

# *On the Strategies of Life Teaching in Biology Class for Autistic Students*

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**Abstract:** In order to explore effective teaching strategies for autistic students in biology classroom life. On the basis of literature analysis, it using methods such as participatory observation and interviews, from the multi-dimensional perspectives of life-oriented education, basic biological knowledge and skills, this paper discusses the teaching strategies of biology classroom life for autistic students. The implementation of life-oriented teaching in biology classrooms for autism can improve students' learning attitude, increase students' interest and participation in learning, and put students in a life-like situation, from which they can learn some social communication skills and feel success and happiness. The life-oriented teaching strategy of biology classroom not only enables autistic students to gain happiness and knowledge, but also helps to cultivate good living habits and return to society as soon as possible.

## 1. Introduction

With the deepening of the reform of the education system, the state has successively issued policies and regulations related to the education of the mentally handicapped, which has attracted great attention from schools at all levels. Respect the physical and mental characteristics of students with intellectual disabilities, grasp the starting point of cognition, reduce behavioural problems, implement different forms of teaching strategies, and promote the participation of each student in the classroom. Autism is a serious physical and mental developmental disorder, and the cognitive starting point of students is very different from that of ordinary students. In biology classroom teaching, the method teaching according to the characteristics of autistic students directly affects the teaching effect. For example, autistic students are obviously more dependent on teachers than ordinary students. Teachers should abandon the traditional concept of "dignity of teachers" in biology teaching, so that students can feel the positive feelings of being respected and getting affirmation and happiness in biology learning. Students with autism generally have poor self-care ability in life and cannot meet the requirements of social integration [1], but they like the familiar things in life very much. Biology is closely related to human life, and it is consistent with the purpose of teaching, so that students with autism can better integrate into social life [2,3]. Therefore, living biology teaching is the best destination for the education of autistic students [4,5].

## 2. Significance of Life-Oriented Biology Teaching for Autistic Students

The main characteristics of autism are social and language barriers, narrow interests and stereotyped behavior, and most of them can not participate in normal teaching activities. The biology class is characterized by fine observation ability and hands-on practice ability. It also requires strong patience and interest, which is exactly what autistic students lack. Therefore, in teaching, teachers should closely combine biological knowledge with real life, so that students can understand that what they have learned can be used for themselves, learn the basic skills for survival, improve their ability to adapt to society, and reduce the burden on families and society. According to the characteristics of biological knowledge itself and the actual situation of autistic students, this paper puts forward the corresponding living teaching mode of biological classroom (see Table 1), with a view to providing reference for the biological classroom teaching of autistic students.

Table 1: Life based teaching mode in biology class for autistic students

Teaching theme and content	Teacher education and teaching	Basic characteristics of teaching process	Student learning objectives
Creating classroom life situations to stimulate students' interest in learning	Situation creation, inspiration and guidance	Life situation presentation	Enter the life situation
Provide support for learning objectives to help students achieve a successful experience	Correctly guide students to set up learning goals and directions	Building a target system	Clear learning objectives
Using life map to promote students to master biological knowledge	Guide and guide students from life examples, so that students' cognition can be continuously sublimated	Ask questions about life	Enrich life experience, cooperative inquiry learning
Combine biological knowledge with life through biological experiments	Expand with practice and return to life practice	Problem discussion activities	Knowledge consolidation and transfer
Based on biological life class, lead students to a better life	Integrating theory with practice, let students experience success and grow happily	Biological knowledge for application	Integrating theory with practice

## 3. Strategies of Life Oriented Biology Classroom Teaching for Autistic Students

Teaching strategy is a series of means adopted by teachers to achieve teaching goals. The biology teaching strategy for autistic students is to develop targeted and rational strategies according to the characteristics of the subject. These strategies should reflect the concept of "facing all students (including students with different intelligence levels)" in biology course. In the teaching process, students should be guided to combine with real life and acquire biological science knowledge and skills through personal participation [6,7]. See Table 2.

Table 2: Life oriented strategies of biology classroom teaching for autistic students

name	feature	suit	example
Fact based problem strategy	Teachers' teaching, students' acceptance, less interaction between teachers and students	Present new concepts and knowledge with appropriate difficulty	Teacher: let me introduce the apricot tree to you. What are the shape characteristics of the apricot tree?
Fact based question and answer strategies	Teachers ask, students answer, teachers guide thinking, and teachers and students interact frequently	Review the learned knowledge, which is not difficult, and test the students' mastery of knowledge	Teacher: what are the shape characteristics and growth and Fruiting Habits of apricot trees?
Teacher student interaction strategy, problem centered teaching guidance	Teacher questioning and teacher-student interaction	Encourage classroom discussion and stimulate students' thinking	Think about it: what are the main differences between ginkgo and apricot trees?

### 3.1. Creating Classroom Life Situation to Stimulate Students' Interest in Learning

Although there are many differences between autistic students and ordinary students of the same age, special guidance and systematic training by teachers can stimulate their interest in learning, enhance their communication and social skills, and improve the learning effect. Therefore, one of the most important principles of biological teaching for autistic students is happiness, and this must be a necessary condition for their learning. Then teachers need to flexibly apply teaching methods according to the characteristics of autistic students, actively create living learning situations, and dig out relevant materials in life. For example, in the section on common "plant classification", first show students' various colorful fruits and vegetables, such as apples, broccoli, oranges, kiwi, potatoes, bananas, eggplants and other video pictures, and then ask students to answer by classification according to "fruits" and "vegetables". Guide students to use both hands and brains to stimulate students' interest in learning biological knowledge.

The second most important principle of biology teaching for autistic students is the satisfaction of success. In the classroom, appropriate use of praise or criticism can stimulate students' successful satisfaction, and help correct the autism students' bad behavior. In view of the strong dependence of autistic students on teachers, this is exactly the best basis for creating a learning atmosphere. For example, in the teaching design of "the treatment of respiratory tract to air", teachers can tell students about the cases in their lives during the epidemic prevention and control period, ask students and ask them to answer, "If you have a cold, you will have nasal congestion and sneeze, and you need to cover your nose with a paper towel when sneezing. Do you know why?" "Why can't you spit everywhere?" These contents closely related to daily life have aroused students' strong interest in biological learning.

### 3.2. Provide Learning Goal Support to Help Students Obtain Successful Experience

Biology is a compulsory course in junior high school. For the teaching of autistic students, the teaching objectives of each chapter should be based on the starting point of learning to explore more effective teaching strategies. For example, when talking about the common biological name "rose" flower, the teacher first provides colored and colorless "rose" flowers, and requires students with strong cognitive ability to read them directly; Students with weak language ability are required to be

able to identify; Students with poor literacy ability are required to read "rose" flowers with the teacher. Teachers can also set different goals in advance, for example, let the first group of students draw a "rose" flower with a colored pen; The second group of students cut the "rose" flower with scissors; The third group of students colored the colorless "rose" flowers. Finally, each student will get a "rose" flower, which not only helps students experience success, but also enhances their self-confidence in learning.

### **3.3. Using Life Materials to Promote Students' Mastery of Biological Knowledge**

The significance of biology course is to educate students to apply what they have learned. Teachers can give students homework so that students can often observe flowers, grass, trees, plants and animals in the campus and their homes, and let students bring the observed plants and animals to the classroom to integrate the knowledge of teaching and learning into nature, society and life. Let students really experience the value of biological science knowledge and society. For example, in the section of "transportation of substances in plants", the teacher Cut a section of poplar branches, Insert it into the bottle containing diluted red ink After 1-2 days of training, when they moved to classroom teaching, they cut the branch with a knife on the spot and let the students observe it. The students immediately wondered why there was red in the branch, and the more toward the top of the branch, the less red it became? Use such demonstration means to create a life scene, so that students can spontaneously find problems, promote students' mastery of biological knowledge, and make students feel real and interesting life.

### **3.4. Combine Biological Knowledge with Life through Biological Experiments**

Experiment is an indispensable part of biology teaching. Biology will make people feel the breath of life coming to the face. In this regard, experimental teaching should create a real-life environment, so that students can truly integrate into life, and use materials in life to carry out small experiments. With the advantages of convenience, diverse content and simple operation, students can do it anytime and anywhere, and the effect is also very obvious, with the characteristics of high success rate and good effect. In this process, students have a strong sense of participation, which just makes up for the lack of concentration of autistic students. Teachers should be good at encouraging students to live in learning, practice in life, and establish a sound concept of biological science development in life practice. For example, in the experimental teaching of "Life of a Plant", the teacher asked students to go home for planting, observation and analysis by leaving homework, so that each student could practice by himself, from the planting, germination, growth, and flowering of a seed. With detailed records of the results, students can draw a series of data and realize the practical learning of knowledge in life [8-11]. In the process of understanding the life of plants, it not only establishes scientific life science education, but also cultivates students' experimental spirit.

### **3.5. Based on Biological Life class, Lead Students to a Better Life**

Many problems in life involve biological knowledge. We can't just talk on paper and get good results by doing a few questions. Then, our education will be meaningless. After students have mastered certain knowledge, let them solve practical problems in life. For example, when talking about part of the content of "photosynthesis of green plants", if you insert the number of days of blue sky and white clouds published by the local meteorological observatory every month, you can tell that the formation of haze is mainly due to the environmental pollution caused by the improvement of people's living standards. You can teach students to regulate their behavior with a

scientific mind, respect nature, protect nature, and do not litter at ordinary times, starting from me. Teachers introduce hot issues in life into the classroom, so that students can learn to observe society with a scientific perspective, cultivate students' awareness of cherishing and protecting the human living environment, establish the concept that teaching is life and life is teaching, consciously bring autistic students into real life, so that special children can also feel the beauty of life.

#### 4. Conclusion

The overall ability of autistic students is weak, and most students lack interest in learning. However, life oriented biology classroom teaching is a teaching mode that conforms to the law of education and teaching development. It has an important impact on improving the learning interest of autistic students and promoting students' mastery of biological knowledge. Life based teaching in biology classroom has the practical and targeted characteristics of becoming boring and interesting, giving full play to students' subjective initiative and promoting students' all-round development and healthy growth. So as to provide reference for the national autistic students' biological life teaching strategy; It has important practical significance.

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