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Preservice teacher's understanding of the concept of acceleration

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Challenges in the teaching and learning of physics existed as far as education existed worldwide. During the period, various approaches were continuously suggested and implemented but the learning gains were always disappointing, and physics was labelled as a difficult subject for the chosen few and that idea encouraged instructors accept high failure rate in physics as normal. Departing from that belief that physics is for the chosen few. The current study explored how pre-service teachers understand the concept of acceleration. Google form was initially used to collect data that informed the instructor about students' prior understanding of the concept of acceleration. Data collected were used to determine if acceleration is also threshold concept. Threshold concepts open productive ways of thinking in a domain and are troublesome in nature. Troublesome knowledge is said to be knowledge that is "alien, or counter-intuitive or even intellectually absurd at face value". Learning can be blocked if learners are experiencing difficulties in grasping a certain threshold concept. Threshold concepts were rationally classified into liminal states. The aim of this paper was to:

1. Explore if acceleration is a threshold concept and,
2. Categorize pre-service students' knowledge of acceleration in terms of liminal states

Keywords: Preservice teachers, acceleration, threshold concepts and troublesome knowledge

Apply to be considered for a student award (Yes / No)?

Yes

Level for award (Hons, MSc, PhD, N/A)?

PhD

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