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Developing of E-content package by using ADDIE model

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Abstract

The learning materials designed based on Technology will facilitate the learners to achieve the better performance. The learning materials obviously be designed appropriately then only it can have the desired outcome of learning. In the era of technology playing a phenomenal role in the teaching learning process, there are variety of learning materials, methods and technique available. One among them is the E-content package. The E-content package creates the avenue of independent learning. The E-content packages tend to deploy the media in a creative and productive way and to restructure the education to respond constructively and progressively to the technological and social change. The success of the E-content package depends upon the effective construction of the package. The development of E-content package involves five phase (Analysis, Design, Development, Implement and Evaluation). E-content package is a unique learning tool where the students are able to learn at their own pace and visualize the content. Hence, this paper discusses on the developing and validation of E-content package on higher secondary school students in learning History.

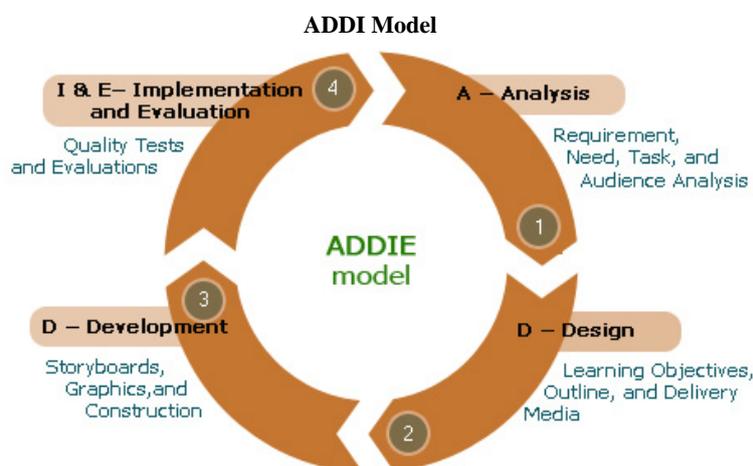
Keywords: ADDIE model, E-content package, Electronic-based learning, History students.

1. Introduction

This paper focuses on the Design of the Development of E-content package based on the popular, ADDIE instructional model, ADDIE first appeared in 1975 (Branson 1975). It was created by the Centre for Educational Technology at Florida State University. The ADDIE model developed by Dick and Cary in 1978 and Russell Watson revised in 1981, and was considered essential in the development of educational and training programs (Hannum, 2005). The E-content package is used for individual learning purpose.

Design of the Development of E-content package

The development of E-content package consist of five phases based on research design Analysis, Design, Development, Implementation, and Evaluation of learning materials and activities. This model procedure is given below:



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Procedure of E-content development programme

1. Learning schedule

Method of learning	Lesson on	Standard and subject	Duration
➤ E-content	"India-Geographical features and their impact on History"	XI standard, History	30 days (2 periods of 40 minutes each days)

2. Guideline for E-content effective and efficient learning materials.

E-content phases	Sample Tasks	Sample Output
Analysis the process of defining what is to be learned	<ul style="list-style-type: none"> ❖ Needs assessment ❖ Problem identification ❖ Task analysis 	<ul style="list-style-type: none"> ✓ Learner profile ✓ Description of constraints ✓ Needs, Problem Statement ✓ Task analysis
Design the process of specifying how it is to be learned	<ul style="list-style-type: none"> ❖ Write objectives ❖ Develop test items ❖ Plan instruction ❖ Identify resources 	<ul style="list-style-type: none"> ✓ Measurable objectives ✓ Instructional strategy ✓ Prototype ✓ specifications
Development the process of authoring and producing the materials	<ul style="list-style-type: none"> ❖ Work with producers ❖ Develop learning materials, flowchart, program 	<ul style="list-style-type: none"> ✓ Storyboard ✓ Script ✓ Exercises ✓ E-content package instruction
Implementation the process of installing the project in the real world context	<ul style="list-style-type: none"> ❖ Students training ❖ Tryout 	<ul style="list-style-type: none"> ✓ Student comments, and data
Evaluation the process of determining the adequacy of the instruction	<ul style="list-style-type: none"> ❖ Record time data ❖ Interpret test results ❖ Survey graduates ❖ Revise activities 	<ul style="list-style-type: none"> ✓ Recommendations ✓ Package report ✓ Revised prototype

3. Phase of E-content development

a) **Analysis phase:** The Analyze phase is the foundation for all other phases of instructional design. During this phase, the investigator defines the problem, identifies the source of the problem and determines possible solutions. The phase may include specific research techniques such as need analysis, goal analysis and task analysis. The output of this phase often include the instructional goals, and a list of tasks to be instructed. These outputs will be the inputs for the Design phase.

b) **Design phase:** The Design phase involves using the outputs from the Analysis phase to plan a strategy for developing the instruction. During this phase, the investigator outline how to reach the instructional goals determined during the Analysis phase and expand the instructional foundation. Some of the elements of the Design Phase may include writing a target population, description, conducting a learning analysis, writing objectives and test items, selecting a delivery system, and sequencing the instruction. The outputs of the Design phase will be the inputs for the Development phase.

c) **Development Phase:** The Development phase builds on both the Analyze and Design phases. The purpose of this phase is to generate the lesson plans and lesson materials. During this phase the investigator the constructed and developed the package with help of media software and supporting documentation. This may include hardware (e.g, simulation equipment) and software (e.g, macromedia flash).

d) Implementation Phase

The Implementation phase refers to the actual delivery of the instruction, whether it's classroom-based, lab-based,

or computer-based. The purpose of this phase is the effective and efficient delivery of instruction. This phase must promote the students' understanding of material, support the students' mastery of objectives, and ensure the students' transfer of knowledge from the learning to setting the goals.

e) Evaluation Phase

This phase measures the effectiveness and efficiency of the instruction. Evaluation should actually occur throughout the entire instructional design process - within phases, between phases, and after implementation. Evaluation may be Formative or Summative. Formative Evaluation is ongoing during and between phases. The purpose of this type of evaluation is to improve the instruction before the final version is implemented. Summative Evaluation usually occurs after the final version of instruction is implemented. This type of evaluation assesses the overall effectiveness of the instruction. Data from the Summative Evaluation is often used to make a decision about the instruction (such as whether to purchase an instructional package or continue/discontinue instruction).

This E-content method has been developed by the investigator to asses students learning interactions, involvement and understanding of the lesson among the students in class. The E-content package for the lesson on, "India-Geographical features and their Impact on History" was developed by the investigator with help of the subject expert, subject teachers and computer teachers. In the first step for preparing the lesson plan and the procedure, the researcher made an extensive study and comprehensive survey of literature which included books, journals, periodicals, research abstracts and many other sources. Discussions were held with experienced teachers on how to

construct and execute the E-content method of learning in a feasible manner. As a second step the investigator consulted with experts in the field of education. As a third step the try out was conducted in Government Higher Secondary Standard students. The investigator with the help of experts analyzed the technique and the methods employed. Modifications were made based on the suggestions and feedback. Thus the content and construct validity of the technique were ensured.

Educational implication of the study

The E-content package makes and stimulates each student's individual or self-paced learning process. The E-content package gives the enjoyable learning process in their subjects. Each students can clarify him/her self any doubt about during learning process through E-content package. In E-content method they will exchange their knowledge with each other so that at the end of the learning process the students will get the complete information about lessons or unit. Students are active participant in the learning process. E-content package encourages cooperation and active learning and promotes students' own-pace of learning.

Reviews on the development and validation of E-content package on student's learning experiences

Rishad Kolothumthodi, (2008) carried out a study on Development and Validation of E-content on communication: Elements, Process and Types for the B.Ed. Trainees. The results of the study have proved that the E-content can be used for teaching of communication at B.Ed., level. The content which is in the form of E-learning module increases the performances of the students. The E-content is also based on the objectives of the psycho-pedagogical principles. 5% of the students have scored 86.67% of marks in the achievement test conducted for validating the developed E-content. 25% of the students have scored 93.3% of marks in the achievement test conducted for validating the developed E-content. 70% of the students have scored 100% of marks in the achievement test conducted for validation the developed E-content package.

Kannan & Muthumanickan, (2010) conducted a study on development and validation of E-content package on p-block elements for XI standard students. The E-content programme on p-block elements for XI standard students is found more effective for above average students followed by average and below average students. The E-content programme on p-block elements for XI standard students is found more effective for urban school students than rural school students, for more effective for mixed school students than unisex school students and Anglo-Indian school students followed by matriculation and state board school students.

Conclusion

The application of E-content is teaching learning process will have significant impact. As the technology becomes user friendly the creation of E-content by teaching community will be much easier. The E-content package creates lot of scope for self learning. The E-content package could create an interesting atmosphere for learning, it may either be on live or offline. Under such circumstances the package has to be developed, keeping in mind the potential of Audio, Video and interactive facilities nowadays available in the computer. The Audio, Video and textual information should be presented in such a way that it suits the pedagogical aspects of technology.

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