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About the Barker Institute:

- Provides a centre for research, reflective practice, professional learning and innovation in education

- Is a resource hub that facilitates the ongoing development of learning for teachers, allowing them to stay abreast of emerging practice, constantly striving to refine the quality of teaching and learning

- Looks to develop collaborative ventures with other institutions and providers, initiating research and innovation combined with the implementation of new projects and programs for the benefit of students, staff and the broader community

- Shares current research and issues with parents, professional bodies and educators around the globe through ongoing symposia, forums, lectures and conferences

About the Learning in Practice Journal:

As a leader in Christian education, Barker College aims to both demonstrate and inform best practice. This journal was developed to showcase a range of initiatives and research projects from across the School. It explains the rationale behind innovations in practice and archives pivotal developments in Barker's academic, co-curricular and pastoral realms.

About the Author

Malyn Mawby is a Computer Science teacher and Assistant to the Director of Educational Measurement & Testing. Her previous IT career developing information systems influenced her appreciation for data-based decision-making and viewing teaching practice as a design process. Insights into individual learning needs deepened with completion of post-graduate Special Education studies. Malyn is interested in promoting wellbeing and nurturing the social aspects of learning for both teachers and students. She contributes to face-to-face discussions as well as leverages social media including blogging. Malyn is also a Board Director of ICT Educators NSW, a non-profit organisation providing professional development activities and resources.

Hope: An action-research project on student wellbeing

Malyn Mawby
Assistant to Director of EMT and Computer Science Teacher

Abstract

The development of metacognitive and positive self-regulation skills is typically associated with academic achievement. This action-research project explored the question: "Does systematic integration of self-regulation processes in a year 12 Software Design and Development (SDD) class impact on student wellbeing?" Would there be positive, negative or no impact on students' confidence that their effort will bring about improvements? The research population comprised of nine male year 12 students studying Software Design and Development. Findings suggest that there are impacts, both positive and negative.

Introduction

The rationale for the action research project was three-pronged. Firstly, the teacher was already committed to developing metacognitive and positive self-regulation skills in academic teaching and learning activities. Secondly, the School's aspiration to 'inspire global hope' presented a worthy challenge. Finally, there was genuine personal curiosity on the impact on student wellbeing, particularly with consistent introspection characteristic of regular self-regulatory practice. The hypothesis was there was an impact.

The action-research project started with a literature review. The review presented several challenges with regards to research on wellbeing, particularly the work of Duckworth and Yeager (2015) and the challenges of terminology, measurement and paucity of research compared to cognitive and academic achievement. These researchers also provided a pragmatic approach in establishing constructs and research methodology. The review also paved the way to establishing Zimmerman's self-regulatory model (1998) as the framework of choice along with recommended pedagogical practices to do so (Schunk & Zimmerman, 1998). Research on self-efficacy (Bandura, 1977) would prove useful even though associated more with cognitive skills as opposed to wellbeing.

Research Design

Two action-research cycles were planned, each of which would comprise student self-reporting through surveys, teacher observation and performance tasks measuring the construct of student 'hope', or confidence in positive mutability. As Duckworth (2016) puts it: "Hope rests on expectation that our own efforts can improve our future."

Quantitative and qualitative data would be collected and analysed to highlight patterns and trends. A subset of Barker's revised language on effort for academic reporting — or

approaches to learning — would be employed as observable indicators of confidence in action. A ten-point scale for quantitative rating of confidence would be subjected to the Wilcoxon test (Clegg, 1983) to determine if the null hypothesis that there is no impact on student wellbeing could be refuted.
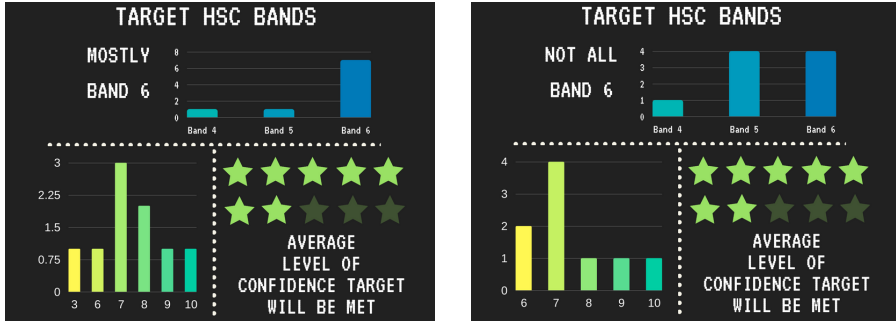
Findings/Results

Figure 1- Before and After: Confidence levels

Figure 1 shows there was an increase in the number of students aiming to achieve Band 6. There was no change in the average level of confidence that the target goals would be met. However, the spread of rating increased with a huge drop from 6 to 3 by one student.
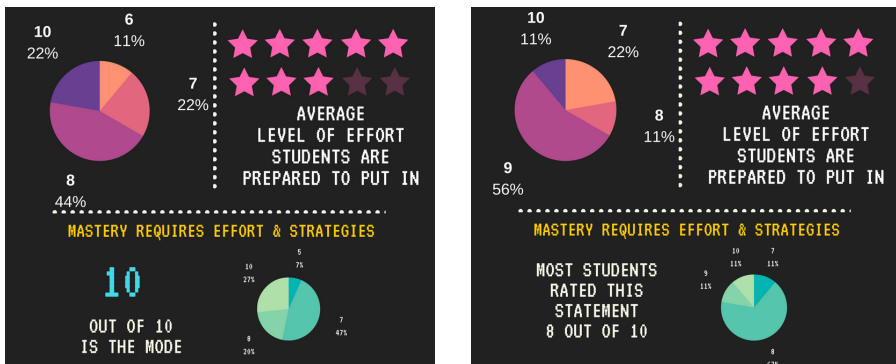

Figure 2- Before and After: Effort levels

Figure 2 shows the average level of effort students were prepared to put in has dropped. There is a new low of 6. While the most popular rating for "Mastery requires effort and strategies" has changed from 8 to 10, the number of rating greater than 7 is, in fact, lower in the end.

Presented this way, one could surmise positive and negative impacts. Based on the Wilcoxon test on student self-report data, the null hypothesis could not be dismissed. Teacher observation data, on the other hand, did give a p rating ≤ 0.10, suggesting that the null hypothesis could be refuted.

In fact, there were more incongruences between student self-report and teacher observation data using generic 'confidence' or more detailed approaches to learning. Further analysis and triangulation were needed to test the hypothesis further.

Figure 3- Data slice by self-reported change in confidence

Four students recorded no change in confidence level rating. These students mostly reported no change in the effort they were prepared to put in either. Two are high achievers and presumably already demonstrating sufficient effort. Their performance task data showed contextual variations in confidence and effort. Weekly surveys and teacher observation data would corroborate observed changes in approaches to learning as well.

Three students reported a positive gain. One is a high achiever and recorded the biggest increase in effort he was prepared to put in. He was a glowing example of active hope realising an optimistic belief that effort would bring achievement. This category showed the neatest alignment of triangulated data in which there was consensus data. One student proved fascinating in that the reduction in effort he was prepared to put in echoed his disposition for underachievement despite being generally optimistic and positive. He was a typical example of unsubstantiated hope (vs active hope).

Two students reported negative impact on confidence levels. This reduction of hope was further evident in diminished effort they were prepared to put in. Further analysis of the data revealed that both students increased their effort in Cycle 2. One of these students could be viewed as an outlier pulling averages down and had other factors affecting his wellbeing. Similarly, the other student was the only one who did not complete any of the three performance tasks required in the project.

What this all suggests is that there were positive and negative impacts on student wellbeing, especially at contextual levels. Even the ones who reported no impact at a high level still demonstrated variations depending on context.

I hope
I do better as I begin to work harder
To do well on the project
I can argue a few marks
I can get at least 20% more in the next exam
I do this well in upcoming assessment task
I will be able to improve for the final examination
I can continue studying efficiently for SDD
That I can maintain these marks for the remaining assessments
The next project is easier than I'm expecting

Figure 4-"I hope" statements

These 'I hope' statements gathered at the end of the action research project, reveal some interesting patterns:

- Mostly forward-looking, particularly towards future assessments.

- Collectively demonstrate a sense of optimism. Perhaps this explains the increase in the number of students aiming for a Band 6 in the HSC.

- Many statements, including the backward-looking "I can argue a few marks", reflect how students internalised the meaning of active hope, where improvements relied upon personal effort, regardless of goal orientation and regardless of reduction in average effort they were willing to put in.

These 'I hope' statements dispel any lingering doubts that integrating self-regulatory processes into teaching and learning activities fosters a sense of optimism for positive immutability built on one's effort. There is an impact on student hope. There is an impact on student wellbeing.

Conclusions/Recommendations

The action research project after two cycles yielded an answer to the research question. Triangulation helped dispel discrepancies in student self-report and teacher observation data. Further investigative analysis of data provided a deeper understanding of the impact on student wellbeing. While teachers may arguably intuit the findings, it was substantiated empirically.

This action research highlighted that learning, wellbeing and engagement are intertwined. More research is needed to understand this better and determine teaching practices that suit. Data analysis raised further questions: Could contextual hope be generalised within the subject and beyond? Is there a correlation between self-regulation skill and wellbeing and, if so, can it be leveraged? Does unsubstantiated hope (not just active hope) have its place in terms of student wellbeing in an academic setting?

Based on student performance on an examination at the end of the two cycles, there were academic gains as well compared to performance in a previous examination. Apart from an grwoth in scores, there was an increase in strategy application of specific skills and decrease in non-attempts. There is merit in continuing to develop metacognition and self-regulatory skills. However, teachers must be aware that in doing so also impacts on student wellbeing and the imperative is to find ways to help those students who report or are at-risk of having negative impacts.

Action research entailed rigorous and challenging work. It mirrored Zimmerman's self-regulatory processes with the challenging middle of Assess/Observe or Performance Monitoring arguably requiring most self-discipline. Action research proved to be an excellent method for professional development. The literature review posed cognitive dissonance and inspired ideas for action. Implementing the plan put practice under the microscope and presented another focal point on student development, of wellbeing/hope. Analysis of data challenged statistical skills and uncovered interesting patterns that ultimately answered the research question. This is the crux of the matter: What we do in the interest of student achievement also impacts on student wellbeing. There should be more research to explore this.

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