

Use Of Web 2.0 Tools Running A Wiki For Contents Creation Through Cooperative Groups

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Abstract

Web 2.0 has generated a change in people's attitudes ranging from static to dynamic thanks to the web tools that allow users to share, collaborate and participate, generating contents in a cooperative way. This research aims to identify whether the Wiki tool is suitable for contents creation, both theoretical and practical, following the philosophy of cooperative groups, 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 (n = 73). The method is descriptive and correlational, carrying out an analysis from a mixed approach (quantitative and qualitative). Two instruments were created to obtain the data: a questionnaire to evaluate the Wiki application as a valid tool for the teaching-learning process (post); and a debate outline for the discussion groups consisting of eight groups of 8 members, except one formed by 9. The quantitative results showed the application favoured the class group participation, the inquiry, collaboration and learning and in fact it offers new perspectives for the teaching process. The lack of time to properly develop the activity stands out as a negative aspect. At a qualitative level the results showed that students were reluctant to apply a new educational methodology, but as the classes progressed, they valued the action positively, considering the possibility of applying them when they were teachers. As an improvement proposal they suggested to create smaller groups to produce contents through the Wiki. We can conclude the Wiki application can be a valid tool for contents creation, as long as it is applied in smaller groups.

Introduction

There is no consensus when it comes to establishing the moment of the birth of the Web 2.0 term, for some authors (De Haro, 2010), the term was first coined by Dacy Dinucci to indicate the changes that were taking place at an aesthetic and design level various websites. For others (Martín, 2011, Palomo, Ruiz & Sánchez, 2008), the term appears in the mouths of Tim O'Reilly and Dale Dougherty, in 2004, referring to user communities, which could modify various applications thanks to the social collaboration.

It is in 2006, when the term Web 2.0, from Time magazine, which publishes it on its cover, reaches its peak. In this magazine reference is made to the paradigm shift of the web, which goes from being a content website to a web of people (Castellanos, et al., 2011).

When we define Web 2.0 we should consider two aspects. On the one hand, we can consider it as a series of tools that allow network members to share, collaborate and participate in the different contents that are generated in different Web (Chernoll, 2009; Casamayor, 2008); or, as a social philosophy, focused on the attitude of people, where webs, previously static, become dynamic due to the contributions of the community (Unturbe and Arenas, 2010, Zamarrazo and Amorós, 2011).

If something characterizes Web 2.0, it is because it is interactive (Zamarro and Amorós, 2011), dynamic, open (Unturbe and Arenas, 2010), collaborative, participative (De Haro, 2010), intuitive, simple (Castellanos, et al., 2011), modifiable (Martin, 2011) and free (Palomo, Ruiz and Sánchez, 2008). All these aspects make that the use of Web 2.0 has generated so much expectation and caused so much use by the community that accesses the Internet. At an educational level, the introduction of Web 2.0 in the teaching and learning processes have caused changes in the role of teachers and students. Teachers become guides of training, while students are responsible for their learning, marking the actions that really motivate them in their learning (Cela et al., 2010).

In addition, it generates new methods and learning styles (Dominguez and Llorente, 2009), being an example, the possibility of creating online spaces with large amounts of information sources thanks to the contribution of both teachers and students (Marqués, 2007).

The emergence of Web 2.0 implied the development of new resources, including the Wiki application, considered one of the most well known academic tools among the 2.0 (Barberá, 2009), which modified the way to obtain information, since it does not stay only in the reception of it, but you can modify it and edit it according to your

knowledge, favoring collective learning (Araujo, 2017).

The term wiki is based on the term "wikiwiki", which is Hawaiian, and refers to speed or informality (Villaroel, 2007; Mora, 2012; Sanz, Gil and Marzal, 2007). The first wiki was created by Cunningham in 1995 with the intention of sharing non-profit knowledge, being the impulse of new wiki with the same philosophy (Mur, 2015). We can define it as an instrument of collective participation and construction of knowledge, formed by tools for publication, shared editing and analysis of hypertext documents that allows users to access, through a web browser, create, edit, delete or modify a certain text, quickly, Interactive and simple, without having to do it in the same physical and temporal space, in a shared digital space, asynchronously (Gómez and Álvarez, 2011, Espinosa, 2014, Giménez and González, 2009, Vela, Medina and Rodríguez, 2017; Mora, 2012). This tool offers, for both formal and informal education, collaboration and mutual commitment to learning (Barberá, 2009).

When evaluating Wikis, they offer many advantages that make it a powerful tool for the social field and for the educational field. Wikis allows you to include many digital add-ons, users can edit and develop content, favors collaboration (Araujo, 2017, Giménez and González, 2009, Mur, 2015), offers temporal and spatial flexibility, allows you to work asynchronously or synchronously, they can be private or semi-private (Gómez and Álvarez, 2011; Giménez and González, 2009; Villaroel, 2007), freeze a document when it is finalized (Concepción, 2008), it is accessible, intuitive and friendly (Mora, 2012); favors the attention to diversity, controlled learning environments, allows to follow the whole process of elaboration (Espinosa, 2014; Giménez and González, 2009), retrieves information quickly and easily (García, 2016), offers a variety of templates for his creation; allows to manage permissions at user and page level; is free; does not require complex computer skills (Mora, 2012); it is flexible; improves the interaction between pairs and favors the involvement in learning (Vela, Medina and Rodríguez, 2017).

Although, as in all the resources that we can find, they also have disadvantages, which we must know to minimize their effect as much as possible. What we can find is the difficulty of evaluating individual work (Araujo, 2017); the contents presented can not be directly contrasted; depends on the internet connection; the modifications made do not ensure that they are of better quality (Giménez and González, 2009); Teachers may not know how to give enough support to encourage participation (Gómez, 2017); loss of information, either by mistake or by malpractice, in the modifications made by users (Mora, 2012); the lack of motivation can damage its didactic application (Vela, Medina and Rodríguez, 2017).

At an educational level, and focusing on the perspective of the students, those who have developed the digital competence, are those who value the resource positively and see useful purpose. On the other hand, those who have not developed it, value it negatively, and do not see functionality in their daily work (Giménez and González, 2009).

It is important that students have a participatory spirit, and are themselves responsible for their learning, in a coordinated manner, as this will allow for better results in the use of the Wiki resource (Sanz, Gil and Marzal, 2007).

At a methodological level, the Wiki favors and enhances collaborative work (Gómez and Álvarez, 2011), allowing both teachers and students to work closely and jointly on a specific topic, although it must be accompanied by a clear objective. This collaborative learning requires coordination, commitment and effort on the part of all the members of a group (Araujo, 2017; Mora, 2012), as well as establishing the problem to be addressed and providing solutions among all (Barberá, 2009), planning in detail all the actions to be developed (Giménez and González, 2009).

If we want its use for the teaching and learning process to be successful, we must contextualize the activity, determine the objectives, establish the work plan, select the human and technical resources, indicate the evaluation system (Giménez and González, 2009). This fact should be applicable to any educational action that is developed, its use not being exclusive for the Wiki resource.

The student must be an active part of the teaching and learning process (Mora, 2012), generating skills at the negotiation level, to jointly generate knowledge (Gómez, 2017), while the teacher must become a guide and guidance of learning, positioning itself within the constructivist paradigm (Vela, Medina and Rodríguez, 2017; Mora, 2012), offering an alternative to the resources used in the traditional methodology (Gómez and Álvarez, 2011). Moving from being a classic tutor to an e-tutor (Mur, 2015).

Before starting to use it, we must train students in its use, especially in basic operations, to familiarize with the tool (Araujo, 2017), either through practical explanation or tutorial (Espinosa, 2014), thus avoiding demotivation due to lack of knowledge in its management.

When evaluating the academic development of students through the Wiki resource, it can be developed in various ways, either through self-assessments or co-evaluations (Gómez and Álvarez, 2011), or any evaluation procedure or technique. The important thing is to have planned the development of the activity, in addition to establishing clear qualification criteria on the final grade of the subject in which we are developing (Giménez and González, 2009). In addition, it is necessary to monitor the activity of the students on a constant basis (Gómez, 2017), so that they are aware that their work is being valued.

The use of the Wiki resource is ideal for teaching the writing process, as it promotes reflection, review, publication and observation of the results, becoming an interactive writing book (Araujo, 2017).

Methodology

Type of study

The study we have developed is descriptive and correlational, applying data analysis from a quantitative and qualitative approach (Colás and Buendía, 1998).

Objective

The objective of this research is to identify if the Wiki tool is suitable for the creation of contents, both theoretical and practical, following the philosophy of the cooperative groups, in the students enrolled in the Master's Degree in Compulsory Secondary Education, Baccalaureate, Vocational Training and Language Teaching in the Campus of Ceuta.

Subjects

For the research we have selected the entire population that form the student body enrolled in the Master of Training in Teaching Compulsory Secondary Education, Baccalaureate, Vocational Training and Language Teaching in the Campus of Ceuta in the academic year 2017/2018 in the subject of Educational Processes and Contexts.

The population is made up of 73 subjects, where there are more women (45.2%) than men (54.8%), where the students have an age range between 21 and 25 years (52.1%) mainly, followed by the interval between 26 and 30 years old (30.1%). There are also, but in a better proportion, students aged between 31 and 35 years old (9.6%) and over 35 years old (8.2%).

The specialties with which they are studying the Master are mainly Training and Labor Guidance (13.7%), Economy (13.7%) and Foreign Language (13.7%), followed by Educational Guidance (9.6%), Sanitary Processes (8.2%), Mathematics (8.2%), Biology and Geology (6.8%), Social Sciences (6.8%), Drawing (6.8%), Spanish Language and Literature (4, 2%), Physics and Chemistry (4.2%), ICT (2.7%) and Physical Education (1.4%).

The religion professed by the student enrolled is mainly the Christian religion (49.3%), followed by the Muslim religion (12.3%) and another, in which students have placed Buddhism (4.1%). There is a high percentage that does not follow any religion (34.2%).

Instrument

The questionnaire prepared is ad hoc, created specifically to analyse the objective set out in the investigation. The instrument consists of 9 items, distributed in a field, called "Use of the Wiki application in the teaching and learning process", composed of 5 items, in addition to sociodemographic data, formed by the items sex, age, specialty and religion who professes.

In order to be validated, the instrument has gone through a validity of content, through the contribution of 5 doctors, experts in the subject treated. The recommendations focused mainly on the modification of the wording of certain items, aspects that we took into account.

For reliability, we apply the coefficient of internal consistency of Cronbach's Alpha, through a pilot test applied to 35 trained during the 2016/2017 academic year. The average value of Cronbach's Alpha is 0.768; considered to be acceptable to be higher than 0.70 (George and Mallery, 2003).

The script was prepared ad hoc, composed of 3 questions, focused on the evaluation of experience, positive and negative aspects found and proposals for improvement in their application within the teaching and learning process.

The instrument was subjected to content validity by the same experts as in the questionnaire, who recommended grouping items, and modifying the approach to certain issues, which we had in mind.

Process

The data collection procedure is carried out once the Wiki application has been used during the teaching period Processes and Educational Contexts, in the month of December of the year 2017, without informing the students that a study was going to be carried out.

At the end of the day, they were told that they should complete a questionnaire, in addition to holding a discussion group with two people prepared in this regard.

Before filling out the questionnaire, the rules were explained to complete it, as well as giving them only 10 minutes to complete it. At all times the students presented good predisposition for its preparation.

Regarding the discussion group, the data collection period ranged between 15 and 20 minutes, depending on the group. All conversations were transcribed for further analysis. The predisposition shown was positive.

For the analysis of the questionnaire data, we made use of the IBM SPSS Statics 20 program, while for the discussion groups, we selected key ideas.

Results

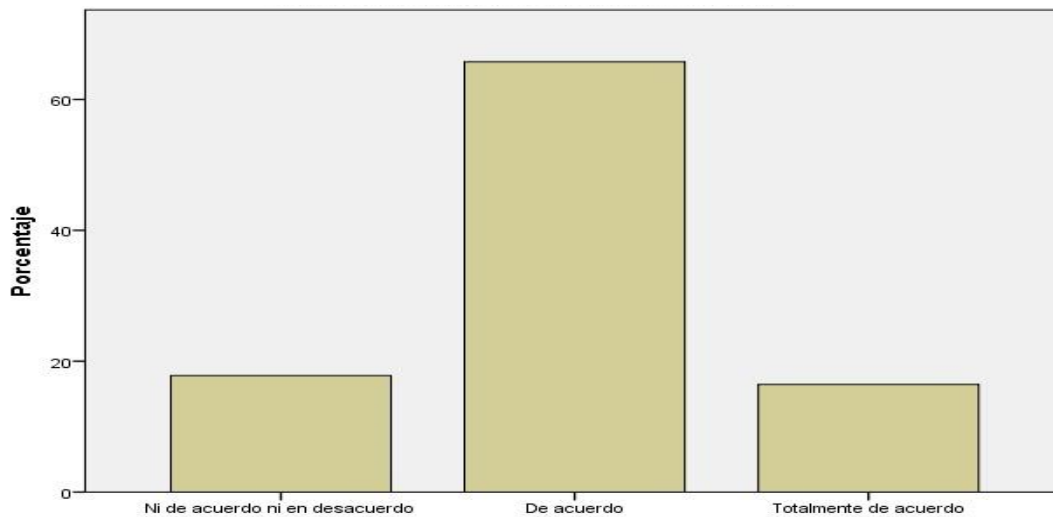
Descriptive analysis.

In general terms, they show that the assessment of students in relation to the use of the Wiki application is positive, so much so that there are items that are not included in the data that we present below because they were not selected by the respondents.

Regarding whether the use of the Wiki resource provides meaningful learning, the majority of students agree (65.8%), while the rest are either not in favor or against (17.8%) or totally agreement (16.4%), noting that the use of the Wiki application has involved the acquisition of significant learning for students.

Table 1.Provides meaningful learning

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	Neither agree nor disagree	13	17,8	17,8	17,8
	Agree	48	65,8	65,8	83,6
	Totally agree	12	16,4	16,4	100,0
	Total	73	100,0	100,0	

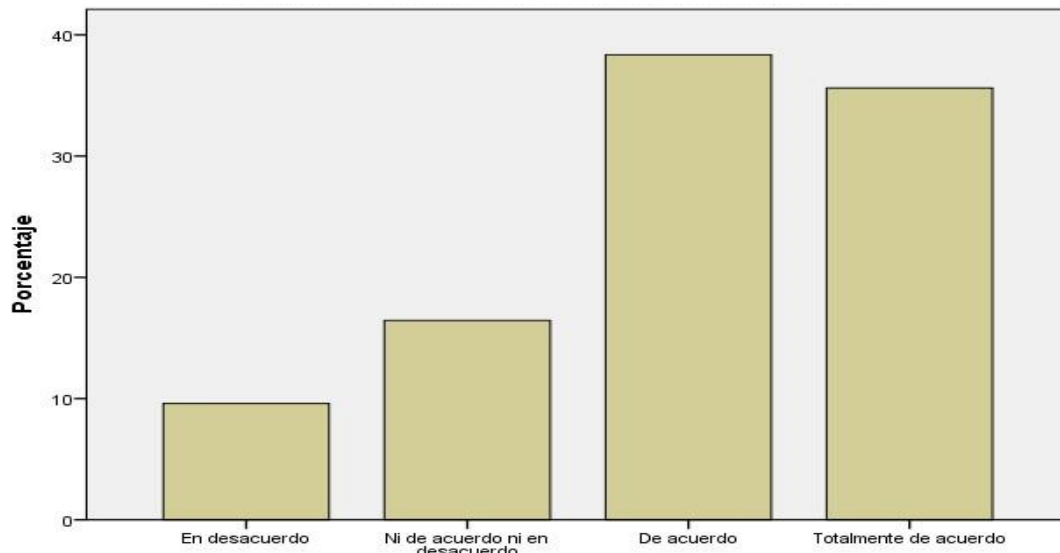


Graph 1. Significant learning in the use of the Wiki resource

As regard to whether it encourages collaborative learning, the majority considers that it is, in full agreement (35.6%) and in agreement (38.4%), while a minority is neither in favor nor against (16.4%) or disagree (9.6%). This shows that the formand values this resource as a tool that can encourage collaborative learning.

Table 2. Encourage collaborative learning

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	In disagreement	7	9,6	9,6	9,6
	Neither agree nor disagree	12	16,4	16,4	26,0
	Agree	28	38,4	38,4	64,4
	Totally agree	26	35,6	35,6	100,0
	Total	73	100,0	100,0	



Graph 2. Collaborative learning in the use of the Wiki resource

Focusing on the issue itself encourages educational innovation, a high percentage considers it to be totally in agreement (46.6%) or in agreement (39.7%), while a small part of the respondents either do not agree or disagree (11%) or disagree (2.7%). For these students, the Wiki resource encourages educational innovation.

Table 3. Encourages educational innovation

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	In disagreement	2	2,7	2,7	2,7
	Neither agree nor disagree	8	11,0	11,0	13,7
	Agree	29	39,7	39,7	53,4
	Totally agree	34	46,6	46,6	100,0
	Total	73	100,0	100,0	

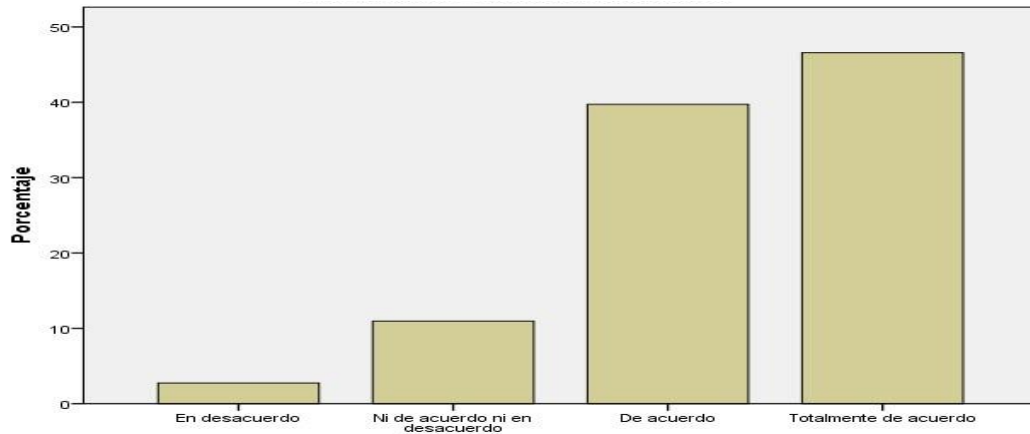
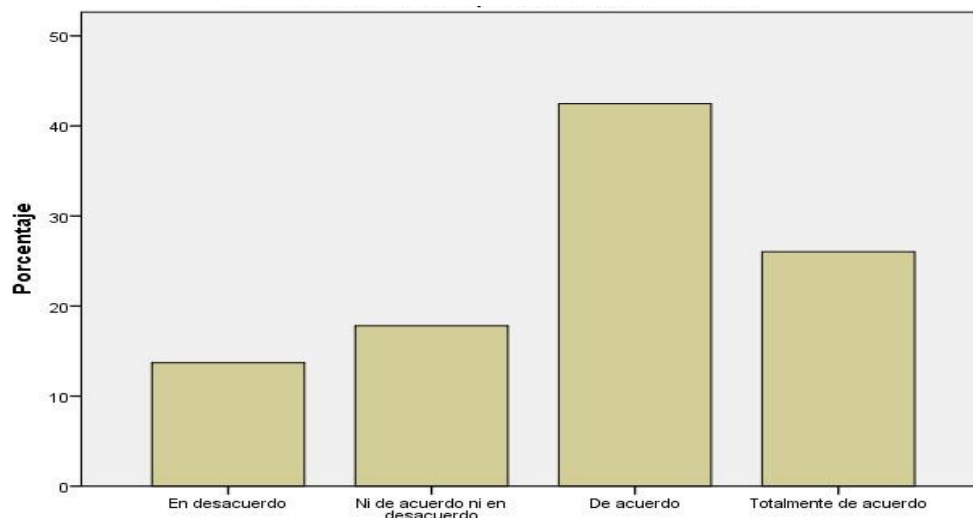


Figure 3. Promotion of educational innovation through the use of the Wiki application

Regarding the question of whether it favors the involvement of the students, a high percentage considers it to be in agreement (42.5%) or totally in agreement (26%), while a minority is neither in favor nor against (17.8%) or in disagreement (13.7%). Therefore, the formand considers that the use of the Wiki resource favors the involvement in the training process.

Table 4. Encourages the involvement of students

		Frequenc y	Percentag e	Valid percentage	Accumulat ed percentage
Valid	In disagreement	10	13,7	13,7	13,7
	Neither agree nor disagree	13	17,8	17,8	31,5
	Agree	31	42,5	42,5	74,0
	Totally agree	19	26,0	26,0	100,0
	Total	73	100,0	100,0	



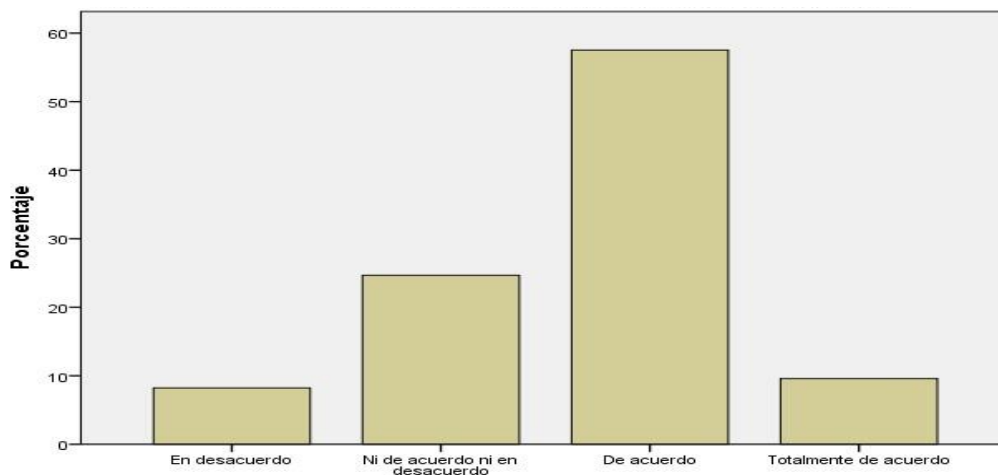
Graph 4. Involvement of students in the use of Wiki

If the use of the Wiki resource supposes more advantages than disadvantages in the teaching practice, the trend is not as high as in previous questions, even though the evaluation is still positive, observing that 57.5% agree, 24.7

% neither agree nor disagree; while 9.6% strongly agree and 8.2% disagree. For the student, this resource may have positive aspects, although with some drawbacks.

Table 5. It supposes more advantages than disadvantages in the teaching practice

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	In disagreement	6	8,2	8,2	8,2
	Neither agree nor disagree	18	24,7	24,7	32,9
	Agree	42	57,5	57,5	90,4
	Totally agree	7	9,6	9,6	100,0
	Total	73	100,0	100,0	



Graph 5. Advantages in the use of the Wiki resource in the teaching and learning proces

Analysis group discussion data

Regarding the evaluation of experience, 87.5% have positively highlighted the experience, given that they are offered another different reality in the teaching and learning process. 12.5% have valued it negatively, because they feel more comfortable in the traditional method, which is what they have always been used to.

This has been very complicated for us. It is the first time we have experienced this way of being taught, and above all, the first time we work with Wiki. We prefer the traditional manner, we are more comfortable [Group 1]

We are delighted with the proposal. At the beginning we recognized that we were reluctant to develop the activity, but as it has progressed, we have felt more comfortable, and what is more important, we have learned to have fun [Group 7]

Regarding the fact that they made reference to the positive and negative aspects, 87.5% highlighted mainly positive aspects, enhancing the possibility of seeing another methodology different from the one considered classic and favoring socialization among peers. 12.5% observe as negative aspects the shortage of time to carry out the activity.

We see many positive aspects in the activity itself. Mainly, we do not get bored and we are entertained, talking with colleagues about actions to be developed in the activities, something that is done to be grateful at this time of the afternoon [Group 5]

We have been overwhelmed drowned the whole class, first because there is very little time to do the activity; second because we are many and it is difficult to agree; and third because we do not master the subject, and so it is more difficult to develop the activity [Group 1]

Finally, when they have been asked to establish proposals for improvement, 62.5% of the groups have agreed to indicate that for future classes, tasks related to Wiki resources will be carried out in smaller groups, and not so numerous, the rest of the groups consider that the activity is fine as it is presented.

It has been a bit complicated, in fact, to get so many people in agreement with the preparation of the requested documents. Also, some of us have worked more than others, and that is not fair [Group 3]

Conclusions

Students enrolled in the Master's Degree in Teacher Training in Compulsory Secondary Education, Baccalaureate, Vocational Training and Language Teaching in the Campus of Ceuta positively assess the Wiki resource in general. The students consider that they generate significant learning; encourages collaborative learning, coinciding with what was established by Gómez and Álvarez (2011); promotes educational innovation; favors the involvement of students, as established by Araujo (2017), where a shared effort is required by all students; and it offers more advantages than inconvenience, as is reflected in the theoretical framework of this research, where the positive aspects are much greater than the negative ones.

The fact of applying it in class, and knowing the students' assessment of its application, also shows that their ratings are positive, being happy with the proposal, although at the beginning it was more difficult due to lack of knowledge rather than motivation, and a small amount of training was necessary. its use, coinciding with Araujo (2017), which defends that the students must familiarize themselves with the resource.

They value positively the fact of using another methodology different from the traditional one, offering an alternative to traditional resources, as marked by Gómez and Álvarez (2011).

They also consider that it promotes socialization among peers, coinciding with Barberá (2009), and Giménez and González (2009), where they consider that solutions must be provided among all, reaching agreement in a consensual manner.

As proposals for improvement, they assessed the need to develop the Wiki resource in smaller groups, and the need to have more time for the development of the activity.

The fact of using the Wiki resource with future teachers is motivating for them in the development of the teaching and learning process, in addition to offering new tools for the development of teaching. It is important to generate small groups, since large groups can harm the normal development of the classroom.

As future lines of research, the influence of gender and specialties on the use and evaluation of the Wiki resource can be considered in the students who take the Master's Degree in Compulsory Secondary Education, Baccalaureate, Vocational Training and Language Teaching national.

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