

# Application of “PAD Class” Teaching Model in “General Psychology” Course

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**Abstract.** Objective: To investigate the application effects of the Presentation-Assimilation-Discussion (PAD) teaching model in the General Psychology course. Methods: A total of 110 students from 2 freshman classes of primary education major in a university were selected as the research objects. The experimental group was taught in the PAD teaching model. The learning attitude questionnaire was used before and after the experiment, and data were processed and analyzed using SPSS 24.0. Results: Before the experiment, there were no significant differences in cognitive level, emotional experience, and behavioral tendencies related to learning attitude between the experimental and control groups ( $P > 0.05$ ). However, after the experiment, significant differences were observed in cognitive level, emotional experience, behavioral tendencies, and exam scores between the two groups ( $P < 0.05$ ). Conclusion: The PAD teaching model significantly enhances students' learning attitudes and improves their academic performance.

**Keywords:** PAD Class Teaching Model; General Psychology; learning attitude

## 1 Introduction

General psychology, as an important branch of psychology, studies various psychological phenomena, including human mental processes, behavior, emotions, and cognition. It holds significant disciplinary applications and theoretical value. In contemporary society, the research outcomes in general psychology not only profoundly influence the field of psychology but also have positive impacts on various other domains such as education, healthcare, and management. Therefore, the teaching quality of the General Psychology course holds crucial importance in cultivating students' comprehensive abilities and preparing them to adapt to the challenges of the future society.

However, local universities, especially some applied institutions, still commonly employ the traditional lecture-based teaching model. This model typically centers around the teacher, focusing on knowledge dissemination, and passive student reception. This teaching approach may result in students lacking essential cognitive skills such as initiative, critical thinking, and problem-solving abilities. This is particularly evident in a course like General Psychology, which emphasizes complex thought processes and theoretical frameworks. The drawbacks of the traditional lecture-based method become particularly pronounced, including a lack of interaction and engagement, difficulties in comprehending abstract theories, and a deficit in practical application and real-world relevance.[1]

The Presentation-Assimilation-Discussion (PAD) teaching model is a novel pedagogical approach. It divides classroom time into three distinct phases: presentation, assimilation, and discussion.[2] This structure allows students to independently manage their learning during the assimilation phase, engaging in personalized knowledge absorption. The PAD model underscores the importance of students' independent learning beyond the classroom while promoting in-class discussions and interactions. The core concept of the PAD model is to delineate teaching into these three distinct stages, offering more opportunities and modes of learning. The PAD teaching model contributes to enhanced student engagement, the cultivation of critical thinking, problem-solving skills, and the development of practical application abilities. This pedagogical reform not only aligns with the educational goals of institutions but also increases students' interest and motivation in General Psychology courses.

This study aims to investigate the effectiveness of the Presentation-Assimilation-Discussion (PAD) teaching model in General Psychology courses and compare it with the traditional lecture-based approach. The study assesses the instructional outcomes of these two teaching methods to determine whether the PAD teaching model has a positive impact on enhancing students' learning attitudes.

## **2 Research Participants and Methods**

### **2.1 Research Participants**

The research participants consisted of 110 students from two classes in the first year of the Elementary Education major at Shaoguan University. One class, consisting of 56 students, was randomly selected as the experimental group, where the Presentation-Assimilation-Discussion (PAD) teaching method was employed. The other class, comprising 54 students, served as the control group and received traditional lecture-based instruction. The duration of the study spanned one semester.

### **2.2 Research Tools**

A Learning Attitude Questionnaire was employed to measure the students' learning attitudes in both classes.[3] The questionnaire comprised three dimensions: cognitive level, emotional experience, and behavioral tendencies, with a total of 40 items scored on a 5-point Likert scale. The reliability coefficients for the three dimensions of cognitive level, emotional experience, and behavioral tendencies were 0.748, 0.818, and 0.930, respectively. The overall Cronbach's  $\alpha$  reliability coefficient for the questionnaire was 0.948, and it was 0.921 in this study, indicating excellent reliability.

Final exam paper. The exam paper was compiled by the instructor before the course, based on the course content. It consisted of 6 types of questions: 20 multiple-choice questions (20 points), 10 true/false questions (10 points), 4 definitions questions (12 points), 4 short answer questions (24 points), 2 case analysis questions (20 points), and 1 essay question (14 points). Since the number of question types in the paper needed to be even, the odd-even split method was used for question types with a larger number of sub-questions. For the larger questions in the exam paper, they were split based on the principle of balancing difficulty. After using the

formula by Lord and Novick for correction, the reliability of the exam paper was determined to be 0.76, indicating good reliability.

## **2.3 Research Procedure**

### **2.3.1 Pre-class Preparation**

There are two forms of Presentation-Assimilation-Discussion (PAD) used: Inter-class PAD and In-class PAD. In-class PAD refers to the completion of teacher explanations, independent student learning, and student discussions within the same class session, Inter-class PAD means that the content taught in one class is discussed in the next class, and self-study, internalization, and homework are conducted after the class.[4] Generally, more complex content is covered using Inter-class PAD, while simpler and more practical content is covered using In-class PAD. For Inter-class PAD, to ensure the novelty and attractiveness of the teaching content, and to allow students more time for assimilation after class, the teacher does not require students to preview the materials. However, in the case of In-class PAD, due to the shorter time available for assimilation during class, pre-class preparation becomes a crucial part of the course and plays an important role. It helps stimulate students' interest in learning, encourages them to actively participate in the course, gain an early understanding of the course content, and lays the foundation for classroom discussions and in-depth learning. Through pre-class preparation, the teacher can assess the students' learning progress and identify challenging areas, allowing for targeted teaching adjustments to improve classroom effectiveness. For Inter-class PAD, the teacher does not require pre-class preparation and does not distribute relevant teaching materials.

For In-class PAD teaching, before each class, the teacher sends relevant teaching materials, such as presentation slides and videos, to the class group. These materials provide a clear overview of the main content and key concepts of the upcoming lesson, allowing students to prepare more effectively. Students are required to engage in pre-class preparation by studying the distributed materials, completing pre-class assignments, and identifying any challenging or difficult-to-understand concepts during their preparation. This helps students to formulate questions and actively participate in discussions during the class. Since General Psychology is offered in the first semester of the freshman year, and students are accustomed to pre-class preparation from their high school studies, this study uses the In-class PAD teaching format.

### **2.3.2 Exploring New Knowledge**

During the process of exploring new knowledge, activities are organized in the following sequence to ensure an efficient and engaging classroom environment:(1) Mobile Check-in and Preparatory Assessment: The first 5 minutes of each class are dedicated to mobile check-in. Check-in may occur 5 minutes before the official class start time or through random checks to quickly engage students in the learning process. The teacher assesses students' pre-class preparations and based on their performance, raises questions, collaborates with students to organize knowledge content, and constructs a knowledge framework. The focus is on addressing weaknesses and utilizing various educational resources such as videos, slides, and case studies to stimulate student interest.(2) Introduction of Cases: Each class begins with the introduction of relevant case studies to pique students' interest and desire to explore the subject matter.(3) Knowledge Presentation: The teacher first delivers a comprehensive

explanation of the knowledge framework. Following this, students are questioned, and representatives are selected to respond through methods like mobile app-based shaking or raising hands. The teacher awards points based on students' performance to assess their grasp of key content and challenging concepts covered in the class.(4) Group Discussion and Collaborative Work: The remaining half of the class time is allocated to students who organize discussions on the course content in groups. Students consult relevant materials, compile summaries of knowledge, and work cooperatively for their learning. The teacher oversees the progress of each group of students, provides assessments, and assigns grades to ensure that students grasp each key knowledge point, thus enhancing teaching effectiveness.(5) Sharing and Summarization: Each group selects representatives to share their discussion outcomes.(6) Teacher Summary and In-Class Assessment: The teacher summarizes the class, assesses students' sharing experiences, and any observations made during the class. Finally, the teacher administers an in-class assessment to evaluate students' comprehension of the course material.

### **2.3.3 Classroom Discussion Effectiveness**

By creating a diverse, interactive, and cooperative teaching environment that promotes equal communication between teachers and students, collisions and fusion of different viewpoints are encouraged, thereby igniting students' enthusiasm, initiative, creativity, and innovation [5]. One of the fundamental goals of teaching is to cultivate students' abilities for independent thinking and innovative questioning [6]. Students engage in discussions and complete group assignments based on questions posed by the teacher, which are also included in their regular grades. Subsequently, representatives from each group share their discussion content in the classroom, and the teacher assesses students' sharing while addressing questions they may be unable to resolve. In this phase, students' enthusiasm is greatly stimulated, and each group presents distinctive content. The teacher plays a "scaffolding" role, ensuring both the efficiency of classroom discussions and active participation from every student [7]. Teachers encourage group leaders to distribute tasks reasonably among members, enabling each student to play different roles within their groups. This strategy sparks independent thinking abilities in each student, enhances their autonomy in learning, and contributes to improved collaborative learning skills.

### **2.3.4 Post-Classroom Internalization**

After the class, students engage in in-depth reflection on all the course content. Subsequently, they discuss, summarize, and encapsulate the key and challenging aspects of the course within their respective groups. Furthermore, they also reflect on their own experiences and insights from the three phases of the PAD classroom: "Presentation, Assimilation, Discussion" [8]. This section of the process fully reflects each student's individuality, and while it is divided into three parts, the content presented by each student ultimately varies. This approach helps students consolidate their understanding of the knowledge they have gained in class, as every student organizes, interprets, and summarizes the content during the class, thereby stimulating their enthusiasm for learning. Post-classroom internalization aids students in achieving a deeper comprehension of the material and reinforces what they have learned.

## **2.4 Data Analysis**

In data analysis, SPSS 24.0 was used for data processing and analysis.

### 3. Research Findings

#### 3.1 Analysis of differences in learning attitude and achievement of students in different groups before experiment

Prior to conducting the experiment, a measurement of learning attitudes was administered to both the experimental group and the control group. Additionally, their high school entrance examination scores were used as pre-test measures of learning performance. The results are as follows. As shown in Table 1, there were no significant differences in cognitive level, emotional experience, behavioral tendencies, learning attitudes, and learning performance between the two groups before the experiment, which allowed for subsequent experimental interventions.

**Table 1.** Analysis of Differences in Learning Attitudes and Learning Performance Before and After the Experiment in the Experimental Group and Before the Experiment in the Control Group

	Experimental Group(n=56)	Control Group(n=54)	<i>t</i>	<i>P</i>
Cognitive Level	2.79±0.71	2.77±0.70	0.171	0.864
Emotional Experience	2.75±0.68	2.76±0.69	-0.088	0.929
Behavioral Tendency	2.54±0.71	2.56±0.70	-0.116	0.907
Learning Attitudes	2.69±0.70	2.70±0.69	-0.073	0.942
Learning Performance	517.21±11.15	515.56±10.23	0.148	0.882

Note: \* represents  $P < 0.05$ , \*\* represents  $P < 0.01$ , \*\*\* represents  $P < 0.001$ , the same below.

#### 3.2 Analysis of Differences in Student Learning Attitudes and Academic Performance Among Different Groups After the Experiment

"After a semester of teaching, students in both groups were assessed for their learning attitudes and final exam scores. A comparative analysis was conducted to understand whether there were significant differences in their learning attitudes towards the course and their learning outcomes. The results are presented in Table 2.

Table 2 shows that after the experiment, there were significant differences in cognitive levels, emotional experiences, behavioral tendencies, learning attitudes, and learning outcomes between the two groups. Furthermore, the experimental group outperformed the control group significantly in all aspects, indicating that the teaching effectiveness of the Flipped Classroom model was significantly better than that of traditional teaching."

**Table 2.** Analysis of Differences in Student Learning Attitudes and Academic Performance Among Different Groups After the Experiment

	Experimental Group(n=56)	Control Group(n=54)	<i>t</i>	<i>P</i>
Cognitive Level	3.04±0.72	2.81±0.75	3.092	0.002**
Emotional	2.99±0.76	2.75±0.70	3.037	0.002**

Experience Behavioral Tendency	2.77±0.65	2.58±0.69	2.627	0.010*
Exam Scores	82.87±11.23	76.32±12.47	2.394	0.020*

### 3.3 Analysis of Differences in Student Learning Attitudes and Academic Performance Before and After the Experiment Among Different Groups

In order to better determine the effect of the experimental treatment, an analysis of the differences in student learning attitudes and academic performance before and after the experiment among different groups was conducted. The results are as follows. As shown in Table 3, there were no significant differences in the learning attitudes of the control group before and after the experiment, indicating that traditional teaching methods did not significantly affect the change in students' learning attitudes. However, the experimental group showed significant differences in learning attitudes before and after the experiment, with the students in the experimental group demonstrating a significant improvement in total learning attitude scores as well as scores in various sub-dimensions. This indicates that the PAD teaching model had a significant positive impact on students' learning attitudes.

**Table 3.** Analysis of Differences in Student Learning Attitudes Before and After Experiment Among Different Groups

		Before Experiment	After Experiment	t	P
Experimental Group(n=56)	Cognitive Level	2.79±0.71	3.04±0.72	-4.118	0.000***
	Emotional Experience	2.75±0.68	2.99±0.76	-2.67	0.009**
	Behavioral Tendency	2.54±0.71	2.77±0.65	-3.155	0.002**
	Cognitive Level	2.77±0.70	2.81±0.75	-0.216	0.829
Control Group(n=54)	Emotional Experience	2.76±0.69	2.75±0.70	0.159	0.873
	Behavioral Tendency	2.56±0.70	2.58±0.69	-0.190	0.849

## 4 Discussion

The research findings indicate that the Presentation-Assimilation-Discussion (PAD) teaching model has a significant positive impact on students' learning attitudes and academic performance in the General Psychology course. This suggests the effectiveness of the PAD teaching model, which may operate through several mechanisms:

### 4.1 Enhancing Student Initiative

In traditional teaching, teachers often provide detailed explanations of knowledge, while students passively receive information. However, in the PAD teaching model, after organizing the knowledge framework, teachers pose questions and tasks that encourage students to think deeply and explore the subject matter. This teaching approach significantly boosts students' motivation for active learning and nurtures their capacity for independent exploration.

Students become actively engaged in probing the principles of the subject and pursuing learning objectives, rather than merely following the guidance of the teacher.

#### **4.2 Alleviating the Teacher's Workload and Focusing on Guiding Students:**

In traditional classrooms, teachers are required to impart a significant amount of knowledge. However, in the PAD teaching model, teachers need only refine the knowledge framework, pose questions, and guide students in independently exploring the principles of knowledge and experimental operations. Students, in turn, become the active agents of their learning, taking control of their own learning process. This teaching approach significantly reduces the teacher's preparation workload, affording them more time to explore more efficient teaching methods. Simultaneously, students are no longer reliant on passive guidance from teachers but actively engage in the learning process.

#### **4.3 Increasing Opportunities for Student-Student and Teacher-Student Communication**

Traditional teaching methods often involve one-way knowledge transfer from teachers to students, resulting in limited opportunities for active communication in the classroom. This can lead to dull and uninspiring classes where students struggle to get timely answers to their questions, potentially leading to frustration and a lack of motivation for proactive exploration. However, in the PAD teaching model, students engage in group discussions, actively participating in the exploration of knowledge, creating a positive learning atmosphere. During discussions, students develop their communication skills, learn from each other's thought processes, inspire one another, and become more proactive in their learning outside of class. Additionally, this environment fosters friendships and mutual understanding among students. In this process, students also have the chance to discuss and explore knowledge with teachers, enhancing opportunities for teacher-student communication and mutual inspiration and growth.

#### **4.4 Addressing Students' Learning Needs**

Traditional teaching methods heavily rely on midterm and final exams to assess students' grasp of knowledge learned throughout a semester. This exam-centric approach focuses on the content of test questions and performance during exams, resulting in assessments that can be somewhat random and less accurate. It often leads students to prioritize rote memorization over the development of critical thinking skills. However, one of the goals of university classrooms is to cultivate students' thinking abilities and spirit of independent exploration.

Furthermore, students have to study numerous courses each semester, and their interests, time, and abilities vary. Traditional teaching methods often fail to consider these individual differences in students' needs. To address diverse learning needs, personalized learning plans should be created for students. This approach lowers requirements for students with lower learning needs and provides more opportunities for those with higher learning needs to showcase their abilities.

In the PAD (Presentation-Assimilation-Discussion) classroom approach, various components contribute to the overall grade, including teacher questions, student sharing, and group collaboration, among others. These components account for 50% of the final grade, with the remaining 50% attributed to the final exam. This comprehensive assessment method offers a more holistic view of a student's true capabilities, rather than relying solely on final exam

scores. Such a multifaceted evaluation approach improves the accuracy of assessments and better caters to students' learning needs.

#### **4.5 Enhancing Learning Outcomes**

Currently, many universities heavily rely on end-of-semester exams, emphasizing rote memorization of key content. This approach often leads to mechanical memorization without genuine understanding, creating a vicious cycle. However, the PAD teaching method encourages students to deeply comprehend knowledge during regular class sessions. Consequently, when it comes to the final exam, students merely need to review their knowledge, making it easier for them to perform well in the exams.

### **5 Conclusion**

Encouraging students to take charge of their own learning and enhancing their initiative is pivotal in education. The core concept of the Presentation-Assimilation-Discussion (PAD) classroom is to stimulate students' proactive engagement and increase their participation in class. Classroom education in local colleges aims to nurture students' thinking abilities and exploration spirit, equipping them with the capacity for independent thinking and self-directed learning. Implementing the PAD teaching model departs from the traditional teacher-centric classroom, allowing students to truly become the focal point of their learning and significantly boosting their proactive approach to learning.

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