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The Effect of a Blended Strategy of Asynchronous Discussions Management in Web Based Electronic Learning on Achievement and Developing Some Thinking Skills of Student Teachers

A Thesis Submitted in Partial Fulfillment of the Requirements for the M.A. degree in Education Specialization. (Instructional Technology)

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(Abstract)

Introduction:

We are experiencing a new age managed by information. Enormous amounts of information flow heavily in a way that surpasses the increase of population. The whole world is changing rapidly leaving those who can not adjust themselves to the new changes behind. As a crucial potential of the modern life and the main pillar of nations' progress and development, education must cope with this age requirements and innovations. It should meet the needs of the new technological revolution and improve the human skills and mental abilities. Thus, it will manage to facilitate its own tasks and achieve its objectives. With the aid of technology, we can survive in spite of these difficult challenges.

Instructional Information Technology is the scientific study of the theories and applications related to designing, using, managing, and evaluating systems and processes of gathering, processing, spreading, storing and regaining information for the purpose of learning whether through the traditional tools e.g. books or microfilms or through advanced electronic tools such as computers, Local Area Networks (LANs) or Wide Area Networks (WANs). This highlights the importance of employing instructional technology for developing untraditional new learning environment based upon the philosophy of making the best use of the available electronic information resources. Examples of E-learning environments .

E-learning is basically based on the network communication. This network communication represents, however, the backbone of the whole distant E-learning process which totally depends on the network communication for keeping in touch with all parties of the instructional process. E-learning evolution came as an inevitable outcome of the increased use of the internet. It became an independent structure supporting the distant learning by using a combination of various communication tools and information techniques taking into consideration the integration of instructional tools and procedures. Involving such tools in the distant learning granted the societal institutions in general and the educational ones in particular an unprecedented opportunity for learning.

Hence, E-learning Method Interaction and E-Group Discussion represent some of the e-learning interaction methods. E-learning may include immediate group Synchronous Discussions such as Chatting on the internet or delayed Asynchronous Discussions such as Electronic Discussion Board which allows all partners to share in the discussions offline. This kind of discussion is known as the news board. Learner-teacher interactions, learner-learner interactions as well as learner-

supporting knowledge sources interactions are included in these discussions.

Asynchronous Discussions are the most suitable methods for attaining flexibility within the higher instructional programs through the internet. These programs change dramatically and obviously. They also allow e-learners to communicate with their peers and instructors as well as discussing some administrational and instructional issues through the internet. Thus these discussions can achieve the highest level of the educational and scientific contribution as compared to the synchronous discussions.

In spite of the previously illustrated importance of the electronic asynchronous discussions and the results of previous researches and studies concerning the benefits of this kind of discussions which reinforce understanding and positive partnership, some problems confront the organization of such discussions. Learners prefer the synchronous discussions to the asynchronous ones. These discussions also lose their advantages if they are designed inappropriately.

Some studies tried to conduct strategies for handling these problems of managing asynchronous discussions. These were, however partial trials which couldn't solve the problem adequately. There was no integrated strategy including all these problems of asynchronous discussions. Therefore, the investigator suggests a Blended Strategy involving all possible solutions of the electronic asynchronous discussion problems. This blended strategy consists of five basic steps of which each one consists of other five phases.

The Problem of the Study:

In this sense, the problem of the current study is formulated in the following statement:

“there is need for ablended strategy for managing the asynchronous discussions. This strategy is expected to enhance student teacher their level of achievement and thinking skills.”

So, the current study can be addressed in the following main question:

"What is the effect of applying a blended strategy for managing the internet learning asynchronous discussions on the level of achievement and enhancing some thinking skills of student teachers?"

From the above main question, the following sub-questions were devision:

1. What are the required skills of managing the internet learning asynchronous discussions for student teachers?
2. What are the thinking skills which can be developed through the asynchronous discussions in e-learning?
3. What is the proposed vision for the blended instructional program strategy?
4. What are the standards of developing a program for enhancing asynchronous discussions managing skills?
5. What is the effect of applying a blended strategy for managing the internet learning asynchronous discussions upon the level of achievement and enhancing some thinking skills of student teachers?

Objectives of the Study:

The current study seeks the fulfillment of the following:

1. A list of managing skills of the internet learning asynchronous discussions for the student teachers.

2. A list of thinking skills which can be developed through asynchronous discussions within the e-learning.
3. standards of developing an internet program for improving some thinking skills.
4. A proposed vision of an instructional strategy for this program.
5. The effect of applying a blended strategy for managing the internet learning asynchronous discussions upon the level of achievement and enhancing some thinking skills of student teachers?

The Significance of the Study:

The significance of the current study can be summarized in the following points:

1. Helps to make the best use of the available facilities of e-learning
2. Reveals the effect of applying a blended strategy for managing the internet learning asynchronous discussions upon the level of achievement and enhancing some thinking skills of student teachers.
3. This study is one of the developmental studies conducted in the field of instructional technology as it adopts an instructional applicable design referring to its applications in education.
4. It copes up with the new instructional trend which affirms the importance of developing thinking skills of student teachers through a blended strategy for managing asynchronous discussions.
5. The current study is expected to elevate the level of achievement as well as thinking skills for student

teachers through a blended strategy for managing asynchronous discussions.

Limitations of the Study:

The current study will be restricted to the following limitations:

1. Subjects of senior students at the Faculty Of Specific Education Fayoum University.
2. Computer Problems Subject.
3. Testing the cognitive achievement using a final cumulative Achievement Test prepared by the investigator for Testing students' achievement in the subject of Computer Problems.
4. Developing some thinking skills through a blended strategy for managing asynchronous discussions within e-learning.

Method of the Study:

The current study follow the System Development Method for developing the instructional systems. This method is mainly based on designing, developing and evaluating the instructional programs. This can be achieved through the application of an instructional designing model represented in the very model adopted by the investigator i.e. the model of Mohammed Ateyya Khamees. It includes the analytic descriptive method which will be applied in the phase of analysis and study. Where as the experimental method will be applied in the phase of evaluation.

The Subjects of the Study:

The subject of the current study consists of 50 male and female senior students at the Faculty of Specific Education, Fayoum University.

The Experimental Design:

The current study uses an experimental design of dividing subjects into two groups i.e. the experimental group A and the Experimental Group B with pretest and posttest as in the table:

The Experimental Design

Subjects	Pretest	Independent Variable	Posttest
Experimental Group A	K1	X1	K2
Experimental Group B	K1	X2	K2

Where: K1: The Pretest

K2: The Posttests X1, X2:The Independent Variable

The Variables of the Study:

The variables of the study are represented in the following ones:

The independent variable: the blended strategy for managing the internet asynchronous discussions.

The dependent variable: the level of achievement and developing thinking skills of student teachers.

Tools of the Study:

Tools of the current study include the following:

1. An Observation check lists for the skills of managing asynchronous discussions within e-learning (prepared by the investigator)

2. A Cognitive Achievement Test (prepared by the investigator)
3. Some Thinking Skills Tests

Hypotheses of the Study:

Hypotheses of the current study can be summarized in the following points:

1. There are statistically significant differences at the level of (0.05) between the scores mean of the post achievement test for both the experimental A and the Experimental Group B to the advantage of the experimental group A.
2. There are statistically significant differences at the level of (0.05) between the scores mean of the post thinking skills measurements for both the experimental A and the Experimental Group B to the advantage of the experimental group A.
3. There are statistically significant differences at the level of (0.05) between the scores of the experimental A and Experimental Group B at thinking skills measurements to the advantage of the experimental group A.
4. There are statistically significant differences at the level (0.05) between the quotients mean of the post achievement and thinking skills tests for both the experimental A and the Experimental Group B to the advantage of the experimental group A.
5. There is a positive correlation between score mean of the achievement test and thinking skills measurements for the experimental group A.

The Procedures of the Study:

This study will be conducted according to the following steps in the light of the model of Mohammed Ateyya Khamees, these steps include the following:

First: the Analysis and Study Phase which includes the following:

1. Analyzing the problem of the study and estimating the instructional needs of students through investigating the skills of managing asynchronous discussions within e-learning as well as the perquisites of developing student teachers' thinking skills.
2. Identifying the instructional tasks or activities required from the senior students of computer problem subject.
3. Analyzing the psychological, social and academic characteristics of students and testing the level of their behavior according to the instructional tasks analysis map.
4. Identifying the available resources and restricts of the instructional settings.
5. Making a final decision regarding the effect of applying a blended strategy for managing the internet learning asynchronous discussions upon the level of achievement and enhancing some thinking skills of senior student teachers in the subject matter of the computer problems.

Second: Design Phase which includes the following:

1. Designing, analyzing and classifying the instructional objectives

2. Designing criteria referential measurement tools making sure of their reliability and validity
3. Designing the content and its organization strategies
4. Designing instruction learning strategies
5. Designing a strategies scenario for managing the asynchronous discussions within the e-learning
6. Specifying suitable patterns and techniques of learning
7. Designing a suitable blended strategy for managing asynchronous discussions within the subject matter of computer problems
8. Designing an integrated internet blended strategies-based program for managing asynchronous discussions within the subject matter of computer problems

Third: Instructional Development Phase which includes the following points:

1. Scenario Preparation
2. Production Planning
3. Structural Evaluation through applying the program to a small group for making sure of its validity and making the necessary amendments in the light of the sustainable auditing and improvement. This will be prior to the vast application of the program

Steps of the Study:

The current study will be conducted according the following steps:

1. Specification of the subjects from the student teachers and dividing them into two groups i.e. the experimental group A and the Experimental Group B.
2. Applying a pretest to both groups

3. Applying an integrated internet blended strategies-based program for managing asynchronous discussions to the experimental group A only
4. Appling a posttest to the experimental A and the Experimental Group B.
5. Investigating the effect of applying the program on the level of achievement and improving thinking skills of student teacher
6. Analyzing the collected data using the suitable statistic methods and investigating research hypotheses
7. Results, recommendations and further studies suggestions

Terminology:

Strategy:

* According to Mohammed Ateyya Khamees (2003 A, 159), the term strategy is an elastic term used in several fields. Generally, it is a systematic plan which consists of some specific sequences of activities and procedures aiming at achieving specific objectives within a specific time limit.

* Another definition is mentioned by Ahmed Hussein El-Lakany and Ali Ahmed El-Gamal (2003,19) who define it as consisting of some ideas and principles related to a specific field of human knowledge. These ideas and principles aim at achieving some objectives in an integrated and comprehensive manner by identifying the suitable ways for fulfilling such objectives. These steps are followed by designing suitable evaluation tools for the assessment of the so far achieved objectives.

* Based on the previously stated definitions, the investigator tries to design an integrated strategy gathering all advantages of formerly used strategies for handling the difficulties of managing asynchronous discussions within e-learning and blending these advantages in a whole structure suggested by the investigator for the treatment of these difficulties.

Skill:

* According to Ahmed Hussein El-Lakany and Ali Ahmed El-Gamal (2003, 249), it refers to the accurate flexible performance based on the kinetic and mental perception saving time, effort and cost.

Discussion:

* According to Ahmed Hussein El-Lakany and Ali Ahmed El-Gamal (2003, 237), it is a planned intended situation which includes some learners under the supervision and direction of their instructor aiming at discussing a specific issue or problem for finding a suitable solution. These solutions depend on the previous experiences of learners. Discussions may occur outside or inside the classroom using various types of questions addressing the previously acquired knowledge and establishing the recently acquired knowledge. These discussions stimulate learners' mental skills, develop co-operation, democracy and team work. There are different types of discussions among which are the following: group discussions, peer discussions, argument discovery discussions and dictation discussions.

Discussion Skills:

* According to Ahmed Hussein El-Lakany and Ali Ahmed El-Gamal (2003, 237), they refer to students' required skills which are needed for participation in discussions or solving specific problems. These skills include: the ability of organizing, analyzing, evaluating, condensing and understanding ideas. They also include fluency, sequenced and well-displayed ideas, asking questions, social adjustment during discussions, decency, positive behavior…etc. or any other skills that facilitate the accomplishment of discussion objectives.

Asynchronous Discussions:

* According to James Douglas (Douglas, J., 2006), this term refers to an intended delayed conversation which does not require online communications between the learner and the instructor. This type of discussion is the most broad procedure applied to the internet courses of higher education. Thus, the learner can express whatever he wants through the internet. It also allows the learner to share his opinions concerning the different discussed issues taking his time in response. Proponents suggest that these discussions attain a better level of tasks achievement and accomplishment.

* Hew and Cheung (Hew, K. F.& Cheung, W. S., 2007) suggest that it is based on man to man communication through a network which enables partners to participate and interact with each other for exchanging ideas, sharing opinions and expanding the personal experience. These discussions have no specific time limit.

Achievement:

* According to Ahmed Hussein El-Lakany and Ali El-Gamal (2003, 58), it refers to the quotient of learners' perception and understanding of gained experiences through subject matters. It can be measured through the learner's score at achievement tests prepared for this purpose.

Thinking:

* According to Gaber Abd El-Hameed Gaber (1999,81), it refers to what happens during solving a specific problem. It represents a series of mental activities fulfilled by the brain on facing a certain situation received by a sense or more than one sense. Hence, it represents a search for the situation or experience meaning. This can be accomplished through contemplation of the different components of the current situation confronted by the individual.

* Fakhr El-Deen EL-Qala (2006, 402) defines it as being a series of mental activities accomplished by the brain on experiencing a certain stimulation through a sense or more than one sense e.g. touching, sight, hearing, olfaction and tasting. Thinking, in a wider sense, is the process of looking for the meaning of the situation or the experience which can be obvious or vague. It requires a deep consideration of the situation components confronted by the individual. Thus, the situation is an exploratory experience based on experiment and uncertain outcomes of discovery.

Thinking Skills:

* According to Hosni Abd El-Bary Asar (1999, 26), they refer to processes related to perception, memorizing, concepts formation, acquiring language, encoding, learning ability and solving problems ability.