Primary Years Programme

RESEARCH SUMMARY

Facilitating curiosity and creativity in the classroom: An international multisite video study

Summary developed by the IB Research department based on a report prepared by:
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Purpose

The purpose of this study was to understand how teachers from diverse contexts endeavour to facilitate curiosity and creativity among International Baccalaureate (IB) Primary Years Programme (PYP) students. Funded with generous support by the Jacobs Foundation, a research team at the Oxford University Centre for Educational Assessment (OUCEA) conducted a multi-site, international study across nine countries and nine schools. Findings from this study could inform the development of resources to enhance teachers' professional development in fostering these important 21st century skills. The current summary focuses on the five promising practices for supporting student curiosity and creativity, which were identified through the research.

This study was conducted in parallel with a project by the Australian Council for Educational Research (ACER) that aimed to develop transcripts to track learner progress in the domains of creativity and curiosity.

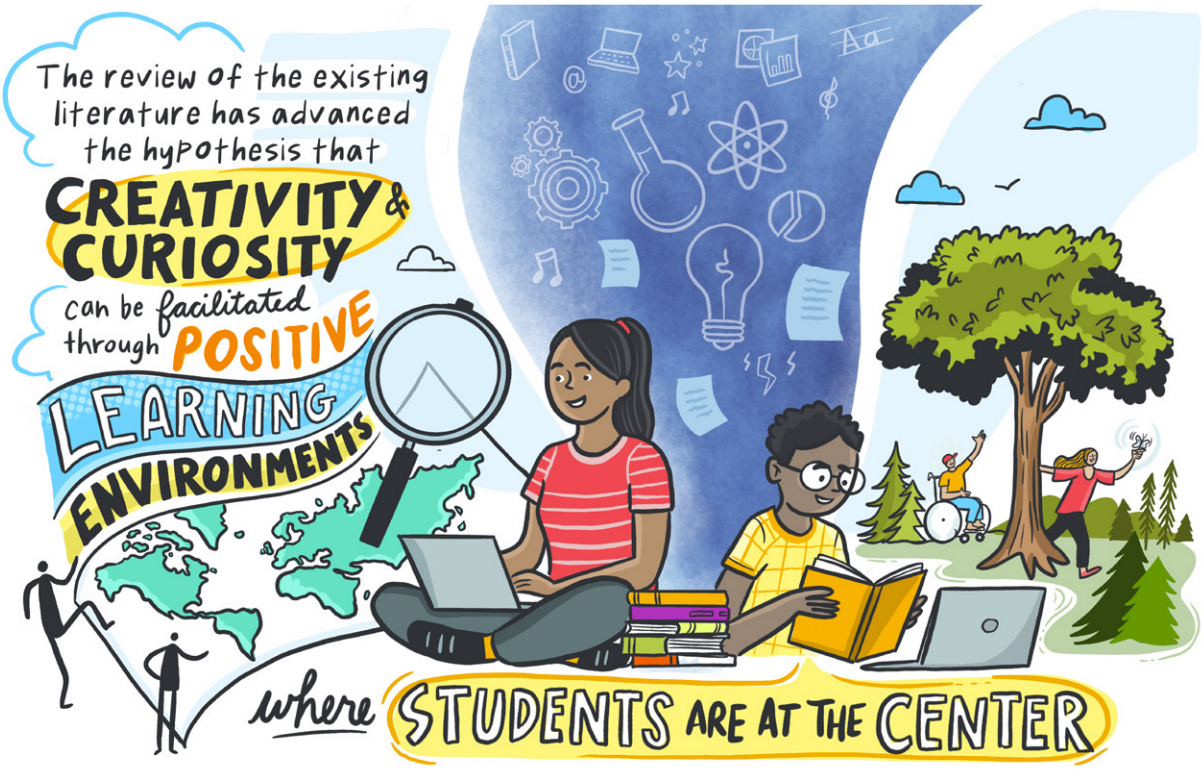
Research design

The OUCEA study was conducted in four phases.

- **Instrument development:** The research team developed classroom observation tools, video analysis protocols, interview schedules, and quantitative curiosity and creativity student tasks. These instruments were developed to identify promising practices that may be suitable for use in PYP classrooms across different contexts and cultures.
- **School recruitment:** OUCEA and the IB recruited PYP schools and teachers to explore and implement the promising practices. COVID-19 limited the availability of schools that were able to participate and, as a result, seven of the nine participating schools are located in Europe.
- **Data collection:** Adapting their original data collection approach due to COVID-19, the research team collected data remotely from classrooms across the globe, using teacher-captured classroom videos, as well as online consultations, student creativity and curiosity tasks, and teacher and student interviews.
    - **Video recordings:** This study used a participatory video approach that involved online collaboration with teachers. First, the OUCEA team reviewed relevant research to identify best practices for conducting classroom video studies. The research team then asked teachers to capture videos of classroom practices, tasks or interactions that they perceived as fostering creativity and curiosity. The goals were to focus on what constitutes evidence

of teachers fostering curiosity and creativity, and to identify the ways in which they can improve their practices in this area.

- **Material development:** The research team developed project videos as well as other materials, such as infographics, to explain the different promising practices that foster curiosity and creativity, and to engage teachers in knowledge exchange and feedback.



Promising practices

Based on the findings of the study, the researchers suggest the following promising practices which may help to foster students' creativity and curiosity. These promising practices are presented in five themes: diversifying feedback pathways, encouraging self-regulated learning, nurturing an inquisitive mind, facilitating collaboration and exercising choice over self-expression.

Limitations

The promising practices should not be considered prescriptive but rather suggestions for consideration. Many of the identified practices are already being used in schools to support teaching and learning processes. **However, given the exploratory nature of this study, more research would be needed before schools may confidently use any of the identified practices with an expectation of increasing creativity and curiosity outcomes in students.** The research team

recommends that future studies include additional countries to provide more diversity in the sample, with a particular focus on including state or public schools, alongside private schools. Lastly, the data does not lend itself to drawing any conclusions regarding the long-term impact of the identified promising practices on student curiosity and creativity outcomes.

Diversifying feedback pathways

Support, challenge and extend students' thinking

- Use peer-, teacher- and self-generated feedback to support students to reflect on both the creative process and the creative product.
- Avoid dismissing ideas and opinions without engaging with the rationale or explanation behind an idea—this will only narrow perspectives and cause loss of nuance and the value of complexity.

Provide positive feedback and create safe spaces

- Use positive and encouraging feedback to create a space where divergent thinking is welcomed and valued.
- Use constructive and supportive feedback that indicates how an idea can be developed, transformed or improved.

Value student contributions through knowledge co-creation

- Use feedback to explicitly draw attention to the value of student contributions. When giving feedback, it is important to be specific about *what part* of the contribution is helpful/good/well-articulated or *why* it is helpful/good/well-articulated.
- Ensure that student contributions, ideas and questions form a large part of knowledge co-creation.

Encourage student reflection and self-generated feedback

- Support the self-generation of feedback about the creative process and product by giving students the time, language and means to reflect regularly.
- Allow students to experiment with how feedback is produced and used—some may respond better to feedback that is generated by themselves or others, while some may prefer written, verbal or pictorial ways to engage and remember. The key element is that students engage with the feedback and take the ideas forward.

Encouraging self-regulated learning

Help students to set goals and prepare and plan for achieving these goals

- Help students to set goals about how they will focus, learn and interact with those around them.

- Create space and time for students to find a way to plan that works for them as an individual. Help them learn how to break down tasks into manageable chunks, so that starting a task is not too daunting.
- Use spoken, written and visual reminders to support students in beginning, progressing and completing their tasks.

Create a safe environment for mistakes

- Model and encourage low-stakes mistake-making where students can experiment, extend their thinking, puzzle through a dilemma and try new pathways without worrying about achieving the "correct" answer the first time.
- It can help to pick tasks and questions that have either multiple answers or multiple pathways to achieving a solution.
- Encourage students to learn from their mistakes by using reflection to make abstract learning processes more visible and memorable. This contributes to a growth mindset.

Nurturing an inquisitive mind

Encourage students to wonder, identify knowledge gaps and share ideas

- Model and encourage students to ask both "inward" and "outward" questions to help them to reflect, and identify and fill knowledge gaps.
- Model and encourage wondering about what is unknown during a lesson to increase curiosity.
- Incorporate peer-to-peer discussions during lessons to help students identify and fill knowledge gaps and share ideas.

Connect the classroom to the outside world

- Provide opportunities for students to make connections between lessons and their everyday lives.
- Encourage students to raise questions about the relevance of the learning session to current world events.

Facilitating collaboration

Articulate purpose and organize groups

- Clearly articulate the purpose of every activity and organize tasks to help students to engage with this purpose, explore their own curiosity and begin to develop their own ideas.
- Carefully select groups so that students learn to work with a diversity of collaborators and experience multiple ways of working.
- It can also be helpful to give students agency over who they work with and how they work with them.

Engage students in the collaborative process

- Emphasize that diverse ideas are important and that there are multiple ways to reach the intended goal; use this to introduce the importance of compromise and group decisions.
- Model and encourage the use of listening, sharing, explaining, turn-taking, reflecting, agreeing and even disagreeing.
- Help students to share the responsibilities of the task to encourage productive group work.

Facilitate reflection during and after collaboration

- Help students to use reflection to make invisible learning processes visible. It is also helpful to allow students to experiment with how they like to reflect.
- Provide students with time to reflect on and write about how well the collaboration went, as well as ways in which the collaboration could be improved.

Exercising choice over self-expression

Offer opportunities for choice and risk-taking

- Provide choice over how students explore, reflect and communicate during their learning.
- Explicitly draw attention to the value of student expressions. Integrate opportunities for students to express themselves in multiple ways, including acting, building, dancing, miming, writing, crafting, painting, sketching and doodling.
- Support each student's confidence by giving choice over how, where and when they share their views and creations.

Link creative self-expression to curiosity

- Regularly integrate opportunities for students to follow their curiosity in trying out new ways to express themselves.
- Support students' confidence in both their creative capabilities and their creative outputs.
- Seek opportunities to point out how students' creativity and curiosity are valuable to the class, school and broader community.

Methodological innovation

Due to the COVID-19 pandemic, the research team had to pivot from the original plan of visiting schools in-person and think creatively about feasible options that would allow researchers to maintain the robustness and fidelity of the data. As a result, the study makes a significant methodological contribution to classroom research with its novel and flexible approach to collaborating with teachers online, using teacher-captured video recordings to understand how they facilitate curiosity and creativity, and developing a number of online instruments.

Conclusions

This project responded to the need for a rigorous and high-quality exploration of the practices to support creativity and curiosity in primary school classrooms. In the study, researchers worked with nine schools in nine different countries to identify, evaluate and share these promising practices. Based on the findings, the research team identified five promising practices that may support the development of student curiosity and creativity: diversifying feedback pathways, encouraging self-regulated learning, nurturing an inquisitive mind, facilitating collaboration and exercising choice over self-expression. Further research will be required to validate these promising practices and to assess their long-term impact.

This summary was developed by the IB Research department. A copy of the full report is available at www.ibo.org/en/research/. For more information on this study or other IB research, please email research@ibo.org.

To cite the full report, please use the following: Hopfenbeck, T. N., Denton-Calabrese, T., Johnston, S.-K., Scott-Barrett, J., & McGrane, J. A. (2022). *Facilitating curiosity and creativity in the classroom: An international multisite video study*. International Baccalaureate Organization.