Summary

Institute of Educational Studies
Department of Instructional Technology

Effectiveness of A Multimedia Computer Program Based on The Visual / Spatial Intelligence for Developing Some Skills of Producing Digital Instructional Illustrations of Students of Instructional Technology

A thesis Abstract for the Master Degree in Education
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Instructional:

The educational system characterized in recent decades, with working on education characterized by quality, which focused on the development of the potential of students and their mental abilities in the best possible, we find the revolution of modern information in face of rapid new variables, lead us to search for new experiences and ideas Relates to the knowledge، it has been a natural tendency for studies which related to the human mind, and this great interest in the human mind, shows us the features of the educational system, this system is working to lighten and care of the minds of students, and that requires from individuals a high approach to cognitive adaptation.

Also, accompanied by research in curriculum development, analysis and studying the mechanisms of learning, which we find the theory of multiple intelligences theory that a significant change the system of education and learning, it suggests training the teachers to present their lessons in many ways using multimedia and graphics، and it has proven the effective of multimedia programs in the educational process, because of its potential with a large scope includes it's capacity and the capacity of educational media, and especially visual media; that is what supports the significance of the relationship between spatial and visual perception and this computer programs; instructional illustrations is one of the important means of communication, because it contains of information as symbolic and verbal media, this instructional illustrations is used in the most of knowledge fields, because it helps the communication process, and the rapid development of computerized graphics programs, that makes the process of illustrations is more easily.

The potential of multimedia programs based on Visual spatial intelligence has been recruited to develop the skills of producing digital instructional illustrations. The researcher stresses that these skills of the most important skills required for education technology specialist, because the important of instructional illustrations in different educational situations, which can take advantage of multimedia programs based on, visual spatial intelligence in developing it, which it is one the educational skills that the previous studies mentioned to The possibility of learning it; However, there are serious shortcomings in learning of digital instructional illustrations skills at students at the department of educational technology, faculty of specific education.

Feeling with the problem:

1- The current educational plan of the program of education technology does not provide students with the skills of producing digital instructional illustrations.

2- A lack of curriculum refers to what learners to acquire the skills of producing digital instructional illustrations.

3- Neglect to take advantage of multimedia programs based on Visual spatial intelligence in students learning, although it's effectiveness and relevance to many skills, as the skills of producing digital instructional illustrations.

Although the important instructional illustrations, and the necessity to master it's skills of production for education technology specialist; But reality reveals a weakness in the levels of students in the performance of some of the skills needed to produce instructional illustrations; Through the problem researcher has depended on the following factors:

First: The researcher's experience:

Through participation of a researcher in the teaching of the practical side of instructional illustrations course and instructional boards course in more than one semester, the researcher has noticed a lack of students levels in production of instructional illustration and diagrams, because of the reliance on the traditional ways and methods.

Second: The previous studies:

According to the above- mentioned previous studies, also many of the studies showed the importance of developing the production of instructional illustrations, depending on non-traditional methods of teaching; Such as the study of (Fatima Zahra, 2000), which confirmed that the most important problems of training students on the production of instructional illustrations by traditional teaching methods are the students complained of the prices of raw materials, and tools for the production of instructional illustrations, in addition to the unavailability of teachers with students most of the time to get feedback to inquiries regarding of the practical and theoretical; And the study of (Mohammad Al Sayyed Suleiman, 2003) refer to identify the effect of some variables of computerized media multi programs in gaining some computerized drawing skills at students of educational technology and their attitudes towards computer use in the production of instructional illustrations, and proved the effectiveness of the multimedia computer program, and the

students quality performance to the skills of drawing using the computer through the program Corel Draw; and the study of (Mohammed Abdel-Rahman Morsi, 2004) confirmed the previous, which aimed to determine the impact of designing an Internet site to develop the skills of the production of the instructional illustrations by using the computer, at students of the Faculty of Specific Education, and proved the effectiveness of the Web site at developing the skills of the production of the instructional illustrations by using some graphics programs, at students in education technology.

The problem of the research:

In the light of the previous view the problem of current research can be formulated in the following statement: "There is an urgent need to reveal the effectiveness of the use of the multi-media program based on visual spatial intelligence for developing of some skills of producing digital instructional illustrations at students of instructional technology" and can be formulated this problem in the main question follows:

"What is the effectiveness of the multimedia computer program based in the visual / spatial intelligence for developing some skills of producing digital instructional illustrations at students of instructional technology?"

And the ramifications of this question the following sub-questions:

1- What are the skills of producing digital instructional illustrations, that is necessary for students of educational technology?

2- What is the perception of the proposed multi-media program based on visual spatial intelligence, for developing some skills of producing digital instructional illustrations at students of instructional technology?

3- What's the effect of using multi-media program based on visual spatial intelligence on gaining knowledge producing digital instructional illustrations skills?

4- What's the effectiveness of using multi-media program based on visual spatial intelligence in the development of producing digital instructional illustrations skills?

Objectives of the research:

1- Determine the skills of producing digital instructional illustrations, that is necessary for students of educational technology.

2- Determine the perception of the proposed multi-media program based on visual spatial intelligence, for developing some skills of producing digital instructional illustrations at students of instructional technology.

3- Uncover the effectiveness of the multimedia computer program based in the visual / spatial intelligence for developing some skills of producing digital instructional illustrations at students of instructional technology.

Importance of the research:

The importance of this study can be indicated as follows:

1- Helping students to innovation and excellence in the field of visual spatial intelligence, and the consequent benefit to society in general.

2- Students take advantage from the current research in the use of multimedia programs for training on different subjects.

3- Helping individuals responsible to developing instructional illustrations course.

4- To contribute to the development of producing instructional illustrations through the use of the computer, which saves a lot of time, effort, cost and lead to production quality.

The research's limits:

1- The visual / spatial intelligence field.

2- The skills of Drawing, painting, writing, and the selection and erase using Photoshop CS3 program.

3- First year students, Educational Technology, Faculty of Specific Education, Fayoum University.

Sample of the research:

The researcher has chosen a sample from the students of the first year of the education technology department at the faculty of the specific education at Fayoum University, this sample include 25 students.

The research Tools:

1- A query of the students views about producing instructional illustrations skills.

2- A query of the responsible` views about teaching The practical side of instructional illustrations course.

3- The evaluation tools: before / after test measure the knowledgeable side of the students.

4- An observing checklist of the skills doing: before / after of the students.

Hypotheses of the Study:

First: Hypotheses concerned with comparing between the pre/ post-application of research tools of the research group:

1- There is significant difference at level (0.05) between the mean scores of pre-test achievement and post-test of the research group, favoring the post-test mean scores.

2- There is significant difference at level (0.05) between the mean scores of pre-application of the observation checklist and the mean scores of post-application of the observation checklist concerned with producing instructional illustrations skills of the research group, favoring the post-test mean scores.

Second: Hypotheses concerned with size of effect of the multimedia program based on visual / spatial intelligence:

1- The multimedia program based on visual / spatial intelligence achieves a large size of effect more than (0.14) in achievement.

2- The multimedia program based on visual / spatial intelligence achieves a large size of effect more than (0.14) in the skills of producing digital instructional illustrations.

Third: Hypotheses concerned with the effectiveness of the multimedia program based on visual / spatial intelligence:

1- The multimedia program based on visual / spatial intelligence achieves achievement with effectiveness not less than Mc Gogian effectiveness ratio (0.6).

2- The multimedia program based on visual / spatial intelligence achieves the skills of producing digital instructional illustrations with effectiveness not less than Mc Gogian effectiveness ratio (0.6).

The research's approach and the experimental design:

1- The researcher will use the descriptive approach to set the skills of producing digital instructional illustrations and the norms and description of the education program.

2- Also she will use the experimental approach, by using of pre and post test of members of the research group that Subject to experimental variable.

The research Variables:

The present study includes the following variables:

1- The independent variable: a multimedia computer program based in the visual / spatial intelligence for developing some skills of producing digital instructional illustrations; there are two following dependent variables:

   A. The levels of gaining subject: they are measured by a test including a group of individual tests divided according to skill levels.

   B. The rate of the practical doing the skills: it is measured through an observation checklist.

The research steps:

1- Studying the previous researches and studies relating the research's variables, in the filed of the visual / spatial intelligence, multimedia computer programs, and digital instructional illustrations.

2- Designing the education program.

3- Applying the education program.

4- The results, recommendations, and the proposed researches.

Research Results:

First: Hypotheses concerned with comparing between the pre/ post-application of research tools of the research group:

The two hypotheses were accepted.

Second: Hypotheses concerned with size of effect of the multimedia program based on visual / spatial intelligence:

The two hypotheses were accepted.

Third: Hypotheses concerned with the effectiveness of the multimedia program based on visual / spatial intelligence:

The two hypotheses were accepted.

Recommendation of the research:

1- Recruitment of multiple intelligences for the development of relevant skills, particularly through educational multimedia programs.

2- Producing more educational multimedia programs that are related to different aspects and methods and ways to produce all kinds of digital instructional illustrations.

3- Training of professors and teachers to develop and use multimedia programs in education.

4- Change the traditional methods of instruction in the department of educational technology at faculties of education and specific education, especially the courses of a nature practical, which includes the acquisition of skills and development, using educational multi-media programs in the position of learning and test.

5- using of multimedia programs in teaching in different educational stages, in the framework of a Individual learning environment.

6- Providing physical support and moral encouragement of professors and teachers for using and produce multi-media in education.

7- Focusing on the provision of authoring software for multimedia technology for students of education technology department, during the years of study, with the provision of assistive devices in the Insert of video clips and still images, graphics, and color instructional illustrations.