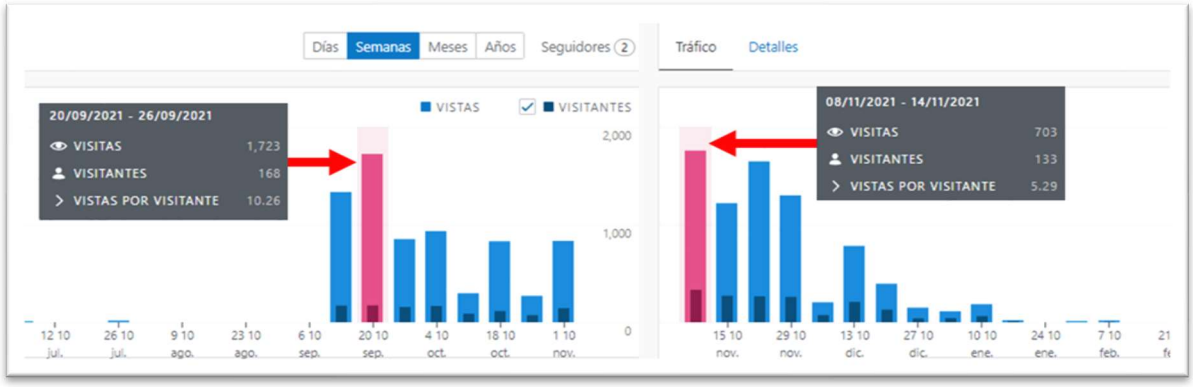


Figure 12 shows how the days on which the webpage received most visits from students was on Tuesday, a trend which was similar from September to December 2021, and which was when the course was taught synchronously.

Figure 12.
Access by days to the WordPress webpage during the months of September to October 2021.

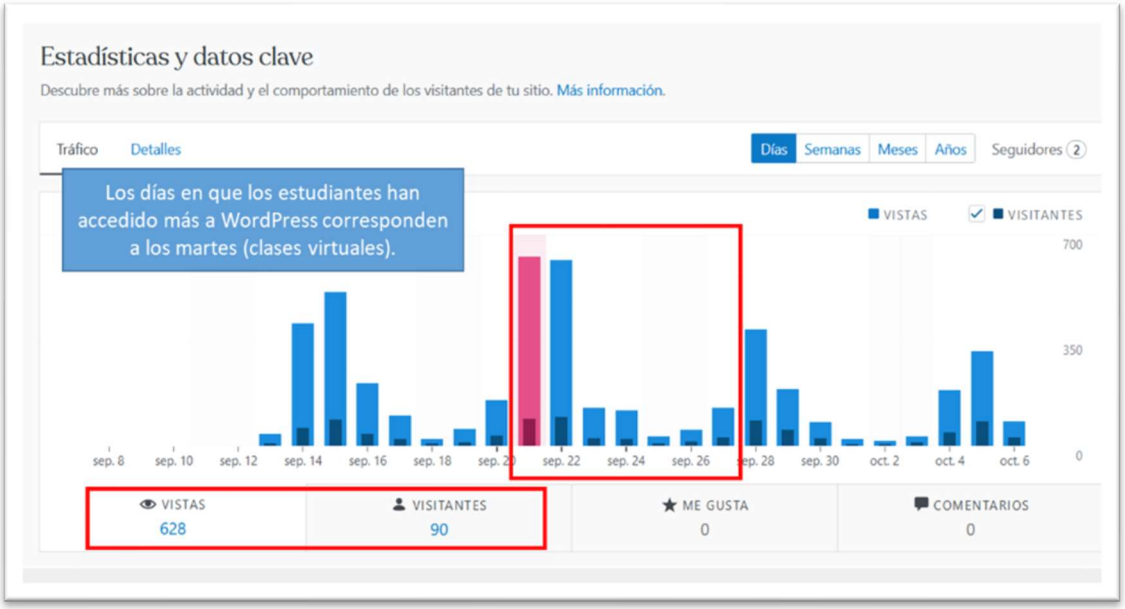
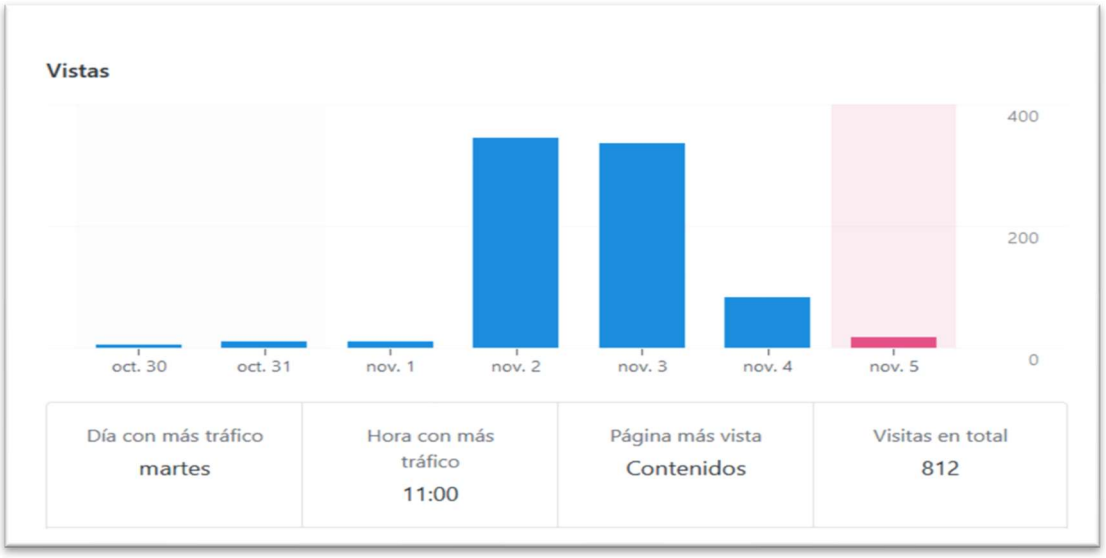


Figure 13 shows the overall data for the webpage. We see how the day on which the page received most traffic was Tuesday, which coincides with when the virtual lessons were held. The most popular time of day was 11:00 in the morning, which is when the synchronous

lessons began. The entry of the general menu to be most often visited is “Contents”, and we also see the total number of visits the webpage received from October to November.

Figure 13.
General webpage information



Satisfaction survey data

Table 1 shows the data from the (ad hoc) survey completed by students about the webpage. Amongst the positive aspects concerning the implementation of the page, they highlight that the information shared is well organised and that the page is easy to use and intuitive to browse. Most students consider that the combination of the webpage and the official virtual campus of the university proves more appealing to them. They say that the section they visited most often on the webpage is “Content”, which concurs with the data obtained through the statistics. A high percentage of students found the redirect link from the UVA virtual campus to the webpage and vice versa to be very useful. Most of the students would like this style of content presentation (through webpages) to be used in other courses.

Table 1.
Positive aspects of the page implemented.

Items	F (N=59)	%
Which aspects of the webpage would you highlight?		
It is easy to use and intuitive	21	35.59%
Its presentation is appealing	14	23.73%
The information is well organised	22	37.29%
Others	2	3.39%
Which resource did you find most appealing?		
The official virtual campus	16	35.59%
The webpage	12	20.34%
The combination of the two	31	44.07%
Which section of the webpage have you visited most often?		
The main page of the web	9	15.25%
Content	36	61.02%
Information for students	14	23.73%
Contact	0	0.00%
Did you find the redirect link to the UVA virtual campus useful?		
Yes	48	81.36%
No	11	18.64%
Would you like this style of content presentation (through webpages) to be used in other courses?		
Yes	50	84.75%
No	9	15.25%

Note. Data were obtained through the voluntary participation of students who took the course in *Educational Intervention in Learning Difficulties and Developmental Disorders.*

Conclusions

The design, implementation, and updating of the WordPress webpage proposed as a virtual learning support tool for the course *Educational Intervention in Learning Difficulties and Developmental Disorders* –part of the degree in Infant Education– enabled the content and the various practical activities put forward to prove more appealing to students.

Thanks to it being an easy and intuitive tool to use, the WordPress webpage has led students to become more aware of the structure of the course as a whole and of the aims pursued, both in the course as well as in each of the practical assignments. It can also be seen how students often tend to visit the page to download shared content and to check whether there are any updates vis-à-vis the tasks and complementary material.

The WordPress webpage was more attractive to the students than the virtual campus. Students pointed to the advantage of being able to browse the page from their mobile devices without needing to introduce a username and password to access the content and shared documents. The page proved to be highly beneficial to the students because the information is organised sequentially and enables them to gain direct access to the virtual campus.

The design, implementation, and updating of the WordPress webpage has allowed new forms of teaching and communication between students and teachers to be applied. It is important to continue innovating and implementing different resources so as to foster teaching performance and aid students' learning process, taking into account individual characteristics, tastes, preferences, needs and the interests of both teachers and students.

The design, implementation, and updating of the WordPress webpage has also benefitted teachers, since it allows them to constantly monitor what kind of information has received most visits and has seen the greatest number of student downloads. This enables them to indirectly conduct an assessment of the content and materials shared and so determine whether this has

really supported students' teaching-learning process and, thereby, to continue improving the strategies considered during the development of the course.

The design, implementation, and updating of the WordPress webpage has allowed teachers to display motivation when applying the array of resources, strategies, activities, complementary material, the use of digital tools, the introduction of new applications and the inclusion of tools for collaborative work that are innovative and creative, such as resources.

Worth highlighting is the fact that designing and implementing the WordPress webpage has proved beneficial, such that we encourage the further development of support tools of this kind that foster and ensure new forms of teaching and learning that are meaningful to both students and teachers alike.

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