



Toolkit 2

Theatre Techniques & Performing Arts in STEAM education

2.1 Incorporating Theatre in STEAM Teaching

The Mimesis project aims to enrich education by enabling children to explore various math and science concepts through the captivating world of performing arts. This innovative approach combines academic knowledge with artistic expression, offering a global and engaging learning experience. The integration of theatre techniques into STEAM (Science, Technology, Engineering, Arts, and Mathematics) education provides a powerful and multifaceted approach to engage students in their learning journey. In this toolkit, we will explore the key strategical elements and examples of how to seamlessly blend theatre with STEAM, fostering a deeper understanding and appreciation for these subjects. All the examples are here to inspire, they are not mandatorily linked to a Mimesis Activity.

Fostering Joy and Excitement

The incorporation of theatre techniques creates a joyful and stimulating learning environment. It allows students to explore a wide range of emotions and express their thoughts freely, promoting self-confidence, empathy, and emotional intelligence. Joy is important in education because it enhances the learning experience and promotes overall well-being. When students feel joyful in their learning environment, they are more motivated, engaged, and open to new experiences. Joyful learning stimulates curiosity, creativity, and a sense of wonder, which are essential for fostering a love of learning. Going further, integrating emotions into the pedagogical choices involves creating opportunities for students to explore and express themselves in a more supportive and safe environment.



[Watch tutorial](#)



Emotions



Emotions play a crucial role in learning and memory formation, as they help students make connections and deepen their understanding of concepts. To support this approach, the Mimesis activities rely on several pillars enabling smooth implementation in the classroom:

1. Create a positive and inclusive classroom environment, fostering a sense of belonging and respect
2. Incorporate storytelling and personal narratives for students to share their personal experiences, thoughts, and feelings related to the subject matter
3. Use multimedia and visual aids such as videos, images, music, and other forms of multimedia to evoke emotions and engage students emotionally
4. Incorporate reflection and discussion for students to reflect on their learning experiences and discuss their emotions and reactions
5. Encourage creativity and self-expression that allow students to express their emotions through art, writing, drama, or other creative outlets

Example: An immersive science class includes a dramatic role-play of famous scientists' discoveries. Students get to embody the scientists, reliving their experiments and discoveries, which instils a sense of excitement and curiosity about scientific breakthroughs.



Developing Essential Life Skills

In addition to academic knowledge, theatre in STEAM education nurtures essential life skills that are pivotal for success in the 21st century. These skills include effective communication, teamwork, problem-solving, creativity, critical thinking, adaptability, and interdisciplinary thinking. Through collaborative projects and group performances, students have the opportunity to develop and strengthen these skills. Effective communication is essential for expressing ideas, collaborating with others, and presenting performances. Teamwork is fostered through collaborative projects where students work together towards a common goal.



Problem-solving skills are honed as students encounter challenges and find creative solutions. The arts encourage creativity and the ability to think outside the box. Critical thinking skills are developed through analyzing and interpreting scripts, performances, and feedback. Adaptability is cultivated as students navigate different roles, scenarios, and improvisation. Lastly, interdisciplinary thinking is fostered as students integrate knowledge from various disciplines, such as science, technology, engineering, arts, and mathematics, to create meaningful performances and projects.

Example: In a science-themed theatre project, students work together to create a play about a scientific discovery. They learn to collaborate, communicate their ideas effectively, and solve challenges, mirroring real-life scientific teamwork.

Making Abstract Concepts Tangible

Abstract concepts in subjects like science and mathematics can sometimes discourage children from learning because they may find it difficult to grasp or relate to these concepts. When presented in a traditional, abstract manner, these concepts can feel distant, confusing, and uninteresting to students. This lack of understanding and connection can lead to disengagement and a loss of motivation to learn. Theatre techniques provide a unique way for students to visualize and understand abstract scientific theories and mathematical principles. Through dramatic play, they can bring these concepts to life, making them more tangible and relatable.



Through embodiment and enactment, students can interact with these concepts more concretely and experientially, making them easier to understand and remember. Furthermore, theatre encourages active participation and ownership of learning. By involving their bodies, voices, and creativity, students become active learners who are invested in their education. This active engagement helps to counteract any potential discouragement caused by abstract concepts, as students take an active role in understanding and mastering these ideas.

Example: To explain chemical reactions, students create a mini-theatre production where they personify chemical elements and show how they interact, helping their peers understand complex chemical processes.



Mixing Theatre Games and Learning

Theatre games involve various improvisation exercises, role-playing, and storytelling techniques that encourage students to actively participate, think creatively, and apply their knowledge in a theatrical context. They provide a hands-on and dynamic approach to learning, allowing students to explore different subjects while fostering collaboration, critical thinking, and self-expression.

The use of theatre games is a compelling educational strategy within STEAM education. These games not only make learning fun but also serve as a platform for children to grasp new concepts and hone their speech, verbal, and non-verbal communication skills.



Example: Imagine a math class where students engage in a lively "math charades" game. They act out operations or geometric shapes, reinforcing their understanding while enjoying the process.

Developing Active Learning and Ownership

Active learning and Ownership in education refers to a teaching and learning approach where students are actively engaged in the learning process. It involves students participating and taking responsibility for their learning through activities such as discussions, problem-solving tasks, hands-on experiments, and projects. Students can take ownership of their learning process and outcomes. Hence, they actively engage in their education, develop a sense of responsibility for their learning, and become motivated to learn, while developing a deeper understanding, critical thinking, and retention of knowledge. They take an active role in setting goals, making decisions, and reflecting on their progress.

Active learning and ownership are crucial in education because they promote deeper engagement, understanding, and retention of knowledge. When students actively participate in their learning process, they become more invested in their education. In the framework of Mimesis, we want to encourage including theatre as a way to foster active participation and engagement. By involving their bodies, voices, and creativity, they take an active engagement that helps to enhance motivation, critical thinking, problem-solving skills, and creativity.



Example: In a technology-focused theatre project, students script and perform a play about technological advancements. This hands-on approach deepens their understanding and instils a sense of pride in their work.