

## Use Of Google Drive And Whatsapp For The Follow-Up And Development Of The Final Master's Project Through M-Learning

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### Abstract

Mobile Learning can be defined as the teaching-learning process that takes place at any place and time, thanks to the use of mobile devices with wireless connection. These tools allow us to access the required information through the network. In this study we analyse the influence of Google Drive and WhatsApp Application to investigate and develop the final Master's Project in students enrolled in the Master's Degree in Teacher Training in Compulsory Secondary and Upper Secondary School Education, Vocational Training and Language Teaching in the Campus of Ceuta. In this case the research has been applied to a group of six volunteer students. It is a descriptive method with an analysis developed from a qualitative approach. In order to obtain the research results, an outline for a half-structured interview was elaborated and validated by content validity. The interviews were individual and recorded for later transcription and ordering. The results show that students value the experience in a positive way, highlighting the possibility of asking and solving doubts through WhatsApp anywhere and anytime, not only with the teacher, but also with the opinion and participation of the rest of classmates, being able to see and solve the inadequate aspects that arose in the elaboration of the final Master's Project through the teacher's comments. As a conclusion we can argue that the experience was positive, adapted to the students' style and learning rhythm, receiving a positive feedback in less than 48 hours for writing the final Master's Project and solving the doubts along its creation.

### Introduction

Technologies have permeated with great force in the lives of all citizens, although to a greater extent in the lives of the youngest people. Up to a point that we have begun to speak of "digital bottle" which is nothing more than the mixture of large doses of computer, video games, Internet and mobile (Castell, 2003), not conceiving our existence without search engines, email, WhatsApp or social networks (Del Barrio & Ruíz Fernández, 2014).

So much so, that we can say that we are witnessing one of the main changes that are taking place in society in recent years, due to the unbridled development of Information and Communication Technologies (ICT). These changes are taking place in all areas of society: communication, organization, work, fun, searching for information, way of relating, and, to a greater extent, in education (Raposo-Rivas & Salgado-Rodríguez, 2015).

Regarding education, now it is possible to bring cultures closer through the different tools of instantaneous communication, both synchronous and asynchronous, that the network offers us, with a very high flexibility for sending and receiving all kinds of information and multimedia elements in different formats (Leiva-Olivencia, Moreno-Martínez & Peñalva, 2016):

- Chat and / or video conference: Skype; WhatsApp; Hangouts; Line; Telegram
- Email: Hotmail; Gmail; Yahoo
- Social networks: Twitter; Facebook
- Cloud storage: Google Drive.

The present study has precisely been carried out with the objective of analyzing to what extent two of these tools, Google Drive and WhatsApp, can influence the follow-up and development of the final Master's project in students of the Master's Degree in Teacher Training in Compulsory Secondary and Upper Secondary School Education, Vocational Training and Language Teaching in the Campus of Ceuta.

Carrying out this study has been considered necessary to know the teaching and learning process, These two resources are mainly associated with the mobile learning methodology, understanding this as *"the learning that occurs from the mediation of mobile digital devices"* (Aznar-Díaz, Romero-Rodríguez & Rodríguez-García, 2018, p. 259).

## Theoretical Framework

### M-Learning

The Mobile Learning as a topic of research in educational technologies, had its beginning in the first decade of this century. Its main characteristic is ubiquity, that is, the teaching and learning process can be carried out at any time and place. At first it could be associated with any mobile technology, but if we focus on the educational field, three stand out: tablets or digital tablets, smartphones or smart mobile phones and phablets, a device resulting from the combination of the previous two (Brazuelo & Gallego, 2014).

In this line Sharples and others (2007) cited in Padrón (2013, p.127)) consider that Mobile Learning "is a combined experience on five main axes", which are (Table 1):

- Mobility in the physical space
- Mobility in a conceptual space from a personal interest that evolves
- Mobility in the social space in the different social dimensions in which we move, and finally
- Learning dispersed over time, as a cumulative process that gathers a great variety of experiences in formal and informal contexts.

Table 1: Mobility characteristic of Mobile Learning

Mobility characteristic	Description
PHYSICAL SPACE	Learning is not linked to a specific physical space. Mobile technologies allow us to release moorings in the physical space.
MOBILE DEVICE	Portability of devices: Telephones, PDAs, laptops. Access to information and resources in any space and time through mobile digital networks: Wireless.
CONCEPTUAL SPACE	Learning starts from a personal interest and advances and is modified according to personal interests and curiosity.
SOCIAL CONTEXT	Learning occurs in the different social contexts in which we participate: family, work, school...
DISPERSION IN TIME	Learning is a cumulative process that gathers a great variety of experiences in formal and informal contexts.

Source: Padrón (2013, p. 128)

According to Romero-Rodríguez and Aznar-Díaz (2018) it is a matter of time before this methodology is used habitually in the classroom, taking into account the social reality with which we meet every day. Although they affirm that we must not forget that it is another resource that the teacher has for teaching, and therefore it must be completed with other tools or techniques.

With the development of ICT and its application in the educational field we can speak of a before and after in the teaching and learning process as evidenced by experiences carried out with Google Drive and WhatsApp.

### Google Drive

Currently, there are many services offered by the Internet to work collaboratively online, although, we will focus on one of the tools that have been best valued by the Centre for Learning & Performance Technologies, which annually collects the opinion of international experts in the field of education about the best tools to be used in the teaching and learning process. We are addressing Google Drive (Castellanos-Sánchez & Martínez De la Muela, 2013).

Google Drive is a service for hosting files in the cloud that allows the development of text documents, spreadsheets, presentations and surveys editable by several people who share the document (Rodrigo-Cano, Iglesias-Onofrio & Ignacio Aguaded (2015). Gómez, Palomares & Pino (2010, p.2) claim that Google Drive is a tool that facilitates "the collaborative work of the teams, groups and people who come together to share, work and learn in a virtual common space and achieve the proposed objectives". As an example, we cite some research in this regard:

Álvarez Ferrón and Sánchez Cañizares (2014) carried out an investigation with 622 students (417 women and 205 men) from the IES Prince of Asturias in Lorca (Murcia). One of the objectives of this research was to verify to

what extent the applications contained in Google Drive can facilitate cooperative work in educational centers. As a method we used a questionnaire with 20 closed questions that was developed with the Forms application included in Google Drive. The data was collected online. The results show that 100% of the students who systematically use Google Drive consider it very useful as a tool to work cooperatively, since the doubts can be solved both by the teacher and by the classmates, leading to reciprocal learning. The results show that 100% of the students who systematically use Google Drive consider it very useful as a tool to work cooperatively, since the doubts can be solved both by the teacher and by the classmates, leading to reciprocal learning. Likewise, 59.71% of the participants consider that this method of work facilitates learning and the task to be carried out, thus influencing motivation.

Morales (2015) presents an experience with 94 students (40% of students of the School of Medicine and 60% of the School of Nutrition and Dietetics) on the use of Google Drive in the subject of Computing in the Faculty of Public Health of the School Higher Polytechnic of Chimborazo (Ecuador). The most outstanding activity was to make a student portfolio. A survey was designed using the Google Drive Forms tool and was applied through email and social networks to students. According to the results obtained, 91% of respondents prefer to use the Google Drive Platform to manage the portfolio. Likewise, 92% state that this tool should be used as an institutional policy in all subjects.

Martín Roda and Sassano (2015) state that Google Drive is an easy-to-use tool with basic knowledge in computer science. It allows you to work from anywhere and with any mobile device, saving information in an authoritative way. You can share files and work with them synchronously and asynchronously, increasing the activity among the students and thus improving the teaching-learning process. These statements coincide with the results of other studies such as that of Barrios and Casadei (2014).

On the other hand, Brescó and Verdú (2014), conducted a study to assess to what extent the tools Wikispace and Google Drive can contribute to the improvement of group projects in university students. The sample consisted of 124 students of the first year of the Primary Degree of the Faculty of Educational Sciences of the University of Lleida. The students did two group projects, one carried out with the Wikispaces tool and the second with the Google Drive document tool. After this experience the students came to the conclusion that Google Drive is a better tool to carry out group projects and to encourage communication between students.

Rowe, Bozalek and Frantz (2013) developed an experiment at the Western Cape University (South Africa) with the aim of encouraging interaction between teachers and students. For this, the teachers created a learning environment using Google Drive in which the students carried out activities to develop critical thinking. The results show that Google Drive is an innovative pedagogical tool that changed the way of thinking of students.

### **WhatsApp**

“The wide diffusion of the use of smartphones or smartphones in our country has meant the modification of some of our ways of relationship and social communication” (Diez-Ros & Aguilar-Hernández, 2016, p. 344). Currently the most used device to access the Internet is the Smartphone (88.2%), placing itself ahead of the computer (78.2%). In relation to the first is instant messaging, mainly WhatsApp (90.9% of the population, 100% among young people from 14 to 19 years old), the element most commonly used to communicate with family and friends (Telefónica, 2016. Quoted in Alonso-Ferreiro and Fraga Varela, 2016), In addition, in recent years, it has become an innovative pedagogical resource, as the following investigations demonstrate:

Padrón (2013), carried out a study with 8 participants (4 urbanists, 2 lawyers, 1 architect and 1 administrator) with ages between 25 and 44 years, to analyse to what extent the didactic strategies based on WhatsApp can promote collaborative learning, both in the formal and informal processes, in the master's degree in urban transport at the Simón Bolívar University (Venezuela). The participants created a virtual collaborative group through which they proposed how to perform the tasks, what procedures were to be used, how the work would be distributed, as well as tutorials with the teacher to resolve some doubts. The results show that the use of WhatsApp in education, integrated as a training strategy, improves communication and the construction of knowledge.

Monguillot-Hernando, González-Arévalo & Guitert-Catasús (2017) show a research carried out at the Open University of Catalonia (UOC) with 3 Physical Education teachers from different educational centre in Barcelona, with the aim of knowing how the use of WhatsApp can promote virtual collaborative work among teachers. The results obtained show the importance of the use of WhatsApp "as a synchronous and asynchronous tool to be taken into account in the monitoring of collaborative learning situations" (p.56). The faculty has advised the use of WhatsApp to other teachers making them see that it is a tool that encourages collaboration, breaks with the professional isolation that involves being in a classroom, promoting, at the same time, the relationship and

interaction between teachers.

## **Methodology**

### **Type of study**

The type of study developed is descriptive, applying an analysis from a qualitative approach (Colás y Buendía, 1998).

### **Objective**

The objective of the research is to assess whether the use of Google Drive and WhatsApp favors the follow-up and development of the final Master's works, being the premises marked by the m-learning method.

### **Subjects**

The research has focused on students who are enrolled in the Master's Degree in Teacher Training in Compulsory Secondary and Upper Secondary School Education, Vocational Training and Language Teaching in the Campus of Ceuta in the academic year 2017/2018, mainly in the Final Work of Master (TFM).

The population is composed of 6 volunteer students, where 66.6% are women and 33.4% are men. The ages of these students are between 24 and 31 years old, being 24 years old (16.6%), 25 years old (50%), 26 years old (16.6%) and 31 years old (16.6%).

The speciality that are studied in the Master are Orientation (33.3%), Spanish Language and Literature (16.6%), Mathematics (16.6%), Drawing (16.6%) and Training and Labor Orientation (16.6%).

### **Instrument**

The interview is ad hoc, created specifically to analyse the objective set out in the research. It is of semi-structured type and consists of 6 items that try to analyze if the procedure followed is adequate or not.

The instrument, to be validated, has gone through a content validity, through the contribution of 5 expert doctors in the subject addressed. The recommendations focused mainly on the elimination of certain items, as they were not considered adequate for the aspect that was to be analyzed. The recommendations were taken into account.

### **Process**

The information collection procedure is carried out during the development of the TFM, after two months from the beginning of the meeting in which the work to be done by each of the members was arranged, to know the situation in which they were in relation to the experience developed.

In the interview we had, a recording was made, for its subsequent transcription and analysis. The predisposition of the students was always positive and collaborative.

For the analysis of the interview, we have selected key ideas in each of the questions, with the intention of obtaining similarities or differences between the opinions.

## **Results**

At a general level, the opinions of the students regarding the use of Google Drive and WhatsApp for the development of the Final Master's Project are positive.

In relation to the question posed on whether it has supposed to know new resources for the process of teaching and learning, the students have been unanimous in confirming it, that the fact of developing the FMP following the m-learning method has made them see the resources they usually see every day in another way.

I have always used WhatsApp for leisure and entertainment issues, and now that we have developed the training process this way, I have seen it as another pedagogical resource. I liked this new perspective [Participant 1].

It's the first time I see Drive, before I always kept the documents on a pendrive. Thanks to the development of this method of work I have observed that in addition to storage, I can modify the document anywhere and at any time, and receive modifications from the teacher without having to send and receive continuously the Word document [Participant 3].

Regarding to whether this method of teaching has contributed to learning, students have stated that, rather than

contributing to learning, it has made the task much easier.

I would say that it has helped me to perform the task more easily. I give you an example, the other day I was going away for the weekend with my family, the time that I was waiting to embark and during the passage in boat, I had the chance to consult doubts by WhatsApp and to complete the work by means of Drive [Participant 2].

To me it has facilitated the learning, as much the professor as my companions, since by means of the WhatsApp group, when I have been a doubt, they answered in a little time any of them, solving the doubts [Participant 4]

Regarding the question of whether it favors teamwork, students agreed, but in those situations when work dealt with the same topic for all of them.

It has helped me personally, especially my colleagues who had to do the Didactic Unit, because they quickly solved my doubts. In this case, we have been able to work as a team [Participant 6]

If we talk about working as a team to develop a project, I personally think not, especially in my case, that developed a Plan of Attention to Diversity and was the only one, so I have not been able to receive much advice from my colleagues. If we see it through the perspective of helping each other, I think so, because at certain times, colleagues with similar FMP lines have helped each other a lot [Participant 4].

When asked if this method matched their learning, the students said no at the beginning of the implementation, but as they progressed they observed that there would be another way to learn and that it could fit in with their new way of learning. Learnin.

I have been used to listen to the teacher in class and take notes all my life. He did not make decisions, he only copied and studied by heart. With this new form, I see that I am the one who must set my pace and guide the development of my work to my needs. Personally, I like it a lot, and I think it can be useful for my classes tomorrow [Participant 5].

Well, if we see it through the perspective of what I've lived so far, it does not fit, because I'm not used to this way of learning. If we see it through the perspective of what I just learned and put into practice, I would say that it does fit with my way of learning, because it makes my work easier and adapts to my rhythm and learning style [Participant 4].

Finally, the assessment has been very positive on the part of all students, emphasizing that this type of experience should be promoted more frequently in the university environment.

My assessment is positive. On the one hand I value the performance of the teacher who has been pending at all times to resolve the doubts about WhatsApp, and on the other hand the help received from my colleagues [Participant 6].

My assessment? Very good, the truth is that I did not know that these things could help so much academic development, in addition to offering me another type of teaching that is not masterly. I intend to apply it tomorrow. [Participant 3].

## Conclusions

The students who have completed the Final Master's Project have positively evaluated the teaching and learning process that has been developed following the guidelines set by the m-learning method.

They consider that it has supposed to them to see novel teaching and learning processes through new educational resources, which has facilitated the training development, coinciding with Álvarez Ferrón and Sánchez Cañizares (2014), facilitating the completion of the various tasks and promoting group work, being in line with what was established by Gómez, Palomares and Pino (2010, p.2).

At first they had objections when developing the educational action in the manner proposed, but as the activity progressed, they saw the advantages that it entailed. They emphasize the fact that they can do their work anywhere and at any time, coinciding with what was established by Martín Roda and Sassano (2015) and Padrón (2013) as well as raising questions in the group and being answered, not only by the teacher, but for the student, which

could solve doubts adequately, generating a reciprocal learning (Álvarez Ferrón and Sánchez Cañizares, 2014).

These students believe that it would be necessary, especially in a Master oriented to teacher training, to present innovative methodologies, to facilitate both the acquisition of content and models to apply tomorrow in school coinciding with Monguillot-Hernando, González-Arévalo and Guitert-Catasús (2017) that advise the use of WhatsApp among teachers, making them see that it is a tool that encourages collaboration, breaks with the professional isolation that is being in a classroom, and it improves the relationship and interaction between teachers.

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