

UNIVERSITEIT TWENTE.

BACHELOR THESIS

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Literature study

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Introduction

The literature study is an important aspect of writing scientific literature, and therefore also relevant for designing educational resources. It contains a discription and evaluation of the existing literature relevant to the topic of the study (Steehouder et al., 2006). For a succesful literature study, the researcher has to formulate research questions. The answers to these questions can then be used for completing and deepening the analysis.

In the case of designing resources to teach the fundamental principles of quantum mechanics, it is important to look at the different studies which investigate the teaching of quantum mechanics. Hence, the main research question for this literature study is:

What is known about teaching quantum mechanics from earlier research?

This question leads to several different follow-up questions:

- What are the motivations to teach quantum mechanics?
- What are the intrinsic difficulties of teaching quantum mechanics?
- What is the current experience from quantum mechanics teaching in schools?
- What are aspects important for implementing quantum mechanics in schools?
- What are the pre-existing conceptions that students have about microscopic phenomena?
- Which existing teaching strategies currently exist for teaching quantum mechanics?

First, the method will be described which was used to gather the articles, and the method which was used to analyse these articles in a systematic way. This will be followed by a summary of the results from the literature study.

Method

First, the search terms for the literature study had to be considered.

Results

References

Steehouder, M., Jansen, C., Maat, K., van der Staak, J., de Vet, D., Witteveen, M., & Woudstra, E. (2006). *Leren communiceren: Handboek voor mondelinge en schriftelijke communicatie* (5th ed.; M. Gijsen, Ed.). Groningen/Houten: Noordhoff Uitgevers.