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The Effect of Learning Management Using Cooperative Learning together with Superstar Mobile Library Application to Enhance the Searching for Information Ability of University students
Reviewer Regina

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Abstract

The purposes of this study were 1) to compare students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application. 2) to compare students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application with the established 70% criterion. The experimental design was one group pretest posttest design which was to determine a new teaching method in order to enhance searching for information skills. The samples included in this study were 51 freshmen of the school of arts at Zhoukou Normal University obtained by the cluster random sampling method. The instrument was searching for information skills evaluation form with the validity at 1.00, reliability at 0.71. The lesson plans were another instrument which were examined the quality through group of experts. The results revealed that 1) after learning through cooperative learning together with the Superstar mobile library application in the classroom, posttest scores of students' searching for information skills was greater than pretest scores at .05 level of statistical significance $(t34= 15.19, p < .05)$. The average scores of the study developed increasingly higher than pretest. 2) mean scores of students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application was statistically higher than the criterion of 70% at .05 level of statistical significance $(t34 = 47.21, p < .05)$.

Keywords : Cooperative Learning, Superstar Mobile Library Application, Searching for Information Ability

1. Introduction

With the increasing popularity and wide spread of information network technology, the service of university library must be integrated into the computer network application environment. According to the needs of university library technology, data query service and information retrieval, how to build an information library is the key to the construction of network information service in university libraries, and it has become a brand-new topic facing the majority of library managers. (Smith, 2010)

With the development of information technology, the computer technology system has been widely promoted in the library, which not only realizes the automation of library material management, but also improves the service quality of the library to meet the reading needs of readers. Under the background of informationization,modern libraries attach more importance to the exchange, transmission and application of information, and enhance the rapidity, timeliness and richness of information. In order to promote the application of information technology in the library and improve the quality of library management service. As an important place for cultural inheritance and knowledge dissemination, library plays an important role in improving the quality of the whole people. Today, with the development of information technology, the library should keep pace with the Times, reform the management mode and service mode, provide convenient service mode for readers, meet the reading needs of contemporary readers, and then strengthen the management mode of the library. Under the background of informationization, the realization of informationization management mode and service mode is the need of library's future development.

The purpose of library information technology course is to learn advanced scientific and technological knowledge and use it to spread it to students, so that students can acquire knowledge to facilitate the application in daily life. Mainly in the classroom teaching to pass the library information technology to students, so that students can master this technology, and use it to help and improve their learning efficiency, academic performance.

From previous teaching experience, usually in the classroom also reflected the problem of students' searching for information skills or retrieval skills, such as students' individual learning and understanding ability are not the same, some strong, some weak. The ability to understand strong grasp of search is strong, so the search efficiency is very high, and some students search ability is slower. This is not only related to the individual performance of students, but also to the teacher's teaching methods. That is to say, an excellent student can not be separated from their own efforts and talents, but also can not be separated from the teacher's instruction.

Cooperative learning is one of various teaching method to help or cultivate students' outcome. Students are active participants in cooperative learning and are required to engage fully in group work. Group skills for listening, discussing, and compromising are required if cooperative

learning groups are to be successful. Cooperative learning is a structured, systematic learning strategy, composed of 2 to 6 students of different abilities in a group, in cooperation and mutual assistance to engage in learning activities, to jointly complete the group learning objectives, on the premise of promoting everyone's learning level, improve the overall performance, to obtain group rewards. Moreover, Cooperative learning theory asserts that students learn best when they work together, when they encourage and tutor each other, and when they are held individually accountable for their work. As opposed to models that are more teacher-centered and that require teachers to expend a great deal of time keeping students motivated and in their seats, teachers in cooperative learning encourage students to move about and interact with each other. Research from both the cognitive and neurosciences supports this type of active involvement. (Arends, and Kilcher, 2010)

Super Star Mobile Library application is one of the significant tools for learning to solve the problem students' searching for information skill or students' retrieval practice ability mentioned above. It is very important for students to learn about book and literature retrieval and solve problems together with the Super Star Mobile Library application in their learning life. There are the following points of importance: (Century Super Star Information Technology Development, 2022)

1) More effectively save the students to find books and materials of the time, improve the efficiency.

2) More effectively improve the accuracy of students to find books and materials, reduce the error rate.

3) Exercise and improve the students learn to find books and materials methods and skills, improve the academic performance.

4) More time is saved to a large extent, and students can make full use of this time to study, can increase more effective learning time.

To give a very simple example, in the classroom can let students use the traditional basic search method and the use of basic search methods at the same time combined with the superstar mobile library APP collaboration method, let students personally go to such a practical operation, students will have different feelings. Students can think independently about what is different between using basic search methods and having a collaborative search with APP. Students can think through practice what the advantages are, whether it improves the efficiency of search and so on. This is a good learning process, through practice to form thinking, and then make a final summary. This learning process is very important throughout the classroom.

For the reasons mentioned above, researcher is interested in and has realized the necessity of application and innovation of library information technology development in the course of teaching through the implementation of cooperative techniques together with super star mobile

library application in order to cultivate searching for information skill. The finding of this study will be the guideline for teaching in library information technology course.

2. Research Objectives

1) To compare students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application.

2) To compare students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application with the established 70% criterion.

3. Research Methodology

3.1) Population and samples

The population in this study were 110 first-year students of the school of arts at Zhoukou Normal University in the second semester of academic year 2021.
The samples in this study were 51 freshmen of the school of arts at Zhoukou Normal University obtained by the cluster random sampling method.

3.2) Research Instruments

There were 2 instruments for this study which consisted of 1) the searching for information skill evaluation form and 2) Lesson plans

3.2.1) The searching for information skill evaluation form

The purpose of using the searching for information skill evaluation form was to collect data regarding the students' skill involve retrieval or searching for information. This evaluation form was the five-point rating scale ranged from never, rarely, sometimes, mostly, and always. The draft of evaluation form was presented to thesis advisors for their advice on the appropriateness, precision, accuracy, ambiguity and wording. Then, the draft of evaluation form and the validated form were offered to the three experts for the validity determination and suggestions such as the alignment between the each item and operational definition, wording appropriateness. The quality of the searching for information skill evaluation form in term of validity was found that validity was at 1.00. Then, the draft of evaluation form was preliminary study or pilot study and explored the reliability, it was found that this draft of evaluation form had a reliability at 0.71 that means the evaluation form had the quality and can be used to collect data.

3.2.2) Lesson plans

Lesson plan were designed based on cooperative techniques together with superstar mobile library application. There were altogether 12 hours. The draft lesson plans mentioned earlier were assessed by 3 experts regarding an appropriateness in terms of learning objectives,

content, learning activity, materials, and assessment. Then, experts recommendations were used to revise the lesson plans.

3.3) Experimental design

This study employed pre design with one group pretest-posttest design shown in the figure below. Pretest-posttest were used to investigate the searching for information skill before and after learning through cooperative techniques together with super star mobile library application. (Ary, Jacobs, and Sorenson, 2010)

Group	Pretest	Treatment	Posttest
Experimental group	O_1	X	O_2

O_1 was measurement of the searching for information skill before an experiment

X was a treatment of cooperative techniques together with super star mobile library application

O_2 was measurement of the searching for information skill after an experiment

3.4) Data Collection

The procedures of data collection were as follows:

1. The samples were given the pretest by measuring the searching for information skill with constructed evaluation form.

2. The samples were taught by using cooperative techniques together with Super star mobile library application

3. After finishing the instruction, the samples received the posttest by using the same evaluation form which were used in the pretest.

3.5) Data Analysis

In this study, data were analyzed through using the statistical package program according to the research objectives: 1) compare the searching for information skill before and after learning through cooperative techniques together with superstar mobile library application by using t-test for dependent sample. 2) compare the searching for information skill with the determined criteria set at 70 percent by using t-test for one sample.

4. Research Results

The findings of this research were analyzed through descriptive statistics and t-test by using statistical package program to answer the progress of participants after its implementation. The findings were described as follows.

4.1 The results of the first research objective

The result of comparing the different scores of students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application. The below table showed descriptive statistics and t-test as analyzed by statistical package program. This table aimed to answer the research objective about whether cooperative Learning together with the Superstar mobile library application was able to enhance students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application.

Table 1 The result of comparing the different scores of students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application.

Group	N	Pretest scores		Posttest scores		t	p
			S.D.		S.D.		
Experimental group	35	83.54	3.06	94.43	3.06	15.19	0.000

As presented in Table 1 the mean scores of pretest of students' searching for information skills was 83.54 (SD = 3.06) and posttest of students' students' searching for information skills was 94.43, (SD = 3.06).

Moreover, it aimed to examine the different scores of before-and-after using cooperative learning together with the Superstar mobile library application to enhance students' searching for information skills. The result of this table showed that after learning through cooperative learning together with the Superstar mobile library application in the classroom, posttest scores of students' searching for information skills was greater than pretest scores at .05 level of statistical significance ($t34$= 15.19, p < .05). The average scores of the study developed increasingly higher than pretest.

4.2 The results of the second research objective

The result of comparing the different scores of students' searching for information skills after learning through cooperative Learning together with the Superstar mobile library application with the criteria set at 70 percent. The below table showed descriptive statistics and t-test as analyzed by statistical package program. This table aimed to answer the research objective about whether cooperative Learning together with the Superstar mobile library application was able to enhance students' searching for information skills

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Table 2 The result of comparing the different scores of students' searching for information skills after learning through cooperative Learning together with the Superstar mobile library application with the criteria set at 70 percent

Group	N	Full score	Criteria score		S.D.	t	p
Experimental group	35	100	70	94.43	3.06	47.21	0.000

As presented in Table 2, the mean scores of students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application was 94.43 from a possible full marks of 100 and the standard deviation was 3.06 which was statistically higher than the criterion of 70% at .05 level of statistical significance ($t_{df} = 47.21$, $p <$ .05).

5. Discussion

Students can enhance their searching for information or retrieval skills by collaborating with the Superstar Mobile Library application.

First of all, super star mobile library application is dedicated to professional mobile platform, the user can on the mobile devices such as mobile phone, pad self-service complete personal collection consult, the latest for lending and advisory browsing, have more than million copies of electronic books at the same time, huge amounts of newspaper articles, and metadata for users to choose Chinese and foreign literature, to provide users with a convenient mobile reading service. This shows that there are many rich book resources on this APP, which can fully meet the needs of students. In this way, students can exclusively search and read on this APP, with a clearer and more accurate query target.

Secondly, super Star mobile library application is like a handheld mobile APP. As long as the mobile phone is connected to the Internet, students can use this APP to find and read the books they need anytime and anywhere. This is a very convenient and efficient mobile library application. This is a new technology product created based on the performance of students' demand for library and the development and innovation of library's own service. The purpose is to use for the school teachers and students of the library enquiries lending services. Combined with the service of this APP, the efficiency of book inquiry and borrowing has been greatly improved, which has brought benefits to teachers and students and won a good reputation from them. In this way, students can carry their mobile phones to query book information, and do not need to go to the library to manually query information, which saves the retrieval time, greatly increases the retrieval efficiency, and thus improves the retrieval skills of students. (Talja, 2002)

Thirdly, the teaching stage of collaboration technology combined with superstar mobile library APP mainly adopts the idea of combining theory and practice. The idea is that the first is

the theory, which believes that the superstar mobile library application teaching can be divided into three stages: "before class, during class and after class". In the "pre-class" stage, teachers mainly complete the preparation of curriculum resources and the guidance of students' independent learning. In the "in-class" stage, students have discussion, exploration, cooperation, practice and other learning activities, teachers give active guidance. In the "after class" stage, students mainly consolidate knowledge and improve practical operation searching for information skills. The second is the practical stage in real life, mainly to study whether students' personal book searching for information skills is really improved and whether it is more efficient after using superstar mobile Library APP. What are the differences between before and after the combination. In the classroom teaching stage, the main emphasis is on the "pre-class" stage of resource preparation and effective teaching design. In this study, the online combined superstar library application needs to be designed in detail in the "pre-class" stage, so the teaching mode of pre-class design course PPT needs to be adopted to highlight the preparation and design of online learning space. (Sun, et al., 2012)

In order to fully understand the research status of the practical ability of library literature retrieval and determine the rationality of this paper's topic selection, through the CNKI, with "book literature retrieval" as the key word, the attention to this study was statistically analyzed. The results show that universities and local libraries pay more attention to book and document retrieval (51.5% of all research fields), which is consistent with the characteristics of library education and document retrieval courses and interactive links. In this paper, the research on literature retrieval methods in university libraries accounts for 5.0% of the total research results. Combined with the research of superstar mobile library application, we can see its own good effect, is very suitable for the development of university libraries. (Wu and Qiu, 2012)

6. Conclusion

Teachers can serve as guidelines to develop students' searching for information skills. Students can apply searching information skills to their studies in any subject. The significance of this study is to change the innovative mode of books and literature retrieval course to combine modern computer information technology and Superstar mobile library application for teaching, effectively improve students' practical ability of books and literature retrieval, and help students improve their learning efficiency and performance. Moreover, As opposed to models that are more teacher-centered and that require teachers to expend a great deal of time keeping students motivated and in their seats, cooperative learning can enhance students learn best when they work together, when they encourage and tutor each other, and when they are held individually accountable for their work. And also in this investigation, we can constantly discover and innovate teaching methods, so that the whole teaching process and results are more effective.

7. Recommendation

Based on the research results, the following suggestions are put forward:

This study can change the innovative model of book and document retrieval course, combine modern computer information technology with Superstar mobile library application for teaching, effectively improve students' practical ability of book and document retrieval, and help students improve their learning efficiency and performance. In the process of research, we can constantly discover and innovate teaching methods, so that the whole teaching process and results can be more effective.

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