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**THE USE OF MOODLE IN THE ADULT CENTRES OF THE**  
**CANARY ISLANDS**

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*Abstract*

The purpose of our study was to determine to what extent teachers of adults are trained in information and communication technologies (ICT), as well as whether they have the necessary technological resources in their classrooms in order to use the training acquired in the ICT field with their students. In this article, we shall focus on the teachers' use of the Moodle platform as well as their training in ICT in the adults centres of Canary Islands, Spain. For this purpose, we administered a questionnaire to the teachers with items about the existence and use of the Moodle platform in their centre. The results obtained revealed a body of teachers trained in ICT who use the Moodle platform and the tools available at their centres. Reality shows that most adult centres do not have many resources that teachers can use.

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**Keywords:** Adult education, educational platform, ICT, moodle, teachers.



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## 1. Introduction

Society currently faces numerous changes, whose most relevant feature is the rapidity with which they occur, which means, as stated by Cabero (2002), that we may not always be aware of all the possibilities, limits, and impact they produce. In educational material, we could observe these changes, especially with the introduction of information and communication technologies (ICT). Technology is constantly changing the way in which we learn, work, and live (Jiao & Miao, 2010). Not only children and youth have seen the changes in the methodology and tools used by their teachers to teach them, to a greater or lesser extent; adults have also been witnesses of this transformation. The teachers of adults have had to adapt their classes to the technological tools available in their classrooms—those who have such tools—and to the use of the educational platform Moodle, in the case of the Canary Islands, Spain.

Currently, we are in the age of information, where technology has played a very important role in diverse sectors of society (Yang, 2012). According to Friedman (2005), Internet has brought greater global interaction and thereby, the globalization mentioned by Estefanía (2002) in “Child, what is globalization?” Giddens (1999) indicates that there are no more frontiers. Therefore, as stated by Yang, schools will have to assume a new role in the construction of knowledge and acknowledge the importance of ICT in this new society. Technology can focus on various aspects. For instance, technology can focus on the student and constructivism, as in the studies of Coupal (2004), technologies that, according to Bruce (2004) enrich learning experiences, and those that transform the syllabus (Jamieson-Proctor, Burnett, Finger & Watson, 2006). The advantages that technologies can contribute to education cannot be denied, but in order to achieve the most from each one, teachers should have adequate initial and continuous formation in ICT (Pombo, Smith, Abelha, Caixinha, & Costa, 2012). Knowing how to use ICT means knowing how to integrate them in their classes so that their students interact with each other and with the teacher, encouraging students to construct their own knowledge (Ramos, Costa, Gewerc, & Moreira, 2007). Therefore, according to studies of Cabero (2005), teachers should change their role, cease being the transmitter of knowledge to become their students' guide, and the students would be the protagonists of their own teaching-learning process, as required by the information and communication society, while not forgetting that it will be necessary to achieve digital literacy to process all the information (Yang, 2012). It is necessary to realize that ICT alone do not provide innovation to our schools nor do they improve the quality of education but instead what we do with ICT, the methodology used by the teachers (Gandol, Carrillo, & Prats, 2012). The main purpose of the use of ICT should be learning, understood as a process to acquire new and different information (Falk & Harrison, 1998), and as much as possible, cooperative learning (Ramos et al., 2007).

### 1.1. Moodle Platform

According to Ros (2008, p. 3) “Martin Dougiamas, doctorate student at the University of Perth, in Western Australia, coined the term Moodle in his thesis in 2002.” This university teacher wanted a tool that would facilitate social constructivism and cooperative learning. Its name comes from the acronym of Modular Object-Oriented Dynamic Learning Environment, although other sources say that it comes from the English verb moodle, which describes the process of wandering lazily through something, and doing

things only when one feels like doing them. According to the author, he wanted "a program that would be easy to use and as intuitive as possible" (p. 3). Amorós (2007) states that:

Moodle responds to a Modular Object-Oriented Dynamic Learning Environment. By environment, we refer to a digital system that contains integrated communication tools that are available through computer networks, no matter whether they are synchronous or asynchronous (p. 2).

Thus, this platform allows one to create a teaching-learning environment where the teacher does not always have to be present, because as a methodology, it is also very practical to work with from home, promoting much more flexible learning (Wilson, 2008). Moodle is based on constructivism and, especially, social constructivism. Karagiorgi and Symeou (2005) state that constructivism is the predominant theory of the last decade in philosophy, psychology, and cybernetics and it attempts to describe how people know the world. This theory explains that knowledge is actively constructed by the individual, and it is an adaptive process that organizes the student's experience. According to Karagiorgi and Symeou constructivism consists of several levels until it reaches the construction of knowledge. One of the precursors of social constructivism is Vygotsky (1978), who was related to other authors of social constructivism, such as: Bandura (1977) with his theory of social learning; Lave and Wenger (1991) with their theory of situated learning; and Piaget (1967) and his genetic epistemology; Ausubel (1963) and his theory of sub-supposition; and Gardner (1983) with his theory of multiple intelligences, among many others. All these authors are related to each other and all of them are necessary in order to understand the development of social constructivism. One of the most important aspects this has implied is computer-based learning or e-learning, either long-distance learning or blended learning, and the development of web 2.0 and its tools, such as blogs (Deitering & Huston, 2004), wikis (Cubric, 2007), as well as online resources and the creation of learning communities (Ryberg & Christiansen, 2008).

Another relevant aspect of social constructivism is that groups—in this case, students—unite and construct their own learning (Cabero, 2005), which is shared and applied in daily life situations, as well as in the learning communities (Ryberg & Christiansen, 2008). Thus, the new learned contents are linked to previous contents, creating a relationship between them. Therefore, if we unite social constructivism with computers and, in particular, with the Moodle platform, we can see how it is possible to create and share new knowledge using technology for this purpose. Hence, we achieve cooperative learning as defended by Clinton and Rieber (2010).

In the Moodle platform, we find different modules, each of them with a specific objective. First are the communication modules, which facilitate interaction among all the members of the community, that is, teachers, students, and families. Second are the modules of contents of materials whose role is to present information and, thereby, the study materials. And lastly are the activity modules, whose function is practical: they tell the students what to do. But there are many other modules, defined by different authors with different names, among them: the task module, the chat module, the consultation module, the forum module, the questionnaire module, the resource module, the survey module, the workshop module, etc. Among their features, in the words of Bello (2008, p. 2), we emphasize that the Moodle platform allows students to "analyze, investigate, collaborate, share, construct, and generate knowledge based on what they already know". Moodle meets the requirements that Clarenc (2013) establishes for educational virtual environments: interactivity, flexibility, scalability, standardization, usability, functionality, ubiquity,

persuasibility and accessibility. Therefore, as a tool, Moodle offers us many advantages as long as the student knows how to use the platform, with which the teachers have to be trained and train their students.

Moodle has been established in the education system, in different social environments. There are different autonomous communities in Spain that have implemented Moodle institutionally, creating a common project for all their educational centres. Most of the institutions where Moodle has been installed have been in high schools (López, 2011).

The Junta de Andalucía has developed the Virtual Classroom project for permanent education. Extremadura has established the Virtual Teaching project. In Castilla La Mancha Moodle is also committed to support the implementation of ICT and the community of Madrid has Moodle installed throughout its network of centres.

As we can see, the Moodle platform is based in many schools in our country and is used with good results, as highlighted by Sangrá (2005) because it is effective in the learning process at different educational levels, it contributes to improving school performance, favors cooperation among students and reduces the technological distance between students and teachers.

## **1.2. Adult centres in the Canary Islands**

In 1986, the Government of the Canary Islands acquired the competences in Education, till then managed by the Spanish State. The General Directorate of Educational Promotion was commissioned to draft and publish different proposals in order to define an appropriate response to the educational needs of adults (Rodríguez, 2002). Since then and until the present, adult education has undergone many changes. There are currently more than 51 adult education centres in the Canary Islands (including adult centres, secondary education institutions, and the classrooms assigned to adults) and there are more than 1000 teachers. The participation of adult students has also increased. Elementary education was one of the teachings that initiated adult education in the Canary Islands because many adults of this region were illiterate. Elementary education refers to the official teachings ranging from initial literacy to teachings corresponding to the title of Graduate Degree in Secondary Education. It can currently be stated that many adults are still training in elementary education, but many more are being formed in higher studies, such as obtaining the title of Graduate Degree of Secondary Education or of High School. Many adults are also interested in ICT. According to Castañer (2010):

Training in information technologies within the offer of the training centres for adults is mainly integrated in three categories or levels: Basic training in its different levels, Teachings for personal development, and Long-distance or Open Education (p. 10).

Adults' demands for ICT have not ceased to increase over the years. Adults want to learn how to use ICT so as not to be "left behind" by society. Adults seek to initiate training in computer science, using different applications. They want to learn to use the Internet, open an email, sign up for a social network, etc. The teachers, with their acquired training, should train their students in the use of these tools (Ertmer, 2005). To carry out these courses, it is necessary to take into account the characteristics and profile of the adult, because each person comes to the adult centre with a different need. Adults who want to learn how to use the Internet for their own leisure are not the same as people who seek to promote themselves or advance in their in work (Castañer, 2010).

Adult education in the Canary Islands is regulated by Law 13/2003 of April 4, of Education and Lifelong Formation of Adults in the Canary Islands, published in the Official Bulletin of the Canary Islands (2003). It regulates all aspects of adult education in the Canary Islands, with the creation of the different centres so that such formation can be carried out. In the Canary Islands, there are 32 CEPAs [Centros de Educación de Personas Adultas, in English: Adult Education Centres], established on the seven Canary Islands: 12 in the province of Santa Cruz de Tenerife and 20 in the province of Las Palmas. Each centre has a Moodle platform to organize the teaching provided both as blended teaching and as open teaching. This platform is acquired through the Education Council of the Government of the Canary Islands. Although all the CEPAs have the platform at their disposal, some centres have not activated it or else they prefer to use their own websites, blogs, or other educational platforms or, failing that, they use no technological tools. Whether or not they have their own platform, the goal is the same: to provide support to the presential teaching that occurs in the classroom and to all students who cannot go to the centre for any reason, so they can to continue their studies at home, thus eliminating the barriers to participation and addressing the needs of the adults (Jiao & Miao, 2010). Thus, the possibilities of the Moodle platform as a tool are endless and we should, by means of education, promote its use from the position of responsible participation.

## **2. Problem Statement**

The statement of the problem is that although there is a Moodle platform in all adult centres in the Canary Islands, most students do not know that it exists and therefore do not use it.

## **3. Research Questions**

The questions that were asked to the students are related to the use that they give or not to the Moodle platform of their study centre.

## **4. Purpose of the Study**

The purpose of this study was to know if the students of the centres of adults of the Canary Islands know the existence of the Moodle platform in their centre as well as to know if they use it or not.

## **5. Research Methods**

### **5.1. Participants**

Our investigation aimed to determine the use made of the virtual platform Moodle by the teachers who have the platform at their adult centres of the Canary Islands, Spain. All the teachers from the different public CEPAs of the Canary Islands, who, according to latest data from the academic year 2011-2012, are estimated at 344 teachers (Ministry of Education, Culture, and Sports, 2013) were invited to participate in this study. Finally, 207 teachers of both sexes participated in our study. Of the 207 teachers. Thus, with a 4.5% margin of error and a 95% confidence level, the sample size recommended to conduct this research

is 200 professors; therefore, the final sample of 207 is considered suitable to perform this research with guarantees, although only 159 of the 207 teachers admitted use Moodle in their classes.

## 5.2. Instrument

With regard to the instrument administered, we created an ad hoc questionnaire with items from questionnaires used previously in investigations carried out by Chirino (2009) and Castro and Chirino (2011, 2013). The questions were about the usage frequency and how the teachers use the platform at their centre. It is a closed questionnaire rated on a Likert scale, where the degree of agreement ranges from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was presented both on paper and online, so teachers could choose the best way for them to complete it.

## 5.3. Procedure

To administer the questionnaire to the teachers, we first contacted all the boards of directors of the CEPAs by phone. We explained the investigation and requested their cooperation by completing a questionnaire. Out of the 32 CEPAs of the Canary Islands, 31 readily agreed to participate in our study, so we sent them the website where the online questionnaire was uploaded, as well as electronic copies and paper copies. After two weeks the teachers responded to the questionnaire, we collected the questionnaires.

After a prudent interval for the teachers to complete the questionnaire, we collected the questionnaires. After collecting all the questionnaires, the data were analyzed with the SPSS program, version 19.0 (2010). For this purpose, we used a quantitative methodology in our study, through data collection.

## 6. Findings

The questionnaire began by asking the teachers whether or not they had a Moodle platform at their centre. Of the teachers, 23.2% assured us that they had no platform at their centre, whereas 76.8% admitted they had one, a total of 159 teachers. The teachers who were unaware of the existence of the Moodle platform did not complete the questionnaire, so only the remaining 76.8% of the surveyed teachers completed it. Out of this total; 21% dedicated 2 weekly hours to the platform; 27% from 3 to 4 hours; 18% dedicated 5 to 6 hours; another 18% dedicated 7 to 10 hours; 9% devoted 11 to 15 hours; and, lastly, 7% of the teachers used the virtual platform for more than 16 hours per week, as shown in Figure 1.

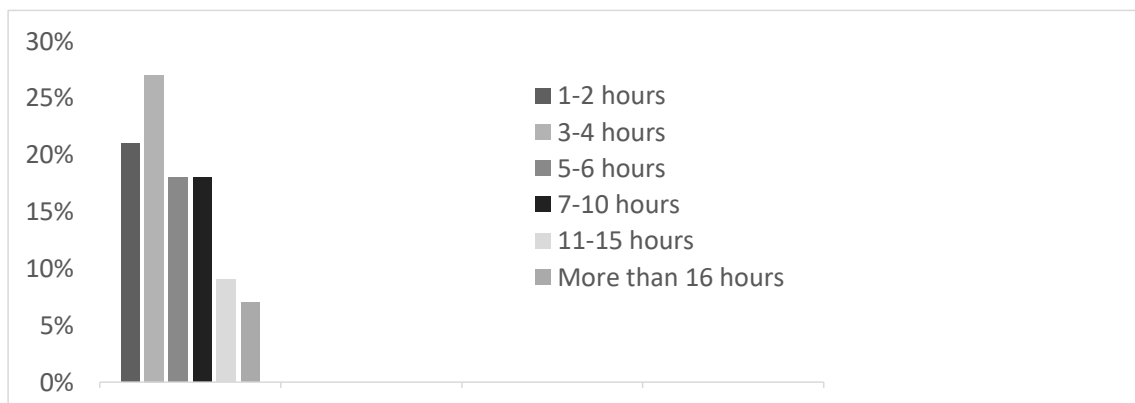
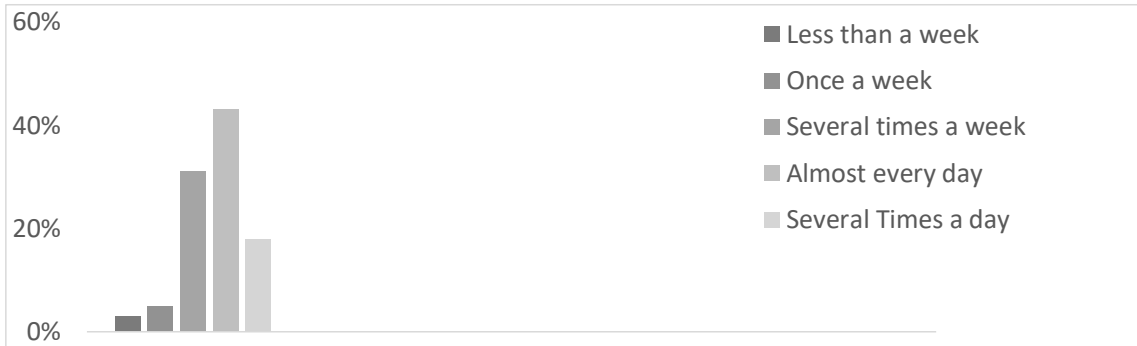


Figure 01. Weekly dedication to the virtual platform

With regard to frequency of access to the Moodle platform, Figure 2 presents the results obtained: 3% of the teachers access it less than once a week; 5% open it once a week; 31% access it several times a week; 43% use it almost every day; and 18% use it several times a day.



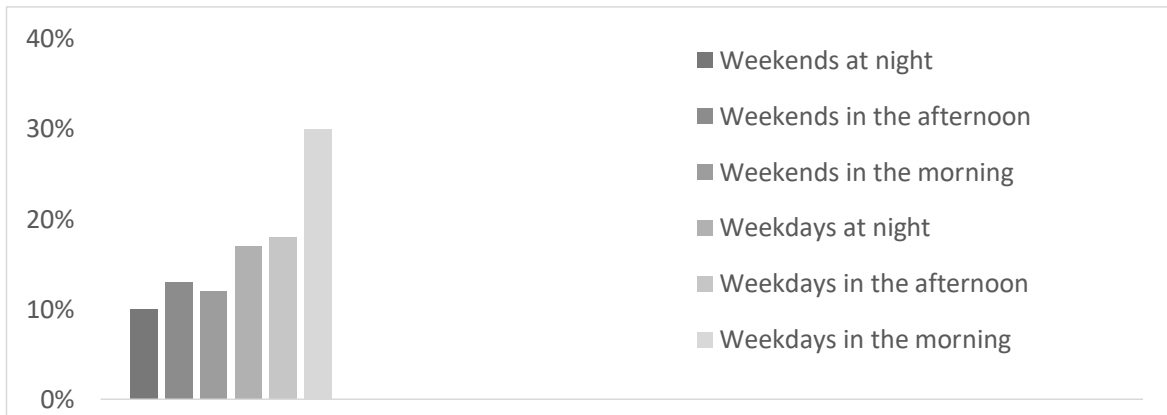
**Figure 02.** Frequency of access

We not only wished to determine the frequency of access to the platform but also at what moments of the week the teachers usually open the platform, as shown in Figure 3. Of the teachers, 30% access the platform on weekdays, in the morning; 18% also access it on weekdays, but in the afternoon; and 17% access it on weekdays, at night. With regard to the weekends, 12% of the teachers open the platform on the weekends in the morning; 13% open it on weekends in the afternoon; and 10% open it on weekends at night. Thus, we determined that the majority of the teachers chose to access the platform on weekdays in the morning.



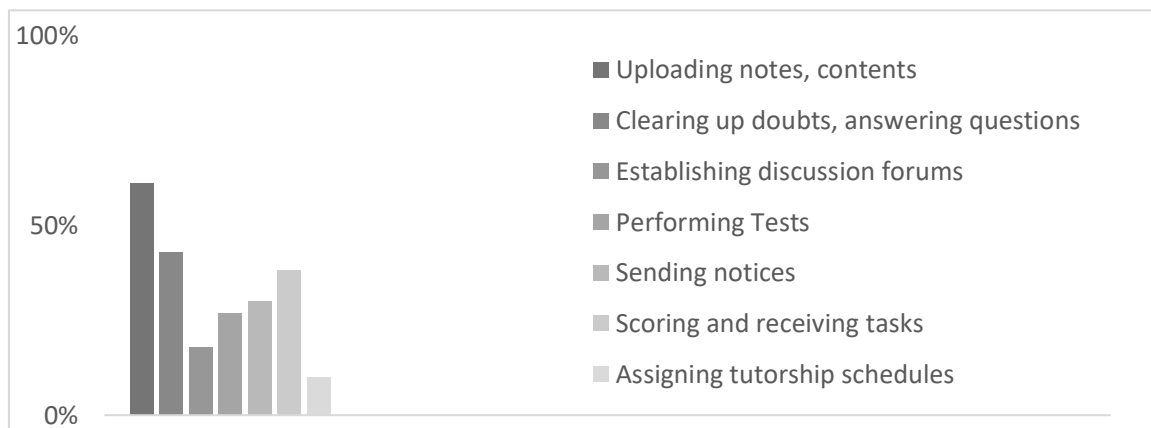
**Figure 03.** Moment of access to the platform

We also asked the teachers about how long they were connected to the platform. Figure 4 shows that 8% of the teachers were connected for less than thirty minutes; 38% were connected between 30 and 60 minutes; 39% were connected between one and two hours; and 15% were connected for more than two hours.



**Figure 04.** Connection Time

Upon verifying that more than 75% of the teachers have access to a virtual platform, the next question focused on knowing what actions they carry out through the platform. Figure 5 shows that 61% of the teachers use the platform to upload notes and contents of their subject; 30% use it to send official notices; 43% use the platform to clear up student's doubts; 38% use the it to receive and score tasks; 18% establish discussion forums; 10% use the platform to assign tutorship schedules; 18% use it to test their students in various ways.



**Figure 05.** Actions carried out by the teachers with the virtual platform

It was also necessary to determine the teachers' appraisal of the platform they had at their centre. For 14% of the teachers, the degree of satisfaction with the virtual platform was very low; for 17%, it was low; 49% rated it with a medium degree of satisfaction; for 16%, it was high; and 4% rated it as very high. Thus, almost one half of the teachers considered that the current virtual platform they use at their centre met their expectations to a medium/normal extent.

Finally, the surveyed teachers were asked about the mean percentage of students who usually accesses the virtual platform of their subject. Figure 7 shows that 48% of the teachers believe that more than 10% of the students access the platform; 20% of the teachers think that more than 25% of the students use it; 17% of the teachers state that more than 50% of their registered students use the platform; 10% thinks than more than 75% of the students use it; 4% of the teachers believe than more than 90% of the students use the platform; and only 1% of the teachers state that 100% of the students of their centre use



the platform. In general, the teachers think that their students do not access their subject regularly on the Moodle platform.

## 7. Conclusion

All the CEPAs have access to a Moodle platform provided by the Council of Education of the Government of the Canary Islands, Spain. However, almost 30% of the centres have not yet activated it, either due to lack of information, lack of time, or lack of the necessary resources to activate it, because some centres from rural populations have greater problems connecting to the internet. As stated by Cabero (2005), social and technological changes have occurred so quickly that, in many cases, we have not been aware of them and some centres still cannot update their technology. It seems clear that nearly 75% of the surveyed teachers states they use the platform at their centre, and they grant an important role to technology (Jiao & Miao, 2010). However, some teachers use the platform internally, that is, to communicate with each other and share information, without opening it to students. But little by little, more and more teachers are using it with their students. It should not be forgotten that, aside from the training the teacher should possess (Pombo et al., 2012), the students should also possess a minimum of technological skills, a digital literacy (Yang, 2012). This task is somewhat more complex, because adults are not as familiar with technology as children and youth, so that digital literacy is indispensable before undertaking any technological activity with them. Teachers who have a subject on the virtual platform use it with their students to upload information about the subject, publish notices of tasks to be carried out, perform self-assessment tests, score their students' tasks, and also use discussion forums so their students will interact with their classmates and teachers, thereby promoting cooperative learning (Clinton & Rieber, 2010). Thus, the students create their own knowledge (Ramos et al., 2007) and relate it to what they had learned before, incorporating it into their knowledge schema. The teachers state that they dedicate between 3 and 4 hours a week to the platform, for the above-mentioned activities. They usually open the platform every day, and most of them do so on weekdays, either in the morning or in the afternoon. Regarding the educational centre, it has become the main workplace for the teachers to use the centre's platform, during their assigned work schedule outside the classroom. According to Jiao and Miao (2010), technology has produced changes in the way people learn, and the teachers must be up to date in these changes and focus on the student and foster constructivism (Coupal, 2004).

Concerning the functioning of the Moodle platform of their centres, the teachers state that it is adequate and meets their expectations, although their satisfaction with it is only medium. It should not be forgotten that the Moodle platform was created to promote cooperative learning, and it is a user-friendly and intuitive system (Amorós, 2007). It was created to support presential teaching in the classroom, and also helping students who cannot come to class to remain in contact with the content taught in class, thus promoting flexible learning (Wilson, 2008). However, according to the teachers, a very low percentage of their students accesses the virtual platform; in many cases because the above-mentioned digital literacy is not yet deeply ingrained in the adult students, often because they have not yet had the opportunity to receive any training in it. Therefore, firstly, the training possessed by the students should be taken into account, so they will then be able to use the resources responsibly. Because, as stated by Gandol et al. (2012), ICT itself

does not provide any kind of educational innovation or quality. The teachers and students are the ones who should grant ICT its due importance and give it the place it deserves through the use they make of it.

As discussed in the theoretical framework and as Sangrá (2005) states, the Moodle platform is effective in the learning process for the educational level under study because it favors school performance, favors cooperation among students and helps to diminish the technological difference between students and teachers. Taking into account that we talk about adult education, everything mentioned above is very important, because the Moodle platform not only helps adults to learn, but they do it in a cooperative way, helping to minimize the digital divide and being flexible with the time of each one of the adults, as it has been observed in other studies and in the specifications of the Moodle platform given by Clarenc (2013). For all that, the Moodle platform is a good tool for adult education.

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