Methods and techniques of teaching: A perspective from Greek schools

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Abstract

Some of the different teaching methods are the following: Lecture is a teaching method where the teacher presents information to the students through a lecture format. This is a traditional teaching method that involves the teacher being the primary source of information. Discussion is a teaching method where students are encouraged to participate in a discussion to explore a topic or concept. This method is student-centered and encourages critical thinking and active participation. Demonstration is a teaching method where the teacher shows how to do something or how something works. This method is used to teach practical skills and can be used in conjunction with other teaching methods. Inquiry-based learning is a teaching method where students are encouraged to ask questions, investigate, and explore a topic or concept. This method is student-centered and encourages critical thinking, problem-solving, and self-directed learning. Project-based learning is a teaching method where students work on a project to explore a topic or concept. This method is student-centered and encourages collaboration, critical thinking, and problem-solving. Flipped classroom is a teaching method where students watch pre-recorded video lectures or reading materials at home and then come to class to engage in collaborative and interactive activities that reinforce the concepts learned. Gamification is a teaching method that involves using game elements and game design techniques in non-game contexts, such as education. This method is used to make learning more engaging and fun. Collaborative learning is a teaching method where students work together in groups to achieve a common goal or complete a task. This method is used to encourage collaboration, teamwork, and problem-solving. Differentiated instruction is a teaching method that involves tailoring instruction to meet the individual needs, interests, and abilities of each student. This method is used to personalize learning and ensure that all students have access to the material.

Keywords: lecture, discussion, demonstration, inquiry-based learning, project-based learning, flipped classroom, gamification, collaborative learning, differentiated instruction

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1. Introduction

There are several different teaching methods and techniques that can be used to help students learn and retain information. Some of these include:

➢ Lecture: This is a traditional method of teaching where the teacher presents information to the entire class.

➢ Discussion: This method involves students and the teacher working together to explore a topic or concept. Students are encouraged to ask questions, share their ideas, and engage in critical thinking.

➢ Demonstration: This method involves the teacher showing students how to do something, such as a science experiment or a math problem.

➢ Inquiry-based learning: This method involves students asking questions, exploring a topic, and discovering the answers for themselves (Barell, 2010).

➢ Project-based learning: This method involves students working on a project or assignment that requires them to apply what they have learned to a real-world situation.

➢ Flipped classroom: This method involves students watching lectures or reading materials at home and then coming to class to work on assignments or engage in discussions.

➢ Gamification: This method involves incorporating game-like elements, such as points, badges, and leaderboards, into the learning process to make it more engaging and interactive.

➢ Collaborative learning: This method involves students working together in groups to solve problems, complete assignments, and share their ideas.

➢ Differentiated instruction: This method involves tailoring the teaching approach to meet the needs of individual students, such as providing extra support for struggling students or challenging advanced students with more complex tasks.

2. Lecture

A lecture is a teaching method that involves a teacher presenting information to a large group of students in a structured and formal manner. The teacher delivers a verbal presentation on a specific topic, often using visual aids such as slides or handouts to supplement the lecture. Lectures are commonly used in higher education settings (Barell, 2008), such as universities and colleges, but they can also be used in secondary schools and other educational settings. Lectures are often used to introduce new concepts, provide an overview of a topic, or to summarize key points. Some benefits of the lecture method include:

➢ Efficiency: Lectures can be an efficient way to deliver information to a large number of students at once.

➢ Expertise: Lectures are often delivered by subject matter experts, who can provide students with in-depth knowledge and insights into a particular topic (Bhagat et al., 2013) .

➢ Consistency: Lectures can ensure that all students receive the same information and have a shared understanding of the topic.

However, some criticisms of the lecture method include:

- ➢ Passive learning: Lectures can be a passive learning experience, where students simply listen and take notes, rather than actively engaging with the material (Dick, 1992; Harste, 2001).

- ➢ Limited interaction: Lectures do not provide much opportunity for students to ask questions or engage in discussion with the teacher or other students.

- ➢ Lack of personalization: Lectures do not allow for much personalization or individualization of the learning experience, which can make it difficult for students with different learning styles or abilities to fully engage with the material.

3. Discussion

Discussion is a teaching method that involves students and the teacher working together to explore a topic or concept. In a discussion-based classroom, students are encouraged to ask questions, share their ideas, and engage in critical thinking (Dai et al., 2011). The teacher acts as a facilitator, guiding the discussion and ensuring that all students have the opportunity to contribute. Some benefits of the discussion method include:

- ➢ Active learning: Discussions promote active learning, where students are actively engaged in the learning process and are encouraged to think critically and creatively.

- ➢ Collaboration: Discussions encourage collaboration and teamwork, as students work together to explore a topic and share their ideas.

- ➢ Diverse perspectives: Discussions encourage the sharing of diverse perspectives and ideas, which can lead to a deeper understanding of the topic.

- ➢ Personalization: Discussions allow for more personalization and individualization of the learning experience, as students are able to share their own experiences and insights.

However, some challenges of the discussion method include (Dewey, 2004):

- ➢ Time management: Discussions can be time-consuming, and it can be difficult to ensure that all students have the opportunity to contribute.

- ➢ Uneven participation: Some students may be more reluctant to participate in discussions, while others may dominate the conversation.

- ➢ Lack of structure: Discussions can sometimes lack structure, which can make it difficult for students to stay focused and on-topic.

Overall, the discussion method is a valuable teaching technique that can encourage active learning, collaboration, and critical thinking.

4. Demonstration

Demonstration is a teaching method that involves the teacher showing students how to do something, such as a science experiment or a math problem. In a demonstration, the teacher performs a task or activity while explaining the steps and concepts involved (Slavin, 2014). Students observe the demonstration and may take notes or ask questions. Some benefits of the demonstration method include:

- ➢ Visual learning: Demonstrations provide a visual learning experience, where students can see the task or activity being performed in real-time.

- ➢ Clarity: Demonstrations can clarify complex concepts or procedures, as students can see the steps involved in a task or activity (Humphreys et al., 2015).

> ➢ Engagement: Demonstrations can be engaging and interactive, as students may be asked to participate in the activity or experiment (Harste, 2001).

> ➢ Safety: Demonstrations can ensure that students understand the safety procedures and precautions involved in a task or activity.

However, some limitations of the demonstration method include:

> ➢ Passive learning: Demonstrations can be a passive learning experience, where students simply observe the teacher performing the task or activity, rather than actively engaging with the material.

> ➢ Limited interaction: Demonstrations do not provide much opportunity for students to ask questions or engage in discussion with the teacher or other students (Jeffrey et al., 2010).

> ➢ Limited personalization: Demonstrations do not allow for much personalization or individualization of the learning experience, which can make it difficult for students with different learning styles or abilities to fully engage with the material.

Overall, the demonstration method is a valuable teaching technique that can provide a visual and engaging learning experience, but it should be used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

5. Inquiry-based learning

Inquiry-based learning is a teaching method that involves students asking questions, exploring a topic, and discovering the answers for themselves. In this approach, the teacher acts as a facilitator, guiding students through the learning process and encouraging them to investigate and explore the topic (Gillon, 2011). Inquiry-based learning typically involves a structured process, which may include:

> ➢ Asking questions: Students begin by asking questions about the topic or concept they are exploring.

> ➢ Researching: Students conduct research to gather information and data related to their questions.

> ➢ Analyzing: Students analyze the information they have gathered to identify patterns, connections, and relationships.

> ➢ Drawing conclusions: Students draw conclusions and make connections based on their analysis of the data.

> ➢ Communicating: Students communicate their findings and conclusions to the teacher and their peers.

Some benefits of inquiry-based learning include:

> ➢ Active learning: Inquiry-based learning promotes active learning, where students are actively engaged in the learning process and are encouraged to think critically and creatively.

> ➢ Problem-solving skills: Inquiry-based learning helps students develop problem-solving skills, as they must identify questions, gather information, and draw conclusions based on their analysis of the data.

> ➢ Personalization: Inquiry-based learning allows for more personalization and individualization of the learning experience, as students are able to explore topics and questions that are of interest to them.

> ➢ Collaboration: Inquiry-based learning encourages collaboration and teamwork, as students work together to explore a topic and share their ideas.

However, some challenges of inquiry-based learning include (Zainuddin, 2016):

➤ Time management: Inquiry-based learning can be time-consuming, as students may need to conduct research and gather data over an extended period of time.

➤ Uneven participation: Some students may be more reluctant to participate in inquiry-based learning, while others may dominate the process.

➤ Lack of structure: Inquiry-based learning can sometimes lack structure, which can make it difficult for students to stay focused and on-topic.

Overall, inquiry-based learning is a valuable teaching technique that can encourage active learning, problem-solving skills, collaboration, and critical thinking. It is best used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

6. Project-based learning

Project-based learning is a teaching method that involves students working on a project or task that requires them to apply the knowledge and skills they have learned in a real-world context. In project-based learning, students work on a project over an extended period of time, often in groups, and are required to work collaboratively, solve problems, and think critically. Project-based learning typically involves a structured process, which may include:

➤ Identifying a problem or challenge: Students begin by identifying a real-world problem or challenge that they want to address through their project.

➤ Researching and planning: Students conduct research and plan their project, identifying the steps they need to take to address the problem or challenge.

➤ Implementation: Students implement their project, working collaboratively to solve problems and overcome challenges.

➤ Presentation: Students present their project to the teacher and their peers, demonstrating what they have learned and the impact of their project.

Some benefits of project-based learning include:

➤ Active learning: Project-based learning promotes active learning, where students are actively engaged in the learning process and are encouraged to think critically and creatively.

➤ Real-world application: Project-based learning requires students to apply the knowledge and skills they have learned in a real-world context, helping them to see the relevance and importance of what they are learning (Jeffrey et al., 2010).

➤ Collaboration: Project-based learning encourages collaboration and teamwork, as students work together to solve problems and overcome challenges.

➤ Personalization: Project-based learning allows for more personalization and individualization of the learning experience, as students are able to work on projects that are of interest to them.

However, some challenges of project-based learning include:

➤ Time management: Project-based learning can be time-consuming, as students may need to work on their project over an extended period of time.

➤ Uneven participation: Some students may be more reluctant to participate in project-based learning, while others may dominate the process.

> ➢ Lack of structure: Project-based learning can sometimes lack structure, which can make it difficult for students to stay focused and on-topic.

Overall, project-based learning is a valuable teaching technique that can encourage active learning, real-world application, collaboration, and critical thinking. It is best used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

7. Flipped classroom

Flipped classroom is a teaching method that involves students watching pre-recorded video lectures or reading materials at home, and then coming to class to engage in collaborative and interactive activities that reinforce the concepts learned. In this approach, the traditional roles of lecture and homework are reversed. In a flipped classroom, students are expected to come to class prepared, having already learned the basic concepts through the pre-recorded lectures or reading materials (Bishop et al., 2013). The teacher acts as a facilitator, guiding students through collaborative activities such as group discussions, problem-solving exercises, and hands-on projects. Some benefits of the flipped classroom method include:

> ➢ Active learning: Flipped classrooms promote active learning, where students are actively engaged in the learning process and are encouraged to think critically and creatively.

> ➢ Personalization: Flipped classrooms allow for more personalization and individualization of the learning experience, as students can learn at their own pace and focus on the concepts that are most relevant to them.

> ➢ Flexibility: Flipped classrooms provide flexibility in terms of scheduling and pacing, as students can watch the pre-recorded lectures or read the materials at their own convenience.

> ➢ Collaboration: Flipped classrooms encourage collaboration and teamwork, as students work together in class to reinforce the concepts learned through the pre-recorded lectures or reading materials.

However, some challenges of the flipped classroom method include:

> ➢ Uneven participation: Some students may be more reluctant to participate in collaborative activities, while others may dominate the process.

> ➢ Technology issues: Flipped classrooms rely heavily on technology, which can be a challenge if students do not have access to the necessary devices or internet connectivity.

> ➢ Time management: Flipped classrooms require students to manage their time effectively, which can be a challenge for some students.

Overall, the flipped classroom method is a valuable teaching technique that can encourage active learning, personalization, flexibility, and collaboration. It is best used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

8. Gamification

Gamification is a teaching method that involves using game elements and game design techniques in non-game contexts, such as education (Fitzgerald, 2011). In gamification, students are motivated to learn through the use of game-like elements such as points, badges, leaderboards, and challenges, which make learning more engaging and fun. Gamification typically involves a structured process, which may include:

> ➢ Setting goals and objectives: Students begin by setting goals and objectives that they want to achieve through the gamified learning experience.

> ➢ Designing game elements: Teachers design game elements such as points, badges, and leaderboards that motivate students to learn and achieve their goals.

> ➢ Implementing game elements: Teachers implement game elements in the learning environment, such as in-class activities, quizzes, and assignments.

> ➢ Providing feedback: Teachers provide feedback to students based on their performance, which helps students to improve and achieve their goals.

Some benefits of gamification include:

> ➢ Engagement: Gamification makes learning more engaging and fun, which can motivate students to learn and achieve their goals.

> ➢ Personalization: Gamification allows for more personalization and individualization of the learning experience, as students can set their own goals and work at their own pace.

> ➢ Feedback: Gamification provides immediate and ongoing feedback to students, which helps them to improve and achieve their goals.

> ➢ Collaboration: Gamification encourages collaboration and teamwork, as students can work together to achieve their goals and compete with each other in a friendly way.

However, some challenges of gamification include:

> ➢ Overemphasis on rewards: Gamification can sometimes overemphasize rewards and incentives, which can lead to a focus on the rewards rather than the learning itself.

> ➢ Limited applicability: Gamification may not be applicable to all subjects or learning environments, and may not be suitable for all students.

> ➢ Limited effectiveness: The effectiveness of gamification in promoting learning outcomes is still an area of ongoing research and debate.

Overall, gamification is a valuable teaching technique that can enhance engagement, personalization, feedback, and collaboration in the learning environment. It is best used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

9. Collaborative learning

Collaborative learning is a teaching method that involves students working together in groups to achieve a common goal or complete a task (Schultz et al., 2014). In collaborative learning, students are encouraged to share ideas, work together, and learn from each other. Collaborative learning typically involves a structured process, which may include:

> ➢ Group formation: Students are divided into groups based on their interests, skills, or other factors.

> ➢ Goal setting: Students set a common goal or objective that they want to achieve through their collaborative work.

> ➢ Task distribution: Students distribute tasks among themselves based on their skills and interests.

> ➢ Collaboration: Students work together to complete the task, sharing ideas, knowledge, and skills.

> ➢ Reflection: Students reflect on their collaborative work, identifying what worked well, what didn't work, and what they could do differently in the future.

Some benefits of collaborative learning include:

➢ Engagement: Collaborative learning makes learning more engaging and fun, which can motivate students to learn and achieve their goals.

➢ Personalization: Collaborative learning allows for more personalization and individualization of the learning experience, as students can work on tasks that are of interest to them.

➢ Feedback: Collaborative learning provides immediate and ongoing feedback to students, which helps them to improve and achieve their goals.

➢ Collaboration: Collaborative learning encourages collaboration and teamwork, which are important skills for success in the workplace and in life.

However, some challenges of collaborative learning include:

➢ Group dynamics: Collaborative learning requires effective group dynamics, which can be challenging if students have different personalities, skills, or learning styles.

➢ Uneven participation: Some students may be more reluctant to participate in collaborative learning activities, while others may dominate the process.

➢ Time management: Collaborative learning can be time-consuming, as students may need to coordinate schedules and work together over an extended period of time.

Overall, collaborative learning is a valuable teaching technique that can enhance engagement, personalization, feedback, and collaboration in the learning environment. It is best used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

10. Differentiated instruction

Differentiated instruction is a teaching method that involves tailoring instruction to meet the individual needs, interests, and abilities of each student. In differentiated instruction, teachers recognize that students have different learning styles, interests, and readiness levels, and they adjust their teaching methods to accommodate these differences (Brooks et al., 1993). Differentiated instruction typically involves a structured process, which may include:

➢ Assessment: Teachers assess students' learning styles, interests, and readiness levels, using a variety of assessment tools such as pre-tests, observations, and interviews.

➢ Grouping: Teachers group students based on their learning styles, interests, and readiness levels, and create flexible groups that allow for movement and change.

➢ Instruction: Teachers provide instruction that is tailored to the needs, interests, and abilities of each group or individual student.

➢ Assessment: Teachers assess student learning throughout the instruction process, using a variety of assessment tools to check for understanding and adjust instruction as needed.

Some benefits of differentiated instruction include:

➢ Personalization: Differentiated instruction allows for more personalization and individualization of the learning experience, as teachers can tailor instruction to meet the needs, interests, and abilities of each student.

➢ Engagement: Differentiated instruction makes learning more engaging and relevant, as students are able

to work on tasks that are of interest to them and at their own level.

- ➢ Accessibility: Differentiated instruction ensures that all students have access to the material, regardless of their learning style, background, or readiness level.

- • Achievement: Differentiated instruction can lead to higher achievement levels, as students are better able to engage with the material and learn at their own pace.

However, some challenges of differentiated instruction include:

- ➢ Time management: Differentiated instruction can be time-consuming, as teachers need to create multiple lesson plans and assessments to meet the needs of each student.

- ➢ Teacher training: Differentiated instruction requires specialized training and expertise, which may not be available to all teachers.

- ➢ Group dynamics: Differentiated instruction requires effective group dynamics, which can be challenging if students have different personalities, skills, or learning styles.

Overall, differentiated instruction is a valuable teaching technique that can enhance personalization, engagement, accessibility, and achievement in the learning environment. It is best used in conjunction with other teaching methods to ensure that all students are able to fully engage with the material.

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