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Current Status

Fourth year

Research Topic

Student's Engagement with Learning in Science: A Self-Determination Theory Perspective

Research Summary

Numerous research studies have empirically shown that students' engagement behaviours can be enhanced by utilising Self-Determination Theory (SDT) as a basis for predicting the effectiveness of teacher behaviours that promote students' self-determined learning. The authors of SDT argue that the three components of their metaconstruct are equally influential upon the development of an individual's evolving self-determination within numerous areas of their life.

Investigation of the above has led the author to propose a hierarchy of the three independent variables central to SDT, in that one is influential upon the other two. That is, that self-determined learning will only be manifested as academically engaged behaviours, within the classroom, where a teacher's relational behaviours actively promotes students' sense of independence and self-competence. Essentially the teacher-student interpersonal relationship quality is the key independent variable influencing teachers' sustained pedagogical efforts to actively evolve their students' self-regulated learning and, in consequence, students' self-determined engagement with learning.

Self-determined learning (SDL) behaviours are presented as predictors of intrinsic motivation for learning, in that they predict students' efforts to achieve valued learning goals. SDL may well be the catalyst for self-regulated learning; that where students perceive an affective and cognitive investment in the pedagogical and learning methods of a specific curricula subject, this will enhance and maintain students' optimal levels of self-regulated learning. It is argued that students are more likely to maintain their self-regulated efforts if they perceive that their teachers' relational behaviours and teaching methods have a positive influence upon students' perceptions of their self-efficacy and self-competence.

Central to the above is the proposal that engagement should be regarded as the observable transformation of a student's intrinsic motivation into self-regulated, self-determined and sustained positive learning behaviours. The researcher has given these multifaceted manifestations the label 'Learning Engagement'; that is a continuum of the extent to which students feel intrinsically motivated and supported by teachers within academic tasks. Learning Engagement encompasses prior posited forms of engagement such as affective, cognitive, behavioural and agentic engagement.

Research Interests

- Research Area - Key Teacher-Student Interpersonal Relationship Dynamics Influential upon Children's Engagement with Learning
- Positive Enhancement of Children's Perceptions of motivation and engagement within learning activities. Action Research approaches to Enhancing Students' Engagement with Learning through Key Teacher Behaviours and Inquiry-Based Learning methods.

Research Specialisms

Psychology of Learning and Teaching / Educational Psychology

- Student engagement with and motivation for learning
- Teacher-student relationship quality
- Self-Determination Theory (Schooling in general, Science Education, and Physical Education)
- Enhancing students' perceived self-competence, self-efficacy and autonomy / self-agency within learning activities
- Social psychology within education / classrooms for the academic, social and emotional well-being of students
- Social cognitive psychology

Research methods

1. Questionnaires / Surveys including design and testing;
2. Focus Group Interviews;
3. Meta-Analysis;
4. Structured (Systematic) Review of research evidence relating to the strongest SDT-grounded motivational influences upon students' engagement with formal learning in education

Research Supervisors

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Funding

Self-funded

Membership of Research and Professional Organisations

- Fellow of the Royal Society of Arts
- Fellow of the Linnean Society
- Fellow of the Society of Biology / Chartered Biologist
- Fellow of the College of Teachers

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