The Blended Learning Teaching Research Facing to Independent Learning Ability—Based on the Course of Computer Aided Clothing Drawing

Ru-Nan JIANG¹,a and Jin-Hua DONG²,b

¹School of Art and Design, Wuyi University, Jiangmen, Guangdong, China
²School of Art and Design, Wuyi University, Jiangmen, Guangdong, China

*a18227843@qq.com, b48175042@qq.com

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Abstract. The blended learning teaching mode is applied in the Course of Computer Aided Clothing Drawing to cultivate independent learning ability of students. Specific measures mean to integrate with micro-course online video, motivate consciousness of independent learning, create post situations, train independent learning skills, reinforce interactive cooperation, build an independent learning atmosphere, conduct mutual evaluation between students, and excavate independent learning potential.

In recent years, the blended learning is greatly concerned in the educational reform. It is considered as one of the important directions of the higher education in the future. The annual Horizon Report(Higher Education Edition) of the American New Media Consortium have already conducted the short-time trend prediction on the blended learning for three years—In 2014, online learning, blended learning and collaborative learning were integrated constantly. In 2015, the blended learning was widely applied. In 2016, the applications of the blended learning increased day by day. The course-based blended learning not only promotes the development of educational network informationization, but also promotes cultivation of students’ independent learning ability. In terms of the Course of Computer Aided Clothing Drawing, it is urgent for every teacher to solve the following problems: how to understand the theoretical ideas of the blended learning mode? How to form a strategy for course teaching reform? How to promote teaching quality and cultivate students’ ability?

Connotations of Independent Learning and Blended Learning

Independent Learning

In the educational field, the concept of independent learning was officially proposed by Henry Holec(1981). Being independent is “a kind of ability to be responsible for their study”. Learners are equipped with the ability to learn independently, indicating that learners can confirm their learning targets, contents, materials and methods by themselves, confirm learning time, site and schedules, and evaluate their study [1]. Afterwards, numerous scholars offer different meanings to independent learning. By integrating with the existing studies, the author thinks that independent study is based on humanistic psychology. Under the precondition that learners and educators share rights and liabilities of teaching, it is a modern teaching mode that regards learners as the center and aims to cultivate independent learning ability for learners. Independent learning is a self-reliance, act-by-themselves and self-discipline behavior after learners realize self-reinforcement. It not only breaks away from the motivation of teaching framework, but also adapts to the learning environment and controls learning elements. The independent learning ability is a learning-oriented internal mechanism integrating with cognition, attitude, willpower and strategies of learners. Generally speaking, ability to plan, implement, supervise and evaluate is the primary aspects of the independent learning ability [2].
Blended Learning

In the end of 20th century, learning effects of online learning was undesirable, thus some scholars proposed a blended learning mode combining face-to-face learning with online learning. The purpose of “using the blended learning” aims to find out the balance point between knowledge acquisition and face-to-face interaction in online learning. [3] The blended learning means to “combine advantages of the traditional learning mode with the advantages of e-learning (namely digital or networking learning). In other words, it must develop the teachers’ dominant roles to guide, inspire and supervise teaching process, but also should fully embody students’ initiative, enthusiasm and creativity in learning process. [4] As a matter of fact, the blended learning overcomes the limitations of using the original two modes and develops a great role in teaching, thus it is favored by the public. In 2009, the survey report of Empirical Research Evaluation on Online Learning: Meta-Analysis and Evaluation on Online Learning published by the American Ministry of Education showed that: the blended learning is the most effective learning mode [5].

Feasibility Analysis of the Blended Learning Teaching Facing to Independent Learning Ability—Based on the Course of Computer Aided Clothing Drawing

The course of Computer Aided Clothing Drawing is the basic core course in fashion design major. The course aims to cultivate basic ability for students who are able to apply Coreldraw, Illustrator and Photoshop to draw illustration of different types of garments skillfully and lay a solid foundation on subsequent professional courses. The course integrates with software operation, artistic aesthetics, and drawing skills effectively, teaching and training styles, colors, modeling, texture and patterns of garments, the course enables students to perform the computer drawing ability to perform design ideas accurately.

From the perspective of applying the blended learning mode, the course of Computer Aided Clothing Drawing that gives priority to practical training and has open contents may be suitable for the face-to-face learning by using network platform, independent learning of teaching videos and curricular collaboration. In addition, irregular updating of computer software version also proposes the higher requirements for knowledge transfer ability of students. As a result, it must integrate e-learning with classroom teaching effectively. This is an inevitable choice to cultivate students’ independent learning. From the perspective of independent learning, network infrastructures in various schools are relatively complete. In addition, fashion quality of students in costume design is relatively strong. Almost all students own PCs, laptops and mobile phones and their basic operation skills of computers are very proficient. They have application skills of network social software, thus independent learning conditions have been very mature.

To sum up, the applications of the blended learning mode in computer paints for Garments conforms to strong practical demands of course development and it can satisfy training demands of students’ independent learning ability.

Blended Learning Teaching Measures Facing to Independent Learning Ability—Based on the Course of Computer Aided Clothing Drawing

The blended learning-teaching mode is introduced to the course of Computer Aided Clothing Drawing. It must integrate with the thought of being “teacher-centered” and “student-centered” organically and get the essence and remove dross, forming the brand-new teaching thought of being “teacher-dominated and student-subjected”. Meanwhile, it must set up competency-based concept and conduct teaching reform from multiple processes. Specific measures are shown as follows:

Integrate with micro-course online video and motivate consciousness of independent learning

Teachers should understand that students’ independence is not absolute, but keeps between pure dependence and independence. Ability growth of students actually is the process to transfer knowledge construction right to independence from dependence. As a result, to use classroom
teaching activities to help students to motivate consciousness of independent learning is the key to concern the success or failure of independent learning ability. It must take actions as early as possible.

Differing from the systematicness of knowledge in traditional classroom requirements, the blended learning is composed of modular disassembly and fragment segmentation. Teaching contents are refined to the minimal knowledge elements and it is presented in a 5-min micro-course online video. Teaching video resources are the foundation to carry out the blended learning. According to demands of independent learning, micro-course online videos can be used or combined independently. It can be successive or selective learning. Under the traditional teaching mode, specific practice of the course of Computer Aided Clothing Drawing is shown as follows: on the one hand, teachers explain theoretical knowledge of garments. On the other hand, they should explain main ideas of computer drawings and demonstrate it on a computer. Students have to watch it and take some notes. Majorities of contents can be mastered by repeated exercise after class. It takes lots of time from comprehending main ideas of computer drawings to finally form the basic ability of computer drawings in their spare time. Under the blended learning teaching mode, teachers can firstly use Camtasia Studio to record all teaching contents(including voices, pictures, and entire demonstrative process) and apply multimedia editing software to do post production, thus the blended learning teaching by uploading micro-course online videos to the course website and using online watching, online self-testing and online interactive Q&A can be implemented. Production of micro-course online videos must abide by the following principles: (1)With the precondition of providing rapid browse or downloading for students, format and capacity of every video can be confirmed; (2)Operation should be convenient. Every video should have some functions, such as fast forward, fast backward, pause and play, etc., so that students can regulate their learning tempo. (3)In order to make students concentrate on it, duration of every video should be probably 5 minutes. (4)Based on reducing cognitive load of students and ensure requirements of learning efficiency, every video only can bear a knowledge point or a case or an operational skill. (5)Every video can be used as teaching resources. Students can learn before the class and review after the class. For example, when students learn “Drawing Design for Garment Components”, teaching contents can be divided into collar drawing, sleeve drawing, pocket drawing and drawing of other accessories. According to knowledge points, every module should conduct fragment treatment. For example, 10 different cases of operational videos are recorded in drawings of other accessories, such as buttons, metal fasteners, straight-line/curve zippers, unilateral/bilateral zippers, twisted ropes, stranded braided ropes, waistbands, metal chains, laces and beads, and so on. Every micro-course online video only aims at a target knowledge point, so by conducting independent learning based on it, students can master relevant knowledge, but also can expand their horizon. Under such a learning mode, micro-course online videos can motivate consciousness of independent learning for students as a catalyst.

Create a post situation and train independent learning skills for students

To complete a drawing task rapidly and effectively according to design demands is the important indicator for modern clothing enterprises to assess post competency of designers. Every year, more than 90% of undergraduates majoring clothing design engage in design in enterprises, thus course setting of the Course of Computer Aided Clothing Drawing should consider work requirements of business-oriented clothing designers and arrange ready-to-wear style patterns, effects, lining, auxiliary materials, apparel accessories and dress patterns rationally, so that students are able to reach the employment level during the student and could be qualified to some posts. Meanwhile, course setting of the Course of Computer Aided Clothing Drawing should enables students to grasp skill standards of costume designers, intensify transformation from students’ creative thinking and practical expression in practice, enable them to exercise repeatedly, and improve their application ability of computer drawing technology in clothing product design. The old saying goes that practice makes perfect.
In the blended learning teaching of the *Course of Computer Aided Clothing Drawing*, teachers should “teach students how to paint”. It is necessary to set up post situations skillfully and achieve the goal of practicing students’ independent learning skills. For instance, when students learn “fashion style drawing”, course teachers should issue some drawing case videos to the course website and micro-course online videos, such as skirts, coats, suits, knitwear, shirts, jackets, western-style clothes, underwear, underpants and bras, etc., require students to carry out independent learning and conduct practical operation according to case videos, and issue homework tasks. After a design manager(a teacher) gets a spring-summer development design project with the theme of “marine organism”, he/she guides a design team(30 students in the class) to design 300 fashion styles and requires every students to collect and settle inspirational elements, reference styles, and key silhouette by aiming at the theme of “marine organism”. Every student at least should draw 10 clothing style charts. In the classroom, the course teacher won’t teach drawing process of clothing style charts, but integrate teaching points of the course into comments on students’ works and select the most representative, creative, complicated and challenging works in computer drawing methods. Then, the teacher should ask the author to explain their creative process and painting process. In this way, others students can live up to knowledge transfer and find out solutions rapidly when they meet with such a similar style or a similar problem. For students who never meet with such a similar problem before, this can increase expansion and in-depth understanding on new questions and new knowledge within the limited class time for students. Such a mode of practicing independent learning skills is close to actual combat and motivates learning interests of students. Almost all students hope that their works may be the problem that other students can’t solve before.

**Intensify mutual cooperation and build independent learning atmosphere**

Teaching is the necessary condition to realize integration of cognition and integration and build the independent learning atmosphere with democracy, harmony, comfort, interaction and cooperation, as well as conduct classroom interaction and mutual learning between teachers and students. It is also the powerful support to share and develop students’ independent learning ability. A remarkable feature of the blended learning teaching mode is the interactive cooperation. Mutual cooperation is one of essential conditions to ensure high-efficient and order operation of the blended learning mode. Under the background of blended learning, on the one hand, construction of class interaction platform or application of popular social software can be used to realize the extracurricular online interaction between students and teachers. On the other hand, it can conduct face-to-face in-class communication through enlightenment, guidance, topic promotion, focus discussion, Q&A, and manual exploration.

Based on the topic homework in the *Course of Computer Aided Clothing Drawing*, teachers firstly should guide students to set up a theme in the classroom according to their dress demands and occasion. Students should explore the type of the “theme” from the dress feelings. Some students show that our school uniforms are ugly, so we should redesign our school uniforms. Some students propose to design their own formal clothes, while saying machine-made graduate clothing of seniors, thus they can wear the formal clothes for taking a graduation picture or they even can wear it in a formal occasion. Some students take precautions and consider interview clothing for employment. Some boys and girls who fall in love also propose to design a series of his-and-hers clothes. By combining with interactive contents, the teacher and students confirm three themes of “school uniforms, career apparel and fashionable lovers-clothes”. The teacher divides all students into three groups. Every group has a theme. The leader is responsible for guiding group members to discuss the theme scheme and details. For example, members in the “school uniform” group confirms the internationals standards of school uniforms by looking up relevant research data, so as to define the task as “two sets of spring-summer uniforms and autumn-winter uniforms.” Then, they also come up with different images and opinions from international popular tendency, classical elements of school uniforms, and fashion styles of college students. At last, the group formulates the overall scheme and implementation rules. After class, group members carry out drawing design
by aiming at respective style charts according to the theme scheme, project division of labor, and schedule arrangement. For difficult problems and doubtful paints in drawing technology, the group can use social software to solve it by itself. If there are some problems that can’t be solved by the group, they can interact with the teacher online and solve it together. Under the highly independent learning atmosphere, the task is completed smoothly under the stronger interactive cooperative form.

**Implement mutual comments of students and explore independent learning potential**

Classroom evaluation is an important part of classroom teaching. It has the powerful educational functions. It runs through the entire process of teaching activities. For any progress, students hope to acquire concern and affirmation of other students. The academic achievements between classmates can be kept in the same level. As a result, equal and objective comment mode between students can be easier to be accepted by students. In the process of evaluating and being evaluated, classmates can realize mutual encouragement and promotion. This not only can figure out knowledge and summarize ideas, but also can train skills and exchange experience. The comment mode between students in the blended learning mode is a powerful weapon to promote students self-cognition and reflection, self-improvement and development. To carry out comment mode between students can enlighten students’ confidence in major, but also contribute to enhance team awareness and help to explore students’ independent learning potential.

As the above-mentioned theme in the *Course of Computer Aided Clothing Drawing*, after three groups finish their style design tasks respectively, the teacher carries out the “comment mode between students” in the latest and asks students in every group to give comments on style positioning, category selection, style outline, element expression, detailed design, drawing techniques and frame perception in detail for other two groups. For example, when giving comments on the theme drawing design of “fashionable his-and-hers clothes”, students in other two groups propose the following opinions: (1)The mink square-neck women’s coat doesn’t conform to the positioning “fashionable lovers-clothes”. Though it embodies the concept of fashion, it is unmatched with the men’s wear clothing. It must be adjusted. However, the drawing level of the style chart is high. It has fluent lines, suitable proportional structural configuration and element color matching, especially for the strong mink texture. It is deserved to be studied by us. (2)The style design of “fashionable lovers-clothes” should aim at young people, especially for college students. (3)Popular and fashionable elements in the series design are too conservative. If lovers-clothes can’t make people feel young, energetic and beautiful, it has no difference from common life dressing. (4)We think design of lovers-clothes should focus on entirety of men’s and women’s dress. It can’t make people have different opinions on the same clothing. Therefore, under the precondition of uniform style, detailed design of men’s and women’s dress is very important. For the style design of lovers-clothes, style similarity is too high, such as the same collar style, cut-off rule, and color scheme. It doesn’t stand out features of men’s and women’s dress. If the collar type is changed slightly and the turn-down collar of women’s dress is changed into a mandarin collar with the wide lotus leaf, or U-shape pucker is added in the front chest, the effects will be better. Such a comment mode between students exceeds the pre-set range of the *Course of Computer Aided Clothing Drawing*. It has a great role to develop students’ independent learning potentials.

**Summary**

The blended learning is a new-type teaching mode in the internet era. It reforms the traditional teaching in the industrial era and brings a new idea and means to course teaching. The learned learning based on the *Course of Computer Aided Clothing Drawing* achieves the teaching objective of cultivating students’ independent learning ability, confirms the new resource view and teaching view, and providing powerful support for deepening clothing design teaching reform by “integrating with micro-course online videos and motivating continuousness of independent learning; establishing post situations and training independent learning skills; reinforcing mutual cooperation
and building independent learning atmospheres, and carrying out comment mode between students and exploring independent learning potentials

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