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B-Learning in Basic Vocational Training Students for the Development of the Module of Applied Sciences I

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Abstract: Information and communication technologies are a step forward in education, as they have given rise to innovative methodologies, such as blended learning. This type of training can be applied at any stage or educational typology such as basic vocational training. The main objective of this article is to know the degree of effectiveness of this methodology in this stage, specifically in an applied science module. For this purpose, a quasi-experimental design has been applied with a control group and an experimental group with a total of 147 participants. The results show how those students who have worked through b-learning have experienced better results in all the dimensions of the study. In conclusion, the implementation of this methodology in basic vocational training brings benefits, such as motivation and autonomy in the teaching–learning processes of all students.

Keywords: b-learning; ICT; vocational training

1. Introduction

The technological field continues advancing to this day. This fact is reflected in the social field [1], especially in the labour, social and educational fields [2]. This technological and digital boom has made it easier to carry out multiple tasks in the domestic and personal sphere, becoming a tool that facilitates people's daily lives.

This progress is also reflected in the educational field [3]. In this case, the use of technologies in the educational field, as in other fields of study, is called information and communication technologies (ICT) [4]. The use of ICT generates benefits for student training [5], because it facilitates the application of innovative teaching and learning processes, thereby promoting new learning spaces. This leads to new educational proposals [6], transforming educational events as we know them today [7]. This is because ICT promotes the elimination of spatial-temporal barriers [8] and facilitates access to an enormous amount of resources [9] in different kinds of support and media. All of this leads to improvements in student development [10], mainly due to the increase in motivation, autonomy, predisposition and attitude of the students in the treatment of the proposed pedagogical contents [11–13].

Among the different pedagogical methods that the incursion of ICT in the educational field has brought about is b-learning [14], also known as blended learning, combined learning or hybrid learning [15]. When defining it, the authors agree in not considering this teaching method only as a mixture of classroom learning and online learning [16], but rather as a methodological basis that uses the best of the classroom learning teaching process, and the best of e-learning [17]. In order for the b-learning teaching process to be developed with a minimum of guarantees, the characteristics of those involved in the pedagogical act must be analysed [18], identifying the students' learning styles [19], and the changing the role of the teachers and instructors [20], with the student being the organiser of his or her own learning [21], while the teacher must become a guide [22], developing an open

methodology [23], attending to the students individually [24], and promoting a more autonomous educational act in the student himself [25], with the intention of facilitating the expansion of the students' knowledge [26]. The manner and proportion of combining classroom and virtual teaching will depend on the needs and characteristics of the environment where the teaching and learning process takes place [27].

Among the main characteristics of b-learning is the fact that the teacher acts as both an online tutor and a traditional teacher [28]; promotes personal links between teacher and student [29] and between the students themselves [30]; encourages the combination of technology, learning development and teacher support [31]; facilitates the application of other teaching methods, complementary to b-learning [32]; allows for the development of synchronous and asynchronous communication [33]; focuses more on the curricular elements that the student should develop than on the environment in which he or she is developing [34]; develops ubiquitous learning [35]; eliminates spatial-temporal barriers [36]; favours the development of the digital competence of teachers and students [37]; promotes digital literacy [38]; adapts to the pace, style and pedagogical development of the learner [39]; facilitates attention to diversity [40]; provides access to a wealth of digital resources [41]; and generates a shift in roles between teachers and learners [42].

The use of b-learning, if not properly applied, can lead mainly to technological dependence for teachers and learners [43] and an increased workload for teachers [44].

In order for the b-learning method to be implemented with a number of guarantees, it first requires a great deal of effort and dedication on the part of the teacher [45], as well as instructional design of the teaching and learning process [46]. The key competence of learning to learn should also be enhanced [47], new roles for teachers and students should be clearly established [48], curricular flexibility should be encouraged [49], different learning styles for students should be addressed [50] and cooperative and collaborative work should be promoted [51].

The b-learning method, in the teaching and learning processes, generates improvements in motivation [52], in academic performance [53], in the relationship between teacher and student [54], in learning autonomy [55] and in collaboration [56].

At the same time, the expository method consists of the presentation of a topic in a structured way with the intention of providing information organised, according to criteria appropriate to the intended purpose. This methodology is fundamentally centred on the verbal presentation by the teacher of the contents of the subject under study. This method is also often referred to as a "master class", to refer to a subject taught by a teacher on special occasions [57]. This method is basically focused on the unidirectional communication of the teacher with the student. The teacher teaches by showing the content to be learned, exposing them, so that the student learns through attentive listening and note taking, and the subsequent completion of tasks [58]. Among the advantages of this method is the saving of time and it also means that the teacher is able to attend to big groups, among other considerations [59]. Among the disadvantages are the low participation of the student, little feedback, difficulty attending individually to the student, not facilitating autonomous learning, a passive position for the teacher, the students receiving such a large quantity of information that they do not have time to assimilate it and exceeding their capacity for attention [60].

In other words, the differences between the b-learning method and the expository method lie mainly in the role of the student in the teaching and learning process. In the b-learning method, the role is active. While in the expository method, the role is passive [28–42,57–60].

In the subject of mathematics, educational experiences based on the b-learning method have been developed [61]. Research shows how the pedagogical process allowed teachers to experience the social and cognitive development of students, through synchronous and asynchronous discussions with their peers and facilitators [62]. In addition, this method improves learning outcomes and attitudes towards learning mathematical content [63].

Ultimately, the application of active teaching methods can generate benefits in the teaching and learning processes. These benefits directly influence the students themselves. An example

of this is the b-learning method, which leads to an increase in, among other aspects, motivation, academic performance, the relationship between teachers and between students, learning autonomy and collaboration.

This fact is also reflected in subjects such as mathematics, where students' attitudes improve substantially.

2. Justification and Objectives

The application of information and communication technologies in education has led to the emergence of new methods of teaching. These methods include b-learning [64]. The research presented below is based on analysing the contrast between the b-learning teaching method and the expository method. To this end, this research has focused on students of Basic Vocational Training. All students enrolled at this stage of education are at risk of social exclusion. This is due to their socio-educational characteristics. That is to say, being students with a lack of motivation, with behavioural problems, without study habits and with difficulties in the acquisition of new content.

The pedagogical act has been carried out in the subject of Applied Sciences I, in which they develop pedagogical actions aimed at the acquisition of theoretical and practical competences at a professional, personal and social level. That is, it focuses on science and math.

In the expository method the teacher has had an active role and is always exposing the theoretical contents while the students have a passive role and do not intervene during the class. In b-learning, teachers have developed their pedagogical actions by using a virtual platform. In point 3.6. of the present manuscript, both teaching methods are explained in detail.

It is important to indicate that both pedagogical processes could be observed by the researchers themselves, since they continuously supervised the pedagogical actions, making sure that the established pedagogical processes were adequately developed.

These two methods have been applied in the teaching–learning processes of the educational reality of the participants in the research, so we wanted to measure the influence of both separately, and how this affects the qualifications of the students. This research also tries to present more studies on the use of b-learning in mathematics related subjects [61–63], specifically for students who present adverse socio-educational characteristics, as in the case of students in Basic Vocational Training.

Therefore, the main objective of the present study is to identify the degree of effectiveness of the b-learning method in the module of Applied Sciences I, for Basic Vocational Training students, in comparison with the expository method, and in different areas of socio-pedagogical development. From this general objective, the following specific objectives are developed: (i) to define the level of motivation of the students, both in the control group and in the experimental group; (ii) to specify the level of interaction (teacher–student, student–student, student–content), both in the control group and in the experimental group; (iii) to investigate the level of autonomy of the students, both in the control group and in the experimental group; (iv) to identify the level of collaboration of the students, both in the control group and in the experimental group; (v) to identify the level of deepening of didactic content, both in the control group and in the experimental group; (vi) to discover the level of problem solving in the didactic activities proposed, both in the control group and in the experimental group; (vii) to analyse the perception of the class time developed, both in the control group and in the experimental group; (viii) to specify the influence of the teaching method through the grades, both in the control group and in the experimental group; (ix) to identify the contrast of averages in the different dimensions of study between the group that applies the expository method and the b-learning method.

3. Research Method

3.1. Research Design and Data Analysis

The present research is quantitative, descriptive and correlational [65], applying a quasi-experimental design, by means of control group (Gc) and experimental group (Ge). The study

follows the structure and model of previous research [66–69]. The control group has experienced the exposure method. On the other hand, the experimental group has followed the b-learning method. The distribution of students is not random, since the groups were already defined from the beginning of the course. The criteria for the distribution of the students were established in the previous academic year, in a meeting between the different Heads of Studies of the secondary education centres, in the presence of the Education Inspector. At this meeting, the distribution criteria are based on the principle of equity. The information was collected at the end of the educational experience, which took place in January of the 2019/2020 academic year, by means of a post-test (Table 1).

Table 1. Groups' composition.

Group	*n*	Composition	Pretest	Treatment	Posttest
1-Control	25	Natural	-	X_1	O_1
2-Experimental	25	Natural	-	X_2	O_2
3-Control	25	Natural	-	X_1	O_1
4-Experimental	25	Natural	-	X_2	O_2
5-Control	24	Natural	-	X_1	O_1
6-Experimental	23	Natural	-	X_2	O_2

The analysis of the data collected has been carried out using the Statistical Package for the Social Sciences (SPSS) programme, version 25. The statistics used are the mean (*M*), standard deviation (*SD*), skewness (*S*kw) and kurtosis (*K*me). In addition, Student's t-test (tn1 + n2-2) was used to compare the group means. Finally, Cohen's d test and the biserial correlation (rxy) have been applied to identify the effect size and the association force. The significance level applied in the study was $p < 0.05$.

3.2. Participants

The sample used in this study is composed of 147 students. The sampling technique used is a convenience sample, due to the ease of access to the population. In relation to the total number of the sample, the authors [70,71] establish that, in the application of pedagogical methods, the size of the sample is not a determining factor.

The students that make up the two groups that are part of the study are studying the module of Applied Sciences I, of the Basic Vocational Training. The students in this educational stage present specific characteristics, among which the following stand out: having reached fifteen years of age and not exceeding seventeen years of age; having studied the first cycle of Obligatory Secondary Education (ESO), or exceptionally, the second year of ESO; and having been proposed by the teaching team, after acceptance by the parents. These students usually have had a previous negative experience during their stage in ESO, not reaching the necessary competences, with high levels of absenteeism, low academic performance, lack of motivation and no study habits [72].

The Basic Vocational Training student body is made up of 61% men and 39% women, aged between 15 and 17, with an average age of 16.3 years and a standard deviation of 0.432. The students were composed of three professional families or groups of training cycles with common characteristics, on the one hand, the professional family of electricity and electronics (2 groups), the professional family of physical activities and sports (2 groups) and the professional family of personal image (2 groups).

The research was carried out in the first month of the second quarter, in the academic year 2019–2020. It is important to highlight that three teachers participated, so they were trained in b-learning and the Moodle platform, as well as in the expository method. In order to proceed with the research, the corresponding permits were requested and collected, informing all the parties involved of the objectives of the study. There was collaboration at all times between all the people involved in the study.

3.3. Instrument

The instrument used was an ad hoc questionnaire, following the structure of other questionnaires that collected data on active teaching methodologies [66–69]. The qualifications established by the teacher have also been taken into account and it is described in the pedagogical procedure.

The questionnaire is composed of nine dimensions (socio-educational, motivation, interactions, autonomy, collaboration, deepening of content, problem solving, class time and ratings), with 35 items with answer format based on Likert scale (from 1 = None to 4 = Completely).

The instrument was tested for validity and reliability. The Delphi qualitative validity method was applied (M = 4.46; DS= 0.21; min = 1; max= 5); the Kappa statistic by Fleiss and W by Kendall (K = 0.88; W = 0.86); the exploratory factorial analysis with varimax rotation (Bartlett = 2. 771.01; $p < 0.001$; Kaiser-Meyer-Olkin = 0.89); Cronbach's alpha (0.89); McDonald's omega method (0.88); the reliability of the compound (0.87); and the mean variance extracted (0.85). Bearing in mind all these values, it is considered a valid and reliable instrument.

3.4. Dimensions and Study Variables

The dimensions used in this study are based on other research [66–69], whose items have been considered as independent variables: socio-educational; motivation; interactions; autonomy; collaboration; deepening of content; problem solving; class time; rating; and teacher ratings. On the other hand, the pedagogical method developed has been considered as a dependent variable. All these variables have been measured through the questionnaire.

3.5. Methods

The methodological procedure applied in the investigation started with the validation and reliability of the questionnaire. Subsequently, the study population and the research sample were selected, requesting at that time all of the corresponding permits, both from the educational centres and from the trainees themselves.

The methodological procedures to be developed were then determined and specified. On the one hand, the pedagogical acts of the expository method (Gc) and the b-learning method (Ge) were established.

Then, data was collected using a form previously developed with the Google Form tool. Finally, they were downloaded in an Excel table, transcribed to the statistical program used, and the statistical tests and analyses were carried out.

3.6. Pedagogical Procedure

In order to develop the b-learning method with the Basic Vocational Training students, each student was assigned a computer at the educational centre, so that they could access a Moodle platform specifically assembled for the development of the module, by means of a username and password. The access to the platform could be done from any place and at any time, as long as they had a device with Internet access. Those students who, due to different circumstances, could not access the platform from their homes, were provided with a corner with computers for their use in the libraries of the educational centres. In this case, the tutor also had access to the platform 24 h a day, being able to enter it outside school hours to correct or solve doubts about activities. The pedagogical development was divided into two clearly defined lines: the virtual sessions and the face-to-face sessions:

For the virtual period, the students had to read the theoretical contents prepared for their study or knowledge, carry out activities to consolidate the acquired contents and ask for the necessary help through the forums, the tutor or a classmate.

For the face-to-face period, the time was dedicated to consolidate the theoretical contents, to carry out cooperative and collaborative activities, to solve the individual difficulties that the students presented before certain types of activities and tasks, as well as to develop activities to attend to the

transversal elements, such as reading comprehension, oral and written communication, audio-visual communication, ICT and values education.

The qualification criteria of the Basic Vocational Training students who have developed the b-learning method were:

- A total of 50% of the mark corresponds to the completion of a written test;
- A total of 40% of the mark corresponds to the student's participation in the forums, chat, wiki and other elements related to both synchronous and asynchronous student communication;
- A total of 10% of the mark corresponds to the activities carried out by the students in their notebook.

In the expository method, the teacher has made the theoretical presentation of the contents during the development of the sessions. This theoretical presentation followed what was established in the didactic program as well as what was indicated in the textbook used for the level of the students. On certain occasions, the teacher has used the digital blackboard to show certain contents in an interactive way. In addition, during the development of the classes, the teacher established a series of tasks, both in the development of the session and at home. The time structure of each session was distributed as follows: 10 min to remember the contents worked during the previous session; 10 min to solve the doubts that the students could have or to correct the exercises developed at home; 25 min for the theoretical exposition of the contents; and 10 min for the accomplishment of tasks. The qualification criteria have been:

- A total of 50% of the mark corresponds to the completion of a written test;
- A total of 50% of the mark corresponds to the completion of the student activities in class.

4. Results

The data presented in Table 2, related to the descriptive analysis, shows diversity of scores between the control group and the experimental group. In this case, students in Basic Vocational Training who have developed the educational experience through b-learning present better averages in all the dimensions studied. Although, if we analyse it in detail, we can see that the average of the experimental group is in an intermediate zone, so the scores reached are not very high. These are around 2.5 points. On the other hand, in the control group the averages are relatively low, given that they are in all cases below 2. In the experimental group, the most valued dimension is class time, while the least valued dimension is resolution. In the control group, the dimension with the highest score is the relationship between students. On the other hand, the least valued dimensions are resolution and teacher ratings. If the values of the standard deviation are taken into account, a trend of grouped response is shown, not having dispersion in any of the dimensions. With respect to kurtosis, most of them are platicurtic, although there are also, to a lesser extent, leptokurtic and mesocurtic types. If the values reached in asymmetry and kurtosis are taken into account, it can be established that the distribution of the sample is normal. This is because the values are between ± 1.96, as marked by [73].

Table 2. Results obtained for the dimensions of study in CG and EG of students in Basic Vocational Training.

		Likert Scale *n* (%)				Parameters			
	Dimensions	**None**	**Few**	**Enough**	**Completely**	***M***	***SD***	S_{kw}	K_{me}
Control group	Motivation	32(43.2)	27(36.5)	12(16.2)	3(4.1)	1.81	0.855	0.784	−0.154
	Teacher-student	38(51.4)	17(23)	13(17.6)	6(8.1)	1.82	0.998	0.874	−0.477
	Student-content	33(44.6)	28(37.8)	10(13.5)	3(4.1)	1.77	0.837	0.892	0.173
	Student-student	29(39.2)	24(32.4)	17(23)	4(5.4)	1.95	0.920	0.543	−0.731
	Autonomy	31(41.9)	27(36.5)	11(14.9)	5(6.8)	1.86	0.911	0.832	−0.121
	Collaboration	32(43.2)	28(37.8)	11(14.9)	3(4.1)	1.80	0.844	0.826	0.002
	Deepening	35(47.3)	24(32.4)	11(14.9)	4(5.4)	1.78	0.896	0.916	−0.032
	Resolution	36(48.6)	28(37.8)	8(10.8)	2(2.7)	1.68	0.778	0.999	0.553
	Classtime	37(50)	22(29.7)	13(17.6)	2(2.7)	1.73	0.849	0.831	−0.331
	Ratings [a]	37(50)	24(32.4)	10(13.5)	3(4.1)	1.72	0.852	0.997	0.216
	Teacher-ratings [a]	36(48.6)	27(36.5)	10(13.5)	1(1.4)	1.68	0.760	0.820	−0.115
Experimental group	Motivation	10(13.7)	22(30.1)	25(34.2)	16(21.9)	2.64	0.977	−0.142	−0.954
	Teacher-student	16(21.9)	20(27.4)	28(38.4)	9(12.3)	2.44	0.969	−0.070	−0.998
	Student-content	12(16.4)	19(26)	36(49.3)	6(8.2)	2.49	0.868	−0.371	−0.627
	Student-student	11(15.1)	18(24.7)	30(41.1)	14(19.2)	2.64	0.963	−0.278	−0.823
	Autonomy	15(20.5)	18(24.7)	30(41.1)	10(13.7)	2.48	0.973	−0.173	−0.696
	Collaboration	11(15.1)	19(26)	27(37)	16(21.9)	2.66	0.989	−0.232	−0.938
	Deepening	15(20.5)	19(26)	29(39.7)	10(13.7)	2.47	0.973	−0.134	−0.975
	Resolution	18(24.7)	23(31.5)	25(34.2)	7(9.6)	2.29	0.950	0.087	−0.973
	Classtime	5(6.8)	24(32.9)	24(32.9)	20(27.4)	2.81	0.923	−0.149	−0.963
	Ratings [a]	9(12.3)	30(41.1)	20(27.4)	14(19.2)	2.53	0.944	0.153	−0.889
	Teacher-ratings [a]	10(13.7)	28(38.4)	20(27.4)	15(20.5)	2.55	0.972	0.094	−0.977

[a] Established grade group (None: 1–4.9; Few: 5–5.9; Enough: 6–8.9; Completely: 9–10).

The comparison of means shows that the total mean of the experimental group is 2.5, i.e., in the intermediate zone. This indicates that the scores have not been high, but rather average. In contrast, in the control group, the idealised mean is at 1.7, which marks a low response trend. If the totalised means of the control group and the experimental group are compared, a considerable distance is observed, so that the application of one teaching method or another influences the dimensions studied. In the control group, the student–student mean stands out from the idealised mean. The same occurs with class time in the experimental group (Figure 1).

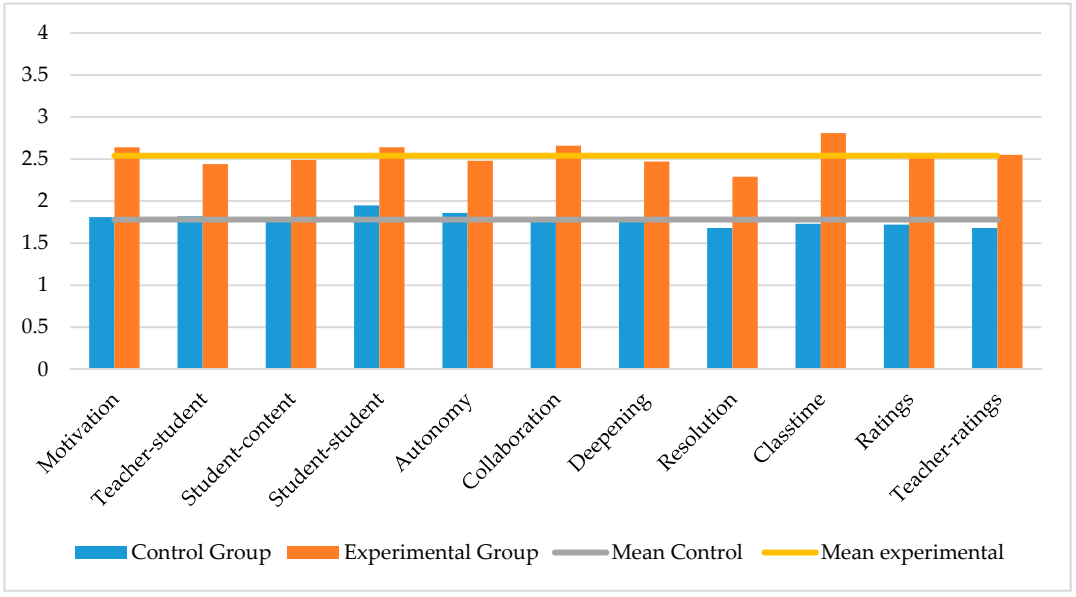

Figure 1. Comparison between control group and experimental group.

By means of the Student's t-test, the relationship of significance, in each of the study dimensions, of the b-learning method in relation to the expository method has been identified. In this case, the statistical values show the relation of significance in all the study dimensions. The greatest difference in means is presented in class time, with up to one point of difference. On the other hand, the dimension with less mean difference is teacher–student. If we take into account the strength of association, we can see that the relationships are medium and low-medium. The dimensions class time, collaboration, ratings, teacher-ratings and motivation have a medium relationship strength. The dimensions with a medium-low relationship are located the rest of the dimensions. According to Cohen's d, the effect size is very low in all dimensions, except in class time, ratings and teacher-ratings, where the effect size is low (Table 3).

Table 3. Study of the value of independence between control group and experimental group.

Dimensions	μ(X1–X2)	$t_{n1+n2-2}$	*df*	*d*	r_{xy}
Motivation	−0.833(1.81–2.64)	−5.503	145	0.084	0.416 **
Teacher-student	−0.587(1.82–2.41)	−3.614	145	0.123	0.287 **
Student-content	−0.723(1.77–2.49)	−5.141	145	0.059	0.393 **
Student-student	−0.698(1.95–2.64)	−4.949	145	0.057	0.350 **
Autonomy	−0.615(1.86–2.48)	−3.952	145	0.034	0.312 **
Collaboration	−0.860(1.80–2.66)	−5.676	145	0.059	0.426 **
Deepening	−0.682(1.78–2.47)	−4.423	145	0.074	0.345 **
Resolution	−0.612(1.68–2.29)	−4.276	145	0.069	0.335 **
Class time	−1.078(1.73–2.81)	−7.376	145	0.165	0.522 **
Ratings [a]	−0.818(1.72–2.53)	−5.516	145	0.175	0.416 **
Teacher-ratings [a]	−0.872(1.68–2.55)	−6.063	145	0.140	0.450 **

** The correlation is significant in level 0.01. [a] Established grade group (None: 1–4.9; Few: 5–5.9; Enough: 6–8.9; Completely: 9–10).

5. Discussion

The results achieved have been able to show that the b-learning method is an effective teaching and learning process, compared to the expository method. In this case, it is effective with students of Basic Vocational Training, in the module of Applied Sciences I. In other words, it is effective for students who are at risk of social exclusion.

The inclusion of ICT in the educational field is enabling innovative teaching and learning processes to be applied, thus favouring the academic development of students [1–5].

If we analyse each of the groups in detail, we can see that, as in the control group, the results achieved are relatively low in all the study dimensions. This may be due to the characteristics of the students in Basic Vocational Training already indicated by [68], where the students present a poor academic background in previous educational stages. Resolution and teacher ratings are among the least valued dimensions. That is, they present difficulties in the resolution of the various pedagogical actions, and therefore, this is reflected in the qualifications established by the teacher.

An example of this is the b-learning teaching method, considered as a didactic process that mixes the best of the expository method with the best of the e-learning method, allowing, among other aspects, to adapt to the rhythms and learning styles of the students, as well as to provoke a change in the roles of the agents involved in the pedagogical act [14–20].

In the present study, we have analysed how the b-learning method influences the students of Basic Vocational Training, specifically in the module of Applied Sciences I. To this end, a contrast has been established with the expository method. According to the results obtained, it is observed, in general terms, that there are better averages in the experimental group, which has developed the b-learning method, with respect to the control group, which has received a teaching based on the expository method.

Additionally, in the group that has developed the b-learning method, the ratings are higher than those offered by the control group, although it does not present very high ratings. Rather, the scores

are average. Even so, there is a contrast between the groups, so it can be considered that the b-learning method favours the academic development of the students. The most valued dimension has been class time. This may be because the method applied may be new to students. On the other hand, the less valued dimension is resolution. In this case, the same happens as in the control group, so the educational base of these students is affected for the development of any educational process they develop, although unlike the control group, the grades are not so affected.

In both groups, the response trend is grouped, so that students maintain the same line of assessment, according to the teaching method applied. That is to say, they agree when giving their opinion about one teaching process or another.

In this case, it can be indicated that the b-learning method, in comparison with the expository method generates an improvement in Basic Vocational Training students in motivation [52]; in the relationship between the teacher and the student [54]; in the relationship between the students and the didactic content [49]; in the relationship between students [51]; in autonomy [55], in collaboration [56]; in the deepening of content [50]; in the resolution of pedagogical acts; in the perception of the class time; in self-evaluation [59]; and in the grades of the module studied [53].

In other words, this study confirms that which has already been established by other authors in relation to the b-learning method and the expository method. With the b-learning method, a positive attitude is produced in the student, since it generates an active process in the formative process. On the other hand, the expository method generates a passive act in the teaching and learning process in the students themselves. The difference of the student's role in these methods provokes significant differences in motivation, in the relationship established between the agents involved in the training process, in the self-management in the collaboration, in the deepening of content, in resolution, in the classtime and in the academic performance.

6. Conclusions

It can be concluded that the b-learning method is effective in the teaching and learning processes of the students of Basic Vocational Training in the module of Applied Sciences I, in comparison with the expository method, having a direct influence on the feeling of the students' own class time. This research shows how important it is to introduce this type of innovative method in the vocational training stage, since it has important advantages for students in many aspects of their learning processes.

The prospective of this study is on two different levels. On the one hand, it tries to provide data to the scientific community on the use of the b-learning method in Basic Vocational Training students. On the other hand, it tries to offer an effective teaching and learning process for teachers working with these types of students.

The limitations of the study are the focus on the selection of the sample, which has been for convenience. In addition, the study population presents specific characteristics, so one must be cautious when extrapolating the results. For future lines of research, it is proposed to analyse this teaching and learning process in the second year of Basic Vocational Training and in other modules.

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