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## Teaching Problem Solving: The "10 Commandments" Approach

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Expertise in physics problem-solving has been identified as one of the most crucial tangible skills that a physics graduate should develop [1,2]. An important objective in physics teaching is to promote good problem solving skills. The Physics Education Research group at Rhodes University has developed a problem-solving framework which has been used to create an innovative way of teaching first-year physics. The framework incorporates a dynamic iterative process consisting of 3 fundamental tasks each consisting of a number of elements or activities that have been packaged together as a set of "10 Commandments" of problem-solving. This has led to significant structural changes to the physics first-year curriculum, where problem-solving is being explicitly taught. The project aims to evaluate the impact of the framework on students' problem-solving capabilities

### References

Council on higher education, South African Institute of physics, 2015. Review of undergraduate education in public higher education institutions.

Adams, Wendy J., Wieman, Carl E., 2015. Analyzing the many skills involved in solving complex physics problems. American Journal of Physics 83 459-467.

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

Yes

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

MSc

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