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

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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
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,
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](image)

**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,
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

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

Source: the authors
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>
<thead>
<tr>
<th>CATEGORY</th>
<th>FREQUENCY</th>
<th>PERCENTAGE%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extensive content and information</td>
<td>11</td>
<td>11%</td>
</tr>
<tr>
<td>2. Extensive theoretical content</td>
<td>16</td>
<td>15%</td>
</tr>
<tr>
<td>3. Extensive technical glossary</td>
<td>4</td>
<td>3%</td>
</tr>
<tr>
<td>4. Content plagiarized from the web</td>
<td>16</td>
<td>15%</td>
</tr>
<tr>
<td>5. Not understandable content</td>
<td>19</td>
<td>18%</td>
</tr>
<tr>
<td>6. Redundant, outdated, and trivial content</td>
<td>9</td>
<td>9%</td>
</tr>
<tr>
<td>7. Unanswered item</td>
<td>31</td>
<td>29%</td>
</tr>
</tbody>
</table>

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

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.
Table 4: Recommendations to improve online teaching materials

| CATEGORY                                                                 | FREQUENCY | PERCENTAGE |%
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More audio-visual, attractive, and enjoyable material</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>2. More examples and less theoretical content</td>
<td>32</td>
<td>30</td>
</tr>
<tr>
<td>3. Improvement of the organization and quality of information</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>4. Include current and relevant content</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>5. Unanswered item</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>106</td>
<td>100%</td>
</tr>
</tbody>
</table>

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
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%
(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

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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.

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