

Using conceptual metaphor and functional grammar to explore how language used in physics affects student learning.

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### ABSTRACT

This paper introduces a theory about the role of language in learning physics. The theory is developed in the context of physics students and physicists talking and writing about the subject of quantum mechanics. We found that physicists' language encodes different varieties of analogical models through the use of

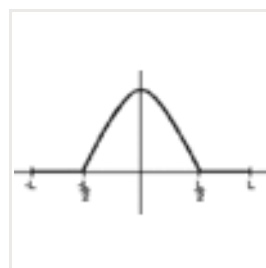
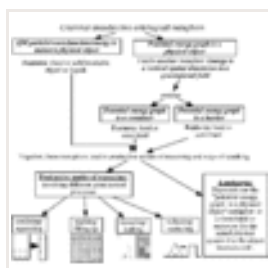
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speech and writing. Using our theory, we will

show how, in some cases, we can explain student difficulties in quantum mechanics as difficulties with language.



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