

Factory of Ideas

Conceptual understanding of scientific ideas through dialogue and experiment

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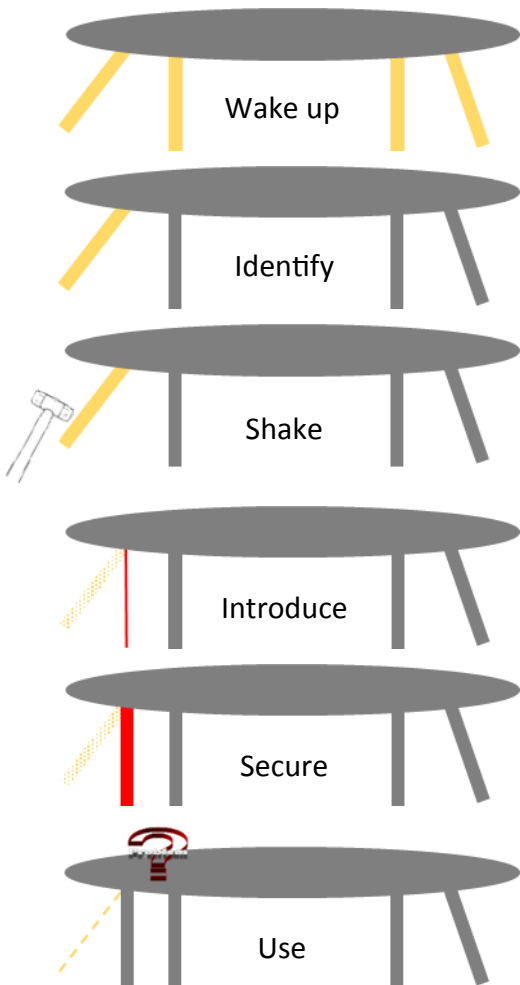
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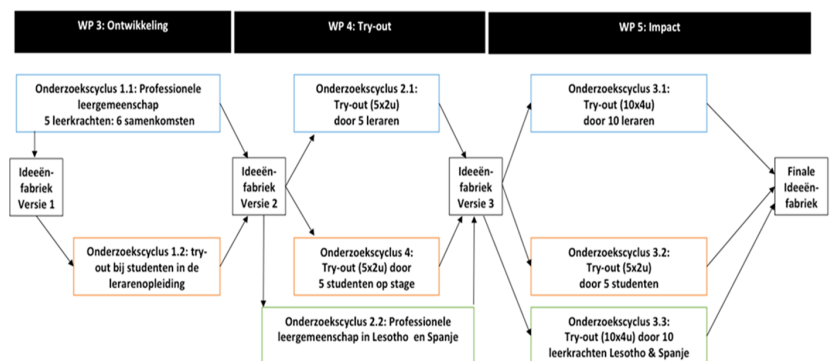
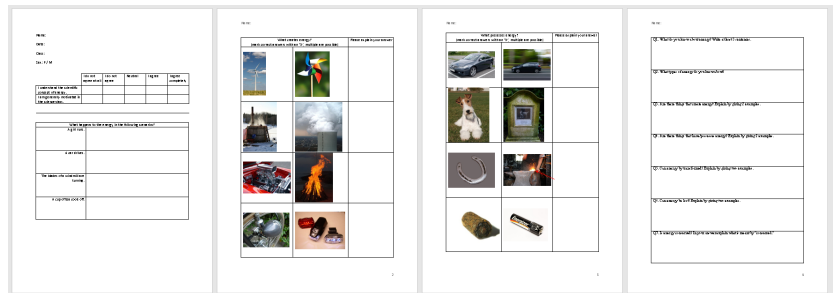
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Students have preconceptions of scientific concepts that serve them well in explaining the world they see around them. However, these preconceptions are often wrong. Additionally, these preconceptions inhibit the learning of scientific concepts. Posner suggested that, to allow students to make the step from preconception to scientific conception rationally, the shortcomings of the preconceptions have to be shown to the students [1]. Mortimer and Vosniadou both continue on this idea by introducing conceptual profile theory [2] and framework theory [3] respectively.

In this work we aim to continue the work of Mortimer and Vosniadou by combining Socratic dialogue [4] with experimentation. An approach is presented with six distinct steps: waking up, identifying, and challenging the preconception are followed by introducing, securing and using the scientific concept. The approach is designed and studied using a design based research methodology [5].



stage (e.g. wake up)	
What will you do?	What will you say?
What can you expect?	
Warning!	



	N	BE	ESP	LS
Pupils		167		200
Students		100	75	

References

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