IRAONO: Journal of Elementary and Childhood Education
January 2023, Vol. 1, No. 1, 8-15
https://doi.org/10.56207/iraono.v1i1.119

# Constructing Knowledge of Chinese Elementary Students in Plant Identification Learning through Cooperative Script Model

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Received: 18/12/2022 Revised: 28/12/2022 Accepted: 05/01/2023

**Abstract:** Elementary school students should always channel their talents in the learning process in order to be able to increase their knowledge in knowledge and learning outcomes. The purpose of this study is to improve plant recognition through cooperative script in elementary school students in Jinhua City, China, in which initially students cannot recognize the various names of plant characteristics. Through cooperative script, each learner is expected to be able to repeat and understand plant names easily. This research method used classroom action research. The subjects in this study were grade III elementary school students totalling 48 students. At the time of learning, the condition of students was still in the sense of lack of understanding of increasing knowledge, whereas at the time of the pre-cycle, only 14 students or with a percentage of 29.17% who passed the minimum completeness value. Then proceed to cycle I and as many as 37 students or with a percentage of 77.08% who passed the minimum completeness value. Moreover, cycle II continued with improved planning and accurate implementation, and the result revealed that all students passed the minimum completeness value. This finding indicates that with the cooperative script model, student learning is easier to accept because there is grouping and independence evenly and accountable empowering smaller and more influential groups.

**Keywords:** *plant identification, cooperative script, learning achievement*

## INTRODUCTION

Learning is a programmed teacher activity in instructional design to make students learn actively which emphasizes the provision of learning resources (Kalkan et al., 2020; Rahmouni & Aleid, 2020). This means that students must always channel their talents in the learning process in order to increase their knowledge in knowledge and learning outcomes. In this process, the teacher is the holder of a central position in the framework of successful learning activities at school (Brooks et al., 2021; Metin et al., 2012). In line with that, Antunes & Pinheiro (2020) states that learning is a system consisting of various components that are interconnected with one another. Learning carried out at school must be able to develop student potential so that educational goals can be achieved effectively (Filho et al., 2018; Masino & Niño-Zarazúa, 2016).

Various views can be explained that learning becomes a unity in education, learning is a process of interaction between students and teachers or individuals with one another, in this case learning carried out at school also has certain objectives in order to provide knowledge and understanding in each learning step as for the objectives in learning carried out at school starting from general goals to specific goals. Based on observations through various researcher analyzes that there is a problem when the learning process regarding the introduction of plants in grade III at one of the elementary schools in Jinhua City, China, takes place there are several things that make the learning process look ineffective and inefficient in the implementation process, In addition, there are also several supporting aspects of the learning process that are not maximized in their function and the minimum criteria completeness value has not been achieved congretely, this of course has not reached the criteria that can be said to be good in general when viewed or observed from the implementation process because there are several influencing factors contained in it, for this reason researchers are interested in conducting research on several factors contained in it in order to create new learning and make learning a benchmark for student abilities of course.

Researchers in this case offer a solution in the form of using the plant model through cooperative script in plant recognition material specifically to students. The use of plant models through cooperative scripts is expected to be able to overcome the difficulties experienced by students. that have been experienced by students. The use of innovative models and always provide The use of innovative models and always providing clear expectations, a lesson will run well and easily achieve the desired learning goals. This is also expected to attract the attention of students to follow learning effectively and efficiently. to follow learning effectively and efficiently. One form of learning that is considered suitable and relevant is the cooperative learning model. In the development of cooperative script learning, it has undergone many adaptations, giving birth to several notions and forms that are slightly different from one another, but in essence the same. According to Boleng & Maasawet (2019) the cooperative script learning model, also called cooperative script, is a lesson in which students work in pairs and orally summarize parts of the material they learn in the classroom. Meanwhile, according to (Harefa et al. (2019 and R et al. (2020) cooperative script learning is learning that organizes student interactions such as illustrations of students' social life with their environment as individuals, in families, community groups, and wider society. Agreed with others that cooperative script is a learning method where students work in pairs and take turns orally summarizing parts of the material learned (Klang et al., 2020) in this case the introduction of plants in the form of trees, leaves and leaf changes around the school environment. Based on some of these opinions, it can be concluded that cooperative script is a learning method where students work in pairs and take turns summarizing parts of the material in turn.

Various theoretical foundations and empirical findings have previously been described that support the application of Cooperative Script to overcome the problems faced by teachers in the learning process. This is a strong basis for assuming an increase in students' understanding after the application of cooperative script in learning activities. Therefore, the purpose of this study is to improve plant recognition through cooperative script for grade III students at Jinhua City Elementary School.

## METHOD

The type of research used is classroom action research with research that uses continuous cycles in order to have a high and rapid improvement. Based on the type of research used, namely classroom action research, this study applies the action research model of Kemmis and McTaggart, which is in the form of a spiral from one cycle to the next. Each cycle includes planning, action, observation, and reflection (Kunlasomboon et al., 2015; Vogelzang & Admiraal, 2017). The steps in the next cycle are revised planning, action, observation, and reflection. Before entering the first cycle, preliminary actions were

taken in the form of identification of problems. problems. The flowchart of a cycle in classroom action research can be seen in Figure 1 below.

The subjects in this study were grade III elementary school students totaling 45 students. This research has been conducted in two cycles. Each cycle was implemented in accordance with the changes to be achieved, as designed in the factors under investigation. Furthermore, the data collection techniques used were observation and learning outcome tests. The data analysis techniques used were descriptive analysis and qualitative analysis. Regarding the indicators of the success of the action, this class action research is successful if there is an increase in students' understanding with the application of cooperative script to grade III students at Jinhua City Elementary School. If there are 80% of students who reach the minimum completion standard score (60), then the class is considered classically complete.


**Figure 1.** Classroom action research model.

## RESULTS AND DISCUSSION

The results showed that the activities that had been carried out during learning for 6 meetings concretely that the results of researchers at the time of learning the introduction of plant names of each learner began to experience high difficulties because the teacher took the wrong strategy and various suitable learning models where each learner always followed the instructions of the teacher but there was no direct improvement, so the research took data through a cycle where a teacher prepared a plan to draw up a lesson plan and summarize the lesson plan as a form of planning activity. The next activity is implementation. In this activity, the teacher conducts learning based on the previously made planning. This activity certainly refers to the phases or learning procedures that are in accordance with the cooperative script. In this activity, it is carried out simultaneously with the observation activity by the observer. This observation aims to monitor the implementation of learning whether it is in accordance with the previously planned plan or not. Another activity is evaluation in order to obtain information that whether the learning objectives to be achieved have been maximally achieved with pre-cycle, cycle I and cycle II data shown in Table 1.

Table 1 shows the contribution of an increase in each cycle that the role of cooperative learning type cooperative script when learning takes place effectively and sustainably with the data table when the pre-cycle of 48 students who passed the minimum completion value is only 14 people or with a percentage of 29.17%. Then proceed to cycle 1 and as many as 37 students or with a percentage of 77.08%

who passed the minimum completeness value. Finally, cycle II was carried out with improved planning and accurate implementation, so that satisfactory results were obtained where all students passed the minimum completeness value or with a percentage of 100%. These results show that it is important and very influential if a model like this can be used as a solution to the learning process with various models and as needed should be used as a reference so that educators and students experience increased knowledge.

**Table 1.** Results of student completeness in the pre-cycle, cycle I and cycle II.

| Activities | Number of Students | Passed | Not Passed | Percentage of Students Passed | Percentage of Students Not Passed |
|---|---|---|---|---|---|
| Pre-cycle | 48 | 14 | 34 | 29.17% | 70.83% |
| Cycle I | 48 | 37 | 11 | 77.08% | 22.92% |
| Cycle II | 48 | 48 | 0 | 100% | 0% |

Learning outcomes include cognitive, affective, and psychomotor abilities (Mehta & Kulshrestha, 2014). The cognitive domain is knowledge, comprehension, application, analysis, synthesis, and evaluation. The affective domain is receiving, responding, valuing, organization, characterization, and rountinized. The psychomotor domain also includes productive, technical, physical, social, managerial, and intellectual skills where students look for leaves, trees and plant names and are given information to the teacher who gives the task to the teacher during learning. Learning outcomes are the abilities that children acquire after going through learning activities (Yamaguchi et al., 2019). Learning outcomes are also a set of outputs from an input processing system. The input of the system can be in the form of various information, while the output is action or performance. A student who is successful in learning is one who achieves learning objectives or instructional goals. Learning outcomes are everything that belongs to students as a result of their learning activities (Lile & Bran, 2014). While Fandos-Herrera et al. (2023) learning outcomes are changes in individual behavior. Learning outcomes are patterns of action, values, notions, and attitudes, as well as apperceptions, and abilities. From some of the expert opinions above, it can be concluded that learning outcomes are the abilities obtained by children including cognitive, affective, and psychomotor abilities as a result of their learning activities.

Various findings that support the results of this study are Thurston et al. (2019) stated that cooperative script learning can improve student learning outcomes and students can learn more material than students who study alone. Veldman et al. (2020) states that students get something more than other cooperative activities that are given a detailed explanation. Students also get the opportunity to learn other parts of the material that they did not learn. The cooperative script learning model has advantages, namely training accuracy and accuracy where each student gets a role in learning activities and training to reveal other people's mistakes verbally. Another thing that supports the application of this cooperative script learning model is the characteristics of elementary school students. According to Piaget, children aged 7-12 years are at the concrete operational stage of development. Students at this age have begun to leave their egocentricity and can play in groups with group rules (working together). (Barrouillet, 2015). Children can be motivated and they have been able to understand various things that are systematic Therefore, this learning model is very suitable for elementary school students. elementary school students in an effort to introduce plants.

Based on the benefits of cooperative script learning that have been described, it can be explained that this learning model is very useful for improving student learning outcomes and matters related to the learning process. Meanwhile, according to Zhang & Chen, (2021) explains that in cooperative learning methods, students work together in four member teams to master the material initially presented by the teacher. This means that cooperative learning is a learning model where the system of

learning and working groups in pairs of both boys and girls to make clear questions to each other and will bring new knowledge collaboratively so that it can stimulate students to be more passionate in learning.

Based on some of these descriptions, it can be concluded that cooperative script is a teaching system that provides opportunities for students to work together with other students directed by the teacher when the learning process is directed always in pairs and makes the right steps so that the innovation and creativity of students will be awakened and become more understanding, Mansur (2005) states that elementary school children are in a unique growth and development process. They have specific growth and development patterns according to their level of growth and development. Instilling a love for the environment including living things to children is very important (Liyun, Khasanah, & Tsuraya, 2019). With that love, a deeper curiosity will arise so that it will increase children's interest in learning and getting to know more about the living things around them. By knowing the diversity of living things and plants, students are able to distinguish the shapes of various plants. From the expert opinion above, the introduction of plant names to elementary school students is very important because at that age children are in a very unique growth and development process.

## CONCLUSION

Based on the results and discussion, it can be concluded that the cooperative script learning model can improve plant recognition in grade III students at Jinhua City Elementary School. This is indicated by an increase in student learning outcomes after the application of the cooperative script learning model. The cooperative script learning model is very good for developing students' cognitive intelligence in understanding a material. This is evidenced by the increase in students' ability to complete the learning outcomes test after being given learning actions with the cooperative script learning model. Based on these findings, it is recommended that to hone students' cognitive intelligence it is advisable to apply the cooperative script learning model in learning activities. The findings of this study indicate that the cooperative script learning model has a positive impact on student learning outcomes, therefore it is recommended that this learning method can be applied continuously both in learning plant recognition and in other relevant materials.

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