

## **The Impact of a Growth Mindset Intervention on Chemistry Students' Educational Trajectories**

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This qualitative longitudinal study examines the transformative potential of a growth mindset intervention in enhancing the motivation, confidence, and resilience of chemistry students navigating critical educational transitions after the end of secondary school. Rooted in my extensive teaching experience, the research seeks to address the challenges that often lead to disengagement from chemistry education by fostering a mindset shift among students.

Targeted at Year 11 students, the intervention challenges fixed mindset beliefs—such as equating low performance with a lack of innate ability—by encouraging students to reflect on their learning journeys, redefine obstacles as opportunities for growth, and express these insights through guided writing activities. The study tracks 20 participants over four years, spanning their transition from secondary school to post-secondary and tertiary education. Data is collected through pre- and post-intervention questionnaires, four annual semi-structured interviews, and reflective journal entries.

Using thematic analysis and a reflexive narrative approach, preliminary findings reveal a notable shift in students' self-perceptions, with increased self-efficacy and a more optimistic outlook on their ability to succeed in chemistry. Emerging themes suggest that adopting a growth mindset can play a pivotal role in students' persistence with the subject, even when faced with challenges.

This research fills a gap in qualitative literature on chemistry education transitions and underscores the value of psycho-social interventions in supporting STEM retention.