

Concept cartoons: Fostering engagement and meaningful discussion

Scenario

Although there are situations where teacher-led learning can be effective and appropriate, there can be drawbacks to relying on it solely, which can lead to passive learning where students are not engaged. When students are not engaged, they are less likely to be motivated to learn and retain information. Teacher-led instruction often emphasises rote memorisation of facts and information, which often does not promote deeper learning and critical thinking skills.

It is therefore important for teachers to use a variety of instructional approaches to engage students and promote deeper learning. An approach that I have focused on is promoting meaningful discussion in the classroom.

Discussion between students is a valuable teaching tool, as it promotes active learning, which helps students engage with the material and develop a deeper understanding of the content. When students are actively engaged in the learning process, they are more likely to remember and apply what they have learned. Discussions encourage students to think critically and analyse information from multiple perspectives. When students have the opportunity to discuss and share their ideas with their peers, they feel more invested in the learning process and are more likely to participate in class.

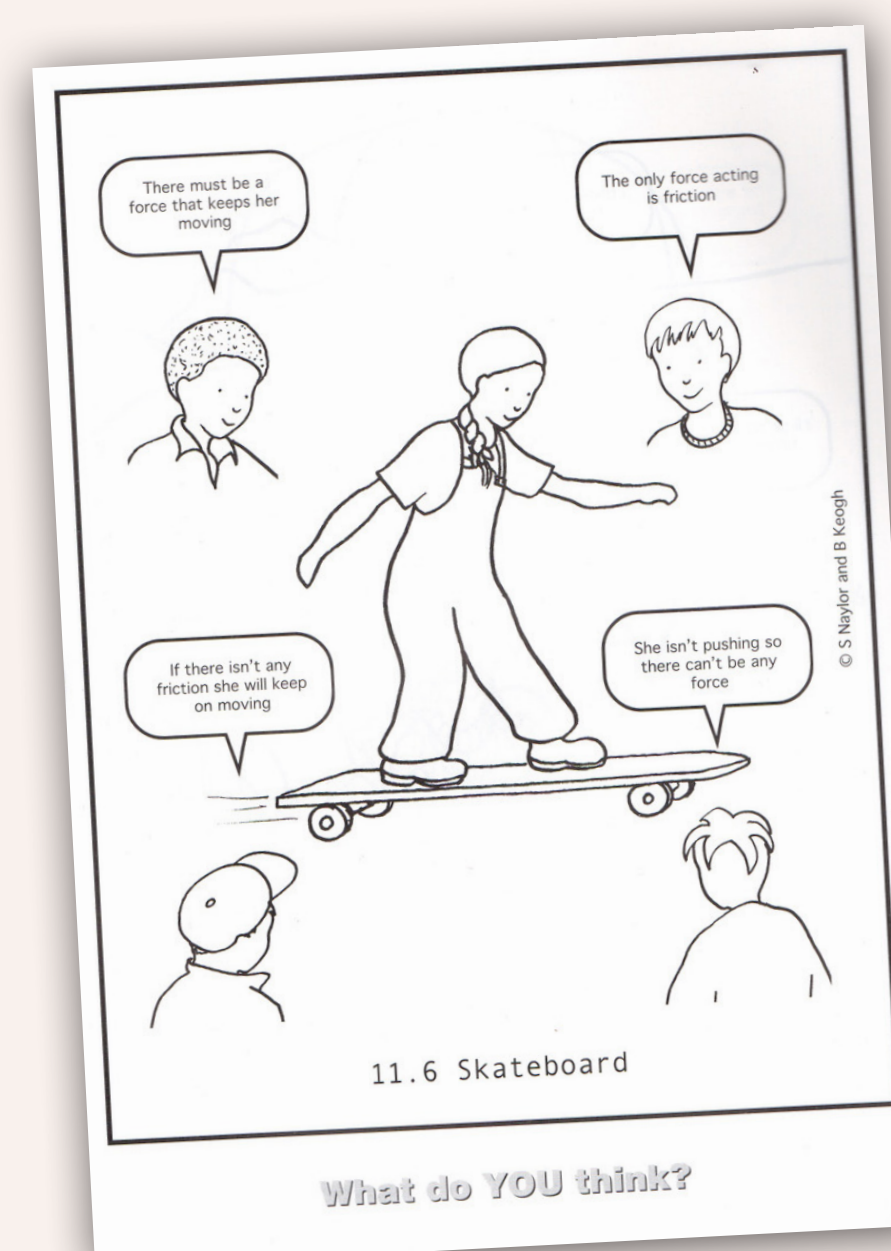
Problems

During group discussion, several problems can arise. These can include:

1. Unequal Participation: Some students may dominate the conversation, while others may not participate at all. This can be due to differences in personality, confidence, or language ability.
2. Lack of focus: Group discussions can easily get off-topic or become unfocused, especially if students are not clear on the purpose or goal of the discussion.
3. Miscommunication: Group discussions can also lead to miscommunication or misunderstandings if students do not listen carefully to one another or do not communicate their ideas clearly.
4. Groupthink: Where students may conform to the opinions of the group rather than expressing their own ideas or challenging others' perspectives.

A possible solution

Concept cartoons are a visual tool used in education to encourage students to think critically and engage in meaningful discussions. They typically comprise a short, illustrated scenario that presents a scientific or mathematical concept or problem.



Each cartoon features a group of characters who have different perspectives on the concept or problem, which creates an opportunity for students to engage in debate and discussion.

The characters' perspectives often represent common misconceptions or alternate ways of thinking about the concept or problem, which can help students identify and correct their own misunderstandings.

There is a growing body of evidence that suggests concept cartoons are an effective teaching tool, as they encourage active student engagement and help students develop critical thinking and problem-solving skills, leading to improvements in understanding and the ability to identify and correct misconceptions^[1].

Method

I used Brookfield's Lenses^[2] to evaluate the use of concept cartoons to promote meaningful discussion in the classroom. This approach uses several perspectives which are: autobiographical, the Colleague, the Student, and the Theoretical.

Through this process, I could examine my own experiences and biases, consider different perspectives, and evaluate the strengths and weaknesses of my approach.

It gave me a deeper understanding of how different perspectives influence teaching and learning and provided me with insights to make improvements.

Findings

Before incorporating concept cartoons into lessons, discussions were initiated using straightforward instructions, such as asking students to discuss their views on the direction of thermal energy flow and provide reasoning. Unfortunately, this method often resulted in disengagement, as observed through off-topic discussions while I circulated the classroom. However, introducing concept cartoons did improve student engagement. I have found that inclusion of contradictory statements within the cartoons prompts students to analyse, evaluate, and discuss multiple perspectives, improving their level of participation and critical thinking.

Unfortunately, published cartoons that align with specific subject matter, are not widely available. I found 'The Essential Five: A Starting Point for Kagan Cooperative Learning'^[3] to be effective for fostering meaningful discussions in lessons. This approach allows for collaborative learning and active student engagement.

I have shared the idea of using concept cartoons with colleagues who have implemented them into their lessons. The feedback from other teachers has been positive, and it's encouraging to see the impact of the approach on teaching and learning across different classrooms.

The students' response to concept cartoons has been positive too. In a recent survey, where I asked students to rank their favourite types of learning in science, discussion emerged as their second favourite out of eight, with practical work ranking first. This shows that students value the interactive nature of discussions facilitated by concept cartoons.

In another survey, I provided students with the opportunity to share their thoughts on the use of concept cartoons. One student mentioned how they make discussions more interesting. This highlights the transformative effect concept cartoons have had on the engagement and enjoyment of discussions. Another student reflected on the value of the cartoons in promoting critical thinking, and another expressed enthusiasm about sharing their ideas.

References

- [1] Keogh, B. and Naylor, S. (1999) Concept Cartoons, Teaching and Learning in Science: An Evaluation. *International Journal of Science Education*, 21, 431-446.
- [2] Brookfield. (2017). *Becoming a critically reflective teacher* (Second edition). Jossey-Bass.
- [3] Clowes, G. *The Essential 5: A Starting Point for Kagan Cooperative Learning*. San Clemente, CA: Kagan Publishing. Kagan Online Magazine, Spring 2011. <https://www.KaganOnline.com>

Concept cartoons have helped to bridge the gap between abstract concepts and real-life applications.

Their use has invigorated student engagement and participation in discussions.



Concept cartoons make discussions more interesting. Before we used them, it could be a bit boring.

The cartoons taught me that there's no right or wrong answer all the time. They made me think, 'What do I believe and why?'

I got to share my ideas with my friends. It's like a puzzle, and I liked figuring it out.