ARCS 모델이 목판화 교수에 미치는 영향에 관한 연구

- 학습자의 학습동기 함양을 중심으로 -

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연구목적은 학습만족도, 학습투입 등 '학생 중심'인 고등교육의 질적 평가 지표는 대학생의 학습과 발전 영역에서 대학교육 과정을 탐구하는데 중요시 되고 있다(Luo, 2009). 목판 판화 학습과정에서 ARCS 모델을 적용하여 이러한 인수의 관계를 분석할 수 있으며, 교과과정 수업의 유효한 평가는 수업에 촉진작용을 일으킬 수 있다. 연구방법은 질적 연구법에서의 사례분석법을 적용하여 ARCS 모델 시행 후 대학 목판화 학습과정에 대한 관심도, 학습욕구, 학습신뢰, 학습만족도 현황을 연구하고, ARCS 모델의 실시는 수업 중 학습 동기의 발생, 동기의 전환 및 지속적 발전에 긍정적인 작용을 할 수 있다. 연구결과는 현재 미술대학의 미술교육에서 목판화 교사는 학생들의 감정과 심리에 대한 분석과 연구를 강화해야 하며, ARCS 모델을 채택할 수 있다면 교실 학습동기 확립을 체계적으로 안내하고 효과적인 교수법을 제시할 수 있다. 판화 교실 교수자는 수업시간 학생들의 정서 및 심리 분석과 연구를 강화하여 수업시간 동기 의식의 선도, 지속적 발전의 법칙을 파악하여 학생들의 사상인식을 과학적으로 유도하였다. ARCS 모델을 이용하여 수업시간 동기의 수립을 체계적으로 지도하며 목각 판화 교실 수업의 효율성만을 보장하였다. 교과목표 달성도가 보장되고, 학습자 중심의 교육이념이 구현되어 목판화 예술의 전통문화 계승에 중요한 역할을 할 수 있다.

주제어: 목각판화 과정, 학습동기, ARCS 모델, 학습자중심

I. Introduction

1. Research necessity

In the education of printmaking in Chinese university art disciplines, cultivating students' correct aesthetic cognition is a basic requirement for realizing the teaching goal of printmaking, which is one of the goals of higher art talent education. Among them, the effectiveness of professional lecture teaching is an important parameter to measure whether the discipline curriculum system is scientific and reasonable, and it is an important observation of the success of course teaching by judging the teachers' knowledgeability and lecturing ability. To achieve the goal of running a school and the goal of talent training in the new era, the core issue is to choose the corresponding teaching system and adjust and improve the curriculum system and curriculum structure. The quality of the teaching effect and the level of teaching quality are finally implemented in the course teaching(Huang, 2002).

As indicators of "student-centered" higher education quality assessment, professional satisfaction and commitment to learning have become key concepts for exploring the process of university education in the field of student learning and development(Luo et al., 2009). According to Bandura's self-efficacy theory, students' expectations and judgments of their abilities during learning activities influence their motivation, learning behaviors, and academic performance(Ferla, 2009). When students believe they are capable of completing a learning activity, they are more actively engaged in it, and their engagement in learning is higher(Sánchez et al., 2012) about motivational characteristics of learning are diverse.

The quality of college classroom education is reflected in the acceptance and understanding of teaching content by college students in classroom learning, as well as the mastery of knowledge through course practice. In this process, the cultivation of learning motivation is the key to the success or failure of teaching. Therefore, the

research on the guiding methods of college students' learning motivation is a problem that university educators must pay attention to. True motivation to learn is when the learner, not for external reasons of seeking rewards and showing off their achievements to others, but for the learning of course knowledge itself as an internally driven reason to try to understand and master the subject matter itself(Brophy, 1983). A study using the ARCS model in the learning process of woodcut printmaking courses can analyze the relationship between these factors and can contribute to the assessment of the effectiveness of course instruction. The implementation of the ARCS model can bring guidance to the occurrence, transformation, and continuous development of learning motivation in the curriculum. In this paper, the implementation process of the ARCS model in the classroom teaching of woodcut printmaking is studied as an effective way to explore the teaching reform of woodcut printmaking courses.

2. Research question

This paper takes the teaching of basic printmaking processes such as work appreciation, plate making, and printmaking in the classroom teaching of woodcut printmaking as a case study. By combining the principles of the ARCS (Attention, Relevance, Confidence, Satisfaction) model, students' classroom learning motivation is analyzed and studied from the dimensions of classroom professor's attention, relevance, students' sense of achievement in course learning, and satisfaction in classroom learning. The research questions are:

1) How to use the implementation principles of ARCS model to analyze students' learning needs, grasp personal learning interests, increase the attention of courses and courses, and promote learning motivation.

2) How to use the relevance principle of the ARCS model to mobilize teaching methods and systems to link the attention, self-confidence, satisfaction and other factors in the learning movement, so that learning motivation can be generated, developed and sustained.

3) How to use the principles of the ARCS model to establish the principle of self-confidence and improve learning satisfaction to generate learning motivation.

To find the principles and rules of students' psychological changes in the classroom learning of woodcut printmaking and use them as the focus of the research on the teaching reform of woodcut printmaking course so as to explore a new way to improve the quality of woodcut printmaking course.

II. Theoretical background

1. Definition of Woodcut Printmaking Course

Woodcut printmaking is visual art with a unique artistic way of thinking, which requires the creator to give full play to his or her personal imagination and creative ability, and can fully integrate personal emotions as well as personality in the artwork(Zhang, 2017). Therefore, a reasonable setting for teaching woodcut printmaking not only enables students to master the skill of woodcut printmaking but also cultivates students' creativity, innovation, practical operation, imagination, and comprehensive ability, etc., which is very helpful to cultivate students into composite talents(Shi, 2016). This shows that it is very necessary to set up woodcut printmaking teaching in colleges and universities, which is conducive to the realization of the talent training program(Wang, 2017), comprehensively promote the comprehensive ability of art students, and promote the effective inheritance and development of woodcut printmaking art.

2. Learning motivation

Motivation has long been a central topic of interest for educational psychologists. Motivation is considered to be a complex component of individual psychology and behavior that can influence the amount of time and energy an individual devotes to a given task, the feelings formed about the task, and the degree of persistence(Urdan, 2006). Motivation is the factor that energizes human activity and action, points the way to certain goals, and acts effectively to reach them and can be described as the psychological structures and processes that determine the level or intensity of an individual's behavior(Zheng, 2019).

Motivation for learning is the driving force that inspires the generation of learning, which enables learners to select tasks, work to solve them, and maintain patience and sustain learning even when they encounter difficulties in the learning process, and is considered a variable factor that needs to be highly valued in teaching-learning contexts(Han, 2004). In other words, motivation is the most basic and important variable factor in learning, which affects a variety of factors such as the learning process, outcome, and persistence(Shen, 2020).

1) Intrinsic motivation and extrinsic motivation

When studying motivation for learning, intrinsic motivation is the active acceptance of learning rather than execution. True motivation to learn is when the learner, not for external reasons of seeking rewards and showing off their achievements to others, but for the learning of course knowledge itself as an internally driven reason to try to understand and master the subject matter itself(Brophy, 1983). Intrinsic learning motivation is what students associate with their learning goals. That is, intrinsic learning motivation is the commitment to learning not out of external pressure but out of one's own interest; learning satisfaction(Li, 2014)

Extrinsic learning motivation is the motivation to learn that arises from the

expectations of evaluation by others around the student, the promise of rewards, and outside instructions when performing learning. In other words, extrinsic learning motivation is the motivation of students who are not interested in learning and perform learning with a certain purpose in order not to be rewarded or punished by others, or to achieve good grades and rewards and to satisfy others(Tang, 2018). Extrinsic motivation to learn is the external stimulus essential reward like a reward.

3. ARCS model

The "ARCS model" was proposed by Professor Keller of Florida State University in 1983(Keller, 1987). The ARCS model is designed to motivate learning through four levels of instruction(Fig. 1) : Attention, Relevance, Confidence, and Satisfaction(Chen, & Zeng, 2021). In teaching, motivation is often considered to be complex and difficult to understand. Therefore, it has been the concern of teachers and educational designers to simplify the structure of understanding motivation and to use the system for instruction that can enhance motivation. It is in this context that the ARCS model of motivation was developed in response to this need. According to the ARCS model of motivation, motivation has dual properties. It can be viewed as both a stable psychological need and a state triggered by an external context(Zhang, 2003). Therefore, we can influence motivation through the external environment.

The ARCS model of motivation begins with a structural elaboration of the four elements within motivation, namely Attention, Relevance, Confidence, and Satisfaction(Keller, 1987). Based on the structure of the ARCS model of
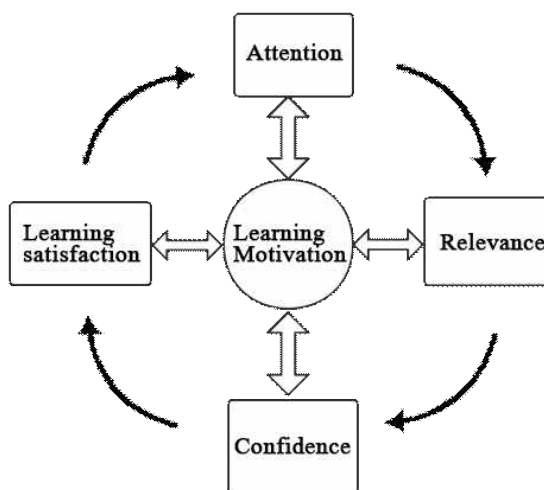
[Fig. 1] ARCS Model

motivation, one can then design a series of insructional guides that stimulate learners′ motivation to learn.

The four elements of the ARCS model of motivation interact with each other, for example, the learner′s attention to a knowledge point can stimulate learning motivation, and the generation of learning motivation can, in turn, promote attention to the knowledge point. Besides, there are also direct, or indirect correlations between the four elements, such as learners′ learning confidence in a learning task can improve learners′ learning satisfaction(Duan, 2018). See the figure for details.

1) Learning attention

Specifically, attention is a prerequisite for learning, and in order to be motivated, the learner′s interest in learning must be aroused so that the learner′s attention is directed to the specific learning task. It is also important to keep the learner′s attention in a balanced state so that the learner does not feel either overexcited or bored(Keller, 1987). Attention is the primary factor that stimulates and sustains motivation to learn. It refers to instruction that not only arouses curiosity in students but also sustains it over time. Only when students are interested in the teacher′s teaching can their curiosity be aroused. Only then can there be continued learning, so that attention is also a prerequisite for effective learning. Attention includes both intentional and unintentional attention and has the characteristics of direction and concentration. Teachers can arouse learners′ curiosity to learn by presenting novel and varied instructional designs. For teachers, teaching is not only about getting learners′ attention but also about having methods and techniques to sustain learners′ attention over time(Yu, 2020).

2) Learning relevance

Relevance refers to the learner′s perceptual process of learning to communicate the satisfaction of the need for peers, the sense of accomplishment that comes from the

results of learning, the degree to which the learner feels that the learning activity is relevant to him or her, the ability to realize the value of the learning content to him or her, and the further maintenance of interest in learning(Keller, 1987). Relevance is the second core element of the ARCS model. In this context, relevance can be the alignment of the learning activity itself with the needs of the learner. For example, the learning exchange during the learning process satisfies the need for peers and thus enhances motivation, or the success of the learning outcome satisfies the learner's sense of accomplishment, or the learning content is related to the learner's existing experience(Duan, 2018), "Why should I learn this content? What does it have to do with my learning goals?" According to expectation and value theory, the higher the relevance of learners' learning goals to the learning content, the more learners can show greater interest in learning, which can also motivate the positive development of learning motivation. Therefore, teachers can make students feel the relevance of what they have learned by relating it to things that learners are familiar with when they are designing instruction(Yu, 2020).

3) Learning confidence

Confidence is the belief in oneself that one has a certain reserve of knowledge and experience and that one is able to accomplish learning tasks. Confidence is a psychological tendency to achieve a positive expression of self-worth. Attention-getting and knowledge relevance can only be useful if students are confident in their learning. Therefore, teachers should get and keep students motivated to learn by developing their confidence, which is one aspect of the term-effect theory, that is, whether I am capable of doing this. When students themselves gradually realize that they are capable of completing their learning tasks, they are willing to put in the effort to continue learning. Otherwise, they will not be able to achieve successful cognitive activities and are likely to give up their studies(Yu, 2020).

4) Learning satisfaction

Learning Satisfaction refers to the learner's feelings and reactions to the learning as a whole, which come from the learning outcome, that is, whether the learning outcome meets the learner's needs and whether the learning experience is enjoyable for the learner(Wang, 2020). Learning Satisfaction also refers to how satisfied learners are with their learning outcomes after completing their learning(Zhang, 2003). In the late 20th century, it was pointed out that among all the attitudinal structures of learners, learner satisfaction is the most studied and is very important in the field of academic research(Paul et al., 1997). Learner satisfaction reflects learners' learning experience, is an important indicator of learning program performance and learning outcomes, and is closely related to students' persistence and success in learning(Jun & Liao, 2011) High earning satisfaction will lead to higher student enrollment and completion rates of study courses, avoiding students' dissatisfaction at the beginning of their studies and their inability to persist, thus leading to low learning persistence(Zhou, 2018). The results of the student satisfaction assessment can accurately reflect where students' expectations have not been met, discover the distribution characteristics and problems of college students' learning satisfaction, and provide information reference for improving college students' satisfaction and cultivation quality(Liu. 2014). It is one of the criteria to measure the effectiveness of the quality of university course education. Therefore, course learning satisfaction is an objective response to how college students learn in the classroom. The level of satisfaction is also an objective reflection of the quality of course teaching.

4. The role of the ARCS model in woodcut printmaking courses

1) The role of the ARCS model of attention in guiding learning motivation

Implementing the ARCS model in the process of student printmaking learning can play

a very important role. When teaching printmaking, students' lack of knowledge about printmaking before the class can cause a lack of interest in learning and an inability to form the necessary sense of focus on learning, making the course taught with undesirable learning phenomena such as skipping class, sleeping, inattentiveness and engaging in things unrelated to the course, which seriously affects the arrangement and implementation of course teaching. In order to change this situation, it is necessary to increase students' interest in printmaking in many ways and to improve students' attention to learning so that students' minds are focused on the content of the course. The methods adopted include: teachers should strengthen pre-course guidance, increase the introduction of printmaking course content, and promote printmaking works to students in various ways. Secondly, using the special characteristics of the printmaking process, giving full play to the characteristics of printmaking materials, the fun of making, etc., so that students can appreciate the importance of printmaking, can stimulate students' interest in learning.

2) The role of ARCS model correlation in printmaking learning

Students' understanding of the purpose and content of the course before learning woodcut printmaking comes mainly from the introduction of professional teachers before the class and the impressions generated by other media publicity. And students will generate thought resonance through the influence of these external environmental stimuli and will form a certain interest to cause attention in the initial stage of the course learning. As the learning content progresses and the difficulty of knowledge increases, it will cause students to feel frustrated, and their original interest in learning will decrease, leading to a decrease in motivation. With the help of the correlation principle of the ARCS model, we analyze students' feelings about the images and make effective suggestions from their own needs. Reinforcing the introduction of the aesthetic language of printmaking in the course, strengthening the teacher's demonstration of techniques and the illustration of relevant principles. For example, Teacher explain that excellent work is produced by accumulating many aspects and that students can reach their desired goals

through learning. "You do your best when you study, and the results will be rewarded in direct proportion to your effort." Build students' self-confidence and motivate continued learning through motivational language. Teachers should also be careful to grasp the guidance of learning concerns in the process of using the principle of motivational relevance. Students need to expand their interest goals in the classroom so that they are not limited to a single point of knowledge or practical exercises but have a broader experience and exploration of the art world of printmaking and learn more from it. In addition, the principle of relevance can be used to encourage students to continue to advance in their studies by using the achievement of assignments in the learning process as a condition for more pleasure in the learning process, which translates emotionally into motivation to continue learning and drives students to continue their academic content studies.

3) The role of self-confidence in printmaking learning in the ARCS model

In woodcut printmaking courses, students' self-recognition comes from feedback on course work and teacher recognition. Therefore, the quality of work completed affects the individual student's motivation to continue learning. Thus, the teacher should reasonably arrange the assessment during the course to continuously help students to improve the quality of homework completion. At the same time, it is also necessary to judge the grades according to the principle of encouragement, to see the excellent performance in students' assignments, to affirm the quality of students' learning, so that students' self-confidence is constantly strengthened, and to help them establish the determination to complete their studies, thus bringing a boost to the continuation of learning motivation.

4) The role of learning satisfaction in printmaking learning in the ARCS model

The results of habituation and research indicate that learning motivation has a direct or indirect effect on learning outcomes. Learning motivation is the learner's will to work

for learning activities, and learning satisfaction is the degree of satisfaction shown by learning expectations perceived by learning motivation(Ha, 2007). Motivation is an important determinant of learning persistence and intensity and is an important variable in increasing engagement, learning satisfaction, and academic achievement(Ha & Ha, 2011). According to a related investigation, it was found that the higher the activity-oriented motivation and learning-oriented motivation, the higher the satisfaction. This shows that the performance of students' classroom satisfaction in the learning of woodcut printmaking course leads to the continuation of learning motivation.

5. The problem of learning motivation in teaching woodcut printmaking

1) Lack of interest in learning makes the course less attention-grabbing

In the teaching of printmaking in college art education, students' interest in learning is a very important factor. However, as far as the current situation of printmaking teaching is concerned, students' lack of interest in learning printmaking also results in a low level of attention to the course. There are three main reasons for students' lack of interest in learning. First, students do not have a clear meaning of learning printmaking when they first learn the content of printmaking, and they encounter great resistance in the learning process of printmaking, which leads to a loss of confidence in learning, and thus they are no longer willing to continue the learning of printmaking. Secondly, the production and creation of prints is very complex and requires a strong sense of transformation and creativity from students. As a result, students are not able to follow the teacher's thinking closely when they are doing printmaking, which makes a break in learning thinking and a loss of interest in printmaking. Thirdly, it is the conservative way of classroom teaching, making printmaking teaching style very single, and the learning atmosphere is very boring and unable to mobilize students' learning enthusiasm.

2) The Conservative teaching style and lack of classroom teaching tools prevent motivation to learn

The teaching of printmaking in college art education usually starts with basic courses such as color and drawing. The content of these basic courses is mainly an extension of the study for the entrance examination. Although the object of copying has changed in printmaking teaching, and there are higher requirements for students′ skill level, the mode of teaching has not changed and is still relatively traditional. Students usually feel very dull when learning the theory of printmaking courses. This is due to the fact that the teaching method of printmaking theory is single, which makes students not motivated to learn printmaking and thus not active in innovation. The lack of development of students′ creative thinking will lead to the inability of printmaking teaching to proceed in-depth.

3) Students have low self-confidence and lack enthusiasm for learning

The student′s pre-enrollment application usually determines the choice of a student′s discipline in general university art education. In most of the students′ voluntary applications, the focus of choice is often on the key majors of the school they are applying to. The choice of majors that they do not know is often not made, making most of the students with good grades and psychological perfection flow to these majors. As for the relatively unpopular printmaking program, the number of outstanding students admitted is relatively small, and most of the students recruited are only at an intermediate level of performance in the entrance examination. This, coupled with the lack of knowledge about the major when students enter the printmaking discipline and the influence of their performance in the entrance exam, puts them at a lower stage of recognizing their personal learning achievements and creates a lack of confidence in learning. This situation seriously affects the motivation to study and creates a situation where motivation is difficult to mobilize in professional courses.

Ⅲ. The implementation of ARCS model in the Chinese woodcut printing course

This paper takes the woodcut printing course teaching of a university in Nanning as an example, tries to study the role of learning motivation in the course teaching, in order to study the role of ARCS Model in stimulating learning motivation in woodcut printing course.

1. Research object time and location

This paper takes 30 students majoring in fine arts from a four-year undergraduate art university in Nanning, Guangxi, China as the research objects. The research period is from November 9 to December 23, 2020(A total of 6 weeks and 126 class hours). Students have classes from 1 to 5 am every week, 4 hours each time, of which the teacher's teaching or demonstration hours are in the first four classes of week 1 and week 5(48 hours in 6 weeks); Learning content is divided into three stages, and students learning theoretical study is arranged in groups of 4, and individual practice is required. In the theoretical study, the discussion time of each group is: 2 class hours for each group, a total of 24 class hours, and the practice time is 6 weeks and 72 class hours.

2. Research process

1) Research stage

The research is divided into two parts, the first part is teaching and learning, the second part is after-school interview and questionnaire survey. The whole course

teaching section is divided into three stages. This paper takes the woodcut printing course teaching of sophomores majoring in fine arts as an example to teach the course content from easy to complex. In addition to figure analysis, teachers also require students to discuss, strengthen knowledge understanding, deepen students′ understanding of learning objectives and standards, and stimulate their desire for learning. Therefore, students can generate and continue learning motivation.

2) Woodcut printing course

During the first lecture of the first stage(The first week, 8 lecture hours, 12 students discussion hours), a class of 20 students. to [Fig. 2]. The teacher presents the class content through PowerPoint and introduces the teacher′s works. According to the development history and achievements of Chinese traditional woodcut in different periods, the teacher introduces the students to the basic knowledge of woodcut. Then, the teacher selects specific representative works to introduce the unique artistic characteristics and aesthetic value of traditional woodcut to the students from the historical background, figure theme, story background, figure composition, image building and expression language, and shows the different figures of modern woodcut to the students by analogy and comparison. Therefore, students can intuitively find the difference between woodcut and other paintings, distinguish these two different characteristics to leave a clear impression on students.

[Fig. 2] Teacher introduction

[Fig. 3] Instructing the making of printmaking base plate

[Fig. 4] Making and printing tools for making prints

The second lecture of the first stage(In the second week, 4 hours of teaching, 8 hours of demonstration, 2 hours of discussion and 8 hours of practice), ([Fig. 3] to [Fig. 4]). the teacher presents the class content through PowerPoint, and the teacher dispd explains the original works, and demonstrates them on site. Then, the paper introduces the plate making and engraving technology of woodcut, including the selection of materials and the process of plate making, selection of wood, leveling of wood surface, polishing of base plate, painting or waxing, painting, drafting, etc; In addition, when the teacher introduces the engraving process, he should explalays anin and demonstrate the selection of the cutting tool, the shape and use of the cutting tool, the method and function of the cutting tool, and the method and principle of engraving and making figures on the layout. Teachers should understand the difficulties encountered by students, repeatedly emphasize the key content, and strive to make students understand the basic knowledge of the major. In the whole teaching, in addition to the teacher's demonstration, students should also participate in every step of the production process, and experience the charm of craft production from the specific practice.

[Fig. 5] The bottom plate and finished print

[Fig. 6] Prints process of practice completion

[Fig. 7] Teacher evaluation

[Fig. 8] Comment at the end of the course

The third lecture of the first stage(In the third week, 4 hours of teaching, 8 hours of demonstration, 2 hours of discussion and 8 hours of practice), to [Fig. 5]. The teacher presents the class content, introduces the screen printing products, on-site demonstration, etc., and introduces the printing technology of woodcut panel painting, including the selection of paper, cutting technology, ink selection, blending process, inking and brushing, plate matching, paper unloading and hand pressing, transfer the finished woodcut layout

to paper, and finally complete the production of a woodcut.

In this process, teachers should encourage students to actively participate in the process. Therefore, students can understand the basic knowledge, obtain the satisfaction of curriculum knowledge learning, and stimulate students′ internal learning motivation.

The first course of the second stage(In the fourth week, 4 hours of teaching, 2 hours of discussion, 14 hours of practice and 1 hour of interview after class). In the first stage of teaching, after the teacher introduces the production process of traditional Chinese woodcut, let the students practice. First of all, the teacher should select the appropriate copy samples of famous paintings from the database, and then the students choose the samples according to their personal preferences for copying practice(14 class hours) to [Fig. 6].

Students make one copy every week, and the final assignment is retained as the course evaluation assignment. In this process, due to the lack of students′ operating experience, there are many mistakes in engraving and printing, which will reduce the enthusiasm of students in classroom learning. In this regard, due to the frustration of students in practice, they will reduce their satisfaction with the course learning, and then affect their learning motivation.

The second course of the second stage(In the fifth week, 4 teaching hours, 2 discussion hours, 14 practice hours and 1 interview hour) to [Fig. 7].

According to the previous teaching feedback, teachers should take different teaching methods according to different students, explain the operation error again, and explain the operation and demonstration again. At the same time, teachers can use PowerPoint to present the content and excellent homework samples of previous students. The teacher can compare the error samples and models of 2–3 students, analyze and explain the problems repeatedly, correct the errors, motivate the students, and recommend the students to practice again and achieve results. The third lecture of the first stage(In the third week, 4 hours of teaching, 8 hours of demonstration, 2 hours of discussion and 8 hours of practice). The teacher presents the class content, introduces the screen printing products, on-site demonstration, etc., and introduces the printing technology of woodcut panel painting, including the selection of paper, cutting technology, ink selection, blending

process, inking and brushing, plate matching, paper unloading and hand pressing, transfer the finished woodcut layout to paper, and finally complete the production of a woodcut.

In this process, how to make students more willing to accept knowledge is a difficult point, which is inseparable from the teacher's repeated demonstration and continuous teaching.

The third stage, the last week of this teaching(The sixth week, 8 teaching hours, 10 practice hours and 2 discussion hours) to [Fig. 8].

Teachers focus on the first and second stage of the course homework, and present the content and students' homework through the PowerPoint screen, sort out the knowledge difficulties in the course content, and affirm the professional abilities that students have achieved in different stages.

Therefore, students' stage achievement in the sense of academic achievement can enhance their enthusiasm for follow-up learning and make their learning motivation clearer. At the same time, the teacher can compare the students' homework, explain the common knowledge difficulties, and then encourage the students to practice.

In the final stage of the course, the teacher should not only affirm the basic knowledge of the students, but also put forward further requirements for the content of the course: according to the technical knowledge and operation skills learned earlier, the students should further practice woodcut engraving. The course goal is to request students master, understand, and use the aesthetic styles of traditional Chinese painting, combined with traditional woodcut engraving production technology to carry out creative figure performance; Through the course study, the students' artistic creation thinking and technique performance ability are improved. At the same time, students have a better understanding of the characteristics of traditional Chinese art, which paves the way for the follow-up woodcut printing course.

3) Course interviews and open-ended questionnaire distribution in print courses

In the process of teaching the woodcut print course, the effect of the application of the

ARCS model in the course can be reflected in the quality of the students' completed picture work, as shown in ([Fig. 6] and [Fig. 22]. However, in order to get a more comprehensive understanding of the students' acceptance and understanding of the knowledge in the course after the implementation of the motivation model, a post-class interview and an open-ended questionnaire were also arranged for the survey. The interviews were scheduled for one hour at the end of the teaching phase of the course (3 hours in total for the three phases) and were conducted in person in the classroom with two volunteers selected from the course learners. From the three dimensions of students' cognition, behavior, and performance, the questions of the conversation were made, involving seven questions: students' difficulties in stage learning, students' points of interest in course learning, students' expectations for the completion of the picture, students' sense of accomplishment for the success of course practice, students' expectations for further learning, student's satisfaction with the teaching materials, and students' expectations on the way of teacher guidance. During the conversation, the teacher has a textual record of the content of the student talker as a teaching note a textual reference material for the pedagogue to keep track of the course progress and improve the teaching methods [Fig. 9 to Fig. 12].

In addition, at the end of the course, the instructor distributed an open-ended questionnaire to the course learners at the end of the final lecture, asking questions about the acceptance of knowledge in the 3 stages of the course, with a total of 5 questions, which the students were asked to fill in and complete in class and then. Moreover, the analysis of the questionnaire verifies that the role of learning motivation plays an important role in optimizing the quality of the course after the implementation of the ARCS motivation model in the teaching of a woodcut print. As in the illustration [Fig. 13-Fig. 16].
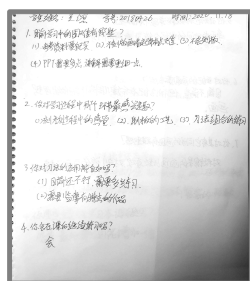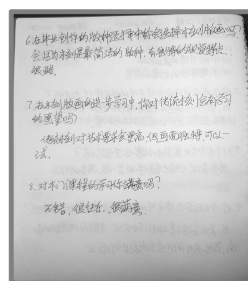
[Fig. 9] Records of the teacher's interviews with the learners after the phased lectures are over 1
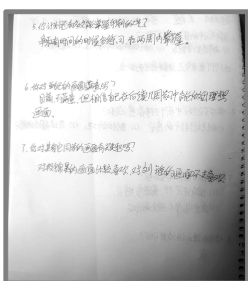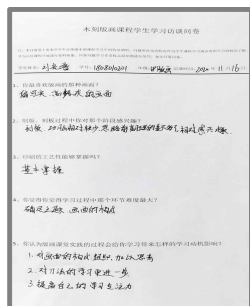
[Fig. 10] Records of the teacher's interviews with the learners after the phased lectures are over 2
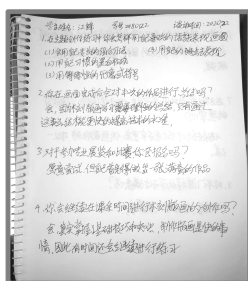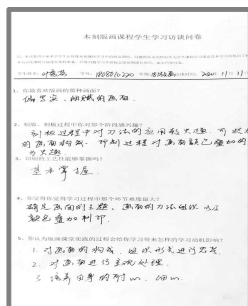
[Fig. 11] Records of the teacher's interviews with the learners after the phased lectures are over 3
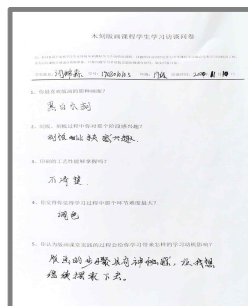
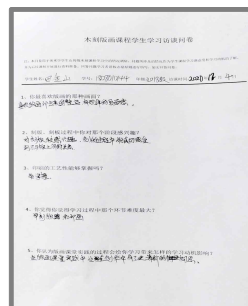[Fig. 12] Records of the teacher's interviews with the learners after the phased lectures are over 4

[Fig. 13] Questionnaire sent by the teacher to the learners after the lecture 1

[Fig. 14] Questionnaire sent by the teacher to the learners after the lecture 2

[Fig. 15] Questionnaire sent by the teacher to the learners after the lecture 3

[Fig. 16] Questionnaire sent by the teacher to the learners after the lecture 4

Ⅳ. Results

According to the performance of students' learning emotions and learning behaviors in the process of woodcut teaching, we can see that inspiration, persistence and development of students' classroom learning motivation is in line with the principle of ARCS model,

and the quality of course learning has a positive effect. Therefore, this paper explains the rationality of the model in the course teaching from the perspective of ARCS model.

1. The purpose of the implementation of ARCS model correlation in art class

In class, if the students can't answer, "why should I study this?", this course doesn't mean anything to the students. When students are convinced that the course is good for them, they will strive to learn the course. In order to stimulate students' learning motivation, teachers need to connect the curriculum with students' environment, interest and purpose, and establish relevant links(Cui & Kim, 2019). In the woodcut printing course, in addition to some students have learned it, most of the students' learning goals and self-needs need to be inspired and guided. Teachers must start from the external environment of students, consider the students' learning needs, acceptable curriculum content and learning convenience. According to students' thinking habits, aesthetic hobbies, interests and personal learning value, teachers should introduce and publicize the artistic uniqueness and technological particularity of woodcut to students by various media means, so as to attract students' learning attention. Therefore, students can think about the benefits of learning from their own perspective, think about what students can do after learning, and inspire students to solve their needs through participation in learning. In this process, students will have internal motivation to learn, so as to actively cooperate with teaching.
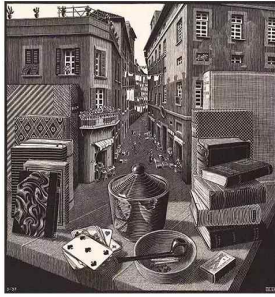
2. The effect of the ARCS model in stage of the woodcut printing course

1) The effect of ARCS model in the first stage of woodcut printing course

In the first stage of the course, the teacher starting from the students′ learning needs, through PPT and the introduction of woodcut printing works, so that students can understand the woodcut printing, and contact the painting, have curiosity about the teaching content of the course, trigger learning interest. At the same time, because students want to complete the role, they must participate in curriculum learning and pay attention to curriculum learning.

For example: on the left side is the work of the Dutch surreal master Escher, which is woodcut. On the screen, it exaggerates the combination of real life objects and life scenes, so as to produce a new spatial relationship, bring visual impact, and make the audience have a different visual experience; In addition, in the figure, the use of woodcut techniques and the exquisite performance of woodcut technology also make viewers marvel at the master′s techniques. The figure on the right is the self-portrait of the famous woodcut printmaker Kollwitz, one of the most famous self-portraits in the history of woodcut printing in the world. It shows the artist′s face and spiritual world through strong black-and-white contrast and simple modeling. With expressionism characteristics of knife and simple figure features, the audience has a strong visual impact and psychological hint, which is unforgettable. Therefore, it has become a classic in woodcut art ([Fig. 17] to [Fig. 18]).

Through the introduction of famous woodcut printing works to students, the teacher should stimulate students′ interest in learning engraving and take learning engraving as a necessary knowledge. They are very active in the classroom, widely discuss and use mobile phones to collect relevant knowledge from the network, the pre-class learning atmosphere is active, and the teacher mobilize students′ learning motivation.

[Fig. 17] Still life with street woodcut Escher prints

[Fig. 18] Self—portrait woodcut Kollwitz prints
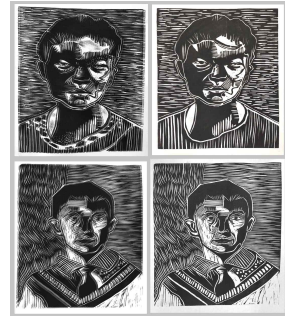
(a) Failed print   (b) Corrected print
[Fig. 19] Students' practical works.

2) The effect of ARCS model in the second stage of woodcut printing course

In the course, teachers use of the ARCS model to gradually solve the students' difficulties in the classroom. Students regain confidence in learning and will continue to learn and practice. After being honed, students will continue to drive their motivation, continue to learn, which provides a guarantee for the follow-up teaching.

The completion of homework is the main factor that affects students recognition of self-worth in the course. As shown in the figure ([Fig. 19-a]), the students' unfamiliarity with the craftsmanship causes the completed assignments fail to meet their own expectations. However, if teachers adopt the principle of relevance heuristics to encourage and guide students, then students will start to think about their own shortcomings, and through the teacher's analysis, find solutions, re-practice, and achieve success at last, as shown in the left figure. The left side of the figure is the result of the first woodcut printing after the student finished the woodcut. For their lack of experience, coupled with the difficulty of the craftsmanship, most students will have printing blur (printing term: out of register), which be painful to them and will seriously affect the students' enthusiasm for learning and participation in classroom actions. It will even make students doubt their self-worth, which seriously affects course teaching.

In response to these situations, first of all, teachers should immediately find out the key factors that lead to students' errors, and use the principle of relevance in the ARCS model

to analyze students′ experience and production capabilities, and answer the errors in operation.

By doing so, students can find out the cause of the problem and find a solution to the problem. Secondly, on the basis of the behavioral requirements for participating in the course, teachers need to give students affirmation during the production process. Teachers need to find the merits from the students′ thinking and production experience, and give them encouragement, so that students can re-evaluate their abilities in the failed homework, build confidence, correct the original mistakes, and meet the teaching requirements. For example ([Fig. 19-b]): the right side of the figure is the homework that students reprinted with the help and encouragement of the teacher. The original mistakes in the homework have been corrected, and the reproduction effect of the figure is complete, clear, and tidy, which meets the requirements of the standard woodcut printing technology, which reflects the phased results of the course. In addition, after the completion of the course at this stage, students will gain a certain sense of learning achievement in the process of completing the work. This kind of spiritual motivation will bring a sense of joy to learning, stimulate personal learning motivation, and better participate in follow-up learning.

3) The effect of ARCS model the third stage of woodcut printing course

In the third stage of the course implementation, students need to learn the principles of woodcut figures and woodcut printing techniques. At the stage of proposition exercises, the principle of relevance of learning motivation continues to play a role. In the professional practice at the learning stage of the previous course, students have acquired knowledge and mastered some skills. After students have achieved satisfaction and self-confidence in learning, they will automatically pay attention to the new course content. Therefore, students′ desire to learn is further improved, which also improves the coordination of course teaching and continuously strengthens the continuity of learning motivation. The specific performance is shown in the figures ([Fig. 20] to [Fig. 22]).

Students can produce different styles of woodcut printing according to their personal preferences. They can actively participate in various woodcut printing exhibitions and receive honors. Therefore, they can satisfy their personal sense of achievement in learning, strengthen their confidence in learning, and achieve greater self-recognition. They will form a preference for their attention to the study of woodcut printing. When their internal learning motivation and external learning motivation play a role at the same time, they can carry out professional exploration and learning independently. In addition, they can participate in art exhibitions, art, culture, and art business activities to realize their value. Therefore, they can fully meet the requirements and objectives of the woodcut printing course, and also provide fresh blood for the development of woodcut printing.

[Fig. 20] Woodcut, the seaside watchman by Lu Shengshe (陸聲設)

[Fig.21] 2019 International Printmaking, Shen zhen (深圳). Guanlan (觀瀾) in China

[Fig.22] Woodcut, quiet landscape by Chen Wanzhe (陳萬哲)

4) The role of staged in-depth interviews for feedback on learning motivation

At the end of the first phase of instruction, students were motivated by the ARCS model, and the classroom learning atmosphere was active and enthusiastic. The interaction between motivation-generating elements such as students' attention, relatedness, learning confidence, and learning satisfaction was evident, and active participation in the interview of the instruction occurred. During the teacher interview

process, the interview questions are set from the dimensions of learners' cognitive, behavioral, and practical performance in the process of question formulation based on the content of the learning knowledge of the stage. In the interview process, considering the students' boredom with excessive questioning and the constraints of the interview environment, only seven questions were arranged for each phase of the interview (Example, [Fig. 9] to [Fig. 16]). :

① What are the current learning difficulties?

② Which part of the learning process interests you the most?

③ Have you mastered the skills of using the woodcutting knife?

④ Do you practice your skills after class?

⑤ Are you satisfied with your own picture?

⑥ Do you like other students' pictures?

⑦ Are you satisfied with this course?

In the course of the interview, students showed an urgent need for learning in their answers to questions ① and ②, and made clear comments from the perspectives of learning materials, painting language, and craft skills, reflecting that in the initial course, students' concern for knowledge understanding was at a high level, with intrinsically motivated driving characteristics. In answering questions ③ and ④, students further reflected the role of learning concern and relevance. They demonstrated enthusiasm for continuous learning in the course, providing an objective reference for learning motivation development. In contrast, the process of answering questions ⑤, ⑥ and ⑦ directly reflected students' satisfaction with teaching methods, teaching materials, teaching approaches, and self-learning. The student's own self-confidence situation is reflected in the student's response to questions ⑤ and ⑥ in the conversation, especially when talking about the satisfaction of the student's own picture, the answer received is a negative result, which shows the objectivity of the student's self-approval and reflects that the satisfaction of learning is linked to the academic expectations of the self, which provides continuous conscious preparation for the development of learning motivation.

5) The role of open-ended questionnaires after the completion of ARCS model implementation

The feedback and summary of the teaching process at the end stage of the woodcut printmaking course is a guarantee for subsequent teaching. The open-ended questionnaire is a way to test the effectiveness of student motivation after implementing the ARCS model. Therefore, in the process of questionnaire design, five questions were listed as questionnaire items according to the degree of feedback on the student screen, starting from the dimensions of learning needs, cognitive acceptance, and course satisfaction, and the questionnaire was given to students in an open-ended response format for writing, as a way, to test the effectiveness of the implementation of the learning motivation model. The questions on the questionnaire were :

① Which style of printmaking do you like the most?

② Which part of the process of plate making and engraving is most interesting to you?

③ Can you master the process of printing?

④ Which part of the learning process do you think is the most difficult?

⑤ How do you think the process of printmaking classroom practice has influenced your motivation?

This questionnaire was distributed in the lecture class. On the premise of voluntary participation, students were asked to complete it on the spot truthfully as a test of the effectiveness of the ARCS model in the course implementation. In the process of completing the questionnaire, students were more specific in filling in their responses to questions ② and ⑤. The main reason for this is the students′ sense of gaining practical experience in the learning process, which leads to the re-emergence of the experience of learning accomplishment in the process of answering the questions. This gives them the perception of learning satisfaction, and the occurrence of this perception leads to the continuation of learning motivation. And in the process of answering question ①, students′ attention is reflected in the language of a specific picture. This type of picture is usually of a delicate and refined style, which requires years of accumulation to achieve, thus reflecting the increasing demands of students′ learning, their progress in

understanding the picture, and their increasing attention to learning, which is a sign of continuous development of learning motivation. In the process of answering questions (3) and (4), students were very positive about the results of a question (3). This result reflects the students' ability to master the course knowledge, which indicates that the guidance of the ARCS model in the course teaching can make the students accept the relevant knowledge actively and reflects the important role of learning motivation in the course learning. In the response to question 4, students gave different answers to the questions, showing that they had a certain mastery of knowledge after the course and could make an objective analysis according to their own situation. This shows that after the implementation of the ARCS model in the course, students have a clear direction of their needs, and the direction of their attention is not as blind and disorganized as it was at the beginning of the course. It has a continuous impact on the continuous occurrence of motivation.

V. Conclusion

In contemporary university art education, school management and teacher teaching should pay attention to students. We should listen to students' ideas and opinions in a timely manner, and monitor the changes in students' learning psychology and learning satisfaction in different grades. We need to guide, manage and support students with different statuses and needs(Chen & Fan, 2021). In addition, from the perspective of the construction of the internal psychological environment, we pay attention to the needs of students and students, and between teachers and students, and emphasize the need for democratic and harmonious interpersonal relationships. We need to let students experience a sense of security and belonging, which can stimulate students to learn actively Motivation(Wang & Fu, 2018). Only by meeting the needs of students can their learning

motivation be further improved, and students can develop in a stable and healthy manner.

In conclusion, in the current art university education of fine arts, woodcut printing teachers should strengthen the analysis and research of students on their emotions and psychology, and grasp the laws of continuous development and guidance of classroom learning motivation. Teachers should guide students′ ideological cognition. If the ARCS model can be used, it can systematically guide the establishment of classroom learning motivation and bring effective teaching. It provides practicable methods for students′ participation in learning and autonomy of learning motivation to ensure the realization of course teaching objectives. This can improve the quality of woodcut printing education courses and play an important role in the inheritance of woodcut printing art.

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Abstract

A Study on the Effect of the ARCS Model on Woodcut Teaching
- Focused on Cultivating Learning Motivation in a Learner's Course -

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Objectives: As indicators of "student-centered" higher education quality assessment, professional satisfaction and engagement in learning have become key concepts in the exploration of the university education process in the field of university student learning and development(Luo, 2009). By using the ARCS model in the woodcut course, the relationship between these factors can be analyzed and can contribute to the evaluation of the effectiveness of the course.

Methods: This study used qualitative analysis and case studies to study the current situation of learning concern, learning needs, learning confidence, and learning satisfaction in the university woodcut learning course after implementing the ARCS model and investigating the correlation between learning motivation and its development.

Results: In the current art university education of fine arts, woodcut printing teachers should strengthen the analysis and research of students on their emotions and psychology. By using the ARCS motivation development model in the woodcut course, the relationship between these factors can be analyzed and can contribute to the evaluation of the effectiveness of the course. Implementing the ARCS model can mㅈake the establishment of classroom learning motivation provide systematic guidance. The concept of learner-centered education can be reflected, and the inherit nature of the art of woodcut plays an important role.

Key Words: Woodcut Printmaking, Learning Motivation, ARCS Model, Learner-centered.

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