



Developing Self-Efficacy in Year 10 Boys Through a Collaborative Innovation Task

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Further Information
This poster and further information is available at <http://www.theibsc.org/>

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Introduction

This research aimed to help encourage boys to find their voice and allow them to develop skills that would see them well into the future. By using a collaboration task, the boys needed to develop skills not only to communicate their ideas, but also learn how to listen, and be a contributing member of the partnership. They encountered challenges along the way, needed to be adaptable to changes, show resilience, and have the drive and motivation to complete tasks.

Boys need to be involved in learning with meaningful and real-life activities (Hartwell-Walker 2018). Through this research it was evident that the boys found a sense of agency in their learning.

The Research Question

How can a Collaborative Innovation Task Empower Year 10 Boys' Self-Efficacy?



Research Context and Participants

Rathkeale College, founded in 1963, is an Anglican state-integrated school. The campus is set on 120 acres and is surrounded by native bush. The desire to develop "Good Rathkeale Men" and live up to the motto *Nil mortalibus arduum est* - Nothing is too difficult for mortal man - is indicative of Rathkeale's focus on the importance of citizenship, traditional values and all-round achievement.

The participants were 13 Year 10 boys (14 to 15-year olds) who had chosen the elective subject option, Agricultural Science. I chose the Year 10 cohort as it enabled me, as an action researcher, to continue to follow their schooling journey and their development of self-efficacy after this action research had been completed.



The Research Action

The boys had 15 contact lessons for the task 'How to Reduce Farming's Environmental Impact Through Innovation.' With this task, they were required to come up with an innovation that had agricultural relevance, which will increase sustainability on the farm, and reduce the farm's environmental impact.

Stage 1 - Background: The boys looked at what is self-efficacy and what is collaboration. A video journal entry by the boys regarding their work ethic, strengths, and weaknesses and apprehensions going into the task.

Stage 2 - The Task and Baseline Survey: The task and milestones were explained to the boys, with partners drawn at random. Class discussion on how to communicate clearly and effectively. Initial baseline survey was completed.

Stage 3 - First Half of the Task: The boys continued to work on their task and reflected on the task.

Stage 4 - Second Half of the Task: The boys unpacked Bandura's theory on self-efficacy and then related his theory to the collaboration task that they were completing.



Stage 5 - The Presentation: Industry judges were brought in for the boys to pitch their idea to. No teacher or peers were present.

Stage 6 - Final Reflection: The boys retook the baseline survey after they had presented and recorded a video journal entry. The focus group took place one week later where a series of questions were asked by a different teacher, - I was not present - to try to increase the authenticity of their answers.

Data Collection and Analysis

Polyangulation of data meant that I had greater confidence in the action research findings (Mertler, 2017).

Qualitative methods of data collection:

- Interviews with participants (individual & a focus group)
- Researcher observations, including photos
- Video entries (open-ended interviews - before, during and after action)

Quantitative method of data collection:

- Likert rating scales (before and after action)

Coding and categorising were carried over into the interviews and journal entries. This allowed a holistic understanding of the emerging patterns and themes coming through the action research. I was interested in finding the key experiences that students had, and how they overcame challenges to increase their own self-efficacy and sense of agency.

Key Findings and Discussion

Social Modelling has a Persuasive Impact on the Individual
Whether it be positive or negative, social modelling had a large influential impact on the boys' self-efficacy towards a task, their belief, and the group's efficacy.

Goal Setting and Resilience to Challenges

The boys developed a greater awareness of goal setting and they felt that, if presented with another collaboration task, they would feel confident to tackle it.

Communication is Key for Collaboration

Giving verbal encouragement to their partner gave support, confidence, and self-belief, which in turn led to accomplishment and success in the task. The boys had courage to believe that their words would be motivating, which shows the development of self-efficacy.



"I learnt that I can work collaboratively with someone that I have never worked with before."

"Encouraging each other to do something that we both weren't comfortable doing."

"We pushed each other... and we both believed in doing our best on the project."

"...plan, delegate and split the task up."

"I learnt perseverance off my partner."

Conclusions

Developing self-efficacy was about getting the boys to lean into their agency and empowering them to take the lead. The curriculum must provide opportunities for development. They achieved this through recognizing the importance of modelling, communication, and goal setting. All three skills reinforced each other and encouraged growth mindset when they were confronted with challenges.

By developing a greater awareness of goal setting, it developed self-efficacy in the boys through their learning, as it allowed the development of the boys' own understanding of themselves as learners, and their self-belief in their ability to learn. The boys learnt more through peer interaction than solely listening to the teacher or independently. As educators we need to take advantage of this. Using a collaboration task positively influenced the boys' connections within the classroom as they taught each other, solved problems, planned, and succeeded together.

Key Readings

- Burross, H.L., and McCaslin, M. (In Press). *Peer Relationships, Learning Motivation and Relationships, Classroom Dynamics*. Retrieved January 4, 2020, from [Peer Relations and Learning https://education.stateuniversity.com/pages/2315/Peer-Relations-Learning.html](https://education.stateuniversity.com/pages/2315/Peer-Relations-Learning.html)
- Davis, A. (2019). Developing Student Agency through motivationally anchored instruction. *SET*, 42-48.
- Zimmerman, B.J. and Cleary, T.J. (2005). Adolescents' Development of Personal Agency: The role of Self-Efficacy Beliefs and Self-Regulatory Skill. In F. Pajares & T. Urdan (Eds.), *Self-Efficacy Beliefs in Adolescents* (pp. 45-69). Greenwich, Connecticut: Information Age. Publishing.



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