



วารสารศิลปกรรมศาสตร์
มหาวิทยาลัยศรีนครินทรวิโรฒ
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A Comparative Study of Prathomsuksa 4's Learning Achievement in Visual Art between Programmed Instruction and Lecture Teaching Method

การศึกษาเปรียบเทียบผลสัมฤทธิ์ทางการเรียนวิชาศิลปะเรื่องโครงสร้างทัศนศิลป์ของนักเรียนชั้นประถมศึกษาปีที่ 4 ระหว่างการสอนโดยใช้บทเรียนสำเร็จรูปกับการสอนแบบบรรยาย.

สุภาวดี สุขชม

Supawadee Sukchom

บทคัดย่อ

การวิจัยครั้งนี้มีความมุ่งหมายเพื่อศึกษาเปรียบเทียบผลสัมฤทธิ์ทางการเรียนวิชาศิลปะ เรื่องโครงสร้างทัศนศิลป์ของนักเรียนชั้นประถมศึกษาปีที่ 4 ระหว่างการสอนโดยใช้บทเรียนสำเร็จรูปกับการสอนแบบบรรยาย กลุ่มตัวอย่างที่ใช้ในการวิจัย คือ นักเรียนชั้นประถมศึกษาปีที่ 4 ภาคเรียนที่ 2 ปีการศึกษา 2550 โรงเรียนวัดทองย้อย อ.บ้านนา จ.นครนายก จำนวน 60 คน ซึ่งได้มาโดยวิธีการสุ่มอย่างง่าย (Simple Random Sampling) ด้วยการจับสลากให้เป็นกลุ่มทดลองที่ 1 และกลุ่มทดลองที่ 2 กลุ่มละ 30 คน กลุ่มทดลองที่ 1 ได้รับการสอนโดยใช้บทเรียนสำเร็จรูป กลุ่มทดลองที่ 2 ได้รับการสอนแบบบรรยาย ในการดำเนินการทดลองผู้วิจัยเป็นผู้ดำเนินการทดลองด้วยตนเอง ใช้เวลาในการทดลองกลุ่ม 6 คาบ คาบละ 50 นาที และใช้เนื้อหาเดียวกัน ดำเนินการทดลองโดยใช้แบบแผนการวิจัยแบบ Randomized Control Group Pre - test Design วิเคราะห์ข้อมูลโดยใช้ t - test for independent sample แบบ different score ผลการวิจัยพบว่านักเรียนที่ได้รับการสอนโดยใช้บทเรียนสำเร็จรูปมีผลสัมฤทธิ์ทางการเรียนสูงกว่านักเรียนที่ได้รับการสอนแบบบรรยายอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01

Abstract

The purpose of this research was to compare the learning achievement in visual arts structure of Prathom Suksa 4 students taught with programmed instruction and lecture method. The sample used in the research consisted of 60 Prathom Suksa 4 student in the 2nd semester of the 2551 B.E. (2008 A.D.) academic year at Wat Tong Yoi School, Amphoe Banna, Nakorn Nayok Province. They were acquired by simple random sampling and assigned by drawing ballots into experiment group 1 and group 2, each 30 students. Group 1 was taught with programmed instruction and group 2 by the lecture method. The researcher conducted the experiment herself applying the same content for both groups. The experiment consisted of six 50 - minute sessions. The experiment was a Randomized Control Group Pre - test Design. The data analysis was conducted by t - test for independent sample, different score.

The research finding reveals that the students who were taught with the programmed instruction had higher learning achievement than those who were taught with the lecture method at .01 level of significance.

The Background and Significance of the Study

Learning arts streams aims to develop learner's understanding and logical thinking of the ways of art (Department of Academic Affairs. 2544: 2). Regarding instruction to achieve learning, Bloom (Priyaporn Wonganutaroj. 2546: 29 – 30; citing Bloom. 1974) asserted that changes occurred in each learning in 3 aspects, i.e. the changes in cognitive domain – those occurred in the brain, such as learning thinking, understanding and concepts; the changes in the affective domain – such as beliefs, interests, attitude, and values; and the changes in the psychomotor domain – gaining expertise or skills such as swimming, playing sports, drawing and painting.

Knowledge and understandings are influential factors of learning achievement. Gaining good knowledge and understandings of learning provide the learners with intention and desire to learn. The learners who lack understandings in the subject under study would possess low learning achievement and are not quite successful in learning. It causes problems to schools, teachers, colleagues and parents. The consequences are some learners having to repeat class or quit school.

As aforementioned, it appeared that the problems of teaching and learning were concerned with the learners lacking learning interests, having learning problems and scores below the criteria. This learner group would experience more learning problems which might cause undesirable spiritual results. When they did not get understandings, they would feel bored of learning, lack of enthusiasm and felt discouragement; resulting low learning achievement as well as begin unable to apply learned knowledge in everyday life. It counted as a failure in education and unworthy investment. Nobody would like to see Thai youngsters begin as the aforementioned.

The Basic Education Curriculum B.E. 2544 commits to promote lifelong learning by

emphasizing the media, both printed and technological media as well as other media, by which the learners and the teachers can acquire knowledge themselves. This is to develop learner-centered teaching and learning with the help of appropriate techniques, methods, innovations, and teaching media. Based on the aforementioned rationale and significance, the research, as an elementary school teacher of art education, Prathom Suksa 4 had conducted a classroom research, entitled “an evaluation on learning achievement in visual arts”. The findings revealed that the students had lower learning achievement than the specified criteria. Hence, the researcher was interested to further conduct this research to compare the learning achievement of visual arts structures of Prathom Suksa 4 students. Experiment activities based on programmed instruction of visual arts structure were implemented to see if the problems of low learning achievement students could be solved, and how effective it was. The researcher expected to make the students gain better learning achievement on the visual arts structures; they were able to develop to their full potential on the ground of human rights of educational opportunities; and provided guidelines for teachers and concerned parties in learning and teaching arts subjects. The result would provide guidelines for developing and promoting effective learning accordance with the National Education Act B.E. 2542.

Purpose of the study

The purpose of the research was to compare the learning achievement in visual arts structure of Prathom Suksa 4 students between 2 group taught by programmed instruction and lecture method.

The scope of the Study

Population used in the Study

The population used in this study were 3 classes of Phathom Suksa 4 students in the 2

semester, B.E. 2552 academic year at Wat Tongyoi School (Wuthikorn pracha Nukul), Amphoe Banna, Nakorn Na yok Province, totally 91 students.

Selection of the Sample

The sample consisted of 60 Prathom Suksa 4 students in the semester, B.E. 2552 academic year at Wat Tongyoi School (Wuthikorn Pracha Nukul), Amphoe Banna, Nakorn Nayok Province, who learned visual arts structure. They were acquired by simple random sampling and assigned by ballots into 2 experiment groups, each 30 students. Each group did not have different learning achievement because the classes were managed by mixed abilities.

The Variables Under the Study

The content used in the study consisted of knowledge and understanding of the visual arts structure for Prathom Suksa 4 students following the Basic Education Curriculum B.E. 2544 of the Ministry of Education. It was divided into the knowledge and understanding of line, color, form and shape, and composition.

Duration of Study

The study was conducted in the 2nd semester of the B.E. 2551 academic year, between January – March B.E. 2551. The experiment was 6 weeks, 1 day weekly, two 50 – minute sessions daily, 1 session for 1 group.

The Variables Under Study

1. Independent Variables were divided into:

1.1 Programmed instruction on visual arts structure

2.2 Lecture method

2. Dependent Variables: visual arts structure learning achievement

Definitions of Terms

1. Visual Arts Structure mean the element of art and the principles of composition according to the visual arts structure. In this study, the visual arts structure refers to line, color, form,

shape, and composition.

2. Arts Learning Achievement means knowledge and understanding of the forms and characteristics of line, color, form, shape, and composition in creating color drawing. It was assessed by 30 items of 4 – choice test built by the researcher in accordance with the content and learning objective, expected learning result identified in the programmed instruction of the visual arts structure. It was measured using the learning achievement test of the visual arts structure developed by the researcher.

3. Programmed Instruction means arts lessons providing knowledge and understanding of visual arts structure. It was in printed media form built by the researcher to provide knowledge of the criteria of principles and the creation of visual arts works. It included knowledge and understanding of the content, exercises, and 4 tests on the line, color, shape and form, and composition. The content was arranged from easy to difficult; presented in linear descriptions

4. Teaching with Programmed Instruction of Visual Arts Structure means the teaching which the teacher provided the students to do self – study the programmed instruction of visual arts structure, Prathom Suksa 4; learn from the first frame to the last frame consequently. The teacher facilitated the study of students.

5. Teaching with Lecture means the teaching which the teacher transferred knowledge to students by describing to explain the well – prepared content. Students listened, might record some essences while listening or ask some question or comment. Practices were provided.

Research Hypothesis

The students learned with programmed instruction had higher learning achievement than those did with lecture method.

Research Methodology

Development of Research tools

The tools used in this research consisted of the following:

1. Programmed instruction of visual arts structure.
2. Learning achievement tests of visual arts structure, Prathom Suksa 4, totally 30 items.

1. Development of Research Tools and Its Quality Validation

The building of the programmed instruction of visual arts structure for Prathom Suksa 4 students was conducted in the following steps.

1. Studying the Basic Education Curriculum B.E. 2544, Its core topics/content, and the manual of arts strand learning management, Prathom Suksa 4 to get the content scope and basic knowledge to be used, learning objectives, concepts, learning standards, learning substance, yearly expected learning result of visual elements or visual arts structures, and learning and teaching activities.

2. Studying related document and research on the theories, principles, concepts, recommendations on building methods and development of programmed instruction, pros and cons as well as the limitations of the applications of the programmed instruction to be applied in the building of the programmed instruction. These provided guidelines for managing the content and building the programmed instruction which consisted of instruction of visual arts structure, exercises, and learning achievement tests.

3. Analyzing the visual arts content to identify the learning objective or learning result, and learning substance for writing the structure of the programmed instruction. The content was divided into 4 design series of the visual arts structure. Then lesson were written in individual frames or sections.

4. Presenting the built programmed

instruction to 5 experts to examine its content validity, the quality of the programmed instruction, language accuracy, and the appropriateness of the program. After improving the program according to the recommendations, it was presented to the experts again for further examination of its appropriateness in various dimensions. Then the package was improved according to the recommendations.

5. Trying out the improved programmed instruction to determine its efficiency.

6. Using the programmed instruction with the samples.

2. Development Steps of the Learning Achievement Tests and Its Quality Validation

The learning achievement tests of the knowledge and understanding of the visual arts structure were developed by the researcher in accordance with the curriculum and cognitive objectives.

- 2.1 Studying related documents and research on the test construction, principles of measurement and evaluations of instruction, test construction methods, of writing learning achievement test item from the textbook on the test writing technique (Surang Kow – trakul.2544: 415 – 417).

- 2.2 Building the tests in accordance with the content and the learning objectives. The achievement test items of the programmed instruction were 4-choice objective items.

- 2.3 Presenting the built learning achievement tests of the knowledge and understanding of the visual arts structure as well as the evaluation criteria to the experts to examine the content validity and the appropriateness of language. Then they were improved in accordance with the experts' recommendations. The indices of congruency between the tests and the learning objectives (IOC) were used to examine the test validity using the identified criteria.

- 2.4 Using the tests with the samples.

Data Collection

The data collection of this research was by conducting experimental research in the 2nd semester, B.E.2551 academic year. The research was One – Group Pretest – Posttest Design (Luan Saiyot and Anakana Saiyot. 2534: 248)

The samples in this research were acquired by simple random sampling using ballot assignment into the experiment group 1 and group 2. Each group had 30 students. Group 1 was taught with the programmed instruction and group 2 was taught with the lecture method. The experiment was conducted for six 50 – minute sessions with the same content. The steps in the experiment were as follow.

1. Conducting an orientation to make both groups understand the instruction process, their role, learning targets, and evaluation method.
2. Conducting a pre – test for both groups using learning achievement tests on the visual arts structure.
3. Teaching both groups, conducted by the researcher;
 - 3.1 The experiment group 1, teaching with the programmed instruction.
 - 3.2 The experiment group 2, teaching with lectures.
4. When the experiment ended, a post – test was conducted using the learning achievement test on the visual arts structure. The test was the same one used in the pre – test before the experiment. Then the test was examined and scored according to identified criteria.
5. Analyzing the data from the experiment by statistical analysis to test the hypothesis.

Data Analysis

The data analysis was conducted as follow.

1. Finding basic statistic, i.e. mean, standard deviation, and percentage.
2. Comparing the learning achievement of

visual arts between the group taught with programmed instruction (experiment group 1) and the group taught with lecture method (experiment group 2) by t – test.

Research Finding Conclusion

The student taught with programmed instruction had higher learning achievement than those taught with lecture method at .01 level of significance.

Findings Discussion

The purpose of this research was to compare the learning achievement in visual arts structure of Prathom Suksa 4 students between 2 groups taught with programmed instruction and lecture method.

Comparisons of the Learning Achievement

The research finding revealed that the learning achievement of the students taught with the programmed instruction was higher than of those taught with the lecture method at .01 level of significance. This is in accordance with the hypothesis and the finding of Chulaporn Sukkorn (2549: Abstract) who found that the students learned with the programmed cartoon instruction had higher learning achievement than those did with the traditional instruction; Anuchala Satsuphap (2549: Abstract) who found that the Thai language reading competency of the students taught with programmed cartoon instruction and those with the usual instruction was significantly difference at .01 level which was in accordance with the hypothesis; and Piyathida Sangkano (2550: Abstract) who found that the students who were experienced the programmed

Instruction before learning and after learning had different learning achievement. The finding of the experiment revealed that the programmed instruction developed by the researcher helped the students gain higher learning achievement than those taught with the lecture method. That might be due to various reasons as follow.

1. The programmed instruction of the visual art structure for Prathom Suksa 4 was built based on identifying desired contents and objectives. The methods and tools were prepared in advance. They were systematically developed; had been examined and improved in accordance with the supervisor and the experts. In addition, it was decorated and designed with pictures and content layout to motivate learners so that they would not feel bored and could learn well to achieve the learning objectives.

2. The teaching with the programmed instruction was a teaching of knowledge and understanding in bound document format providing frames of examples, exercises, and key answers. The content was arranged continuously from easy to difficult. Each frame contains lessons with explanation; provides questions which students can check their answer instantly. That helps students understand the content of each frame easily and quickly. It was in accordance with Thorndike's teaching method, i.e. the content presented in simple to difficult sequences could bring satisfactory to the learner by providing the correct answer instantly when the learner responded. (Sunanta Sunthornprasert. 2547 : 55)

3. Programmed instruction had answer keys built in and continuous encouragement mechanism which reinforce learning following Skinner's reinforcement theory. The theory states that positive reinforcement is most effective for learners and that the reinforcement must be provided instantly after the learners respond to the stimulus. It was in accordance with Anderson's study (Moses.1994: 5593 – A) which found that the most influential factor to learning was the reinforcement.

4. In programmed instruction students had an opportunity to self – study and learn by their

ability, respond to individual differences. The slow learner had more time to study while the fast learner used less time and used their time to do other works without having to wait for slow learners. The teacher could observe student differences in order to support and facilitate their learning.

The research finding revealed that the use of programmed instruction helped students to gain higher learning achievement as well as develop better learning. That was due to students having an opportunity to self – study and learn by their ability, respond to individual differences. The slow learners had more time to study while the fast learners use less time. It helped stimulate the learner's learning because answer stimuli provided. If one gave a wrong answer, nobody made fun of him/her since nobody knew that. The wrong answer could be corrected instantly. Reviews could be made many times. It helped the learners to gain more knowledge and understanding.

Recommendations

1. General Recommendations

Teaching with the programmed instruction of the visual arts structure was a teaching method which could develop better visual arts learning achievement of the students. Therefore, teacher should pay attention to it and try to apply it more widely in the development of the arts instruction, especially for students with low learning achievement. It could help the students to achieve better development.

2. Recommendations for Further Research

Programmed instruction of other substances should be built more widely to provide guidelines for developing more efficient learning and teaching.

