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Development and assessment of an e-module on videography

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Abstract

The research underscores the significance of videography as a potent instructional medium. The primary objective of this study was to construct a prototype for an electronic module (e-module) through a multimedia approach, aimed at facilitating learners' comprehension of fundamental videography concepts. To achieve this, the content of the e-module was meticulously developed in collaboration with subject matter experts. Subsequently, various multimedia components, including videos, graphics, and more, were created in alignment with the content utilizing diverse techniques. These components were seamlessly integrated using the FrontPage software. The resulting e-module underwent a validation process involving the input of 20 experts. The outcomes of the validation indicated that the e-module aligns well with the requisite criteria in terms of content accuracy, instructional presentation, the effective integration of multimedia elements, and the proficiency of the software application. Additionally, the e-module was identified as a suitable and valuable alternative learning resource that aids in the comprehension of videography principles and facilitates the acquisition of practical videography skills.

Keywords: e-module, videography, instructional media

Introduction

Over the past six decades, the educational landscape has undergone significant transformations. While the potential benefits of utilizing media for instructional enhancement were recognized early on, the deliberate integration of such tools into traditional classroom teaching methods has seen a gradual adoption. Initially, classroom instruction supplemented by textbooks was the norm. Over time, instructional aids such as realia, handouts, worksheets, visuals, charts, posters, and interactive whiteboards gained prominence. The emergence of electronic media and advancements in telecommunications has revolutionized the educational paradigm, enabled personalized instruction, and reshaped educational delivery systems. Electronic learning, also known as e-learning, is not a novel concept in our current educational context. Norafida and Othman (2000) [3] defined e-learning as an environment that enhances learner-tutor interaction through computer technology, software, and courseware utilizing information technology and communication. With the advancement of computer technology, modern computers have evolved beyond mere text processing, extending to multimedia capabilities that combine various media forms. This approach has proven effective, particularly in higher education, fostering successful teaching and learning experiences. The utilization of video as instructional media dates back to the First World War when it was employed for soldier training. Since then, educators have recognized the potency of audio-visual materials to captivate learners' attention, enhance motivation, and enrich their learning journeys. Over time, both content and technology have advanced significantly, expanding the availability and value of audio-visual materials in educational settings. Consequently, the use of educational videos and television has steadily risen in classrooms over the past few decades. A study conducted by the Corporation for Public Broadcasting in the USA (1997) underscores the correlation between the frequency of multimedia tools usage and perceived student achievement and motivation. Frequent users, defined as teachers employing TV or video for two or more hours per week, reported improved learning outcomes and increased student motivation. Additionally, over half of these users observed students incorporating new vocabulary as a result of video engagement. Considering these factors, the current study aims to develop a prototype of an electronic module (e-module) using a multimedia approach. This e-module intends to facilitate student comprehension of videography and assess its suitability as educational material for online learning before actual implementation. Therefore, the two folds focus of the study was;

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- To develop an e-module with multimedia elements to assist an understanding of basic concept of videography.
- To evaluate the pre-delivery appropriateness of the e-module as an educational media for online learning.

Martials and Methods

The production methodology of the e-module is elaborated in the following three phases: Design phase, Development phase, and Validation phase.

A. Design phase

During this phase, the essential input information required for the subsequent stages of the instructional design process underwent careful analysis and was organized into four distinct parts. The initial segment encompassed the selection of users. This user category was broad and encompassed individuals possessing substantial computer knowledge, a keen interest in the subject matter, and notably, extension professionals and educators. Subsequently, the focus shifted to the choice of media. The contemporary educational landscape emphasizes e-learning, and the practicality of its application in this context led to its selection as the preferred media. Following this, the selection of media options was undertaken. Among the various available media options tailored for extension personnel, videography was specifically chosen due to its relevance and effectiveness in modern teaching-learning scenarios, as well as its substantial value in training contexts. Lastly, a modular approach was embraced for formatting. This decision was rooted in the concept's capacity to foster coherent learning, a characteristic reinforced by robust empirical evidence.

B. Development phase

a. Script writing

The e-module encompassed a comprehensive content framework. A thorough literature exploration on videography was conducted, encompassing diverse sources such as research articles, booklets, websites, newspaper articles, journals, and books. This extensive review informed the creation of content related to videography. The scripting for the current project employed a composite structure, facilitating users to exercise their judgment in navigating the material. This approach empowers users to progress at their preferred speed and convenience while engaging with the learning material.

b. Story boarding

Using the script as a foundation, an elaborate strategy was devised outlining the incorporation of diverse media components, such as graphics, charts, video clips, audio clips, and animations. This plan meticulously detailed the specific utilization of each element on every screen, with precise specifications designed to optimize the message's influence on the application user.

c. Screen development

The creation and integration of multimedia resources were guided by the storyboard. Multiple software tools were employed for this purpose. Microsoft Word served for text composition and editing. Graphics were generated through various means, including capturing real photographs, scanning images, importing from clip art, and downloading from the web. Enhancements to these images were accomplished using Adobe Photoshop and Corel Draw. Video

segments were recorded to elucidate camera movements and basic shots, employing a camcorder for shooting. The digitization of videos was facilitated through Pinnacle Studio. By utilizing different software tools, all the files underwent finalization. The conclusive interface, taking the form of a prototype application, was developed with the aid of Front Page, serving as the authoring software. The screen background was designed in a light blue hue. This backdrop was adorned with a header comprising a compilation of 20 graphical images. The inclusion of watermark-style photographs as a background added an artistic touch. Navigation within the module was facilitated using hot words, distinguished by their maroon color and underlined formatting to set them apart from the surrounding text.

C. Validation Phase

Validation entails the comprehensive examination and endorsement of the material by content experts to assess both technical quality and the accuracy of the content. This evaluation process was executed at various stages, spanning from the development of content to the design of the screens. A rubric was formulated to assess the pre-delivery suitability of the modules, encompassing response categories ranging from disagreement to neutrality and agreement. Input was garnered from a panel of 20 subject matter experts, consisting of five individuals each from Extension Education, Home Science Extension Education, Agricultural Journalism, and the School of Information Technology. The collected data underwent analysis employing techniques such as frequency distribution, percentages, and mean scores. To appraise the cognitive learning outcomes of learners, a criterion-referenced mastery test was devised for each module. This assessment method aimed to gauge the extent of mastery learners had achieved based on the content. The test items were derived from the content of each module and included objective-type questions. A distinct scorecard and scoring key were formulated to empower learners to independently evaluate their performance and gauge their level of understanding and mastery.

Results and Discussion

The data for validation of the module was collected from 20 experts. The results of analysis of this data are presented below along with discussion.

Content of e-Module on Videography: Table 1 displays the distribution of expert responses concerning the quality of the videography module's content. The table indicates unanimous agreement among all experts (100%) that the content was relevant to videography. Moreover, a significant majority of experts (95.00%) found the module's content to be comprehensive, easily comprehensible, and systematically presented. Notably, a substantial portion (85.00%) of experts affirmed the quality of language used in the module, while a considerable majority (80.33%) indicated that the examples provided were readily understandable. Conversely, only a third of experts noted the absence of spelling errors in the content, with 75.00% expressing a neutral viewpoint on this matter. Analyzing the mean scores, it is evident that the parameter "content related to videography" received the highest mean score of 3.00, indicating its strong alignment with the topic. Conversely, the parameter "easily understood example" garnered the lowest mean score of 2.80. The overall mean score across all parameters stood at 2.89.

Table 1: Content of e-module on videography

Sr. No	Items	Response (%)			Mean Score (out of 3)
		Disagree	Neutral	Agree	
1	Contents are comprehensive.	0.00	5.00	95.00	2.95
2	Contents are easily understood.	0.00	5.00	95.00	2.95
3	Content is related to videography.	0.00	0.00	100.00	3.00
4	Systematic presentation of the contents.	0.00	5.00	95.00	2.95
5	Easily understood examples given.	0.00	20.00	80.00	2.80
6	Contents are free of spelling errors.	0.00	25.00	75.00	2.75
7	Good language usage in content presentation.	0.00	15.00	85.00	2.85
Average mean scores= 2.89					

Presentation of e-Module on Videography

The study findings indicated unanimous agreement among all experts (100%) regarding the effective introduction to videography, systematic presentation of ideas, and the module's overall appeal. Approximately 95% of experts noted the clarity of learning objectives, interactive content presentation, and user-friendly nature of the module. Moreover, 85% of experts reported their ability to navigate beyond the content. Moreover, 80% of experts confirmed the capability to navigate both forward and backward within the

content, and highlighted the module's facilitation of reflective learning. Analyzing the data further, the parameters receiving the highest mean score of 3.0 included a well-executed introduction to the topic, organized presentation of ideas, and the module's engaging quality. On the other hand, the parameter concerning the ability to move forward and backward within the content received the lowest mean score of 2.75. The cumulative mean score across all parameters was calculated at 2.9.

Table 2: Presentation of e-module on videography

Sr. No	Items	Response (%)			Mean Score (out of 3)
		Disagree	Neutral	Agree	
1	Learning objectives are clearly written.	0.00	5.00	95.00	2.95
2	Good introduction to topic.	0.00	0.00	100.00	3.00
3	Able to move forward and backward of contents.	5.00	15.00	80.00	2.75
4	Able to move out of the content.	5.00	10.00	85.00	2.80
5	Systematic presentation of ideas.	0.00	0.00	100.00	3.00
6	Content presentation suits interactive learning style.	0.00	5.00	95.00	2.95
7.	The module is interesting.	0.00	0.00	100.00	3.00
8.	The module helps you to do reflection.	0.00	20.00	80.00	2.80
9	Module is user friendly.	0.00	5.00	95.00	2.95
Average mean score= 2.90					

Multimedia Presentation and Interactivity of e-Module on Videography

The data presented in Table 3, elucidating the multimedia presentation and interactivity of the videography module, revealed noteworthy insights. A unanimous consensus (100.00%) among all respondents indicated that the text was easily legible, with readable font type and size. Furthermore, they acknowledged the appropriate contrast between font color and background color, with text effectively complemented by graphics. The evaluation by experts (95.00%) underscored the module's appealing design, aptly balanced graphics and text, informative graphics, and text-relevant videos. The findings also pointed out that a substantial proportion of experts (90.00%) concurred that the interface boasted a well-conceived design. They opined that the content's distribution on each page facilitated easy comprehension, while the organization of content was orderly. The accessibility of videos without extensive technical complications was also lauded. Moreover, around (85.00%) of experts acknowledged the module's well-structured content placement and recognized the presence of interactivity between the e-module and the learner. However, a noteworthy observation emerged from the evaluation: 70.00% of experts recognized the need for improvement in drawing immediate attention to the most crucial informational

or functional sections of the page. Consequently, this aspect of the design necessitated refinement. An examination of the mean scores highlighted intriguing patterns. The highest mean score of 3.0 was attributed to two parameters characterizing text, along with one parameter outlining video content. Conversely, the lowest mean score was attributed to a parameter concerning the layout of the content. Collectively, the total mean score amounted to 2.92, indicating the overall assessment of the module's multimedia attributes and interactivity.

Module applicability on videography

Table 4 below addresses the practicality of the videography module. The table demonstrates unanimous consensus among all experts (100%) who acknowledged the module's value in comprehending videography, enhancing videography-related skills, and its potential as a teaching aid in classroom instructions or lectures. Furthermore, a significant majority (95.00%) of experts affirmed that the module holds potential as resource material and a learning aid, while (90.00%) stated its suitability for incorporation in workshops and training programs. Analyzing the mean scores across parameters reveals that the highest mean score is 3.0, while the lowest is 2.9. The cumulative mean score for the entire table stands at 2.97.

Table 3: Multimedia presentation and interactivity of e-module on videography

Sr. No	Items	Response (%)			Mean Score (out of 3)	
		Disagree	Neutral	Agree		
1	Design	Interface is well designed.	0.00	10.00	90.00	2.90
		The design is aesthetically appealing	0.00	5.00	95.00	2.95
		The amount of the contents on each page is readily digestible.	0.00	10.00	90.00	2.90
2	Layout	The content on each page is well organized and placed.	0.00	15.00	85.00	2.85
		Your eye is immediately drawn to the most important informational or functional area of the page.	0.00	30.00	70.00	2.70
3	Text	Text is easy to read.	0.00	0.00	100.00	3.00
		Font type and size is readable.	0.00	0.00	100.00	3.00
		Font color is in contrast with background color.	0.00	0.00	100.00	3.00
4	Graphics	There is proper balance between graphics and text.	0.00	5.00	95.00	2.95
		Graphics support text.	0.00	0.00	100.00	3.00
		Graphic used are informative.	0.00	5.00	95.00	2.95
5	Video	The video is relevant to text.	0.00	5.00	95.00	2.95
		Video is easily accessible without a lot of technical difficulty.	5.00	5.00	90.00	2.85
6	Inter-activity	Interactivity exists between the e-module and the learner.	0.00	15.00	85.00	2.85
Average mean score= 2.92						

Table 4: Module applicability on videography

Sr. No	Items	Response (%)			Mean Score (out of 3)
		Disagree	Neutral	Agree	
1	This module helps in your understanding of videography	0.00	0.00	100.00	3.00
2	This module is helpful in improving skill regarding videography	0.00	0.00	100.00	3.00
3	This module can be used by lecturers as a teaching aid while delivering classroom-based instructions/lectures.	0.00	0.00	100.00	3.00
4	The module can also be used as resource material in workshops and training programmes.	0.00	10.00	90.00	2.90
5	The module can also be distributed among students and treated as learning aids.	0.00	5.00	95.00	2.95
Average mean score= 2.97					

Overall Appropriateness of e-Module on Videography

Table 5 illustrates the evaluation of the developed videography e-module in terms of mean scores. The results indicate that modular applicability received the highest mean score (2.97), closely followed by multimedia presentation and interactivity (2.92), presentation of the e-module (2.9), and content of the e-module (2.89). Considering the overall mean

score for the appropriateness of the videography e-module, it is evident that the designed module exhibits excellence in all its attributes as a resource material. This module is suitable for hosting on the website of Punjab Agricultural University, Ludhiana, and can also be effectively utilized for in-classroom learning scenarios through web-based distribution.

Table 5: Measures of overall appropriateness of e-module on videography

Sr. No.	Parameters	Mean Score (out of 3)
1	Content of e-module	2.89
2	Presentation of e-module	2.9
3	Multimedia presentation and interactivity of e-module.	2.92
4	Module applicability	2.97
Overall mean score 2.92		

Conclusions and Implication

The findings of this study strongly support the suitability of the developed videography e-module for online deployment. The content of the videography module was deemed appropriate by 96.33 percent of experts, while 97.33 percent found the e-module's presentation to be fitting. Moreover, an overwhelming 97.33 percent of experts affirmed the suitability of the multimedia presentation and interactive elements. Ultimately, 99 percent of experts endorsed the module's applicability. The average mean score for the videography module was 2.92, indicating that 97.33 percent of experts endorsed its appropriateness and feasibility for web integration, affirming its potential as effective educational material for online dissemination. The e-module can also serve as a valuable teaching, learning, and training resource, whether through online access or distribution via web resources in a classroom setting. It is strongly recommended that post-implementation appropriateness testing through field

trials be conducted. As the module pertains to instructional content, periodic updates to ensure current and accurate information are advised. Institutions are urged to provide internet access in departments and hostels and to encourage students' utilization of online resources. Additionally, administrative support should be extended to faculties, including funding for the design and development of more e-format learning materials. By adhering to these recommendations, institutions can further enhance the effectiveness and accessibility of online learning resources.

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