



HOW TO USE STEAM TECHNOLOGIES IN TEACHING ENGLISH

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Annotation. The article shows the usage of STEAM (Science, Technology, Engineering, Arts and Mathematics) technologies in teaching English as a foreign language. It proves how incorporating STEAM technologies into English lessons can provide a holistic learning experience that fosters creativity, critical thinking, and interdisciplinary connections. Here are some ideas on how to integrate STEAM technologies into English lessons. The basis of modern approaches, the suggestions and recommendations for enhancing the information methodological support for the development of communicative, linguistic, sociolinguistic, pragmatic, speech and lexical competences with the help of STEAM technologies in teaching English are explained in the article.

Key words: improve, descriptive, encourage, support, functional, evaluating.

Using STEAM (Science, Technology, Engineering, Arts, and Mathematics) technologies in English teaching can create interactive, engaging learning experiences that enhance language acquisition and build students' critical thinking skills. Here's a guide on how to incorporate STEAM elements in English language teaching:

1. Coding and Robotics for Vocabulary and Sequencing

Programming Platforms: Tools like Scratch or Blockly use simple, visual-based coding that allows students to create stories and animations by sequencing blocks of code. This encourages language skills such as sequencing, descriptive language, and logical connectors (like "if-then").

Educational Robots: Robots like Bee-Bot and Ozobot can help students follow instructions, describe movements, and practice direction-based language (e.g., "turn left," "move forward"). Students can program the robot to complete a "mission" by writing or speaking instructions, improving their vocabulary and sentence structure.

2. Using Virtual Reality (VR) for Immersive Language Practice

Virtual Field Trips: VR tools, like Google Earth VR or ClassVR, allow students to explore famous landmarks and different environments. Teachers can create tasks around describing the scenes, practicing descriptive language, and discussing cultural elements.

Scenario-Based VR Games: Language-learning VR games or simulations like Mondly VR provide real-world conversational practice in different scenarios, helping



students practice phrases, pronunciation, and situational language in a low-pressure environment.

3. 3D Printing for Project-Based Learning and Vocabulary Development

Design and Print Projects: Students can create objects related to their lessons, such as designing a model of a character or place they read about. They then describe the process and their final product, using specific vocabulary and practicing descriptive and procedural language.

Collaborative Projects: Students can work in groups to design and 3D-print a project, such as a model of a city or a biome, encouraging language skills related to teamwork, problem-solving, and discussing designs and ideas.

4. Art and Design for Storytelling and Language Skills

Digital Art Platforms: Applications like Canva or Tinkercad allow students to create posters, storyboards, and presentations. They can practice writing and speaking by describing their projects, sharing the steps taken, or presenting their final work.

Animation Tools: Platforms like Animoto and Powtoon enable students to create animated stories, using narrative language, dialogue, and descriptions. This is an engaging way for them to apply grammar structures and vocabulary in context.

5. Mathematics and Data Analysis for Critical Thinking and Language Practice

Graphing and Data Tools: Use platforms like Google Sheets or Desmos to analyze and graph data. Students can collect data on classroom topics (such as favorite foods, weather reports, etc.) and create presentations where they describe and interpret the results, using comparative language and presenting logical conclusions.

Real-Life Math Projects: For instance, planning a “budget” for a hypothetical trip, including costs for transport and accommodation, encourages students to use numbers, compare prices, and make decisions, supporting functional language and real-world communication skills.

6. Engineering Projects for Problem-Solving and Discussion

STEM Challenges: Small engineering projects, like building bridges with craft materials, encourage students to work together and use target vocabulary as they discuss their designs, explain their choices, and problem-solve together.

Design Thinking: Encourage students to follow the design-thinking process (empathize, define, ideate, prototype, test) on simple challenges, like designing a useful classroom tool. This structured approach lets students practice functional language at each step, including asking questions, making suggestions, and evaluating ideas.



Tips for Effective STEAM-Based English Teaching

Encourage Group Work: STEAM projects often benefit from teamwork, which provides natural opportunities for conversational practice, negotiation, and explanation.

Focus on Process Language: Guide students in using language that explains their thinking, process, and choices—phrases like “I think we should...” or “Let’s try this because...”.

Incorporate Reflection: After each project, have students write or discuss what they learned and how they approached the project, reinforcing reflective language and self-assessment skills.

Conclusion

Integrating STEAM into English teaching makes language learning active, fun, and relevant to real-world skills, and helps students become not only better communicators but also more versatile thinkers. The integration of STEAM technologies into English lessons offers a wealth of opportunities to enhance student learning, promote creativity, and prepare students for success in the 21st-century workforce.

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