RESEARCH

WEVIDEO: CLOUD SERVICE USEFUL FOR STUDENTS DURING THE CONSTRUCTION AND PRESENTATION OF AUDIOVISUAL CONTENTS?

WeVideo: ¿Servicio en la nube útil para los estudiantes durante la construcción y presentación de los contenidos audiovisuales?

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ABSTRACT

This quantitative and qualitative research analyzes the impact of the WeVideo cloud service during the teaching-learning process. The students of the Computational Mathematics subject used this web application with the purpose of constructing and presenting diverse audiovisual contents related to the topics of Database, ERP System, CRM System and Data Mining. The sample consists of 20 students who were studying the Bachelor in Business Management and Information Technology during the 2017 school year. The results obtained indicate that WeVideo is an ideal tool for the educational process due to the fact that students have an active role in learning during the creation and presentation of audiovisual content. Data science identifies 4 predictive models on the use of WeVideo in the educational field by means of the decision tree technique. WeVideo encourages students' creativity, allows the development of skills, favors collaboration between classmates and increases motivation. In conclusion, new technologies facilitate the planning and implementation of innovative and creative scenarios for learning and teaching.

KEY WORDS: ICT – technology – cloud service – higher education – learning – educational technology – WeVideo – data science.

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RESUMEN

Esta investigación cuantitativa y cualitativa analiza el impacto del servicio en la nube WeVideo durante el proceso de enseñanza-aprendizaje. Los estudiantes de la asignatura Matemáticas Computacionales utilizaron esta aplicación web con el propósito de construir y presentar diversos contenidos audiovisuales relacionados con los temas de Base de datos, Sistema ERP, Sistema CRM y Minería de datos. La muestra está conformada por 20 alumnos que cursaron la Licenciatura en Gestión de Negocios y Tecnologías de Información durante el ciclo escolar 2017. Los resultados obtenidos indican que WeVideo es una herramienta idónea para el proceso educativo debido a que los universitarios presentan un rol activo en el aprendizaje durante la creación y presentación de los contenidos audiovisuales. La ciencia de datos identifica 4 modelos predictivos sobre el uso de WeVideo en el campo educativo por medio de la técnica árbol de decisión. WeVideo fomenta la creatividad de los estudiantes, permite el desarrollo de las habilidades, favorece la colaboración entre los compañeros e incrementa la motivación. En conclusión, las nuevas tecnologías facilitan la planeación e implementación de escenarios innovadores y creativos para el aprendizaje y la enseñanza.

PALABRAS CLAVE: TIC – tecnología – servicio en la nube – enseñanza superior – aprendizaje – tecnología educativa – WeVideo – ciencia de datos.

WEVIDEO: SERVIÇO NA NUVEM ÚTIL PARA OS ESTUDNTES DURANTE A CONSTRUÇÃO E APRESENTAÇÃO DOS CONTEÚDOS AUDIOVISUAIS?

RESUME

Esta investigação quantitativa e qualitativa analisa o impacto do serviço na nuvem WeVideo durante o processo de ensino aprendizagem. Os estudantes de Matemáticas Computacionais utilizaram esta aplicação web com o propósito de construir e apresentar diversos conteúdos audiovisuais relacionados com temas de Base de Dados, Sistema ERP, Sistema CRM e Extraçao de Dados. A amostra esta composta por 20 alunos que cursaram a Licenciatura em Gestão de Negócios e Tecnologias de informação durante o ciclo escolar 2017. Os resultados obtidos indicam que Wevideo é uma ferramenta idônea para o processo educativo devido a que os universitários apresentam um papel ativo na aprendizagem durante a criação e apresentação dos conteúdos audiovisuais. A ciência de dados identifica 4 modelos preditivos sobre o uso de Wevideo no campo educativo por meio da técnica arvore de decisão Wevideo fomenta a criatividade dos estudantes, permite o desenvolvimento das habilidades, favorece a colaboração entre os companheiros e incrementa a motivação. Em conclusão, as novas

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tecnologias facilitam a planificação e implementação de cenários inovadores e criativos para a aprendizagem e o ensino.

PALAVRAS CHAVE: tecnologia – serviço na nuvem – ensino superior – Aprendizagem tecnologia educativa – Wevideo – ciência de dados.

How to cite the article:

1. INTRODUCTION

Today, educational institutions are incorporating Information and Communication Technologies (ICT) in school activities with the purpose of improving the teaching-learning process (Imms and Byers, 2017; Magen and Steinbe rger, 2017; Sahlin, Tsertsidis and Islam, 2017). In particular, digital tools facilitate interactive communication, problem solving and simulation of real situations (Barrientos, 2016; Salas, Salas, Salas and Várgas, 2019).

Young people use ICT in most of their daily activities, therefore, teachers are changing the planning and organization of educational activities developed inside and outside the classroom through digital tools (Botella, Ramos and Hurtado, 2016; Shaqrah, 2015).

Technological advances are becoming a key element to achieve educational innovation (Aparicio, Bacao and Oliveira, 2016; Bowers and Kumar, 2015). In fact, universities are more frequently using online tools and web applications to develop skills in students (Brown, 2016; Salas, 2015).

The benefits of technology in the educational field are related to the ease of access to information, interactivity between users and individualized learning (Barrientos, 2016). It is worth mentioning that collaborative learning through ICT develops social skills and encourages group work among students to know, share and expand information (Casas, 2016).

It is valuable to mention that ICT have a fundamental role in the educational context because these technological applications are used as a supporting instrument to develop school activities efficiently (Boada, 2016; Cohn and Fraser, 2016; Rohatgi, Scherer and Hatlevik, 2016).

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The cloud service represents an ideal technological alternative to meet the needs of students in the 21st century (Lim, Gronlund and Andersson, 2015; Salas, 2018). In particular, this technological tool facilitates the creation of various digital products and multimedia resources (Fuentes, Moreno, Lara and Jiménez, 2017; Huang, 2016; Salas and Vázquez, 2017).

Therefore, this mixed research analyzes the impact of the WeVideo cloud service in the educational field. The students of the subject Computational Mathematics used this web application with the purpose of building and presenting various audiovisual contents related to the topics of Database, ERP System, CRM System and Data Mining

The research questions are:
– What is the relationship of the WeVideo cloud service during the construction of the audiovisual contents and the assimilation of knowledge of the database, the ERP system, the CRM System and Data Mining?
– What is the students' perception of the incorporation of the WeVideo cloud service in the teaching-learning process?
– What are the predictive models about the use of the WeVideo cloud service in the educational field?

2. OBJECTIVES

The objectives of this mixed study (quantitative and qualitative) are to:
1. Analyze the impact of the WeVideo cloud service during the creation of audiovisual contents on the topics of Database, ERP System, CRM System and Data Mining
2. Analyze the perception of the university students on the use of WeVideo cloud service
3. Analyze the relationship of the WeVideo cloud service during knowledge assimilation
4. Analyze the impact of the WeVideo web interface on the teaching-learning process
5. Identify predictive models about the use of the WeVideo cloud service through the decision tree technique

3. METHODOLOGY

3.1. Objective

The general objective of this research is to analyze the impact of the WeVideo cloud service during the teaching-learning process. The students of the subject Computational Mathematics used this web application with the purpose of constructing and presenting

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diverse audiovisual contents related to the topics of Database, ERP System, CRM System and Data Mining.

3.2. Participants

This quantitative and qualitative research was carried out in the subject Computational Mathematics during the 2017 school year. The sample is made up of 20 students (5 students and 15 students with an average age of 19.8 years) who completed the third semester of the degree in Management Business and Information Technology in a Mexican university.

3.3. Procedure

The procedure of this mixed study began with the design of teaching-learning activities on the development and presentation of audiovisual contents through the WeVideo cloud service (see table 1).

Table 1. Teaching-learning activities through WeVideo.

Equipment	Theme	Objective	Technology resource	Topics of audiovisual content
1	Database	Students will build audiovisual content on the database topic through the WeVideos cloud service	WeVideo	Database concept Database items Database examples Database Utility
2	ERP system	Students will build an audiovisual content on the theme of ERP System through the WeVideos cloud service	WeVideo	ERP system concept ERP system architecture ERP system features ERP system advantages
3	CRM system	Students will build audiovisual content on the theme of CRM System through the WeVideos cloud service	WeVideo	CRM system concept CRM system architecture CRM system features CRM system advantages
4	Data mining	Students will build audiovisual content on the subject of Data Mining through the WeVideos cloud service	WeVideo	Data Mining Concept Data Mining Elements Use of data mining Data mining applications in the industry

Source: Own elaboration, 2018.

It is worth mentioning that the students of the degree in Business Management and Information Technology opened an email account at Gmail to access WeVideo through Google drive. Likewise, the students formed teams of 5 members to build and present the audiovisual contents through this cloud service.

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During 4 face-to-face sessions of the subject Computational Mathematics, the students of the Bachelor's degree in Business Management and Information Technology presented the topics on the Database, the ERP System, the CRM System and Data Mining through the audiovisual contents developed in WeVideo.

The hypotheses of this mixed research are:
1. Hypothesis 1 (H_1): There is a positive relationship between the WeVideo fast web interface and knowledge assimilation
2. Hypothesis 2 (H_2): There is a positive relationship between the simple WeVideo web interface and knowledge assimilation
3. Hypothesis 3 (H_3): There is a positive relationship between the easy WeVideo web interface and knowledge assimilation
4. Hypothesis 4 (H_4): There is a positive relationship between the fun WeVideo web interface and knowledge assimilation

On the other hand, the predictive models on the use of the WeVideo cloud service in the educational field are:
– Predictive Model 1 on the web interface of WeVideo and knowledge assimilation (Database)
– Predictive Model 2 on the web interface of WeVideo and knowledge assimilation (ERP system)
– Predictive model 3 on the WeVideo web interface and knowledge assimilation (CRM System)
– Predictive Model 4 on the web interface of WeVideo and knowledge assimilation (Data Mining)

3.4. Data analysis

The spreadsheet is used to calculate the frequency, the percentage frequency and the correlation coefficient. Likewise, the tool Rapidminer allows the construction of predictive models on the use of the WeVideo cloud service in the teaching-learning process (data science).

Finally, the analysis of the qualitative data is carried out considering the perceptions of the students who studied Computational Mathematics during the 2017 school year.

3.5. Data collection

The measuring instrument (questionnaire) consists of 23 questions related to the characteristics of the students, the assimilation of knowledge, the usefulness of the WeVideo cloud service, the WeVideo web interface and the students' perceptions:
– Characteristics of the students (Gender and Age).

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- Assimilation of knowledge through audiovisual content (Database, ERP System, CRM System and Data Mining).
- WeVideo utility to build audiovisual content (Image, Voice, Music and Text).
- WeVideo web interface (Fast, Simple, Easy and Fun).
- WeVideo Employment (Audiovisual Contents).
- Students' perceptions about the use of WeVideo (Innovation, Creativity, Educational Process, Skill Development, Collaboration, Benefits, Satisfaction, Motivation and Educational Experience).

Finally, the measuring instrument was applied during the month of November 2017 in the subject Computational Mathematics.

4. RESULTS AND DISCUSSION
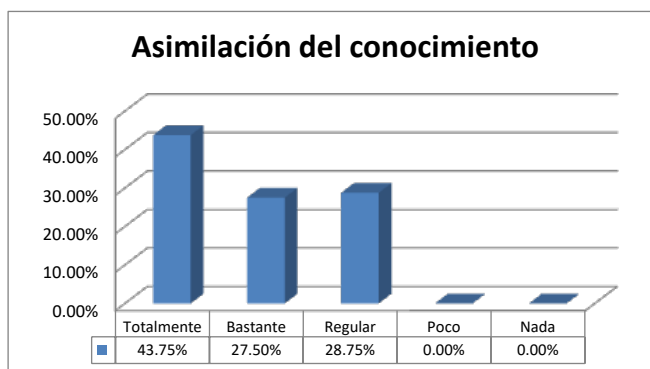
4.1. Impact of the WeVideo cloud service

According to the students of the subject Computational Mathematics (n=10.50%), the WeVideo application totally facilitates the assimilation of knowledge on the topics of Database and CRM System (see table 2). Even this cloud service totally facilitates the assimilation of knowledge about the ERP System (n=7.35%) and Data Mining (n=8.40%).

Table 2. Assimilation of knowledge through WeVideo.

	Database	ERP system	CRM system	Data mining
Totally	10 (50%)	7 (35%)	10 (50%)	8 (40%)
Quite	5 (25%)	7 (35%)	4 (20%)	6 (30%)
Regular	5 (25%)	6 (30%)	6 (30%)	6 (30%)
Little bit	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Nothing	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	20 (100%)	20 (100%)	20 (100%)	20 (100%)

Source: Own elaboration, 2018.

Graph 1 shows that the majority of university students (43.75%) are located in the category Totally for the variable assimilation of knowledge through the application WeVideo.

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Asimilación del conocimiento

	Totalmente	Bastante	Regular	Poco	Nada
■	43.75%	27.50%	28.75%	0.00%	0.00%

Graph 1: Assimilation of knowledge.
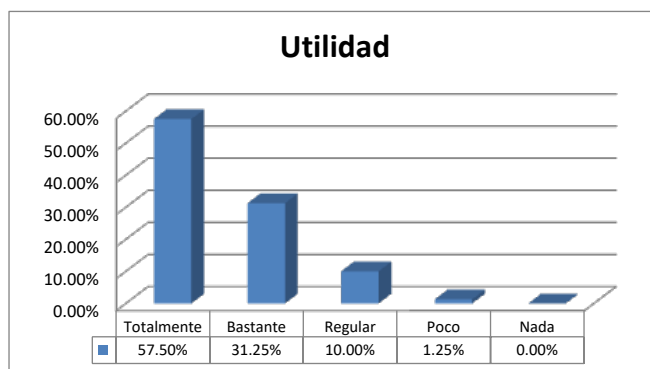**Source:** Own elaboration, 2018.

Table 3 shows that WeVideo totally facilitates the construction of audiovisual content through the use of the image (n=12.60%), Voice (n=10.50%), Music (n=12.60%) and Text (n=12.60%).

Table 3. Utility of WeVideo to build audiovisual content.

	Image	Voice	Music	Text
Totally	12 (60%)	10 (50%)	12 (60%)	12 (60%)
Quite	6 (30%)	8 (40%)	5 (25%)	6 (30%)
Regular	2 (10%)	2 (10%)	2 (10%)	2 (10%)
Little bit	0 (0%)	0 (0%)	1 (5%)	0 (0%)
Nothing	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	20 (100%)	20 (100%)	20 (100%)	20 (100%)

Source: Own elaboration, 2018.

Graph 2 shows the results on the utility of the WeVideo cloud service.

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Utilidad

	Totalmente	Bastante	Regular	Poco	Nada
	57.50%	31.25%	10.00%	1.25%	0.00%

Graph 2: WeVideo Utility.
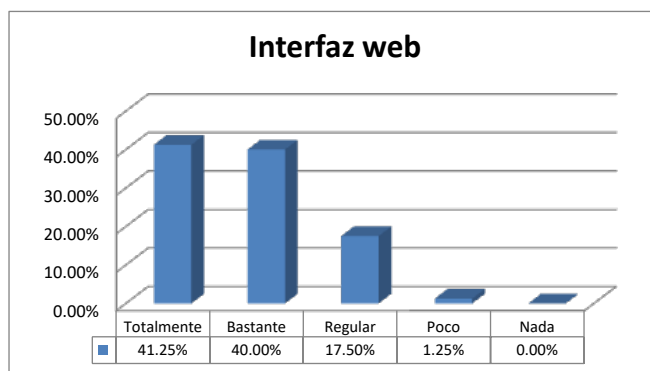**Source:** Own elaboration, 2018.

Students of the Bachelor's degree in Business Management and Information Technology (n=10.50%) point out that the web interface is quite simple and easy to build audiovisual content. Even table 4 indicates that 45% of the participants (n=9) are in the category totally for the Fast and Fun dimensions of the WeVideo interface.

Table 4. WeVideo interface.

	Fast	Simple	Easy	Fun
Totally	9 (45%)	8 (40%)	7 (35%)	9 (45%)
Quite	7 (35%)	10 (50%)	10 (50%)	5 (25%)
Regular	4 (20%)	2 (10%)	3 (15%)	5 (25%)
Little bit	0 (0%)	0 (0%)	0 (0%)	1 (5%)
Nothing	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	20 (100%)	20 (100%)	20 (100%)	20 (100%)

Source: Own elaboration, 2018.

Graph 3 shows that the majority of respondents (41.25%) are placed in the category Totally for the variable Web Interface (WeVideo). Also, 40.00% of university students are in the category Quite a lot.

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Interfaz web

	Totalmente	Bastante	Regular	Poco	Nada
■	41.25%	40.00%	17.50%	1.25%	0.00%

Graph 3: Web interface.
Source: Own elaboration, 2018.

Figure 1 shows that the fast WeVideo web interface has a positive relationship with the assimilation of knowledge for showing a value higher than 0.50, that is, the correlation coefficients are Database (0.6883951), ERP System (0.62827226), CRM System (0.673444456) and Data Mining (0.510451965). Therefore, hypothesis 1 is accepted.
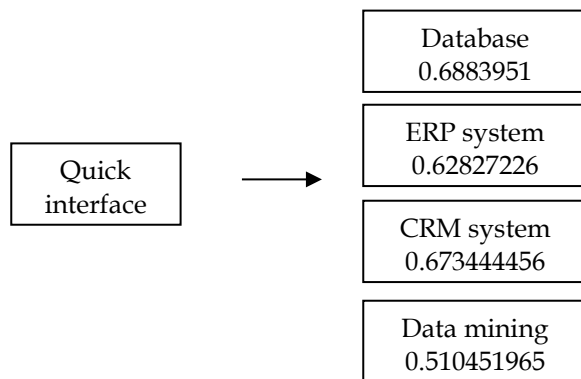
Quick interface	**Database** 0.6883951
	ERP system 0.62827226
	CRM system 0.673444456
	Data mining 0.510451965

Figure 1: Relationship between the rapid interface and knowledge assimilation.
Source: Own elaboration, 2018.

On the other hand, the simple WeVideo web interface has a significant positive relationship with the assimilation of knowledge on the topics of the Database (0.423793448) and Data Mining (0.413624454). Figure 2 shows that all correlation coefficients are greater than the value of 0.34. Therefore, hypothesis 2 is accepted.
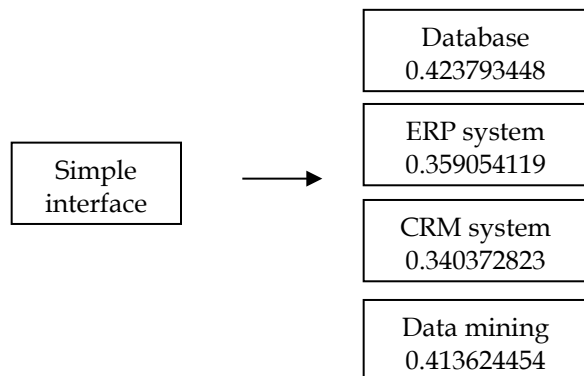
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Database 0.423793448
ERP system 0.359054119
CRM system 0.340372823
Data mining 0.413624454

Simple interface →

Figure 2: Relationship between the simple interface and knowledge assimilation.
Source: Own elaboration, 2018.

Figure 3 shows that there is no significant positive relationship between the easy WeVideo web interface and the assimilation of knowledge because the values of the correlation coefficient are less than 0.35:

- Database: 0.266732535
- ERP system: 0.3481407
- CRM System: 0.186040275
- Data mining: 0.230749034
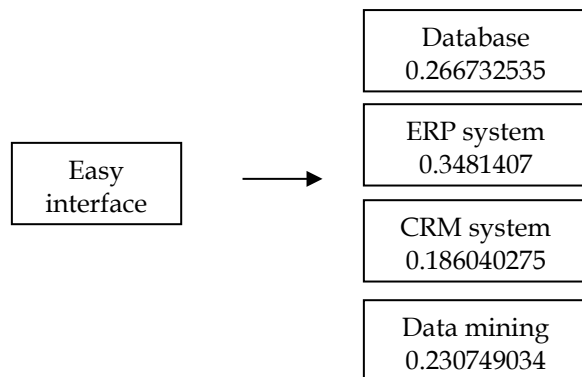
However, hypothesis 3 is accepted.

Database 0.266732535
ERP system 0.3481407
CRM system 0.186040275
Data mining 0.230749034

Easy interface →

Figure 3: Relationship between the easy interface and knowledge assimilation.
Source: Own elaboration, 2018.

Finally, figure 4 shows that the fun WeVideo web interface has a significant positive relationship with the assimilation of knowledge on the topics of Database (0.415481802) and CRM System (0.462042364). Hypothesis 4 is accepted.
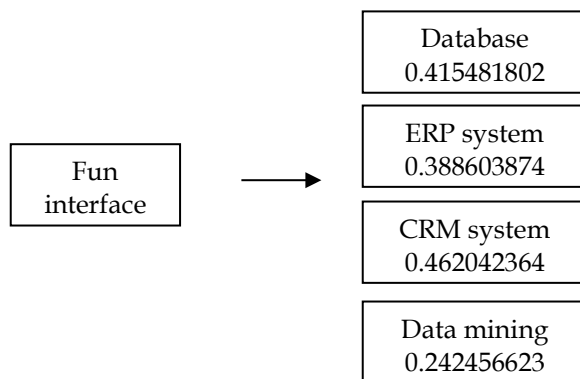
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Database 0.415481802
ERP system 0.388603874
CRM system 0.462042364
Data mining 0.242456623

Fun interface →

Figure 4: Relationship between the fun interface and knowledge assimilation.
Source: Own elaboration, 2018.

4.2. Student perceptions

According to the students of the subject Computational Mathematics, the WeVideo cloud service is an innovative tool for the teaching-learning process:
  – "Yes, it is quite innovative and easy to use" (Student 8, Male, 19 years old).
  – "Yes, it is something different from the traditional" (Student 16, Male, 20 years old).
  – "Yes, as slide shows are usually requested" (Student 15, Male, 22 years old).
  – "Yes, it is not very common to ask for videos" (Student 11, Male, 19 years old).

Also, university students point out that WeVideo is an easy and simple tool to create audiovisual content:
  – "Yes, it is very simple and quick to understand" (Student 12, Female, 19 years old).
  – "Yes, because it is easy to make the videos" (Student 19, Male, 20 years old).
  – "Yes, he is very coul" (Student 3, Female, 19 years old).

It is worth mentioning that the WeVideo cloud service encourages student creativity:
  – "Yes, it gives you tools to exploit your creativity" (Student 7, Male, 20 years old).
  – "Yes, because you use your creativity when making the video" (Student 15, Male, 22 years old).
  – "Yes, because you learn differently" (Student 19, Male, 20 years old).
  – "Yes, we use creativity" (Student 2, Female, 19 years old).

The participants think that WeVideo facilitates the educational process through the construction of audiovisual content:
  – "Yes, because including the information in the videos, it is easier to learn" (Student 1, Male, 20 years old).

- "Yes, we had to investigate" (Student 2, Female, 19 years old).
- "Yes, because while you are making the video you review" (Student 7, Male, 20 years old).
- "Yes, because you review while creating the video" (Student 15, Male, 22 years old).
- "Creating the video helps you assimilate knowledge" (Student 16, Male, 20 years old).

In addition, students of the Bachelor's degree in Business Management and Information Technology mention that this service in the cloud allows the development of skills:
- "Yes, when creating it" (Student 2, Female, 19 years old).
- "Yes, you learn to use other means to explain the issues" (Student 5, Female, 19 years old).
- "Yes, you develop your technological skills" (Student 8, Male, 19 years old).
- "Yes, when looking for different alternatives to do it" (Student 12, Female, 19 years old).

In the same way, the students of the subject Computational Mathematics indicate that WeVideo favors the collaboration among the partners:
- "Yes, I was doing it simultaneously with someone" (Student 2, Female, 19 years old).
- "Yes, it allows teamwork" (Student 11, Male, 19 years old).
- "Yes, it can be saved and shared to continue editing" (Student 12, Female, 19 years old).
- "Yes, to make the videos as a team" (Student 16, Male, 20 years old).
- "Yes, because it is easy to share" (Student 1, Male, 20 years old).

One of the benefits of WeVideo is related to the ease of creating audiovisual content:
- "Easily allows the creation of videos" (Student 15, Male, 22 years old).
- "Use of a new app to make videos" (Student 16, Male, 20 years old).

In fact, this cloud service facilitates the teaching-learning process in the subject Computational Mathematics:
- "A simple way of learning" (Student 1, Male, 20 years old).
- "Facilitates learning" (Student 10, Male, 19 years old).

Respondents indicate that they are satisfied to use the WeVideo cloud service during the educational process:
- "Yes, because it was fun and simple" (Student 1, Male, 20 years old).
- "Yes, I could do what I wanted" (Student 2, Female, 19 years old).
- "Yes, I would use it again" (Student 4, Male, 20 years old).

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- "Yes, I liked getting to know a new program" (Student 5, Female, 19 years old).
- "Pretty much, I liked using the application" (Student 16, Male, 20 years old).
- "Yes, it is really something new" (Student 17, Male, 20 years old).

Similarly, WeVideo motivates university students during the teaching-learning process:

- "Yes, since the videos that are made look good and that makes you want to use it more" (Student 1, Male, 20 years old).
- "Yes, when creating it" (Student 2, Female, 19 years old).
- "Yes, since it is not tedious to see the subject like this" (Student 13, Female, 19 years old).
- "Yes, it is about doing something new and different" (Student 17, Male, 20 years old).

The WeVideo cloud service facilitates the construction of innovative and creative educational experiences:

- "Yes, when doing the pre-video investigation" (Student 5, Female, 19 years old).
- "Yes, it's easier with the video" (Student 10, Male, 19 years old).
- "Yes, because learning is easier" (Student 1, Male, 20 years old).
- "When looking for information and using the video you remember the concepts" (Student 16, Male, 20 years old).

4.3. Data science

Figure 5 shows the predictive model 1 on the WeVideo web interface and knowledge assimilation (Database). For example, if the student thinks the web interface of WeVideo fully facilitates the construction of audiovisual content and it is a man then this service in the cloud facilitates fully assimilating knowledge of the database.
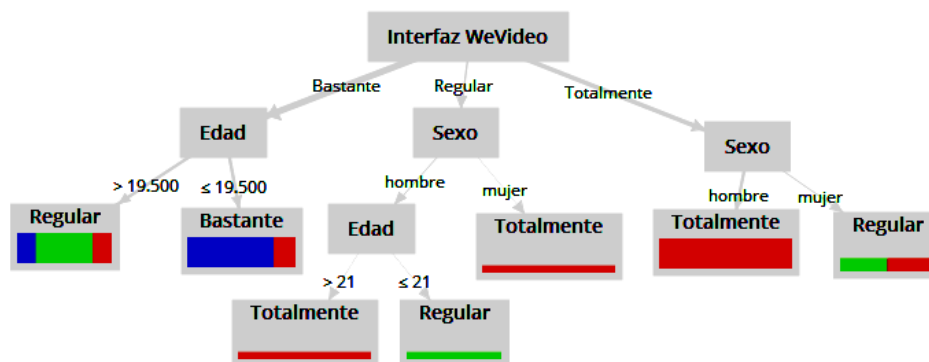

Figure 5: Predictive model 1 on WeVideo.
Source: Own elaboration, 2018.

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On the other hand, if the student thinks the web interface of WeVideo greatly facilitates the construction of audiovisual content and has an age ≤19.5 years then this service in the cloud rather facilitates the assimilation of knowledge about the database. The accuracy of predictive model 1 is 80.00% (see figure 6).

accuracy: 80.00%

	true Bastante	true Regular	true Totalmente	class precision
pred. Bastante	4	0	1	80.00%
pred. Regular	1	5	2	62.50%
pred. Totalmente	0	0	7	100.00%
class recall	80.00%	100.00%	70.00%	

Figure 6: Accuracy of predictive model 1 on WeVideo.
Source: Own elaboration, 2018.

Figure 7 shows the predictive model 2 on the WeVideo web interface and knowledge assimilation (ERP System). For example, if the student thinks the web interface of WeVideo fully facilitates the construction of audiovisual content, it is male and has an age> 19.5 years then this service in the cloud fully facilitates assimilating knowledge of the ERP system.
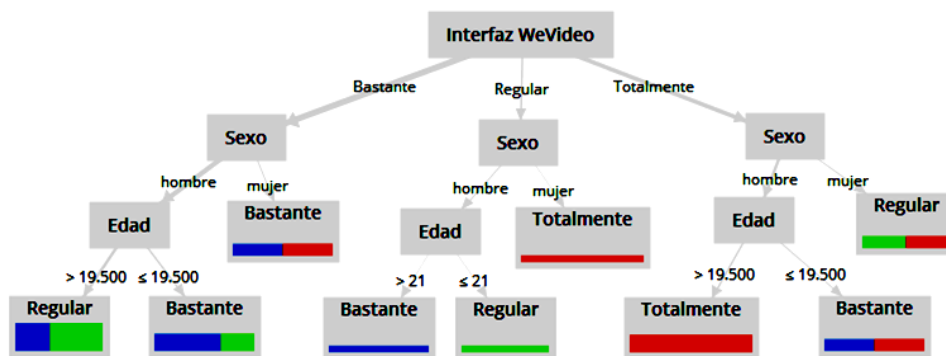

Figure 7: Predictive model 2 on WeVideo.
Source: Own elaboration, 2018.

On the other hand, if the student thinks the web interface of WeVideo greatly facilitates the construction of audiovisual content and it is a woman then this cloud service greatly facilitates the assimilation of knowledge about the ERP system. The accuracy of predictive model 2 is 70.00% (see figure 8).

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accuracy: 70.00%

	true Bastante	true Regular	true Totalmente	class precision
pred. Bastante	5	1	2	62.50%
pred. Regular	2	5	1	62.50%
pred. Totalmente	0	0	4	100.00%
class recall	71.43%	83.33%	57.14%	

Figura 8: Accuracy of predictive model 2 on WeVideo.
Source: Own elaboration, 2018.

Figure 9 shows the predictive model 3 on the WeVideo web interface and the assimilation of knowledge (CRM System). For example, if the student thinks the web interface of WeVideo fully facilitates the construction of audiovisual content, it is male and has an age ≤19.5 years then this service in the cloud facilitates rather the assimilation of knowledge about the CRM system.
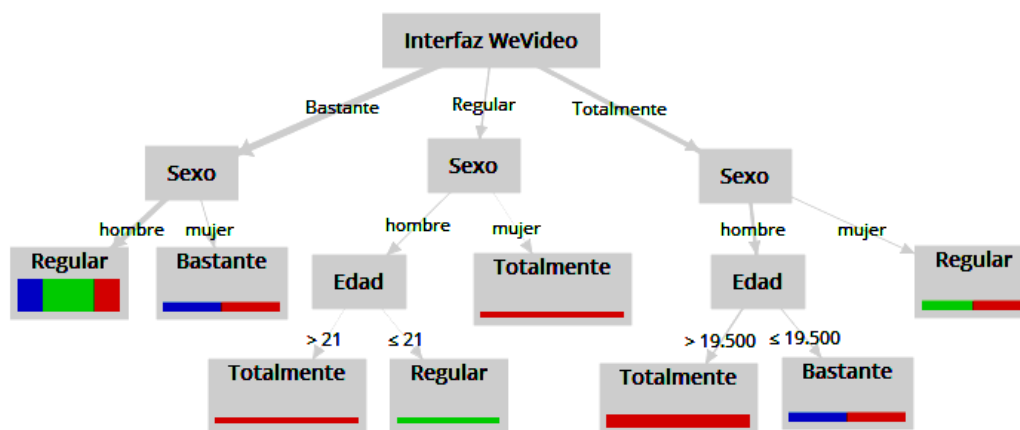
Figure 9: Predictive model 3 on WeVideo.
Source: Own elaboration, 2018.

On the other hand, if the student thinks the interface web of WeVideo facilitates rather the construction of audiovisual content and it is a woman then this service in the cloud rather facilitates the assimilation of knowledge about the CRM system. The accuracy of predictive model 3 is 65.00% (see figure 10).

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accuracy: 65.00%

	true Bastante	true Regular	true Totalmente	class precision
pred. Bastante	2	0	2	50.00%
pred. Regular	2	6	3	54.55%
pred. Totalmente	0	0	5	100.00%
class recall	50.00%	100.00%	50.00%	

Figure 10: Accuracy of predictive model 3 on WeVideo.
Source: Own elaboration, 2018.

Figure 11 shows the predictive model 4 on the WeVideo web interface and the assimilation of knowledge (Data mining). For example, if the student thinks the web interface of WeVideo fully facilitates the construction of audiovisual content, is male and has an age ≤19.5 years then this service in the cloud facilitates rather the assimilation of knowledge about mining data.
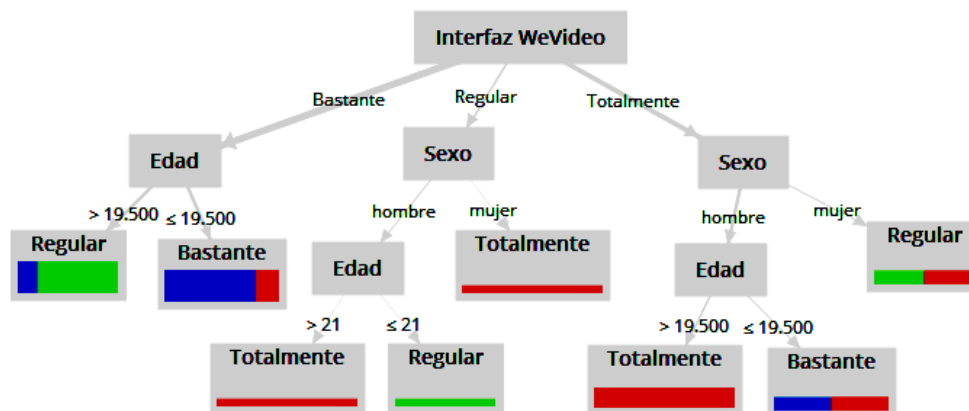

Figure 11: Predictive model 4 on WeVideo.
Source: Own elaboration, 2018.

On the other hand, if the student thinks the web interface of WeVideo greatly facilitates the construction of audiovisual content and has an age ≤19.5 years then this service in the cloud rather facilitates the assimilation of knowledge about data mining. The accuracy of predictive model 4 is 80.00% (see figure 12).

accuracy: 80.00%

	true Bastante	true Regular	true Totalmente	class precision
pred. Bastante	5	0	2	71.43%
pred. Regular	1	6	1	75.00%
pred. Totalmente	0	0	5	100.00%
class recall	83.33%	100.00%	62.50%	

Figure 12: Accuracy of predictive model 4 on WeVideo.
Source: Own elaboration, 2018.

4.4. Discussion

The cloud service allows users to access applications through the web browser (Fuentes, Moreno, Lara and Jiménez, 2017). In particular, students of the Bachelor's degree in Business Management and Information Technology use the WeVideo tool through Google drive in order to create various audiovisual contents.

This study confirms the ideas of Boada (2016) about the importance of ICT to develop school work and promote the search for resources. In particular, the students of the subject Computational Mathematics investigated the information on the topics of Database, ERP System, CRM System and Data Mining with the purpose of constructing diverse audiovisual contents through the WeVideo cloud service.

It is valuable to mention that the WeVideo web interface is fast, simple, easy and fun for the teaching-learning process. Even, university students indicate that this application facilitates the assimilation of knowledge, collaboration between colleagues and teamwork.

Service in the cloud motivates learning in students (Fuentes Moreno, Lara and Jiménez, 2017). For example, WeVideo represents an ideal medium for the educational context because this cloud service encourages creativity and skill development.

This mixed study confirms the ideas of various authors (eg, Aparicio, Bacao and Oliveira, 2016; Mellati, Azad and Khademi, 2015; Salas, Vázquez and Lugo, 2016) on the positive impact of technology on the educational process . In fact, university students point out that they are satisfied to use the WeVideo cloud service during the construction and presentation of audiovisual content through the use of images, voice, music and text.

On the other hand, this research identifies the existence of a positive relationship between the assimilation of knowledge and the WeVideo web interface (fast, simple, easy and fun) by means of the correlation coefficient.

Data science establishes 4 predictive models of the WeVideo cloud service during the educational process with an accuracy greater than 64.99%. In the predictive model 1 if the student thinks the web interface of WeVideo fully facilitates the construction of audiovisual content and it is a man then this service in the cloud facilitates fully assimilating knowledge of the database.

In the predictive model 2 if the student thinks the web interface of WeVideo greatly facilitates the construction of audiovisual content and it is a woman then this service in the cloud rather facilitates the assimilation of knowledge about the ERP system.

In the predictive model 3, if the student thinks web interface of WeVideo fully facilitates the construction of audiovisual content, it is a man and has an age ≤19.5 years then this service in the cloud facilitates rather the assimilation of knowledge about the CRM system.

In the predictive model 4, if the student thinks the web interface of WeVideo greatly facilitates the construction of audiovisual content and has an age ≤19.5 years then this service in the cloud facilitates rather the assimilation of knowledge about data mining.

Finally, the use of ICT in the classroom improves the teaching-learning process (Chipangura and Aldridge, 2017; Sahlin, Tsertsidis & Islam, 2017; Salas, 2016).

5. CONCLUSIONS

The Wevideo cloud service is an ideal technological tool to foster an active attitude in the student, improve skills and improve teaching-learning conditions. In fact, university students consider that this application facilitates the assimilation of knowledge about the Database, the ERP System, the CRM System and Data Mining through the construction and presentation of audiovisual content.

In particular, the students of the Bachelor's degree in Business Management and Information Technology are satisfied and motivated to use the application WeVideo in the subject Computational Mathematics. In addition, this cloud service has a fast, simple, easy and fun web interface that enables to create audiovisual content through the use of images, voice, music and text.

It is recommended that teachers identify and use the new Information and Communication Technologies such as the application WeVideo in order to implement creative and innovative educational experiences.

The limitations of this study are related to the use of the WeVideo cloud service in the educational process of computing. Therefore, future research may analyze the impact of WeVideo on the fields of administration, medicine and humanities.

The implications of this study promote the incorporation of technological tools in school activities in order to build new spaces for learning and teaching.

In conclusion, the WeVideo cloud service is a technological tool that encourages collaboration, teamwork and autonomous student learning.

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