Polo del Conocimiento

Percepciones del material didáctico para los cursos de formación profesional en línea

Perceptions of teaching materials for online professional training courses

Percepções do material didático para cursos de formação profissional online

Andrea Paola Goyes-Robalino [I]
andrea.goyes@espoch.edu.ec
https://orcid.org/0000-0003-1338-7147

Silvia Elizabeth Cardenas-Sanchez [II]
silvia.cardenas@espoch.edu.ec
https://orcid.org/0000-0002-1760-8288

Jessica Valentina-Galimberti [III]
jessica.galimberti@espoch.edu.ec
https://orcid.org/0000-0003-2835-5340

Correspondencia: andrea.goyes@espoch.edu.ec

Ciencias técnicas y aplicadas
Artículo de investigación

I. Ingeniera en Finanzas, Licenciada en Lingüística Aplicada al Idioma Inglés, Escuela superior politécnica de Chimborazo, Universidad de las Fuerzas Armadas ESPE- Ecuador

II. Master-In Curriculum & Instr-English As Second Language Licenciada en Ciencias de la Educación Profesora de Idiomas Ingles, Escuela superior politécnica de Chimborazo, Ecuador

III. Licenciada en Lenguas y Literatura Extranjeras, Magíster en Lenguas y Literaturas Europeas y Extraeuropeas, Escuela Superior Politécnica de Chimborazo, Ecuador.

Resumen

Los materiales didácticos se utilizan para promover el desarrollo de habilidades en los estudiantes, así como la mejora de actitudes relacionadas con el conocimiento, la calidad técnica y pedagógica de un recurso educativo no puede garantizar su efectividad didáctica, aunque sí puede promoverla. El material didáctico es una herramienta o técnica que los profesores deben utilizar y desarrollar para facilitar el aprendizaje. Las herramientas y contenidos digitales en el proceso docente son una gran oportunidad para captar la atención de los estudiantes. Este artículo tiene como objetivo mostrar la eficacia de los materiales didácticos digitales en cinco cursos de formación profesional virtual. Para el desarrollo de esta investigación se seleccionó una metodología cuantitativa y descriptiva, ninguna de las variables que forman parte de este estudio fue influenciada. La muestra del estudio estuvo conformada por 106 participantes en cinco cursos de formación profesional en línea, en una de las universidades más prestigiosas de la región amazónica en Ecuador, los participantes fueron 51% (54) hombres y 49% mujeres (52). El rango de edad fue de 23 a 65 años, con una edad media de 35 años. Los resultados mostraron que a pesar de los aspectos negativos, el 18% (19) de los participantes respondió que el contenido de los materiales didácticos no era comprensible, el 15% respondió que el contenido fue plagiado de la web, por otro lado en aspectos positivos se destacó que los medios impresos como libros de texto, enciclopedias, libros de lectura, fichas de actividades, cómics, diccionarios o cuentos son los recursos más utilizados en el sistema educativo, sin embargo el 21% de los participantes señalan que una de las principales ventajas del material didáctico en línea es que es gratuito en la mayoría de los casos.

Palabras Claves: Material didáctico; educación en línea; medios en línea.

Abstract

Teaching materials are used to promote the development of skills in students, as well as the improvement of attitudes related to knowledge, the technical and pedagogical quality of an educational resource cannot guarantee its didactic effectiveness, although it can promote it. The teaching material is a tool or technique that teachers must use and develop to facilitate learning. Digital tools and content in teaching process is a great opportunity to captivate the attention of students and promote dynamics in which they find motivations to participate and share their own ideas with their classmates. This article aims to show efficacy of digital teaching materials on five virtual professional training courses. For this research development, a quantitative and descriptive methodology was carried out; none of the variables that are part of this study were

447

Andrea Paola Goyes Robalino, Silvia Elizabeth Cardenas Sanchez, Jessica Valentina Galimberti

influenced. The study sample was formed by 106 participants in five online professional training courses in one of the most prestigious universities in the Amazon region in Ecuador, the participants were 51% (54) males and 49% females (52). The age range was 23–65 years, with a mean age of 35 years. The results showed that despite of negative aspects, 18% (19) of the participants answered that the content of teaching materials was not understandable, 15% answered that the content was plagiarized from the web. On the other hand, there are positive aspects about teaching materials: it is highlighted that printed media such as textbooks, encyclopedias, reading books, activity sheets, comics, dictionaries or stories are by the most used resources in educational system; however, 21% of the participants indicate that one of the main advantages of online training material is that they are free in most cases

Keywords: teaching materials; online education; online media.

Resumo

Os materiais didáticos são utilizados para promover o desenvolvimento de competências nos alunos, bem como a melhoria de atitudes relacionadas com o conhecimento, a qualidade técnica e pedagógica de um recurso educacional não pode garantir a sua eficácia didática, embora possa promovê-la. O material didático é uma ferramenta ou técnica que os professores devem usar e desenvolver para facilitar a aprendizagem. As ferramentas e os conteúdos digitais no processo de ensino são uma grande oportunidade para captar a atenção dos alunos. Este artigo tem como objetivo mostrar a eficácia do material didático digital em cinco cursos de formação profissional virtual. Para o desenvolvimento desta pesquisa, foi selecionada uma metodologia quantitativa e descritiva, nenhuma das variáveis que fazem parte deste estudo foi influenciada. A amostra do estudo foi composta por 106 participantes em cinco cursos de formação profissional online, em uma das universidades de maior prestígio na região amazônica do Equador, os participantes foram 51% (54) homens e 49% mulheres (52). A faixa etária foi de 23 a 65 anos, com média de 35 anos. Os resultados mostraram que apesar dos aspectos negativos, 18% (19) dos participantes responderam que o conteúdo dos materiais didáticos não era compreensível, 15% responderam que o conteúdo foi plagiado da web, por outro lado nos aspectos Positivo, destacou-se que a mídia impressa como livros didáticos, enciclopédias, livros de leitura, cadernos de atividades, histórias em quadrinhos, dicionários ou contos são os recursos mais utilizados no sistema educacional, porém 21% dos participantes indicam que um dos As principais vantagens do material didático online é que, na maioria dos casos, ele é gratuito.

Palavras-chave: Material didático; educação online; mídia on-line.

Introducción

Technology is transforming the world, hence the importance of generating attractive content portals for audiences. Having digital content, according to the participants' interests, allows to facilitate learning within a virtual education (Porcello & Hsi, 2013). A digital environment is not considered as a real and concrete way of communication but allows remote interaction between interconnected users through a computer network. There are many characteristics of online education models, they are interactive, which allow the student to adopt an active role or in relation to their tasks or jobs. It is accessible, no matter the place, the area, or the time; people can study anywhere thanks to Internet connection. Online Resources allow access to any amount and variety of materials and resources without the need to have them physically (Rennie & Morrison, 2013).

Theoretical foundations

What do we want teaching materials for?

Teaching materials are resources that support teaching and learning process. Teaching materials are indispensable means or instruments for the educational practice and its evaluation (Harwood, 2005). Normally, the most used teaching materials are printed or can be found online such as textbooks, dictionaries, or workbooks (Davis & Wilcock, 2003).

Teaching materials are available resources to teachers, students, and organizations; teachers can adapt the context in which the learning situation occurs (Gray, 2013). Teaching materials are supporting resources that store and disseminate content, influence, condition and predetermine the language of the messages and, consequently, the same information itself. In this sense, the use of new media on technology has a great influence modifying language and motivating learners (Al-Azri & Al-Rashdi, 2014).
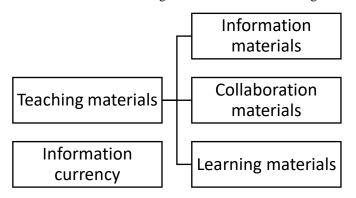
Educational web content: between information and training

Nowadays, communication is the axis that moves education, that is the reason why the online content has become the basic tool in all institutions, entities, agencies, and in general in all kinds of social organizations. In Education is not the exception; most of the educational entities, at all levels, let the society know about their mission, vision, scope and organization by the website (Syerov, Fedushko, & Loboda, 2016).

Through the virtual environments, content for training programs is presented; education, being a service to the communities through online education programs and virtual platforms,

449

facilitates virtual and distance educational processes (Powel & Gill, 2003). Through virtual classrooms, amazing results are achieved in the different areas of knowledge, since everything is within the reach of the students. Teaching materials contribute to the didactic processes of information, collaboration and learning in training professionals (Ally, 2004). For information processes, resources allow the search and presentation of relevant information. In collaboration processes, teaching materials facilitate the establishment of collaborative networks for exchange (Croft & Peterson, 2002).

Characteristics of the teaching materials distributed through the WWW

Teaching materials approximate or facilitate content, mediate learning experiences and provoke encounters or situations to develop cognitive skills, support strategies, and facilitate or enrich evaluation, a typology of the characteristics of the teaching materials distributed through the WWW is proposed:

Graph 1: Characteristics of teaching materials distributed through the WWW

Source: the authors

Methodology

A descriptive research is widely used to determine the prevailing conditions and patterns of the object of study (Sipe, 2004). Due to the non-invasive method of investigation and the use of quantitative observation and some aspects of qualitative observation, each variable is observed, and an in-depth analysis can be concluded (Dulock, 1993). An adapted questionnaire was applied to 106 participants in five online professional training courses.

Results

A closed question is made up of response options previously established with the Likert scale,

450

among which the participants must choose one answer. The closed questions of the questionnaire refer to the material design, functionality, usefulness, and content analysis (Schuman, 1966).

Table 1: Participants´ perceptions of teaching materials for online professional training courses

Questionnaire questions	Strongly agree	Agree	Disagree	Strongly disagree	YES	NO
1.MATERIAL DESIGN Is the information organized?	38% (41)	51% (54)	9% (9)	2% (2)		
2. MATERIAL DESIGN The font and size used in the teaching material are adequate.	36% (39)	57% (60)	5% (5)	2% (2)		
3. FUNCTIONALITY The instructions given for the use of the teaching material are adequate.	31% (33)	55% (58)	12% (13)	2% (2)		
4. USEFULNESS. Do you consider that the material is adequate for understanding and learning the subject?	31% (33)	52% (55)	14% (15)	3% (3)		
5. USEFULNESS Do you consider that the material has reinforced your knowledge on the theme/subject?					82% (87)	18% (19)
6. CONTENT ANALYSIS Consider that the teaching material is structured, clear, current, and coherent.	30% (32)	53% (56)	15% (16)	2% (2)		
7. CONTENT ANALYSIS Do you consider that the material has been prepared through multimedia presentations, podcasts, and videos?	24% (25)	57% (61)	15% (16)	4% (4)		

Source: the authors

451

Material design involves the use of different means and symbolic systems that lead the creation of a work environment where the student can interact with the information through different resources that offer different possibilities for understanding the content that is being presented (Jantke & Knauf, 2005). The obtained results exposed that 51% of the participants agreed on the structured information; on the other hand, 2% totally disagreed about it. 57% of the participants agreed about the correctness of font and size used on teaching materials, while 5% of the participants disagreed about it and 2% strongly disagreed.

Material functionality involves awaken interest. This occurs when the material is attractive, understandable and is related to the students'/ participants' previous experiences, their socio-cultural context, and their expectations (Ozkan, 2012). The results indicate that 55% of the participants agreed on the teaching material functionality.

Functionality relates to the given instructions for the use of the teaching material (Clemente & Cahoon, 2009). 55% of the participants agreed about material functionality, while 13% disagreed and 2% strongly disagreed.

Usefulness relates to the material able to be used for a practical purpose or in several ways (Abell, 2008). In this sense, 82% of the participants considered that the teaching material has reinforced their knowledge on the theme.

Content teaching material provides information and guide learning and a concrete basis for conceptual thinking, contribute to increase meanings, develop continuity of thought, make learning more durable and lend a real experience that stimulates the activity of students (Mohan, 1979). The obtained results exposed that 53% of the participants agreed on structure, coherence, and prevalence materials content, while 15% disagreed and 2% strongly disagreed.

Open-ended questions ask participants to provide answers in their own words and are intended to elicit more information than is obtained with a multiple-choice format or another type of question that requires closed-ended answers (Reja, Manfreda, Hlebec, & Vehovar, 2003).

Table 2: Negative aspects in online teaching materials

CATEGORY	FRECUENCY	PERCENTAGE%
1.Extensive content and information	11	11%
2. Extensive theoretical content	16	15%
3. Extensive technical glossary	4	3%
4. Content plagiarized from the web	16	15%
5. Not understandable content	19	18%
6. Redundant, outdated, and trivial content	9	9%
7. Unanswered item	31	29%

452

TOTAL	**106**	**100%**

In spite of negative aspects, 18% (19) of the participants answered that the content is not understandable. Actually, a content is useful when the user accepts it as understandable, it is short and exact (concise), easy to memorize, systematically readable, accessible through different ways of reading and well structured. 15% of the participants answered that the content was plagiarized from the web, so that this statement has two edges. First, it constitutes an ethical problem, since appropriating a work carried out by another person and presenting it as one's own is dishonest and implies plagiarism. On the other hand, it affects students in their academic training, since by resorting to this practice they stop acquiring fundamental skills such as: reading comprehension, synthesis and writing skills (Hung, Chen, & Huang, 2017).

Table 3: Positive aspects in online teaching materials

CATEGORY	FRECUENCY	PERCENTAGE%
1. The content is related to the topic	19	18%
2. Easy to use	9	8%
3. Allows feedback	5	5%
4. There is not cost for printed material	22	21%
5. Encourages research	13	12%
6. It is practical	11	10%
7. Unanswered item	27	26%
TOTAL	**106**	**100%**

It is highlighted that printed media such as textbooks, encyclopedias, reading books, activity sheets, comics, dictionaries or stories is one of the most used resources in educational system which represents a positive aspect regarding teaching materials; however 21% of the participants indicate that one of the main advantages of online training material is that they are free in most cases. Mostly, they are exclusive media, in many classrooms they are predominant and in others, they are complementary to audio-visual and / or computer media; but in all, in one way or another, they are always available. Another important aspect is that online teaching material encourages research. One of the fundamental functions of the university is to promote the generation of new knowledge through scientific, technological, humanistic, and social research (Karuppan & Karuppan, 1999). This function has become the centre of evaluation for universities in Ecuador and the world.

453

Table 4: Recommendations to improve online teaching materials

CATEGORY	FRECUENCY	PERCENTAGE%
1.More audio-visual, attractive, and enjoyable material	36	36
2. More examples and less theoretical content	32	30
3. Improvement of the organization and quality of information	25	22
4. Include current and relevant content	10	9
5. Unanswered item	3	3
TOTAL	**106**	**100%**

Source: the authors

Some recommendations were issued about teaching materials by the participants of five online courses; mainly, to improve the quality, organization, functionality, content, and timeliness of the digital teaching material. 36% of the participants recommended more audiovisual, attractive, and enjoyable material. Relevant, updated, and accessible information offers students through virtual learning. through blog posts, infographics, reports, or articles, digital educational content always available. It is important for teachers to share the most relevant and contextualized content by motivating people to gain recognition and feel rewarded, also encourage them to collaborate through social media and forums; with the correct use of digital media, teachers will be able to provide effective feedback.

Secondly, 30% of the participants recommended more practical examples and less theoretical content, practice is the action that is developed with the application of certain knowledge. The theory refers to a systematic elaboration of ideas contrasted by the scientific communities; the practice is a set of activities developed in the concrete reality of classrooms. Thirdly, 22% of the participants recommended organization and quality in the information, digital or not, educational content planning is the most important part of effective learning. Teachers or trainers must define very well the objectives and purpose of the course, as well as know the students or audience, the content to be developed will depend on them, as well as the level of difficulty of the contents and the evaluation methods. It is imperative to check the audience and their needs.

Finally, 9% of the participants recommended to include current and relevant content, the educational system is a part of a broader social system and with which interacts continuously. Society needs the institutions to provide students the contributions of previous societies and generations, as well as the current scientific knowledge and methods of critical analysis of the environment to promote the improvement of their quality and help them meet the needs for the

454

current and future of humanity.

Discussion

The findings of this study provide new, research-based evidence about the online teaching materials. Research on education and New Information Technologies and Communication focus their attention on changes and repercussions of these media. We believe that study and research around interaction, learning and ICTs in Higher Education has base lines in teaching-learning process in which different elements come into play. Teaching can only be understood in relation to learning; and this reality relates not only to the processes linked to teaching, but also to those linked to learning. Hence, the importance of developing precise, organized and current teaching material according to the time.

Rios (2019) considers that the role of personality in students' perceptions of their online learning experiences is consistent; additionally, conscientious students were reported to have a higher motivation to succeed. Wei, Peng, & Chou (2015) indicate in their investigation that the relationships among students' self-reported use of interactive functions, students' perceptions of the usefulness of interactive functions, and students' actual-use logs have some direct influences on students' online learning performance. Daniel, Schumacher, Stelter, & Riley (2016) examined teachers' perceived level of effectiveness of online methods courses to prepare to work with English learners. Finally, Buzzetto-More (2015) illustrates that YouTube supports multimedia learning and student engagement is particularly effective at enhancing the educational experience of fully online learners.

Conclusions

The results showed that despite negative aspects, 18% (19) of the participants answered that the content of teaching materials was not understandable, 15% answered that the content was plagiarized from the web, 15% said that there was extensive theoretical content, 9% indicated that there was redundant, outdated and trivial information, besides 3% noted that there was extensive technical glossary.

On the other hand, It is highlighted that printed media such as textbooks, encyclopedias, reading books, activity sheets, comics, dictionaries or stories is one of the most used resources in educational system which represents a positive aspect regarding teaching materials; however 21% of the participants indicate that one of the main advantages of online training material is that they are free in most cases. 18% (19) indicated that the content is related to the topic, 8%

455

(9) said that the content was easy to use, 12% (13) noted the teaching material encouraged research, whereas 10% (11) said that it was practical.

103 out of 106 participants in the five online courses also mentioned some recommendations for the improvement of the teaching material: 36% (36) of the participants suggested more audio-visual, attractive and enjoyable material, 30% (32) recommended more examples and less theoretical content, 22% (25) proposed the improvement of the organization and quality information; finally, 9% (10) advocated to include current and relevant content.

Referencias

1. Abell, S. (2008). Twenty years later: Does pedagogical content knowledge remain a useful idea?. International Journal of Science Education, 30(10), 1405-1416.

2. Al-Azri, R., & Al-Rashdi, M. (2014). The effect of using authentic materials in teaching. International journal of scientific & technology research, 3(10), 249-254.

3. Ally, M. (2004). Foundations of educational theory for online learning. Theory and practice of online learning, 2, 15-44.

4. Buzzetto-More, N. (2015). BuzzettStudent attitudes towards the integration of YouTube in online, hybrid, and web-assisted courses: An examination of the impact of course modality on perception. Journal of Online Learning and Teaching, 11(1), 55.

5. Clemente, T., & Cahoon, E. (2009). Soybean oil: genetic approaches for modification of functionality and total content. Plant physiology, 151(3), 1030-1040.

6. Croft, D., & Peterson, M. (2002). An evaluation of the quality and contents of asthma education on the World Wide Web. Chest, 121(4), 1301-1307.

7. Daniel, M., Schumacher, G., Stelter, & Riley, C. (2016). Daniel, M. C., Schumacher, Student perception of online learning in ESL bilingual teacher preparation. Universal Journal of Educational Research, 4(3), 561-569.

8. Davis, C., & Wilcock, E. (2003). Davis, C., & Wilcock, E. (2003). Teaching materials using case studies. C. Baillie (Series Ed.), The UK Centre for Materials Education. Retrieved from http://www. materials. ac. uk/guides/1-casestudies. pdf.

9. Dulock, H. (1993). Research design: Descriptive research. Journal of Pediatric Oncology Nursing, 10(4), 154-157.

10. González , M. (2011). Recursos educativos TIC de información, colaboración y aprendizaje. Pixel-Bit. Revista de medios y educación, (39), 69-81.

11. Gray, J. (2013). Critical perspectives on language teaching materials. Springer.

12. Harwood, N. (2005). What do we want EAP teaching materials for?. Journal of English for Academic Purposes, 4(2), 149-161.

13. Hung, Y., Chen, C., & Huang, S. (2017). Applying augmented reality to enhance learning: a study of different teaching materials. Journal of Computer Assisted Learning, 33(3), 252-266.

14. Jantke, K., & Knauf, R. (2005). Didactic design through storyboarding: Standard concepts for standard tools. In ACM International Conference Proceeding Series (Vol. 92, pp. 20-25).

15. Karuppan, C., & Karuppan, M. (1999). Empirically based guidelines for developing teaching materials on the Web. Business Communication Quarterly, 62(3), 37-45.

16. Mohan, B. (1979). Relating language teaching and content teaching. Tesol Quarterly, 171-182.

17. Ozkan, B. (2012). The Examination of Turkish Pre-service Teachers' Attitudes to the Functionality of Field Knowledge Courses and the Efficiency of Courses' Content, Material and Range of Theory-Practice Distributions Regarding Various Variables. Education.

18. Porcello, D., & Hsi, S. (2013). Crowdsourcing and curating online education resources. Science, 341(6143), 240-241.

19. Powel, W., & Gill, C. (2003). Web Content Management Systems in Higher Education. Educause quarterly, 26(2), 43-50.

20. Reja, U., Manfreda, K., Hlebec, V., & Vehovar, V. (2003). Open-ended vs. close-ended questions in web questionnaires. Developments in applied statistics, 19(1), 159-177.

21. Rennie, F., & Morrison, T. (2013). E-learning and social networking handbook: Resources for higher education. Routledge.

22. Rios, T. (2019). The Relationship between Students' Personalities and Their Perception of Online Course Experiences. Journal of Educators Online, 16(1), n1.

23. Schuman, H. (1966). The random probe: a technique for evaluating the validity of closed questions. American sociological review, 218-222.

24. Sipe, L. (2004). Developing conceptual categories in classroom descriptive research: Some problems and possibilities. Anthropology & Education Quarterly, 35(4), 472-485.

25. Syerov, Y., Fedushko, S., & Loboda, Z. (2016). Determination of development scenarios of the educational web forum. In 2016 XIth International Scientific and Technical Conference Computer Sciences and Information Technologies (CSIT) (pp. 73-76).

26. Wei, H., Peng, H., & Chou, C. (2015). Can more interactivity improve learning achievement in an online course? Effects of college students' perception and actual use of a course-management system on their learning achievement. Computers & Education, 83.