Perspectives on influencing aspects for students' acceptance of multimedia materials in training programs

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Abstract

This study was carried out in order to improve the understanding and learning of participants enrolled in face-to-face training programs, and to enhance their learning and retention of content through multimedia materials. A qualitative study was conducted to inquire about the perception of the participants and instructors of an Administrative training program. Through observation, interviews and a survey, the data was collected to analyze and interpret; it provided the knowledge to identify five perceived influencing aspects on the acceptance of multimedia in training programs, relating to comprehension, perspective of educational technology, beliefs and requirements of multimedia materials and academic performance. Such diagnosis provides a way to improve the instructional design of training courses; also designing multimedia materials that meet the expectations of future users and create competitive advantage by implementing multimedia materials, these would make a big difference from other courses.

Keywords: multimedia materials; multimedia content; continuing education; educational technology; meaningful learning

Introduction

Within training programs, there is a need to design and develop educational innovations to improve the quality of learning of the participants. The existence of Information and Communication Technologies (ICT) in teaching outlines a new paradigm where educational innovation is considered necessary because of the information explosion and the use of training materials with technological support. It is also necessary to study the methodology of training programs in order to improve the understanding of the participants who are professionals, and who face technological barriers when taking up studies again. Interactivity is a benefit offered by ICT, as they improve both vertical and horizontal communication changing the role of the student from passive recipient of information to active constructor of meaning. The set of technologies that benefit education in these areas is called Educational Technology (ET), a discipline that is advancing and is and will be the life cycle of educational innovations.

The precursors of Educational Technology (ET) were the first to question the problems associated with perception, motivation, individual differences and evaluation (Cabero, 2007). Through several studies it was concluded that the application of various instructional strategies produce different results.

In recent times, several factors that strongly influence adults' training have been identified. A person who attends college acquires skills and competencies; however, to remain active, grow professionally and be even more competitive, it is necessary to continue in the field of education, in what is called permanent or continuing education. In continuing, permanent, or executive training, some participants fail to get the best benefits and understanding of the content of the programs, for example, due to family duties or to a heavy work load that prevent them from achieving a meaningful learning.

Distance education or e-learning can become a solution to this situation, as it focuses on education for adults, in which individuals are responsible for their own learning and the time and space in which they want to perform the tasks. These training options are based on a formal and specific methodology that also promote skills and technological competencies, but what about the modality? Does "distance" also foster these skills and competencies? In most traditional face-to-face programs participants are passive, but they need to promote meaningful learning in students.

Therefore, education programs can adopt ET resources and multimedia learning materials for innovation. However, for this purpose to be fulfilled, it is necessary to understand the profile of the participants and instructors and to understand their perspective regarding ET, in order to design appropriate methodologies and materials that have an impact on their work productivity.

Faced with this problem, there is a need to identify the key aspects for successful acceptance of multimedia in a training program that aims to benefit the learning of the participants.

Based on the above, we formulated the research question: What aspects do students perceive as having an influence on their acceptance of multimedia in the teaching-learning process of a training program and how do they impact on the educational actors?

This study traced a path that made it possible to provide meaningful answers to the research question, in order to achieve the following objective: to understand the aspects, which students perceive that influence the acceptance of new multimedia materials in the field of continuing education, to improve meaningful learning of the participants.

This research also aims to promote the use of ICT in the field of continuing education in order to foster self-learning through multimedia material, as it is one of the skills that globalization requires today, while providing competitive advantages of the product in the market. It is necessary to understand the profile, opinions, attitudes and aptitudes of the participants in this field, because knowing the above, and clearly understanding people's views regarding adult educational technology, also provides knowledge to design methodologies and materials of interest that have an impact on labor productivity.

Use of Educational Technology and multimedia materials

The nineties witnessed the great momentum of ET with the introduction of the Internet. One of its purposes was to promote solutions and profound changes that benefit all levels of education (Cabero, 2007); as well as to transmit knowledge through technological means acting as facilitators of learning (Marín, 1998; Salmerón, Rodríguez & Gutiérrez, 2010). Escamilla (2000) refers to ET as the use of instructional methods (procedures that help students achieve the learning objectives) and the media and information (anything that can transmit a message) to educate. Cabero (2007), notes that ET currently focuses on the teaching and transmission of culture through technological means in different educational contexts.

Recent contributions from Communication Sciences, Sociology and Psychology have influenced the conceptualization and understanding of ET; however, there are currently three theories which are identified as key: 1) the General Theory of Learning, in which behaviorism is better known as the Science of Behavior by Skinner, and Piaget's cognitive theories; 2) the General Systems Theory, which depicts instructional design as a flexible technological process, and 3) the Theory of Communication that refers to the development of media in education for a communicative process (Cabero, 2007).

The purpose of ET is not to instruct in the use of media, but to teach contents; however, media are considered facilitators of learning that contribute to avoid failure and dropout, and also to improve interaction and generate progress in academic, social and cognitive development (Marín, 1998;

Salmerón *et al.*, 2010). Among the contributions of ET are new tools for education, multimedia materials or educational software, applications containing audio, video, images and hypertext that convey a message (Rodriguez & Vidal, 2010).

Multimedia materials are defined as hardware or software, systems or applications containing audio, video, images and hypertext intending to inform, transmit or communicate a message (Rodríguez & Vidal, 2010). It is worth mentioning that the main feature that differentiates multimedia materials is interactivity, as this enables the relationship between the user and the environment, fostering new skills in students (Becerra & Victorino, 2010). The introduction of these materials in education has fostered a new culture, in which there have been changes and emergence of new educational roles: the role of the student has shifted from being passive to being active, since now they direct their own learning. As for the teacher, they do not only teach, but now they advise, reinforce, direct, coordinate and sometimes design materials that help increase the interaction between teacher-student and student-student (Marín, 1998).

For a multimedia material to fulfill its purpose, it should have great quality in all its aspects: technical, pedagogical and aesthetic; this way, the user can create a satisfying experience when interacting with it.

Schnotz (2011) confirms that the concept of multimedia not only relates to information technology, but the combination of three levels, which designers sometimes forget and should be considered for the design and implementation of multimedia: 1) the technical level: they are the devices and carriers of signs; 2) the semiotic level: refers to the form of representation (text, images and graphics) and are the types of signs; and 3) the sensory level: the sensory modality or reception of signs.

Implementing multimedia in education involves new cognitive and metacognitive skills, since the media have given a solution to the educational problem of students' motivation to learn (Marín, 1998). Gómez-Zermeño (2012) mentions that new technologies offer innovative ways to explore and acquire knowledge, which contributes to strengthening the educational environment. It is important to point out that introducing the multimedia technology in teaching does not guarantee the success of learning, because it is only used as a means to facilitate learning and develop student abilities. This teaching should be student-centered and be compatible with theories of learning; when it is used without any pedagogic basis it would cause a one-way teaching, in which students only receive information (Becerril & Victorino, 2010).

In relation to the implementation of multimedia in educational contexts, it is not about neglecting traditional education, but to exploit the educational potentialities they offer to remove time, space and sociological barriers from classroom teaching (Marín, 1998). In addition, there is evidence that learning increases due to the use of more senses or cognitive skills by students as they improve individual and collective communication; also, its use generates progress in academic, social and cognitive development (Salmerón *et al.*, 2010).

Effects on learning supported by multimedia

Teaching with multimedia technologies is focused on students, as it focuses on their interests, previous knowledge, cognitive development and learning styles. Therefore, the teacher is no longer the star of the teaching-learning process, but should inquire into the psychology of learning rather than the content of the subject itself (Becerra & Victorino 2010). It is also necessary to know the reason why a multimedia educational practice would be included in the classroom, since according to Becerril and Victorino (2010) teaching with multimedia technology is successful provided they are compatible with the learning theories that underpin teaching practice.

Within the new flexible learning process, the abilities of adaptability, interaction, autonomy and creativity develop, i.e., it is a redefinition of the traditional models that introduce tools to build learning, causing a restructuring of educational strategies in which the best methods, tools and techniques that guarantee success and learning are selected (Salinas, 2004).

Some studies have found that the use of multimedia tools in teaching-learning accomplished that students not only learn faster, but the knowledge they gain has greater durability when compared to students who receive traditional teaching (Solivellas & Angeli, 2006). Students implicitly understand the content as an effect of a multimedia learning, in addition to increased motivation. It is also considered that the use of media in education is to transmit culture; therefore, Lara (2004) assumes that technological absence within institutions produces cultural isolation.

There are studies showing that academic performance is better when the learning process is related to the learning styles and the way in which the pupil expands them (Martin, 2004).

Online Continuing Education

Continuing education is education for adults with professional activities, it provides skills development for permanent update, as well as attitudes, skills and abilities. It is also regarded as the key to development and improvement of people, generating growth, maturity and opportunities (García & Lavié, 2000).

Figueroa (2005) states that there are two factors influencing continuing education: 1) emotional intelligence, as it is considered a key concept for the new organizations of the 21st century and the solution to the deficiencies of these organizations, as it can be used as an instrument to produce emotional capital, which increases the competitiveness, and 2) a positive organizational climate, as space-time where psychosocial growth, which involves the daily practice of emotional competencies, is realized.

Therefore, the internal quality of individuals is the starting point for the formation of human capital, as it is the creation of a chain that affects all aspects of human life, the profound relationship between feelings, attitudes and the socio-cultural-historical and natural processes. Thus, organizations that survive and thrive in this century will be those that adapt and sustain human relationships, by networking and acting flexibly.

In relation to skills development, multiple literacies are necessary in online continuing education environments, as it helps to decode and understand knowledge systems and mediated symbolic forms, in addition to digital literacy. It is also important for the individual to acquire the appropriate competencies, such as e-competencies, which enable to respond to current requirements. These are knowledge, skills, abilities and attitudes of the area of information technology which apply knowledge and cognitive and practical problems are solved. Similarly, the acquisition of competencies allows professionals to be capable of multitasking, plus facilitating their employability (Area, 2008; Buzón, 2005, Leibowicz, 2000; Villanueva & Casas, 2010).

Meanwhile, Villanueva and Casas (2010) distinguish the requirements of the 21st century as a melting pot of opportunities but also as a multiplicity of challenges that must be answered, one of these is the demand for proactive and not reflective students, ready to tackle challenges in a global world, which is a competitive environment.

Therefore, it is necessary that workers nowadays develop self-learning, distance contact and the use of social networks, thus placing the work of education as the basis for the development of these competencies, also the need to increase capacity adaptation and functions to survive in the competitiveness of the digital era (Villanueva & Casas, 2010).

Moreover, online continuing education helps organizations be intelligent facing the demands of the XXI century and efficiently achieve their goals through continuing training and development system (Silíceo, 2010; Figueroa, 2005).

Technology acceptance model (TAM) and user experience with technology

With the development and increasing use of technology in most aspects of life, it became necessary to develop a model that would allow to understand and study user acceptance of technology. Davis's (1985, cited in Chuttur, 2009) proposal of a Technology Acceptance Model (TAM), posits that user motivation can be explained by three factors: *Perceived Ease of Use, Perceived Usefulness,* and *Attitude Toward Using the system;* system design characteristics are also considered as being a direct influence on acceptance of technology (Chuttur, 2009).

Some researchers have found it necessary to add to the model, for example in relation to social factors, such as communication channels, individuals, organizational members, and social system in addition to the technology itself (Susilo, 2014). However, this model has become very widespread to explain and predict the use of a system (Chuttur, 2009), and it has been revised by Venkatesh & Davis (1996) to include the user's behavioral intention and actual system use, as well as external variables. Later, Venkatesh & Davis (2000) proposed the TAM2 model, which provides more detailed explanations for the reasons participants found a given system useful, including both voluntary and mandatory environments.

Chuttur (2009), points out there are many studies on TAM with several confirmatory results, although skepticisms remain among some researchers regarding the application and theoretical accuracy of the model, and thus future research should focus on the development of new models deriving from the strengths of the TAM model.

Method

Based on the research question *What aspects do students perceive as having an influence on their acceptance of multimedia in the teaching-learning process of a training program and how do they impact on the educational actors?*, we chose a qualitative method in order to discover, build and interpret a reality from perceptions and meanings produced by the experiences of the participants when facing the introduction of new materials in teaching, in addition to understanding people and their contexts. A phenomenological designed was applied. This type of study is based on several premises established by Creswell, Alvarez-Gayou and Mertens (cited by Hernández, Fernández & Baptista, 2010) which are: it aims to describe and understand the phenomenon from the point of view of each participant and from the perspective collectively built; the researcher contextualized experiences in terms of its temporality; the collection of documents and materials are directed to find topics about everyday and exceptional experiences, and gathering information from people who have experienced the phenomenon under study.

Research Context

The study took place within a reputable Mexican institution, in an executive training program aimed at providing knowledge and skills updating to improve personal and business results, intended for professionals who need to be better prepared. This program is taught in different locations in the metropolitan area of Mexico City, however, the research was conducted in the modules offered in the State of Mexico Campus.

The program lasts 164 hours, the sessions are held on Saturdays with a duration of 8 hours in four work packages. Nearly half the time of the program (72 hours) is spent on a computer; there is a computer per person in the classroom along with the software needed. The instructors are free to choose the support materials for the course. While some do incorporate multimedia materials such as videos, digital platforms, interactive presentations and applets, some do not do so.

Participants

The population consisted of the program participants. A small sample was chosen in order to obtain results with greater depth, as the study does not seek to generalize the results, but to investigate to understand precisely the phenomenon of study and to answer the research question (Hernández *et al.*, 2010). Therefore, the study sample consisted of two groups of 46 participants, 24 in one group and 22 in the other. As for the socioeconomic characteristics of participants in the program, they are identified as upper middle class, since they are mostly business executives or managers who have a culture of continuous training for the development of new attitudes, skills and knowledge.

Also, 4 program instructors participated in the study, including the program director. These instructors have masters' or doctoral degrees in engineering areas. They also have extensive experience as teachers in universities and companies as professionals, instructors and other consultancy activities; some of them are business owners, and all of them are PMP certified (Project Management Professional). They formed the sample of experts and we investigated their perspectives and experiences within the program and about multimedia materials.

Data Collection

For data collection, observation, surveys and interviews were carried out, in order to provide knowledge to the research, as well as to verify the validity and reliability of both the instruments and the procedure.

First, we began to apply surveys to participants in the training program; although this instrument is commonly used for quantitative studies, it was possible to adapt the survey to obtain qualitative data. Sierra (1999) points out that the survey can be used as a non-participant observation, so it was used to analyze what was not possible to observe in the qualitative study. The survey had 25 multiple choice questions regarding the students' opinion, feelings, motivation, attitudes and what they expect or disapprove of multimedia materials. In this survey, multimedia materials refer to digital platforms; videos, animations and audio; tutorials on CD or encyclopedias; video games; blogs; interactive presentations and interactive online activities. Although the data collected was self-reported by participants and thus limited in nature by the accuracy of the participants' responses, when dealing with perceptions this can be expected, thus results help direct further research, and are not meant to be generalized.

Also, we held qualitative observations, which are focused on understanding the perspective of the participants, obtaining information of the studied phenomenon, and discovering new concepts and confirming what was already known. Thus, the behavior and activities that participants performed within the classroom, the role that technological artifacts played, and the environment and the interaction between instructor-participant and participant-participant, were observed in detail.

Finally, semi-structured interviews were conducted with four program instructors; which consisted in using a question guide, together with other questions raised at the time, in order to obtain additional information on the subject (Hernández *et al.*, 2010). The type of questions were: a) general questions, b) background, c) knowledge, d) opinion and e) simulation. The purpose of

applying this instrument to instructors was to study in-depth the views of experts in training programs, something that was not possible to observe.

Data analysis

In this research, we chose to collect data from different sources and using different methods-triangulation of research methods- in order to attain a deeper understanding of the phenomenon.

For data analysis the audios of the interviews were transcribed and observation notes were collected. Afterwards, the data was explored, in particular the general ideas, to organize the data by categories. A reflection took place during the initial immersion, in order to detect whether the first data answered the research problem and described the phenomenon of study, in addition to finding the first differences between data patterns and relationships.

During the immersion phase, the reflection consisted of analyzing and comparing the first data with the second, which gave meanings and new concepts; also, when related to each other, the initial annotations were supplemented, and the main categories, patterns, and primary hypothesis emerged. The data were analyzed through qualitative coding, which consisted of coding the units of analysis through the method of constant comparison and emerging categories and subcategories of the study. The procedure validation, consisted of the evaluation of the units that were selected for each category, i.e. we questioned whether the placement of the units was correct and in case it was not, it was changed or added to the category "other" and in the end this was awarded a definitive code and description. The description of categories was then carried out, establishing categories relationship and generating explanations. Finally, conclusions were drawn from the data analysis and triangulation of theory.

Results

We begin by presenting the profile information of the participants. Defining the profile of people pursuing common training programs helps to improve the quality of teaching methods in this educational context.

The age of the people who attended the training course ranged between 23 and 46 years old, and most are male. Regarding family status, people who have a relationship without children predominate. Their professional areas include: a) architecture, b) engineering, c) project management, c) telecommunications.

Participants were frequently engaged in entertainment, cultural and sporting activities; they are also students with high academic performance, and they establish competency goals. According to Blanco and Gonzalez (2008), the establishment of such goals is the construction of various personal criteria, flexible and long-term, as well as considering errors as natural and important to learn from.

Regarding the use of educational technology, we found that students consider that encouraging the use of technology in continuing education programs would help them to supplement the training and reinforce learning, because the program would handle educational innovations that other programs do not use. Most participants already use technological devices such as smartphones, tablets and laptops or desktops, so they consider these would be utilized to facilitate the study of the materials.

In relation to multimedia learning, we found that most participants had already had some experience with multimedia materials and that they were generally satisfactory. On the other hand, subjects who did not know this type of learning reflected indifference, fear and uncertainty.

The research results show that for multimedia learning materials to have a positive effect on student learning, it is essential that they are properly accepted by each of the participants in the

training program, because otherwise it would come to cause adverse effects to learning and the methodology of the training course. Therefore, the aspects they perceived that influence the acceptance of interactive resources can be used for the benefit of the students in these programs. Results show these to be five aspects, which are: *Comprehension of the course contents, Perspective on the use of educational technology, Beliefs of multimedia learning, Requirement of multimedia materials,* and *Academic performance.* These categories were obtained by the analysis of data collected in interviews, observations and surveys, and represent the perceptions of the participants; since the nature of the study is qualitative, the description of categories refers to the general perception of the participants and no particular frequency data is presented. These categories are explained below, arranged in order of emergence from the analysis as they reflect the explanations of what has been experienced, observed, analyzed and evaluated in depth.

Comprehension of the course contents. Some participants felt that their understanding was not complete, was not what they expected or was not like they really wanted it to be. The reasons why they described the above was because: a) the dynamics in which the contents are displayed; b) generating many ideas; c) lack of review; d) homologous presentations; e) lack of reinforcement learning; f) lack of materials for reviewing the information or learning; and g) lack of practice.

The results show that students with low understanding of the course content are those who accept innovative ways to enhance their learning, as they consider other alternatives to better assimilate the information. Schnotz (2011) notes that students benefit more by intermediating their learning with interactive resources. However, it was identified that regardless the Comprehension of the participant, it is necessary to attract students' attention to the contents set by the instructor, since the presentation of some issues turn out to be monotonous, tedious or boring for students. This leads to a decreased performance, understanding and student motivation.

From the perspective of trainers, the program is fully balanced between theory and practice, they feel satisfied with the methodology used and also, in their opinion, the participants obtain full comprehension of the contents.

In this category, it was found that although the instructor knows how to guide the learning of the participants and see the needs of the group, it is essential to capture the attention of most of the participants, otherwise comprehension and participants' performance is low. One of the reasons for which the instructor cannot capture the students' attention is the monotonous way of presenting the content.

Perspective on the use of educational technology. In the present study we found that for program participants and instructors it is important and necessary to promote the use of educational technology in program activities because: a) training would be supplemented; b) learning would be reinforced; c) learning would be easier and convenient (greater assimilation) and would be strengthened; d) time is reduced and the participant's attention would be maximized; f) facilitate access to and use of digital content; g) improve classroom dynamics and concepts are expanded.

The program is not entirely without educational technology and the participants considered it edgy and interesting, plus some participants are satisfied with the materials that are provided through the portal, but these are just class presentations and some other materials seen in class. Students indicate what is needed; a) activities that foster retention of content and let you see the issues more practically, b) the use of other means for projecting content, c) encouraging case studies, d) updating materials, e) increased use of the portal and communication outside the classroom.

From another point of view, students stated that to use mostly technology in the program would be difficult, considering that it takes more time to adjust and use. It was also noted that most of the

participants have the necessary artifacts to use educational technology, because they intend to use these in the classroom to reinforce learning, however, they also tend to be distracting.

The feedback from participants regarding the use of technology in education is the formation of an attitude towards an innovation, i.e., rejection or acceptance towards educational technology, through the knowledge that students have regarding the subject. Therefore, it is essential to educate future users about the different uses of multimedia in the teaching-learning process, because in this way the participant will know that the purpose of educational technology is to use technological means as facilitators of learning (Castro, Colmenar, Losada & Peire, 2003).

Beliefs of multimedia learning. The beliefs that participants have regarding the multimedia learning are made of: a) previous experience; b) expected benefits; c) the outlook on multimedia technology. The previous experiences prove to be of great importance because participants build their own point of view regarding the multimedia materials and they predispose them to accept or reject them; however, it depends on the prior experience they have with the resources, since the first experience influences the availability the user will have in future; also, a bad experience promotes content deviation (Castro *et al.*, 2003).

Constraints to include multimedia in the teaching-learning process were identified, as participants fear the lack of personal attention from the instructor to mediate their learning in terms of the use of multimedia materials, and teachers fear they could be easily replaced. However, they recognize that this change is unlikely as a support material cannot replace the experience.

The benefits that participants expect of multimedia learning are: obtaining flexible resources in terms of space and time, as they require materials that enable them to reinforce what was taught in class, in addition to acquiring a digital learning to help them improve knowledge through simulation or practice of the contents, because, it is through experience that learning is achieved.

The students' outlook was that multimedia technology is considered as what is used today both in the workplace and in education, it is also an easier way to learn and do things. It also refers to how to promote useful materials to facilitate the study and allow for faster development.

Most participants described feeling motivated, open to and interested in the idea of including multimedia in the program they were studying, since the design of the course would be improved, and they were interested in trying new ways of learning with technologies that are available. However, others reported feeling worried because they like the attention from the teacher; others felt distress that perhaps they would need to buy something to carry out the multimedia learning.

Requirement of multimedia materials. It was identified that the multimedia materials are accepted, provided they are of high quality, in order to fulfill their function, i.e., that they are support resources for learning and that they do not replace the activity of the teacher, but guide the user in the way technology should be used; also materials should be available for consultation.

The materials of most interest to the students are digital platforms and interactive tutorials; videos, audios and animations also have a high interest rate. As for the materials that obtained an intermediate interest, these include interactive presentations, thus leaving the interactive activities on the internet, blogs and video games as the materials of little or no interest.

Participants were also asked about the type of multimedia activities that they would like to perform, the options were: a) activities in which they just have to watch and answer, b) activities in which they have to do and prepare, for example interactive presentations. Most students chose option b, so that an inclination towards learning by practice was identified.

Royer and Royer (2002) mention that it has been proven that students who use and make their own multimedia activities or projects, build a better understanding by including multimedia activities done by the same student.

Academic performance. Finally, we found that academic performance also influences wanting to accept and experience new ways of learning, since the lower the performance of participants, the greater their availability for new experiences. Low-performing participants believe that multimedia materials help them because they would offer a new opportunity to study, as they credited the lack of time and other labor issues for their low performance, as well as the difficulties with the English language and lack of experience in the area. Participants with medium-high performance mentioned that dealing with the time to study is very difficult, because even if they want to focus 100% on the course, it is impossible. However, they recognize that home study is required to obtain a good comprehension of the program's contents. Moreover, participants with high performance said they have had work experience previous to their graduation, which facilitates the skill to combine work and school. These people are self-described as fast learners, punctual, committed, prepared on the subject because they continually read about the program's topics, while they make immediate application of what they learn, and finally, they show a great interest in the area of learning.

Conclusions

In this research we identified the five main aspects that students perceive as influencing the acceptance of multimedia materials in executive training programs: Comprehension of the course contents, Perspective on the use of educational technology, Beliefs of multimedia learning, Requirement of multimedia materials, and Academic performance.

These results can be taken into account in the various training programs and the different teaching modalities applied, when this educational innovation is used, because they show the resources of most interest and usefulness, plus the attitudes which are also influential.

The study results provide foundations for implementing educational technology in training programs; we identified that the level of comprehension of the participants influences the acceptance of multimedia materials, primarily because the reasons regarding why a full comprehension is not reached were found, which happen to be the lack of dynamism of the content and the lack of resources to reinforce learning.

The perspective that participants have regarding the use of educational technology is a trigger for accepting multimedia resources, since this perspective is generated by what they know or have heard about them, so that the individual forms his/her own early opinion. Similarly, awareness of the importance of technology in all aspects of life facilitates the implementation of multimedia in the field of continuing education, as the participant adapts more quickly to new methodologies with educational technology.

Concerning the beliefs on multimedia learning, they also happen to be a determining aspect for educational multimedia materials, because they are built by the previous experience, their expectations of the material, and the outlook on multimedia technology. Through this study it was confirmed that the positive experiences with multimedia materials trigger taste to multimedia learning and reinforce the acceptance of educational technology.

We also identified that regarding the requirement of multimedia materials, the learning of the participants would benefit through the media, as long as these were used to reinforce learning, in addition to being quality resources with technological support. Therefore, digital platforms, tutorials, audios, videos or animations are what prove to be of interest. It is noteworthy that an inclination

toward the practical learning was detected, so to carry out multimedia activities is of great interest and value to the participants. Similarly, negative emotions toward implementing educational technology in this field was found, due to feelings of distress and distrust of multimedia learning, therefore it is necessary to clarify what the use of multimedia technology in the teaching-learning process implies.

About the academic performance, we mentioned earlier that the level of comprehension influences acceptance of new materials for learning, academic performance will also be related, because if the performance is not what you expected, participants support encouraging the use of support materials to facilitate dealing with the lack of time to study or reinforce a difficult subject of study. Moreover, participants who have a high performance are identified as dedicated and committed to the study, and they also like and accept the idea of materials that can be used to further enhance their learning; however, the best learning is obtained by the immediate application and experience.

This study provides information on the student's perceived influencing aspects for the acceptance of multimedia in training programs. Both the population and the sample in the study were relatively homogenous, thus generalizability is limited. Although the study did not aim at testing the TAM Model, some of the emerging categories from the study seem to be related to the perceived usefulness of the technology, such as Comprehension of the course contents and Academic performance, while Requirement of multimedia materials relates more to its ease of use, and the categories Perspective on the use of educational technology and Beliefs of multimedia learning, could fit with the Attitude Toward Using, which can have an impact on the behavioral intention to use. Thus, a tentative outcome could aim at confirming the TAM Model, but further research is necessary in order to attain a better understanding of the student's perceptions in this context.

Further research on this topic should involve participants in different training programs, also from different types of courses: short courses, seminars, workshops, etc., taught by other institutions or companies, in order to obtain and analyze a variety of data that yield more comprehensive results. Another research could focus on in-depth studies on technological knowledge that participants have to be users of multimedia learning materials; also, investigations that relate to the skills of instructors to mediate with multimedia are suggested.

However, the information provided in this study can be helpful in similar contexts as a way to improve the instructional design of training courses; also to design multimedia materials that meet the expectations of future users and create competitive advantage by implementing multimedia materials, these would make a big difference from other courses.

This research aimed as well to promote the use of ICT in the field of continuing education in order to promote self learning through multimedia material, as it is one of the skills that globalization requires today, while providing competitive advantages of the product in the market.

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