



FLIPPED CLASSROOM: ENHANCING FASHION DESIGN SKILLS FOR HOME ECONOMICS STUDENTS

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Article History: Received: 10.05.2022

Revised: 15.06.2023

Accepted: 20.06.2023

ABSTRACT

The current research aims to evaluate the effectiveness of using the effectiveness of the flipped classroom through the Blackboard system on developing fashion design skills among female students of the College of Education at Najran University. The research sample was selected from female students of the College of Education at Najran University, who were randomly divided into two equal groups (experimental and control). With the use of a product evaluation card as a research tool to collect data. The results showed that the flipped classes offered through the Blackboard system had a significant and positive impact on the development of fashion design skills (in functional, aesthetic and creative aspects) for the participants in the experimental group, compared to the participants in the control group who were taught in the traditional way.

Keywords: Flipped Classroom; Fashion design; functional aspects; aesthetic aspects; creative aspects

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DOI: 10.31838/ecb/2023.12.si6.578

INTRODUCTION

Teachers have recently encouraged the use of flipped classrooms to give their students more opportunities for active learning. Because of the role this flipped classroom plays in encouraging participation and engaging in interactive learning activities [1, 2]. Previous studies conducted in the field of using flipped classrooms were varied. For example, some argue that these classes have many advantages, such as enhancing teacher-student interactions, and facilitating learning through active learning activities in the classroom [3]. Other studies have discussed the benefits of the flipped classroom, such as improving student performance and outcomes as a result of engaging in active learning [4-7].

The flipped classroom can be considered as a newly developed teaching method and is mostly used with undergraduate students [8, 9]. The main goal of using this method of teaching is to make the acquisition of new ideas and ways of innovation using the university education mode more accessible [10, 11]. Looking at the flipped classroom as an educational model. It can be said that modern technologies such as e-learning management systems can be used to deliver pre-made lessons. Therefore, video and audio lectures as well as any other media can be delivered to the students outside the classroom via their smartphones, tablets or computers making learning self-directed. However, self-directed learning in the flipped classroom requires that learners be fully prepared and ready before they begin the face-to-face lecture or classroom lessons [12, 13]. On this basis, the flipped classroom method can be considered as a good alternative not only to traditional classrooms or lectures, but also to most traditional teaching methods. As such, they have been widely used by educators at all levels of education and across many disciplines [14-16]. One of the interesting reasons for adopting the flipped classroom method in teaching is due to its ability to increase students' active learning and collaboration during the learning process, by making better use of teaching time [17, 18]. Hence, the face-to-face sessions in the flipped classroom become student-centered. Time is set aside for discussion, group work, and problem-solving [19, 20]. Another highlight of the importance of using the flipped classroom is the fact that the teacher's role can be transformed into a mentor and facilitator [21, 22]. Furthermore, the transmission of information outside the classroom can take the form of certain pre-class tasks, which students are expected to complete before actual class time begins [23]. This means that class time can be invested in providing learners with unique learning experiences through collaborative activities with their classmates as well as receiving support from their professor rather than lecturing [24].

The Learning Management System includes web-based applications, software and technologies. Which are used by faculty and learners to either access, plan, implement, supplement, monitor and evaluate learning or to communicate about learning [25-27]. Learning management systems have many types such as Moodle, Canvas, Blackboard, and Desire2Learn, all of which have become essential components in the implementation of the educational process [28].

The learning management system has become a tool for creating, distributing, tracking and managing different types of training and educational materials [29]. Which, are widely used in higher education and provide a gateway to teaching and learning enhanced by innovative technology [30]. The digitization and automation of many traditional teaching functions and pedagogical activities on campus is also one of the many advantages of a learning management system [31]. Students can use the Learning Management System to experience various educational resources provided by their teacher and simultaneously interact with their classmates [32]. The learning management system also has the ability to present course content, provide chat and forum discussions, present online tests, record and summaries grades, provide schedule and calendar reminders, and handle multimedia files such as images, music, sounds, flash shows, and videos [33]. That is, learners can participate in home study through the integration of the flipped classroom strategy and a learning management system where a video of a recorded lecture can be provided to help learners develop the power of self-assessment [21]. The flipped classroom learning management system can include many activities outside the classroom and in the classroom such as role-playing, discussions, quizzes, and group presentations [34, 35]. In contrast to the traditional model of teaching, classroom activities and homework are mirrored [21].

The "Fashion Design" course is one of the study requirements for home economics students, which relies mainly on fashion design skills, including the functional, aesthetic and creative aspects. Hence, the main objective was to meet the needs of the learners by enhancing their skills in fashion design. Design includes many professions in the business world today, such as graphics, interior design, furniture, landscape, fashion designs, etc. [36]. More specifically, fashion design has been recognized as one of the largest creative industries in the world, enhancing communication by representing ideas, typically through images [37-39]. Fashion design also delivers specific performance to the end user. It should include functional, aesthetic and creative aspects [40-42]. The functional aspects are related to the usefulness of the garment, and are responsible for comfort and protection [43, 44]. While the aesthetic aspects reflect the visual appearance and the general appearance of fashion and how the body shape is proportional to the design [45, 46]. Creativity is also seen as a critical factor in making the difference between a garment maker and a fashion designer [47-49]. Based on the foregoing, this research attempts to enhance the fashion design skills of home economics students with the flipped classroom.

Research Problem

The problem of this research arose because of the researcher's observation of the lack of achieving the objectives of the "fashion design" course among a large percentage of the students of the Home Economics Department of the College of Education. As mentioned in the introduction to the research, previous studies have shown that flipped classrooms have many advantages. Such as enhancing teacher-student interactions, facilitating learning through active learning activities in the classroom, and improving student performance and outcomes as a result of engaging in active learning [4-6, 50, 51].

The "Fashion Design" course is also one of the academic requirements for home economics students, which relies mainly on fashion design skills, including the functional, aesthetic and creative aspects. Hence, the main objective was to meet the needs of the learners by enhancing their skills in fashion design. However, previous literature did not show much about whether flipped classes via the Blackboard system are effective in developing fashion design skills among female students of the College of Education at Najran University. Based on the foregoing, the problem of this research can be formulated to try to enhance the fashion design skills of home economics students with flipped classrooms.

Research Aims

The main objective of the current research is to identify the effectiveness of flipped classes through the Blackboard system on developing fashion design skills among female students of the College of Education at Najran University.

Research Importance

- Benefit from the flipped classes to serve the achievement of the objectives of the educational process in educational institutions.
- Employing learning management systems in different ways to serve the achievement of the specific objectives of the academic courses.
- Directing the attention of educators towards benefiting from the flipped classroom within the learning platforms in university education.
- Developing the fashion design skills of the students of the College of Education in the "Fashion Design" course.

RESEARCH LIMITS

Objective Determinants

This research is limited to measuring the effectiveness of the flipped classes through the Blackboard system on developing the fashion design skills of the students of the College of Education at Najran University in the "Fashion Design" course.

Human Determinants

The sample announced in this research is limited to female students of the Department of Home Economics at the College of Education - Najran University.

Temporal Determinants

The temporal determinants of the current research revolve around a time range represented in the first semester 2021/2022.

Spatial Determinants

The spatial determinants of the current research revolve around a spatial domain represented in the College of Education at Najran University - Saudi Arabia.

RESEARCH TERMS

Flipped Classroom

The flipped classroom is a newly developed teaching method used mostly with undergraduate students [8, 52], with the aim of making it easier to acquire new ideas and innovation methods with university education mode [10, 53]. In addition, it is defined procedurally in this research, as an educational model that uses modern technologies such as e-learning management systems to provide pre-prepared lessons, which helps to provide video and audio lectures in addition to any other media to students outside the classroom via their smart phones, tablets or computers, which makes Learning is self-directed.

Fashion Design

Fashion design is one of the largest creative industries in the world, enhancing communication through the representation of ideas, usually through images [54-57], and is procedurally defined in this paper as performance art. Specific to the end user, and includes the functional, aesthetic and creative aspects.

METHODOLOGY

This research uses semi-experimental designs within the experimental method, which aims to investigate the effect of flipped classes within the Blackboard system (independent variable) on fashion design skills (dependent variable), as shown in the following table:

Table (1): Quasi-experimental research design

	Treatment	Post-test
Experimental Group	Flipped classroom	Product evaluation card
Control Group	Traditional way	

Research Tool (Product Evaluation Card)

The Fashion Design Skills Product Scorecard was developed based on a number of previous empirical research (2016, 2018). Where it consisted of three aspects; They are functional (number of items = 4), aesthetic (number of items = 5), and creative (number of items = 5). A five-point Likert scale (from 5 = strongly agree to 1 = strongly disagree) was used to rate each of the three aspects. Before using the card in this research, beta testing was also necessary to ensure the reliability and validity of the card elements. Cronbach's Alpha reliability coefficient is 0.87. In addition, an independent professor was asked to evaluate a sample of about (10) percent of the students' designs to measure the reliability among the assessors to enhance the reliability of the results, so that the agreement reached 89%. Finally, an impartial committee of three professors evaluated the designs of all the students. These evaluations are then examined to calculate their average score.

Research Sample

The use of a sample of (50) seventh-level students in the Department of Home Economics, College of Education, Najran University, to achieve the goal of this research. Within a period represented in the second semester 2021/2022. After they were randomly divided into two equal groups (experimental and control). For both groups to study the "fashion design" course through flipped classes (for the experimental group), and through the traditional method (for the control group). ط الترتيب

Experimental Processing Material

To implement the course content through flipped classes through the Blackboard system, by designing the educational material in (8) separate lectures. This is after reviewing many educational e-learning design models to obtain a set of steps that help in preparing the educational material. Taking into account a number of factors such as learners' characteristics, course objectives, content, and teaching activities when producing a video-recorded lecture based on the Blackboard-supported Echo system. Where video clips are produced through this system for the lectures presented to the experimental group. So that it is delivered to the students in this (experimental) group electronically via the Blackboard system, well in advance of the start of the lecture. That is, before starting to explain and discuss the lesson in detail. Each student must review the content provided electronically through the video lectures individually before the face-to-face lectures.

In addition to the educational videos that are presented through the Blackboard system to the students of the experimental assembly. The Blackboard system provides them with a set of other interactive tools to use alongside each video, such as the discussion via the forum; Subgroups that facilitate cooperation between students and allow them to strengthen virtual relationships between them; Blogs as an open communication medium to share their ideas. Accordingly, the flipped classroom lectures are implemented in two phases. In the first stage, the students of the experimental group have to individually watch a recorded video clip of (25) minutes that is delivered to them before the time of the live lecture (face to face) via the Blackboard system. In the second stage, they have to answer the questions of the lecturer in the traditional lecture face to face to make sure that they watched the video file of the lecture before coming to it, and then the students can participate in groups to exchange ideas about the different acquired skills.

On the other hand, the course lectures are presented to the students of the control group face-to-face, taking into account the opportunity for discussion between the students, the lecturer, and the students with each other, and answering all their inquiries during the lecture.

Statistical processing

The T. test for independent samples was used to analyze the data of the final research experiment, in order to compare the mean scores of the two research groups in fashion design skills.

Results

After presenting the research methodology, and completing the experiment as well, and to determine the significance of the differences between the mean scores of the students of the two groups (experimental and control) in fashion design skills. The "T" test is used for independent samples, as I mentioned, to show the results as in the following table:

Table (2): T-test results for the average scores of fashion design skills for the two groups (experimental and control)

Fashion design skills	Group	M	SD	T. Ratio	Sig.
functional aspects	Experimental Group	19.4	1.95	5.64	.028
	Control Group	16.88	2.24		
aesthetic aspects	Experimental Group	24.12	1.74	7.37	.035
	Control Group	19.9	2.61		
creative aspects	Experimental Group	22.79	1.68	6.92	.042
	Control Group	18.4	3.18		

The results in Table (2) show statistically significant differences between the performance of the participants in the experimental group in the functional aspects (average: 19.4, standard deviation: 1.95), aesthetic aspects (average: 24.12, standard deviation: 1.74), and creative aspects (average: 22.79), standard deviation: 1.68). In addition, the participants in the control group in functional aspects (average: 16.88, standard deviation: 2.24), aesthetic aspects (average: 19.9, standard deviation: 2.61), and creative aspects (average: 18.4, standard deviation: 3.18) in favor of the first group (the inverted classroom group). Via the Blackboard system). This indicates that there are statistically significant differences at the level (0.05) between the mean scores of the participants in the two research groups (experimental and control) in fashion design skills (in functional, aesthetic and creative aspects) in favor of the participants in the experimental group. This is a good indicator of the importance of using flipped classes. Which would lead to the development of fashion design skills among the students of the Faculty of Education.

DISCUSSION

The main objective of this research was to evaluate the effectiveness of flipped classes via the Blackboard system on developing the fashion design skills of the students of the College of Education at Najran University in the "Fashion Design" course. The results showed that the flipped classes through the Blackboard system had a significant and positive effect on the development of fashion design, and these results are consistent with the results of a number of previous research, such as [33, 58-60].

As for the effectiveness of flipped classes through the Blackboard system on developing fashion design skills, mainly skills in the functional, aesthetic and creative aspects and more specifically, the results of the current research clearly show the impact of the benefit of flipped classes in developing the functional aspects of female students. Which includes the ease of implementing the design, the suitability of the design for the functional performance of the occasion, the design of the product using different types of fabrics, and the extent to which the design provides comfort in performance. The results also prove that the benefit of the flipped classes was effective in developing the aesthetic aspects of the female students. Which includes the compatibility of colors used, keeping pace with contemporary fashion lines, and the fabric used gives aesthetic value to the product that is being implemented, and the design is sophisticated and elegant, the design reflects aesthetic values and feelings. The results also showed that the benefit of the flipped classes was effective in enhancing the creative aspects of the students. Which included the design achieves the purpose of the occasion for which it was designed, the fabric achieves originality in the design,

the design is very sophisticated, the colors used achieve originality in the design, and the design achieves the uniqueness factor.

RECOMMENDATIONS

- The need to motivate the teaching staff in universities to use the flipped classroom through learning management systems.
- Develop higher-order thinking and fashion design skills using other technical methods.
- Putting the promotion of higher-order thinking skills and fashion design into focus at other educational levels.

SUGGESTED RESEARCH

- Confirming the success of flipped classes through the learning management system in other environments by conducting other research in other educational stages.
- Enhance higher-order thinking and fashion design skills through further research on the use of collaborative learning environments.
- Use the project method to explore its impact on reinforcement using collaborative learning environments.

ACKNOWLEDGMENT

The authors are thankful to the Deanship of Scientific Research at Najran University for funding this work, under the Research Groups Funding program grant code (NU/RG/SEHRC/12/13).

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