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Original Research Article

Investigation and Discussion of Experiential Learning Models Based on Middle School Geography Subjects

Zhang Yong[1*], Zhang Lirong[1]

[1]School of Earth Science and Space Information Engineering, Hunan University of Science and Technology, Hunan, China

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***Corresponding author:** Zhang Yong
School of Earth Science and Space Information Engineering, Hunan University of Science and Technology, Hunan, China

Abstract

Adapting to the requirements of the new curriculum reform of secondary school geography, the experiential learning mode can change the traditional secondary school geography learning mode of the students, so that the students really become the main body of the classroom and take the initiative to learn, so that they can get intuitive and real feelings in learning and develop their geography core literacy in this way, this paper tries to understand the actual situation of the application of experiential learning concepts in secondary schools by the field survey and on this basis, we carry out a corresponding Discussion Interviews with five geography teachers and questionnaires from 206 students in two secondary schools in Hunan A and B show that: most students have a good relationship with their geography teachers; most students like the subject of geography; more than half of the students think that the difficulty of geography is average, but 35.3% of the students think that it is challenging to learn geography; the students' ability to learn independently is weak, and only 17.4% of the students often do pre-study before class; and the students' ability to learn by themselves is weak, and only 17.4% of the students often do pre-study before class. Students are less capable of independent learning, with only 17.4% of them regularly doing pre-study before class; the majority of teachers still adopt the traditional teaching mode, which is mainly based on lecturing; nearly half of the students think that the best way to learn is to acquire knowledge through practical activities, and very few students have participated in classroom inquiry activities. Therefore, setting clear goals for teaching activities is an essential guarantee that experiential learning will not become a mere formality; in experiential activities, guiding students in a timely and effective manner will significantly improve the efficiency of experiential learning activities, and avoiding a single evaluation of the feedback of teaching activities. Diversified evaluations can only highlight the effect of experiential learning.

Keywords: Experiential learning model; secondary school geography; geography core literacy.

INTRODUCTION

Experiential learning originated from the American educator Dewey's experiential learning, and experiential learning was first embodied in the 1940s in the emergence of the "expansion training" management training mode, a U.S. high school headmaster Pete will be "expansion training." this management training mode Used in school education, he combined it with the existing school education system, for education to open up new ideas and areas (Lin, 2012). Experiential learning is learner-centered, focusing on providing learners with actual or simulated situations and activities, transforming abstract knowledge, values, and emotional attitudes into experiential facts of life, stressing the importance of students' experience as the focus of their own lives, and a way of learning through a combination of practice and reflection to obtain the meaning of knowledge (Shen, 2019).

Teaching based on the concept of experiential learning means that teachers actively create teaching situations, guide students from passive to active, from dependence to autonomy, from receptive to the creative experience of educational situations, and in the experience, will learn to avoid, overcome and transform the negative emotions and misconceptions, development, enjoyment and the use of positive emotions and correct understanding, so that students can fully feel the joy and pleasure embedded in such teaching activities. The result will enable students to fully feel the joy and pleasure embedded in this kind of teaching and learning activities and thus achieve the purpose of promoting students' independent development. Experiential learning in the

classroom as teachers and students through a variety of contextual experiences to implement classroom teaching activities is the "situation" as the medium, to "experience activities" as a means, the core is to students independent learning, hands-on, simulation, intuitive feeling, and other activities, to obtain sensory materials. The core is the student's independent learning, hands-on, simulation, intuitive feeling and other activities, access to perceptual materials as the basis for thinking activities, and understanding abstract concepts and theoretical methods (Xing *et al*., 2016).

David Kolb represents experiential learning theory, which believes learning is not simply acquiring knowledge. However, reflecting on the active perception and experience, internalizing the image of concrete perception into abstract knowledge that can be shared and transferred, and ultimately learning to use it in a new environment. The teaching design based on experiential learning creates conditions for students to learn experientially from the perspective of the teacher's teaching.

Research on experiential learning in China started late, and there was only a little literature on experiential learning before 2000. 2008 saw an increase in the attention paid to experiential learning and a rapid rise in the amount of literature, mainly focusing on applying experiential learning in teaching and learning in various disciplines, with more research in English, language, maths, ideology, and morality. However, more research needs to be done on the subject of geography. However, research on experiential learning in geography appears later and needs more involvement. In actual classrooms, geography class time is limited, and the time available for experiential learning is even more limited. However, with the introduction and emphasis on geography core literacy, research on experiential learning in geography provides an excellent opportunity.

Yang Sigeng, in his book Experiential Teaching, conducts research on teaching from the perspectives of teaching theory, teaching design, teaching process, and mode, strategy and method, and evaluation, and considers experiential learning to be a change in learning method, a change in teaching behavior, and a change in evaluation, and sums up the basic features of experiential learning (Yang, 2007). Chen Liang believes experiential learning can start from students' inner experience and highlight the practical purpose. It summarises the four basic principles of experiential teaching design: the principle of practical chemistry, the principle of mutual adaptation, the principle of self-organization, and the principle of the psychological field (Chen, 2008). Liu Yanli proposes that the evaluation of experiential learning activities should be combined with the specific context of training activities, the whole process of evaluation activities, the diversification of evaluation subjects, the diversification of evaluation methods, the flexibility of evaluation standards, and the evaluation should be conducive to the development of the training students' concepts (Liu, 2007).

Wang Canming and others have shown through experiments that experiential learning promotes the creative personality development of primary school students (Wang *et al*., 2014). Based on Cooper's experiential learning model, Wang Guoqiang constructed a "five-link" experiential training model, which consists of "concrete experience," "reflective observation and sharing," "Comprehensive feedback," "abstract conceptualization," "active experimentation," and verified the effectiveness of this model through a group of experiments and put forward some suggestions for experiential training in the light of reality (Wang, 2009). Xu Hong analyses the reasons for the localization of experiential learning in Japan and analyses the implementation path, implementation process, application effect, and essential characteristics of Japanese experiential learning for moral education, providing a reference for moral education in China (Xu, 2015).

The promotion and reform of the new curriculum have put forward new requirements and tasks for high school geography teaching. In addition to improving the teaching efficiency and quality of geography, it is also necessary to meet the requirements of the new curriculum standard well and to develop high school geography teaching in strict accordance with the new curriculum standard (Yao, 2021). Among all the new teaching methods of the new curriculum standard, the teaching method based on experiential learning is the most applied.

Geography is a science that studies the geographic environment and the relationship between human activities and the geographic environment and is characterized by comprehensiveness, openness, practicability, and regionality. Geography has the nature of both natural sciences and social sciences, occupies an essential position in the modern scientific system, and plays a vital role in solving the contemporary problems of population, resources, environment, and development, in building a beautiful China, and in maintaining the global ecological security (People's Education Press, 2020). These characteristics of geography make the experiential learning model more suitable for high school geography classroom teaching. Therefore, geography covers a wide range of knowledge, and the teaching content is diverse. Therefore, if teachers still only let students learn knowledge through traditional teaching, it can neither strengthen students' mastery of geography knowledge nor effectively improve students' ability quality. In order to make up for the shortcomings of traditional teaching, teachers can try to let students carry out experiential learning in teaching. Teaching based on experiential learning is based on students' cognitive characteristics and developmental rules, creating actual

or simulated geographic phenomena for students so that students, through their personal experience, develop knowledge and understanding. Experiential learning deepens students' understanding of the connotation and extension of knowledge simultaneously so that students of the discipline of thinking and methodology for integrating the three can train students' creativity, promote the cultivation of students' sentiments, and form quality (Li, 2020).

The 2017 version of the general high school geography curriculum standard emphasizes the need to build a scientific, rational, and complementary curriculum system around the requirements of the cultivation of core literacy in the discipline of geography, adhering to the equal importance of fundamentality, diversity, and selectivity, and meeting the needs of different students for their development; selecting course content that is conducive to the formation of the core literacy in the discipline of geography, and striving for the unity of the scientific, practical, and contemporary aspects to meet the present and future learning needs of the students, The curriculum content is selected to be conducive to the formation of the core qualities of geography and strives to be scientific, practical and contemporary to meet the present and future needs of students' learning, work and life. Under experiential learning, teachers can select geographic situations with inquiry value in life based on teaching objectives, promote students' self-experience, form new perceptions, and guide students to discover and pay attention to geographic phenomena in daily life.

1. DATA AND METHODS

The respondents of this study included teachers and secondary school students. The primary respondents were Hunan students and teachers of two secondary schools, A and B. These included five geography teachers aged between 22 and 46 years old and 206 students in four classes of 2001, 2003, 2004, and 2007 who took geography as a subject. A total of 206 questionnaires were distributed, and 190 questionnaires were returned, making 190 valid questionnaires.

A total of 11 questionnaire questions were designed for the students. The following four aspects were mainly investigated and studied: teacher-student relationship and students' interest in learning geography; the main forms of instruction in the geography classroom; the implementation of teaching methods based on the concept of experiential learning in the geography classroom; and students' preferred ways of learning geography.

The investigation of teachers' teaching situation was mainly in the form of interviews, which involved daily classroom situations and teacher-student relationship; teachers' teaching methods, implementation of classroom teaching based on experiential learning concepts, and post-lesson teaching reflections; teachers' perceptions, attitudes, and application of experiential learning; teachers' commonly used types of experiential learning design and whether students developed literacy and competence in experiential learning.

2. RESULTS AND ANALYSES

2.1 Teacher-student relationship

The results of the anonymous questionnaire showed that geography teachers have a good relationship with their students, with 107 students believing that they have a good relationship with their geography teachers, 72 students believing that they have an average relationship with their geography teachers, and only 11 students believing that they have a bad relationship with their geography teachers (Table 1).

Table 1: Teacher-student relationship

	Good relationship	Relationships in general	Bad relationship
Number of students	107	72	11

2.2 Enjoyment of the subject of geography

Most of the students liked the subject of geography and found it exciting and motivating. Only 10 out of 190 students hated studying geography (Table 2).

Table 2: Level of liking for Geography

	Very much	like	A general preference	Dislike
Number of students	73	48	59	10

2.3 Feelings of Geography Learning

Regarding feelings about learning geography, more than half of the students thought that the difficulty was average or even found it easy, but 35.3% still thought that geography was challenging to learn (Figure 3).

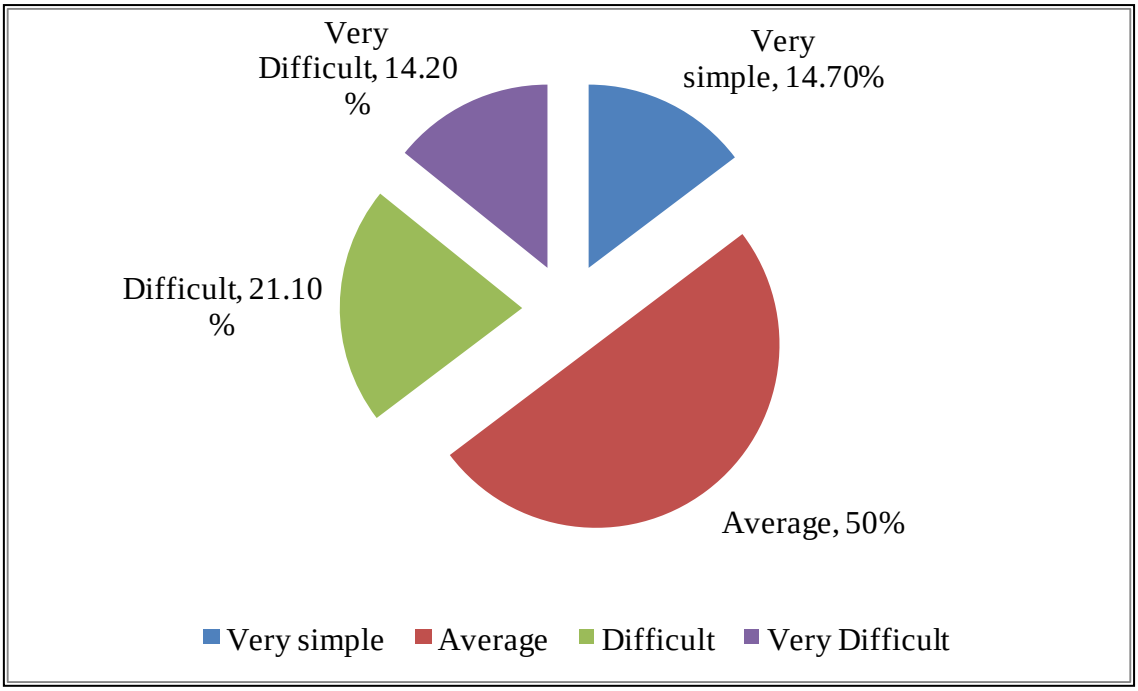

Figure 3: Feelings about learning the subject of geography

2.4 Pre-course preparation

Students' awareness of pre-course pre-study could be more vital. Only 17.4% of the students said they would do pre-study before class every time, and 52.6% said they would do it only occasionally, indicating that their ability to learn independently could have been more vital (Figure 4).

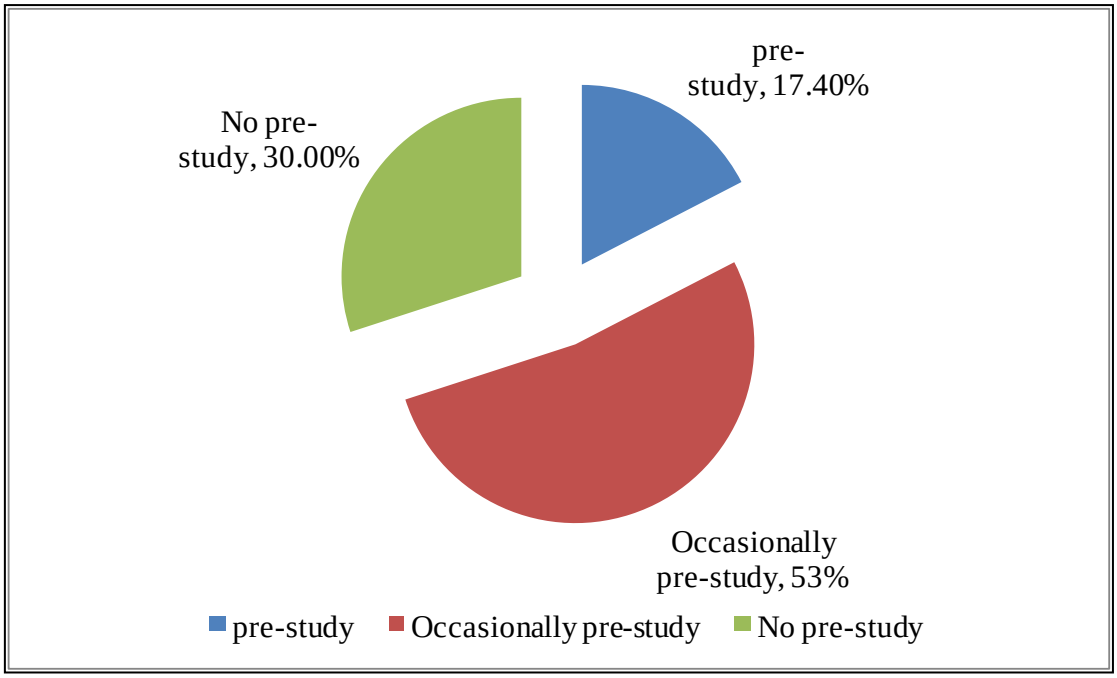

Figure 4: Pre-study before class

2.5 Teachers' common teaching methods

The data show that the traditional lecture teaching mode dominates high school classrooms. Most teachers use multimedia teaching in conjunction with lectures, and only 17.4% of teachers guide students to explore independently (Figure 5).

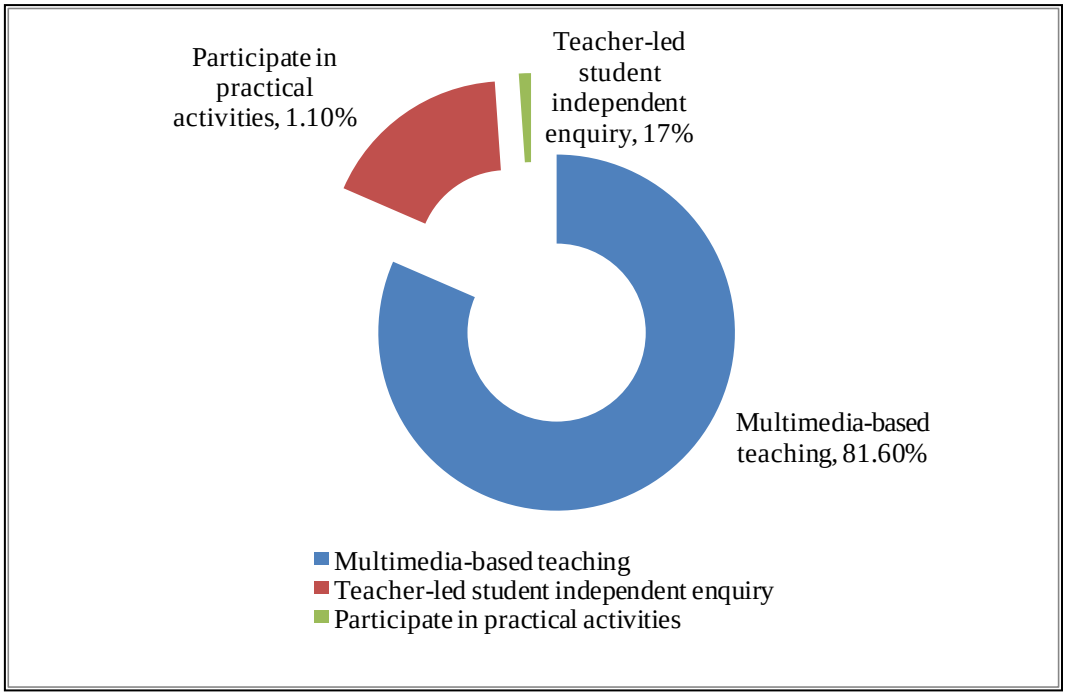

Figure 5: Teachers' common teaching methods

2.6 Teachers expand the use of materials outside the classroom

Figure 6 shows that most teachers expand on their book knowledge by relating it to real life when teaching in class. This approach is conducive to students learning outside the textbook and connecting textbook knowledge with real life.

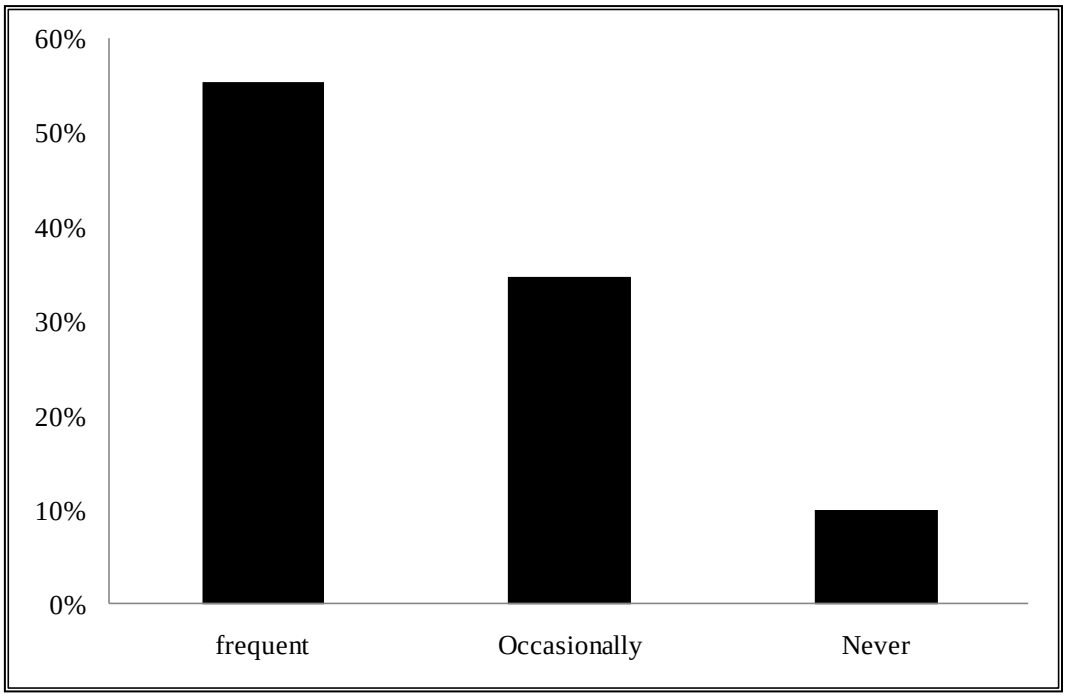

Figure 6: Teachers' Extracurricular Materials Expansion

2.7 The best way to learn geography

44.7% of the students thought using practical activities to acquire knowledge was the best way to learn, while 31.6% thought listening to teachers explaining knowledge was the most effective. A few students preferred self-study and brushing up to acquire knowledge effectively (Figure 7).

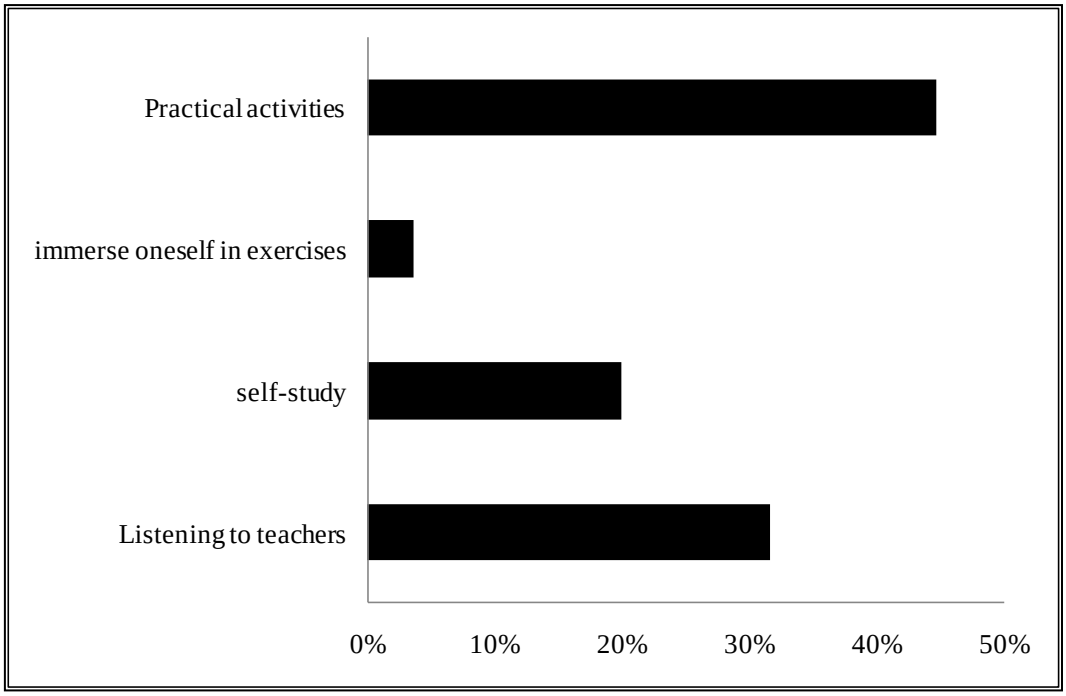

Figure 7: The best way to learn geography

2.8 Students' favorite teaching methods

In terms of students' favorite teaching methods, students are more inclined to acquire knowledge through participation and experience. Figure 8 shows that 30.5% of the students preferred extracurricular practical activities as a teaching method, 19.5% preferred classroom experiments or games to acquire knowledge, and only 10% preferred lectures by teachers.

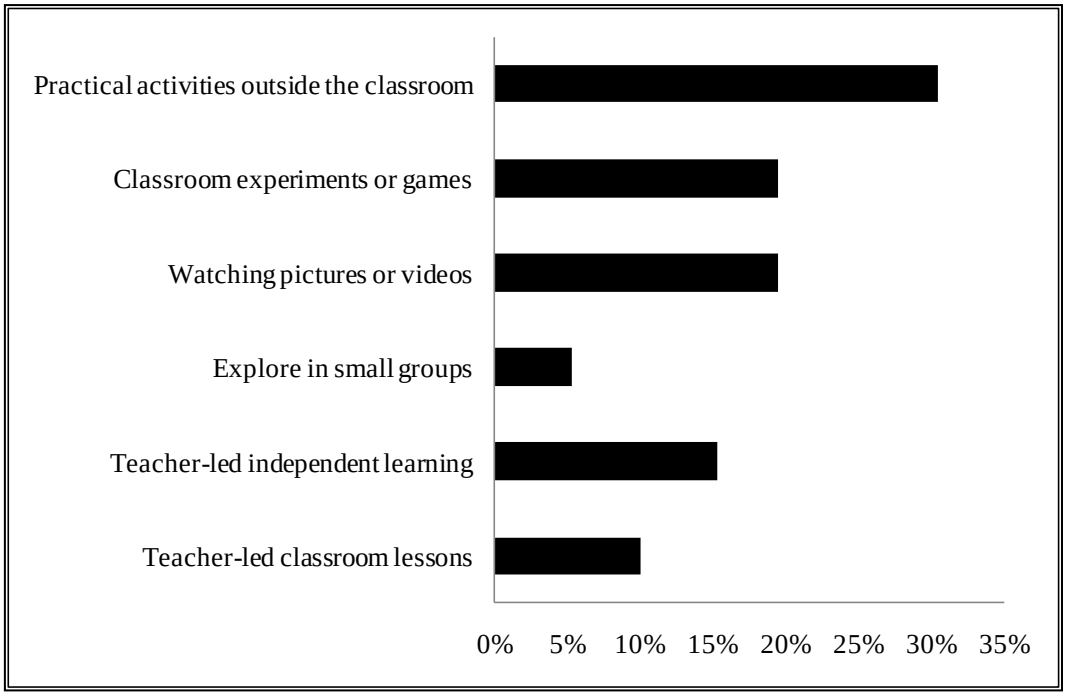

Figure 8 Students' favourite teaching methods

2.9 Student Participation in Classroom Inquiry Activities

Students' participation in classroom inquiry activities could have been more encouraging. The findings in Figure 9 show that the vast majority of high school students only occasionally participated in classroom inquiry activities, while 7.4% of them hardly participated in classroom inquiry activities.

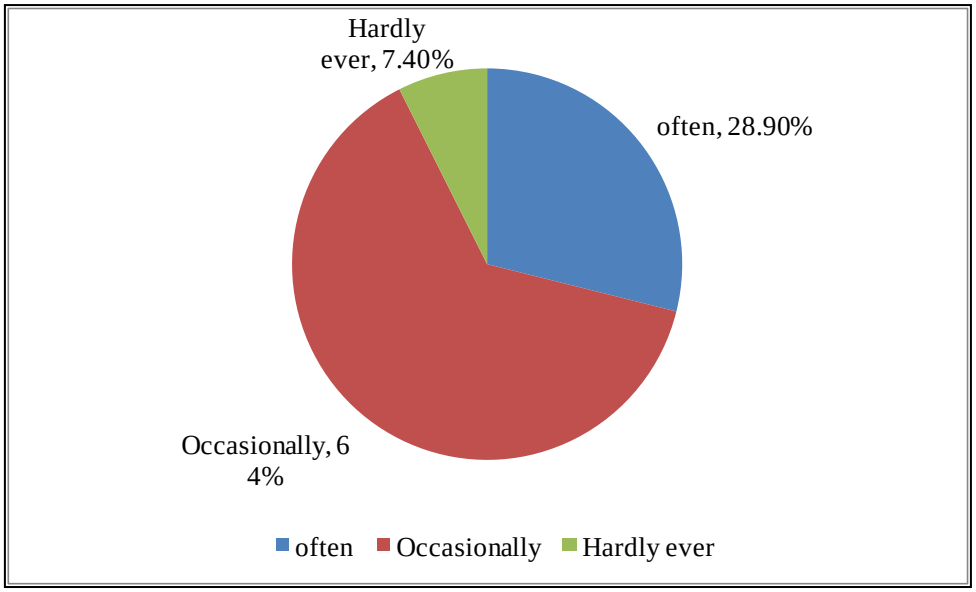

Figure 9: Students' participation in classroom inquiry activities

2.10 Students' Participation in Extracurricular Practical Activities in Geography

Against the background of secondary schools' emphasis on classroom teaching to the neglect of students' extracurricular activities, this survey shows that 84.7% of students have never participated in geography extracurricular practical activities, which reflects that classroom teaching in secondary schools seldom adopts experiential learning mode.

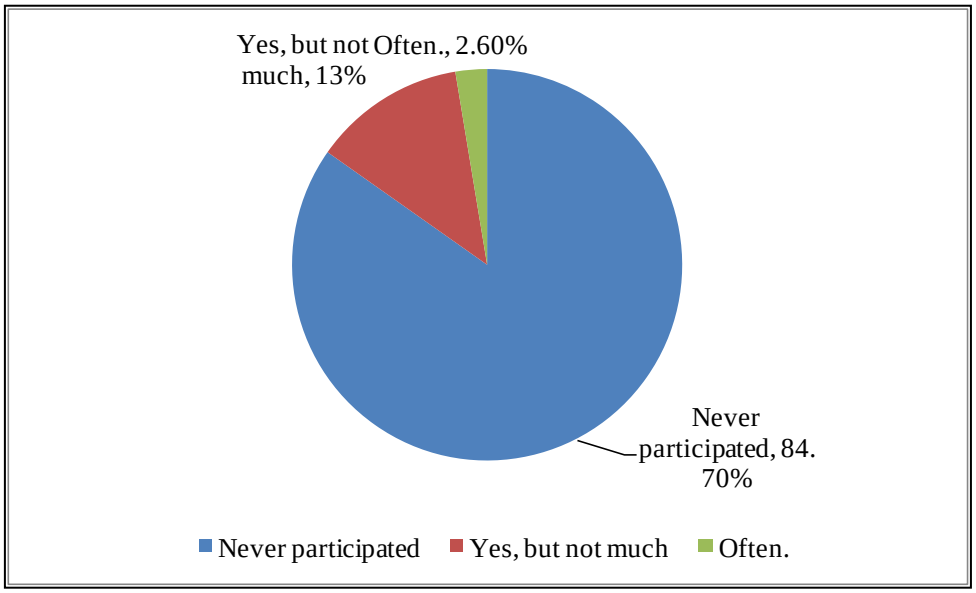

Figure 10: Students' participation in extracurricular practical activities in geography

2.11 Teacher Interviews

Transforming teachers' traditional teaching concepts is the key to infiltrating experiential learning into geography classroom teaching so that students can learn geography better and increase their interest in geography learning. Better achieve the smooth transition from three-dimensional goals to core literacy. Creating a reasonable situation to design experiential learning activities in geography classroom teaching in a timely and appropriate manner is the key to forming knowledge systems and abilities for students. The results of the interviews with teachers show that:

1. In promoting the new curriculum reform, teachers and students maintain a good relationship and get along well; teaching activities are well organized, and the classroom is active and well-interactive.
2. All five teachers interviewed said they would choose to design lesson plans in advance and follow them. However, they also indicated that

there needed to be more innovative designs for teaching methods. Although there were verbal exchanges and interactions between students and teachers during the teaching process, there were fewer classroom activities in which students could participate personally. The evaluation of teaching and students' learning effectiveness was mostly based on classroom exercises and examination results. It did not adopt a comprehensive evaluation model that emphasized both the effects of learning and the learning process.

3. Individual teachers use teaching activities and post-course practical assignments but do not ask questions and reflect on teaching effectiveness.
4. Teachers have varying degrees of understanding of experiential learning and see considerable advantages in this teaching method. However, some teachers believe experiential learning wastes time, interferes with teaching progress, and drains students' energy. Other teachers believe that the occasional use of experiential learning in classroom teaching can effectively increase students' interest in learning. Still, due to the heavy workload of students, the large number of subjects, and the limited geographic time for learning, it is not appropriate to overfill experiential learning activities in actual teaching.
5. Teachers' different teaching ages make their teaching concepts differ significantly. Older teachers generally believe that the evaluation of the effectiveness of geography teaching mainly lies in students' memory and grasp of knowledge. Teachers should measure students' mastery of knowledge according to the syllabus. Younger teachers, on the other hand, pay attention to students' experiences so that students can acquire knowledge and, at the same time, cultivate and generate emotional attitudes and values.

3.3 DISCUSSION

3.3.1 Teachers' Unclear Objectives of Teaching Activities Lead to Experiential Learning as a Formality

Questionnaire and interview surveys and classroom observation found that before the class, about 30% of the teachers did not have a clear description of the objectives of experiential learning activities, resulting in students not having a clear objective for the experiential activities, which led to experiential learning being often reduced to a formality.

For example, in the study of the "wind into the landforms" section, the teacher showed the students the thousands of forms of the ghost of the wind in the landforms landscape map. The students often send out a sound of amazement from a pair of eyes full of envy, and it can be felt that the students did experience the magnificent "beauty." However, do students know the classification of wind-formed landforms, the various causes of wind-formed landforms, and the distribution range of wind-formed landforms? Can they understand the harm caused by wind and sand activities to our daily lives? Students need help to obtain the knowledge, skills, methods, and processes set in the teaching objectives from these experiences. Therefore, in experiential learning design, teachers must clarify the correct direction of the experiential objectives to avoid experiential learning in teaching as a formality.

3.3.2 Inadequate teacher guidance leads to lower efficiency of students' experiential learning activities

Experiential learning advocates respecting students' subjectivity and differences, emphasizing students' personal experience, participation, and practice, and valuing students' own emotional experiences. Surveys and interviews have found that due to time problems or other reasons, some teachers fail to answer students' questions promptly, resulting in students being unable to further their understanding of the issues, and the efficiency of teaching is greatly reduced.

Since significant individual differences exist in students' experience and knowledge, they may raise specific questions they have in mind when discussing problems or participating in practical activities. In the face of this situation, teachers should be careful to answer students, even if the questions asked by students and the content of the teaching are not very relevant. Teachers should respond to students promptly to clarify the reasons and must pay attention to the students who want to understand the problem.

Although experiential learning emphasizes students' independent inquiry, it does not mean that experiential learning activities can be separated from the guidance of teachers. On the contrary, the leading role of the teacher is rather strengthened. The guiding role of the teacher should always be throughout the experiential learning process. From the determination of learning objectives to the discussion and practice of students during the experiential teaching process and the emotional experience during and after the activity, they all need correct and timely teacher guidance. It was also found that many teachers needed to observe students' behavior and expressions during the experiential learning process and guide them according to their specific situations. Students' knowledge, experience, and cognition are different. The same experiential activities, different students will produce different experiences and feelings; some students need teachers' help, and some students do not need teachers' help. Therefore, when students are engaged in experiential activities, teachers need to pay attention to students' behavior, find out whether students encounter problems in experiential activities, and need teachers' help through students' movements, language, and gestures. Some teachers

directly state the answers and conclusions when guiding the students, thus diminishing the students' enjoyment of inquiry and subjective feelings and possibly making the students lose the meaning of the experience. Of course, when guiding students, they should not be misled by the students' wrong thinking. It must be the teacher who guides the students. Otherwise, they will be led astray by the students' wrong thinking (Xie, 2019).

3.3.3 Teachers' Single Feedback Evaluation of Teaching and Learning Activities Causes the Effectiveness of the Activities Not to be Reflected

It was found in the survey that teachers' feedback evaluation of knowledge after experiential learning is still based on test questions as the only criterion, trying to evaluate the results and effects of experiential learning through test scores. Such an evaluation method is too single and similar to the traditional teaching evaluation method.

Experiential learning takes the principle of respecting students' subjectivity, stresses hands-on and participatory, focuses on inquiry and cooperation, and hopes to cultivate students' hands-on ability, active thinking, and problem-solving ability through experiential activities. Therefore, experiential learning activities should focus on diversified evaluation methods. In terms of content, it should not only focus on the amount of knowledge gained and the results achieved in teaching activities but also pay more attention to the methods, abilities, and emotional gains in experiential learning. The evaluation object should also be diversified, such as teacher-student assessment, student mutual assessment, and self-assessment. The evaluation of experiential learning can only achieve the desired purpose by integrating various indicators.

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