

# University musical training in a blended-learning context

## Formación musical universitaria en un contexto de enseñanza blended-learning

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### Abstract:

This research study analyses the teaching of music through a blended-learning approach in a primary teaching degree programme offered by a faculty of education. A multi-method approach with qualitative and quantitative tools was used. These tools enabled us to analyse the effectiveness of the training and the variables that affect how students rate the training they receive. The results were satisfactory with the training meeting the expectations of students and teachers alike. The results illustrate the need to offer students technical assistance, the importance of the role of the teacher, and the fundamental need to carry out face-to-face sessions. We conclude that there is a need in society for continuing education which it is challenging to combine with work life. Therefore, it is essential to change how we understand and experience universities; they should provide greater flexibility and be more closely connected with the real world.

**Keywords:** Musical training through blended-learning, blended-learning musical training, musical education and internet.

### Resumen:

Este estudio expone una investigación sobre la enseñanza de la música en una Facultad de Educación que imparte formación en modalidad *blended-learning* en el Grado de Maestro en Educación Primaria. Se ha desarrollado un estudio multimetódico, utilizando tools cualitativas y cuantitativas. A través de ellas, se ha analizado la efectividad de la formación y las variables que influyen en la valoración que realizan los students sobre la formación recibida. Los resultados han sido satisfactorios, y la formación recibida ha cumplido con las expectativas de alumnos y profesores. Los resultados exponen la necesidad de ofrecer ayuda técnica a los students, la importancia de la función del profesor y la

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obligatoriedad de realizar sesiones presenciales. Concluimos que la sociedad tiene una necesidad de formación permanente que no puede compaginar con la vida laboral, por lo que se hace necesario un cambio en la forma de entender y vivir el entorno universitario que

debe aportar flexibilidad y estar en conexión con el mundo actual.

**Descriptor:** Formación musical a través de blended-learning, formación musical semi-presencial, educación musical e internet.

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## 1. Introduction

Most universities now use learning platforms in their teaching-learning processes as in recent years they have acquired significant importance in the field of education, thus helping to develop training processes in the most important of educational settings: face-to-face and distance teaching.

The dominant model of university is becoming more and more open, using learning platforms and the internet as ways to expand the classroom beyond the walls that used to enclose it. This is a new trend in the way of understanding universities and their function.

One important point in *UNIVERSITIC 2012: Descripción, gestión y gobierno de las TI en el Sistema Universitario Español* («UNIVERSITIC 2012: Description, management, and administration of IT in the Spanish university system»), the annual report of the Conferencia de Rectores de las Universidades Españolas (Association of Vice Chancellors of Spanish Universities), is that «90% of teaching and research staff and students already use their institution's virtual learning platform» (CRUE, 2012, p.7).

Accordingly, the meta-analysis by Cabero-Almenara, Marín-Díaz, and Sampedro-Requena (2017) about online training through MOOCs is interesting. They selected and analysed 89 articles on education with JCR, Scimago Journal, SCOPUS, and Sello Fecyt impact factors and rankings from the 2011 to 2016 period alone, a number which is proof of the changes occurring in the teaching-learning process and the interest of universities from all over the world in analysing and improving training.

Thanks to learning platforms and the internet, students can call on human and technical resources that help them in their training process, enabling new ways of conscientiously and responsibly accessing, transmitting and generating information and knowledge.

The present study derives from the need to establish whether blended learning currently offers better and more flexible teaching-learning methodologies that meet the demands of the current students, specifically in the field of music education.

## 2. Current status

The use of blended learning or virtual training models in the field of music is now sufficiently developed for us to be able to evaluate its efficacy. As is explained below, several authors have carried out research on this topic with various results. Many note the benefits of learning platforms and online training (Ballantyne, Barrett, Temmerman, Harrison, & Meissner, 2009; Castaño-Garrido, Garay, & Maíz, 2017; Giráldez, 2010; Hoppe, Sadakata, & Desain, 2006; McCarthy, Bligh, Jennings, & Tangney, 2005; Nuez 2011; Sánchez & Muruamendiáraz, 2010; Toboso, 2010). Others, however, find areas for discussion or improvement in the form and background of these educational models (Alberich-Artal & Sangrà, 2012; Ho, 2009; Kruse, 2013).

In this regard, García Aretio's idea (2011, pp. 255-256) is especially noteworthy. In it he argues that «explicit theoretical proposals must be made that can be debated to increase the level of academic consensus in order to reinforce the quality and advances in the new digital teaching and learning systems.»

Some examples of the use of learning platforms and the internet in the virtual music classroom are provided below.

Focusing on the use of technological tools in musical training, Hoppe, Sadakata, and Desain (2006) evaluate the usefulness of four systems (Singad, Albert, Sing, & See, & Winsingad) employed as tools for virtual learning. Their study confirms the effectiveness of the visual real time

information these systems provide in improving singing abilities.

From the same perspective, Huang and Chu (2013) show how recording and playback functions in a web environment enable students to acquire a command of singing abilities, and state that this system for learning sol-fa using the internet is effective for the student.

From a different viewpoint, Hebert (2007) performs a most interesting analysis of online music training, focussing on human training resources, concluding that the success of a musical training programme at university level is based on human factors: firstly, the administration, which has the obligation of identifying outstanding teachers and providing them with the appropriate support; secondly, the teachers, who must design effective lessons and stay up-to-date with technological and pedagogical innovations; thirdly, the students, who must play an active role; and fourthly, those responsible for supervising the work of their colleagues at similar institutions.

From a metaphorical viewpoint, Dillon (2009) sees the face-to-face and virtual settings as islands and educational software as a tool that enables learning in both contexts and acts as a bridge between the islands. The author observes that the software (in this case jam2jam) facilitates interactive listening and the assisted collaborative experience that makes it possible for students to «improvise» together in real time within defined musical parameters and in a virtual setting.

From the methodological perspective, Navarro, Lavigne, & Martínez Salgado (2009) consider that opening music pedagogy up to new educational theories and applying technology to online education can create new spaces for transmitting high-level musical culture. This opinion is shared by Digolo, Andang'o, and Katuli (2011) who emphasise that through elearning, collaboration with music departments all over the world is strengthened. This collaborative focus encourages the formation of discussion groups with students and research groups with teachers from various institutions who interact with each other.

These conclusions are not shared by Ho (2009), who refers to the few changes that e-learning and technology training have caused in Hong Kong's universities with regards to the quality of learning of music. In her research, she concludes that on-line learning was infrequent, and students' use of technological tools and email communication with teachers was restricted to homework tasks and presentations. Most of the students thought that the university teachers were their main source of learning.

We surmise that musical training using technology such as learning platforms and the internet opens up a wide range of possibilities for teachers and students. In light of this, and taking into account their advantages and disadvantages, it is necessary for teachers and students to be prepared, suitably trained, and in a position to carry out research to improve musical education.

### 3. Design and procedure

The Faculty of Education of the Universidad Pontificia de Salamanca was selected as a site for performing the research set out here. This centre offers students blended learning degrees in preschool teaching and primary teaching. An incidental non-probability sample was used, taking into account the choice of a Faculty of Education with the corresponding profile in accordance with the proposed objectives.

To evaluate blended learning, we attempted to answer the following questions:

- Do the centre's students and teachers meet expectations in the teaching-learning process for music through blended learning?
- What variables affect the students' ratings of the functional, technical-aesthetic and pedagogical aspects of the teaching of music through blended learning?

#### 3.1. Objectives

In accordance with the research questions, the following objectives were formulated:

- To study the effectiveness of blended learning in music instruction on teacher training courses.
- To find out which variables affect the students' evaluation of the functional, technical-aesthetic, and pedagogical aspects of music teaching through blended learning.

### 3.2. Context

The centre being studied has used the blended learning method since 2004, being one of the pioneering centres for this type of instruction on teacher training courses. The students carry out their studies online, with compulsory attendance once a month for a face-to-face class and for the final exam.

For this research, the Voice and ear training and Instrumental and ensemble training modules from the music major in primary school teaching degrees were analysed. These modules are delivered by a teacher who will be referred to as BLT1 (Blended Learning Teacher 1). There are 20 students enrolled on them.

### 3.3. Methodology

As this is a multimethod piece of research, a variety of data collection tools were used.

The following qualitative tools were used:

- Observations of the first face-to-face sessions on the Voice and ear training and the Instrumental and ensemble training modules. Subsequently, several streamed videos of the face-to-face sessions were watched, videos that are available to the students on the learning platform.
- Interviews: a face-to-face interview with the music teacher who is also the coordinator of the blended learning modality. Contact after the interview was by telephone and email.

Individual interviews were carried out with two students (AS1 and AS2). Subsequent contact was by video-conference (Skype) and email.

A questionnaire was used as a quantitative tool to help with data triangulation. This was distributed to the 20 enrolled students with a link that was made available to them on the institutional learning platform on 9 May 2012 and the information was collected in June 26. Of the questionnaires, 16 were completed.

To facilitate understanding, qualitative results will be set out separately from the quantitative results and the article will conclude with the triangulation of data and conclusions.

### 4. Results of the qualitative data analysis

The results of the analysis of qualitative data obtained through the observations and interviews are set out below.

They are presented according to the research categories chosen:

- The blended learning teacher.
- The blended learning student.
- Communication through the virtual learning platform.
- Blended learning (proportion of face-to-face learning).

These therefore respond to the first research question: Do students and teachers of Primary School Teaching reach the expectations in the music teaching-learning process through blended learning?

#### 4.1. The blended learning teacher

At the time that the study was performed, the teacher had seven years' experience of blended learning. When he started to deliver blended learning, he had no experience in online music teaching but he had worked with virtual learning platforms in various projects relating to downloading files from the internet, information transfer, etc.; he had also received prior continuous training from the institution.

BLT1 tutors 20 students. The answers to the questions about the teacher show that students are very satisfied with his work and with the progress of the module. His friendliness and knowledge of blended learning training mean that they consider him to be a good virtual teacher.

Student AS1 said about the teacher: *When I was his face-to-face student we participated much more and the experience was excellent. I think it was one of those modules that could change the path of your career in music. It changed your way of looking at music teaching.*

The students say that the function of the blended learning teacher is difficult, and they believe that it is necessary for the teacher to work on motivating and monitoring the students as well as using all available resources. In response to the question: *How do you see a virtual teacher?* AS2 said: *I think it must be difficult for them. I think it is very important that they are attentive to us because, however dedicated we are, they have to make us work and*

*be active in the module. In the case of this teacher, I can see that he does it very well. He uses all of the resources necessary to get us hooked on the module: videos, forums, he leaves resources on the message board, interesting links, special music pages, etc. He helps us a lot and he provides us with alternatives to follow. Of all the teachers I've had, he is the best.*

As for the modules, the students agree that they are very practical and that the teacher knows the blended learning modality. AS2 commented: *I am very happy with this teacher's module, in my opinion it is the best one of all. I think it's very important for it all to be practical as theory is something we can study at home. I think he is the teacher who does this best and the one who adapts best to this methodology.*

Regarding their relationship with the teacher the students emphasise the importance of his approachable personality and how he encourages student participation. AS1: *A teacher with an approachable personality and who makes the students participate a lot in the module ... I think that achieves a lot.*

In summary, we can affirm that in the view of the students, the role of the blended learning teacher is complicated and requires a great deal of effort from the teacher. They agree that the classes are very practical and that the teacher knows the blended learning modality, and they emphasise the importance of his approachable personality and the way he promotes student involvement.

## 4.2. Blended learning students

The music groups comprise 20 students. They enter from different degrees or diplomas and come from various places throughout Spain. They are all aged over twenty and some are even already working as primary school teachers.

This is the teacher's opinion of his students: *They are students who are prepared for this type of training. Nowadays the student is someone who is online, uses Facebook, shops online and is used to working online. It was much more difficult to work on teaching with blended learning six years ago. In fact, in some cases we almost have problems because the students can handle the resources better than the teacher.*

In contrast, AS2 sees it like this: *I don't spend as much time on it as I would for a face-to-face module. I try to read all of the materials and resources they provide, I do the homework, I look to see if there is something interesting in the forum, but dedication is important.*

We should recall that the students from this centre enter with a diploma or a degree, and so many of them are already in contact with schools and can put their learning into practice. AS2 works in a CRA (Colegio Rural Agrupado or Combined Rural School, one where pre-school and primary education are provided on the same site): *Two hours of music are provided per week. During the year, I go to those two hours of class and that is very important, because you don't learn enough with what is available in the faculty. With blended learning you get ideas, resources, but it is a small base.*

As can be seen, from the teacher's viewpoint, virtual students are suitably trained and prepared to pursue their studies online, but the students admit that they spend less time on their training when it is virtual, although they do support their learning process through their practice in the centres where they work. The teachers also understand the need for blended learning students to make an extra effort to complete their training process.

## 4.3. Communication through the virtual learning platform

The communication tools such as the forum were used a lot, and so strengthened the personal relations between the teacher and the students. The platform has three forums and in one of them the whole university can participate, some 2,000 students. Use of the module forum is compulsory. The teacher accesses it every day and he encourages the students and reviews their work.

The teacher and the students were asked what relationship is established between the teacher and the students in blended learning training. They responded as follows:

BLT1: *I think I am an approachable teacher. I think I have a good relationship with them, although the platform is colder than face-to-face teaching.*

The students note the colloquial and friendly language used by the teacher. For them, this form of expression creates a friendly and free atmosphere. On the

other hand, for the teacher, the written language students use shows their professionalism and courtesy: *Our students are well educated; they have an average age of about thirty and they are already working.*

They were asked to give their impression of their relationship with their virtual course mates, responding as follows:

For AS1 the number of students in the group and the teacher's work are very important: *When there are lots of people on a module, people are colder, more anonymous. Studying the English specialism with blended learning, where there were five hundred or six hundred of us, I didn't get to know anyone. But in smaller classes like music the relationship between course mates is warmer. And what particularly helps the most is the teachers' work. If they get the students involved in participating actively, they really facilitate the relationship between the students.*

AS2 emphasised the importance of the communication tools: *Thanks to the forums, you chat a lot and people offer you help. You can put any question in the forum and people will answer it quickly.*

The students are happy with the relationships that develop with their course mates; they state that the small number of students and the communication tools favour this relationship. They recognise the teacher's efforts, involving them in active participation, which also greatly facilitates the relationship between them.

#### 4.4. Blended learning training

The centre being studied offers its students blended learning, meaning that a percentage of the classes are delivered face-to-face and another percentage is virtual. The face-to-face sessions are obligatory for students. In this case, it involves three face-to-face classes per term as well as the exam.

Students and teachers alike state that the face-to-face sessions are highly necessary and that the number of face-to-face hours should be greatly increased, and they regard videoconferencing as an option for increasing this amount of time.

They support this modality if the students already have another type of previous studies, and see blended learning as an opportunity for maintaining lifelong learning.

The teacher states that this is not the most appropriate type of training for music teaching, but he is happy with the results and believes in blended learning. BLT1: *This modality developed to cover the demand for second qualifications from students who would normally have problems attending during the week.*

The students state that this way they can combine study and work. *Obviously, you don't learn like a face-to-face student, but it's okay.*

The teacher delivers one face-to-face class at the start of the term and one face-to-face session per month with a duration of 55 minutes. In the words of



the teacher: *It is very important to understand that the face-to-face sessions help with setting and motivating the work. Today's face-to-face session will have an introduction of around ten or fifteen minutes to motivate the students. Exercises will be set which will be the basis of the work they will have to do and build on from there.*

According to the teacher and the students interviewed, these sessions are absolutely necessary and they do not envisage training with no face-to-face element.

Regarding the question of whether the module meets the students' expectations, differing opinions can be found:

AS1: *Yes, also it was what I wanted.*

AS2: *They give you ideas, resources, but you never learn well how to deliver a class.*

For the teacher, the blended learning modality is also not ideal for music training: *It is not the most appropriate modality, although we make an effort for it to come close. I understand that there are majors and specialisms where it might work better.*

The students were asked whether they believed that this type of teaching complements, facilitates or impedes the teaching-learning process for music, to which AS1 responds: *I think that for professionals it is very good for lifelong learning.* AS2 says that it helps but not enough: *This sort of module is very practical, and so you have to put the theory into practice and you cannot do that here.*

Teacher BLT1 finds significant differences between face-to-face teaching and blended learning: *My view is that even using all of the resources we have in blended learning, I feel like my module is more complete and the student learns better with face-to-face teaching. It is also true that all of the blended learning students already have a second qualification relating to the field of music while the students I have in the face-to-face setting are eighteen or nineteen years old and are confronting a university degree for the first time.*

When asked if he was satisfied to be delivering blended learning, he answered: *Yes. Besides, I coordinate this modality, that is to say, I believe in this type of teaching.*

The students are also satisfied with the training received. As AS1 says: *If I can, I will do it again in another major.* AS2: *It is a way of continuing to learn.*

As we can see, for students and teachers, blended learning has shortcomings, but even so they feel satisfied with the training delivered and received, and they emphasise the opportunity that it offers them to continue learning throughout their life.

## 5. Results of the quantitative data analysis

The results of the analysis of the quantitative data obtained through the completed questionnaires are set out below.

Table 1 shows the categorical variables, research questions, aspects to be evaluated and categories.

TABLE 1. Questions, aspects and categories.

<b>Categorical variables</b>	Age. Place of residence. First experience as a virtual student.	
<b>Research questions</b>	<b>Aspects to evaluate</b>	<b>Categories</b>
1) Do the students and the teachers of Primary Education meet the expectations in the music teaching-learning process through blended-learning?	Pedagogical aspects  Functional aspects	– Blended-learning teacher – Blended-learning student – Virtual communication  – Blended-learning training
<b>Research questions</b>	<b>Aspects to evaluate</b>	<b>Categories</b>
2) What variables affect the rating students give to functional, technical-aesthetic and pedagogical aspects of music teaching through blended learning?	Technical-aesthetic, functional and pedagogical aspects	– Learning platform – Tools – Materials – Programmes or study guides – Evaluation criteria – Organisation and structure of the content and activities – Communication – Blended-learning teacher – Blended-learning student – Blended-learning training

Source: Own elaboration.

The frequency analysis and a description of the sample are presented first before a parametric analysis of the variables.

### 5.1. Frequency analysis and description of the sample

The sample comprises a group of 16 students (the ones who answered the questionnaire) with little age variation as most of them are between 19 and 29.

There is a wide degree of variation in place of origin for the students in the sample.

The sample is sharply divided in their answers to the question about whether it

is their first virtual experience, with 43.8% answering that it is not their first virtual experience and 56.3% saying that it is.

### 5.2. Descriptive and parametric analyses

Having analysed the characteristics of the sample, descriptive and parametric analyses between the different variables in the responses to the research questions will be performed. To do so, descriptive analyses will be performed to answer the first research question and parametric contrast analyses will be used for the second research question.

As in the presentation of the qualitative results, reference will be made to the function of the teacher, to the communication generated through the virtual learning platform and to the proportion of face-to-face teaching used, thus answering the first research question:

Do students and teachers of Primary School Education meet the expectations in the teaching-learning process for music through blended learning?

### 5.2.1. The blended learning teacher

The role that the teacher performs through the learning platform was analysed, finding that 100% of the students think that he responds to online consultations quickly and in a satisfactory manner, as well as encouraging online the students' interest in learning.

### 5.2.2. Online communication

Regarding the students' virtual relationship with their course mates, it is apparent that no students in the sample say that they have no virtual relationship with their course mates (0%), and 75% say that the virtual relationship is worse than the face-to-face, preferring real contact.

Regarding the virtual relationship with teachers, the data indicate that the virtual relationship is the same as the face-to-face one, while in no case do they say that it is better or much better. This piece of data indicates that the blended learning students from the sample prefer real relationships between each other

and with the teachers to virtual relationships.

Question 13 of the questionnaire includes items that measure the quality of the virtual relationships through the learning platform. With an average of 4.64 (on a scale of 1 to 5) and with a standard deviation of just 0.28, we can conclude that although the blended learning students in the sample prefer real relationships with their course mates and teachers, the virtual relations and communication in this training experience were highly rated.

### 5.2.3. Blended learning

When the blended learning students were asked what type of training they think is best, taking into account the face-to-face credits, 43.8% say that the training should be blended learning with one session per month (we should recall that this is the type of training they receive) and 37.50% opt more for face-to-face teaching with the support of the learning platform.

We are not only interested in whether it is compulsory to attend the face-to-face sessions, but also in how useful these sessions are. Accordingly, we are pleased to note that as well as being compulsory, they are also useful as 62.50% of the students in the sample consider them very useful and 18.80%, fairly useful, while none of them consider them to be of «no» or «little» use.

Finishing with the questionnaire, two general questions were asked about the training received: firstly, would they re-

peat their experience in training through blended learning; and secondly, what overall rating they would give the training they received in the music module taken.

For the students, the training they received met their expectations; firstly, because 81.3% would repeat the experience and, secondly, because 100% gave the module they took 4 or 5 points (on a scale of 1 to 5).

The second research question is: What variables affect the students' evaluation of music teaching through blended learning? To answer this we will contrast the previous data categories (ordinal variables) and the functional, technical-aesthetic and pedagogical aspects (learning platform, tools, materials, study guides, evaluation criteria, organisation and structure of the content and activities, blended learning teacher, blended learning student, virtual communication and blended learning training) with the categorical variables: age (interval), previous virtual training (nominal dichotomous), technical assistance (ordinal), usefulness of the face-to-face sessions (ordinal).

5.2.4. Crosstabulation of variables 1: Functional, technical-aesthetic and pedagogical aspects of the training with age

In this section, Table 2 is reproduced showing Pearson's  $r$  correlation of the categories: age, learning platform, tools, content, programmes, evaluation materials, functional, technical-aesthetic and pedagogical aspects.

We can see when cross tabulating variables with age that there is no sta-

tistically significant relationship between the age of the subjects and the rating they give to the technical-aesthetic and functional aspects, which we will call F1, and the pedagogical aspects, which we will call F2. This indicates that age does not have a significant effect on the rating of the different aspects; only one statistically significant relationship has been found, a negative relationship between age and the teacher's materials, which indicates that the older the subjects are, the less highly they rate the materials used in the training.

We can see that there are statistically significant relationships between several of the indicators evaluated in the research, all of them positive, indicating to us that, in general, the higher the students rate these indicators, the higher they rate the rest. Consequently, in training through blended learning it is important to take care of all of the aspects and indicators that form part of the training, to achieve higher quality and student ratings.

5.2.5. Crosstabulation of variables 2: Functional, technical-aesthetic and pedagogical aspects with first experience in online training

We performed a Student  $t$ -test to test whether there are differences between the different categories and aspects evaluated in the research, according to whether the student has had previous experience with the internet or if it is their first experience, obtaining results that show that there are no statistically significant differences in this matter.

TABLE 2. Pearson's r correlation of the categories.

	r	Age	Learning platform	Tools	Content	Programme	Evaluation	Materials	Relationships	F1. Technical-functional	F2. Pedagogical
Age	sig.	1	-0.447 0.083	0.137 0.613	-0.457 0.075	-0.91 0.737	0.027 0.920	-0.656** 0.006	0.077 0.778	-0.343 0.193	-0.338 0.201
Learning platform	sig.		1	-0.330 0.212	0.463 0.071	0.338 0.200	0.118 0.663	0.716** 0.002	-0.046 0.866	0.437 0.090	0.484 0.057
Tools	sig.			1	0.357 0.175	0.464 0.071	0.615* 0.011	0.005 0.987	0.657** 0.006	0.616* 0.011	0.486 0.056
Content	sig.				1	0.444 0.085	0.374 0.154	0.778** 0.000	0.515* 0.041	0.918** 0.000	0.768** 0.001
Programme	sig.					1	0.608* 0.012	0.331 0.210	0.545* 0.029	0.615* 0.011	0.745** 0.001
Evaluation	sig.						1	0.159 0.557	0.709** 0.002	0.579* 0.019	0.754** 0.001
Materials	sig.							1	0.259 0.333	0.694** 0.003	0.720** 0.002
Relationships	sig.								1	0.624** 0.010	0.755** 0.001
F1. Technical-functional	sig.									1	0.862** 0.000
F2. Pedagogical	sig.										1

Source: Own elaboration.

5.2.6. Crosstabulation of variables 3: Functional, technical-aesthetic, and pedagogical aspects with technical assistance received

students' ratings of each type of category and aspects depending on the degree of technical help that they feel they have received.

We used Pearson's r correlation to test whether there are differences in the

TABLE 3. Crosstabulation of aspects with technical assistance received.

	Technical Help Received	
	r	
<b>Learning platform</b>	r	0.823**
	Sig.	0.000
<b>Tools</b>	r	-0.187
	Sig.	0.488
<b>Content</b>	r	0.492
	Sig.	0.053
<b>Programmes</b>	r	0.193
	Sig.	0.474
<b>Evaluation</b>	r	0.155
	Sig.	0.567
<b>Materials</b>	r	0.744**
	Sig.	0.001
<b>Relationships</b>	r	0.063
	Sig.	0.815
<b>F1. Technical-functional</b>	r	0.468
	Sig.	0.068
<b>F2. Pedagogical</b>	r	0.507*
	Sig.	0.045

Source: Own elaboration.

Table 3 shows that there are statistically significant relationships between the amount of technical help received and the learning platform, the materials and the pedagogical aspects. This sug-

gests that for the learning platform, materials and pedagogical aspects to be highly rated, it is important to offer the students technical help.

5.2.7. Crosstabulation of variables 4: Functional, technical-aesthetic and pedagogical aspects with usefulness of face-to-face sessions

We calculated a Pearson's *r* correlation to establish whether there are dif-

ferences in the ratings given by the students of each type of category and aspects depending on the usefulness that they think that the face-to-face sessions had.

TABLE 4. Crosstabulation of aspects with usefulness of the face-to-face sessions.

	Usefulness of the face-to-face sessions	
	r	
<b>Learning platform</b>	Sig.	0.324 0.221
<b>Tools</b>	Sig.	-0.331 0.210
<b>Content</b>	Sig.	-0.090 0.741
<b>Programmes</b>	Sig.	0.174 0.519
<b>Evaluation</b>	Sig.	0.281 0.291
<b>Materials</b>	Sig.	0.104 0.701
<b>Relationships</b>	Sig.	0.075 0.781
<b>F1. Technical-functional</b>	Sig.	-0.113 0.676
<b>F2. Pedagogical</b>	Sig.	0.215 0.425

Source: Own elaboration.

Table 4 shows that there are no statistically significant relationships in any of the categories or aspects with regards to the variable in question. This suggests to us that whether the students feel that the face-to-face sessions are useful for their rating of the different categories and aspects of the training has no influence.

## 6. Data triangulation

Once the qualitative and quantitative results were extracted and presented, the data was triangulated.

### 6.1. Teacher

The students are very satisfied with the teacher's work. His approachability,



friendly character, efforts to motivate and monitor the students, and knowledge of this type of training mean that they see him as an excellent virtual teacher.

They believe that this is the module on which they will learn most, seeing the teacher as someone who changes how music teaching is interpreted. He facilitates the module, delivers active classes, helps, and opens paths, using all of the resources necessary to involve the student.

The quantitative analysis ratifies these data with 100% of the students believing that the teacher responds to online questions quickly and in a satisfactory manner, as well as using virtual means to encourage an interest in learning.

From these opinions, we can deduce the importance of the teacher's work for these students.

## 6.2. Students

The students in this second study are a group of 20 who are studying towards the degree in primary school teaching and majoring in music. Most of them are aged between 19 and 29 and they come from a wide variety of places. All of the students already have another primary school teaching major or a degree.

They state that they are happy with the relationships they developed with their course mates, something made possible by the small number of students and by the work of the teacher, who encourages them to participate actively, thus greatly facilitating the relationship between the students.

They are very cooperative and participate in the group. From the teacher's per-

spective, the virtual student is one who is professionally trained and is technically prepared to carry out his or her studies online.

## 6.3. Communication

The students underline the colloquial and friendly language used both in the forums and in the face-to-face sessions. For them, this form of expression creates an atmosphere of friendliness and freedom.

If we consider the relationships created through the learning platform between the teacher and the students or between students, we can see in the quantitative study how all of the students relate to each other using the internet, although 75% say that the virtual relationship is worse than the face-to-face one and they prefer real contact with their course mates.

As for their relationship with their teachers, we can see that blended learning students also prefer real relationships with their teachers.

We conclude that although the students prefer real relationships with their course mates and with the teachers, the relationships and communication carried out using the learning platform were well rated, with an average of 4.64 (on a scale of 1 to 5).

## 6.4. Blended learning training

In the blended learning modality, face-to-face sessions play an important role in the educational process. In this study, it is apparent that the face-to-face classes take place in a very practical fashion, with the theoretical support materials for them available on the learning platform.



They are used for introducing new topics and motivate the work that the students will have to do.

Students and teachers believe that the face-to-face sessions are very necessary and that the number of face-to-face hours should be greatly increased.

These data are corroborated by those obtained in the quantitative analysis, where we see that the face-to-face sessions are useful; 62.50% of the students consider them to be very useful, 18.80%, fairly useful, and none consider them to be of no or little use.

We have established that there are no statistically significant relationships in any of the categories and factors with regards to the usefulness of the face-to-face sessions. This suggests that whether students feel that face-to-face sessions are useful does not affect their rating of the different categories and aspects of the training.

Most of the students in this study favour face-to-face training with internet support (37.50%) or blended learning with one session per month (43.8%), which is the type of training they are doing.

The teacher states that, with regards to teaching music, the blended learning modality is not the most appropriate one as it is such a practical module, but he is happy with the results and believes in blended learning.

## 7. Conclusions and future

In the light of these data, we can say that the modules studied through blended

learning meet the expectations of the students, given that they are happy with the training received; 81.3% would repeat the experience and 100% give the module they studied 4 or 5 points (on a scale of 1 to 5).

The teachers and students emphasise the opportunity it offers them to continue learning throughout their life. Training through blended learning has shortcomings, but they feel satisfied with the training delivered and received, taking into account that:

- They accept that they spend less time on their training as it is blended learning, although the support their teaching-learning process by putting what they learn into practice in the centres where they work.
- They understand that blended learning students need to make an extra effort to complete their training process.
- The students support the blended learning modality if they already have another type of studies.
- They understand the challenges facing the blended learning teacher.
- They see blended learning education as an opportunity to maintain lifelong learning.

In the quantitative analysis, we have been able to observe that there are statistically significant relationships between several of the categories and aspects evaluated in the research, all of them positive, indicating that, in general, the higher students rate some of these indicators, the higher they will rate the others. Therefore, in blended learning training, it is important to take care of all the aspects

and categories that form part of the modality to achieve higher quality and higher student ratings.

The need for continuous training in contemporary society means that students look for another form of teaching that is not face-to-face. Online regulated training which encourages the formation of virtual learning communities is an opportunity for continuous training that makes it possible to combine working life with training.

Command of the technologies boosts communication between users, but we should take into account that learning is a process that requires interaction between teacher and student and between the students, and so there should be compulsory face-to-face sessions and small numbers of students being tutored by each teacher to improve quality to mutual benefit should be favoured.

We agree with Kampylis, Punie, and Devine (2015), when they state that:

Digital technologies are being incorporated in exciting and promising ways. ... To consolidate progress and to ensure scale and sustainability, however, educational institutions need to review their organisational strategies and enhance their capacity for innovation and exploitation of the potential of new and emerging technologies and digital content. (p. 36)

Having performed this study we conclude that universities and society alike must understand that the characteristics and limits of the classrooms are blurring and, on occasion, disappearing. This involves a process of change in how we understand and use the spaces and how the

university setting is experienced; it must have flexible spaces for learning and be a conduit for connecting with the world.

## Note

- <sup>1</sup> This work is part of a larger study being performed in three university centres with different levels of use of virtual processes in their training models. The first is face-to-face supported by a learning platform, the second, uses blended-learning training, and the third is virtual.

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