

**Differentiated instruction in practice: a teacher perspective** Stollman, S.H.M.

### Citation

Stollman, S. H. M. (2018, May 23). *Differentiated instruction in practice: a teacher perspective*. Retrieved from https://hdl.handle.net/1887/62049

Version: Not Applicable (or Unknown)

License: License agreement concerning inclusion of doctoral thesis in the

Institutional Repository of the University of Leiden

Downloaded from: <a href="https://hdl.handle.net/1887/62049">https://hdl.handle.net/1887/62049</a>

Note: To cite this publication please use the final published version (if applicable).

### Cover Page



### Universiteit Leiden



The following handle holds various files of this Leiden University dissertation: <a href="http://hdl.handle.net/1887/62049">http://hdl.handle.net/1887/62049</a>

Author: Stollman, S.H.M.

**Title:** Differentiated instruction in practice: a teacher perspective

**Issue Date:** 2018-05-23

# Differentiated instruction in practice: A teacher perspective

Saskia Stollman



ICLON, Leiden University Graduate School of Teaching

## ico

The research was carried out in the context of the *Dutch Interuniversity Center for Educational Sciences*.

This research was funded by the *Dutch Ministry of Education, Culture and Science*.

A 6-weeks visiting student scholarship to the Graduate School of Education, University of California, Berkeley (CA, USA) in 2015 was partly funded by the Leids Universitair Fonds (LUF).

Title: Differentiated instruction in practice: A teacher

perspective

Titel: Differentiatie in de praktijk: Een docentperspectief

ICLON PhD Dissertation Series

Print: Mostert & Van Onderen! Leiden

Cover design: Saskia Stollman Lay-out: Saskia Stollman ISBN/EAN: 978-94-90383-21-3

#### © 2018, Saskia Stollman

All rights reserved. No part of this thesis may be reproduced, stored in retrieval systems, or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the author.

## Differentiated instruction in practice: A teacher perspective

### Proefschrift

ter verkrijging van

de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 23 mei 2018
klokke 15.00 uur

door

Saskia Hermana Maria Stollman geboren te Brunssum

in 1990

### **Promotores**

Prof. dr. J.H. van Driel, University of Melbourne

Prof. dr. P.M. Westenberg

### Copromotor

Dr. J.A. Meirink

### Promotiecommissie

Prof. dr. W.F. Admiraal

Prof. dr. ir. F.J.J.M. Janssen

Prof. dr. E.J.P.G. Denessen

Prof. dr. P.C. Meijer, Radboud Universiteit Nijmegen

_		_	
1 3	hla	Λŧ	contents
1 a	שוע	UΙ	COHICHIS

Chapter 1. Introduction	11	
1.1 Introduction	11	
1.2 Differentiated instruction		
1.2.1 Differentiated instruction within classrooms	14	
1.2.2 Between-classroom differentiation	16	
1.3 The teacher perspective on differentiated instruction	18	
1.3.1 Implementation of differentiated instruction in practice	18	
1.3.2 Teachers' interactive cognitions regarding differentiated instruction	20	
1.3.3 Sense-making of an innovation aimed at increasing DI	22	
1.4 GUTS	24	
1.5 Overview of the chapters	27	
Chapter 2. The influence of school, intervention, teacher, and		
classroom characteristics on the successful		
implementation of differentiated instruction: A review	V	
of empirical findings	35	
2.1 Introduction	36	
2.1.1 The need for differentiated instruction	36	
2.1.2 The current state of differentiated instruction in practice	37	
2.1.3 The implementation of differentiated instruction	39	
2.2 Method	42	
2.2.1 Search strategies and criteria	42	
2.2.2 Data management and analysis	43	
2.3 Results and discussion	44	
2.3.1 Characteristics of educational system	44	
2.3.2 Context of school, subject, and intervention	48	
2.3.3 Teacher characteristics	60	
2.3.4 CC: Classroom processes	63	
2.3.5 CC: Classroom context	65	
2.4 Conclusion	65	
Chapter 3. Teachers' interactive cognitions of differentiated		
instruction in regular and talent development lessons	71	
3.1 Introduction	72	
3.2 Theoretical background and conceptual framework	73	
3.2.1 Differentiated instruction		
3.2.2 Teachers' interactive cognitions	75	

3.2.3 The current study	<i>7</i> 5
3.3 Method	76
3.3.1 Context: Talent development lessons	76
3.3.2 Participants	77
3.3.3 Procedure	77
3.4 Results	82
3.4.1 Carla (Art & Design, 6 yrs. experience)	84
3.4.2 Debra (Dutch language, 1 yr. experience)	86
3.4.3 Bert (History, 20 yrs. experience)	87
3.4.4 Alex (Mathematics, 3 yrs. experience)	89
3.4.5 Final remarks	91
3.5 Conclusion and discussion	92
3.5.1 Teachers' interactive cognitions	92
3.5.2 Differences between learning environments	92
3.5.3 Limitations, implications and future directions	93
Chapter 4. Differentiating instruction to stimulate stude development: A year-long study of teachers'	
	97
cognitions	<b>97</b> 98
cognitions 4.1 Introduction	98
cognitions 4.1 Introduction 4.2 Theoretical framework	98 99
cognitions 4.1 Introduction 4.2 Theoretical framework 4.2.1 Differentiated instruction	98 99 99
cognitions 4.1 Introduction 4.2 Theoretical framework	98 99 99 101
cognitions 4.1 Introduction 4.2 Theoretical framework 4.2.1 Differentiated instruction 4.2.2 Teachers' interactive cognitions 4.3 Method	98 99 99
cognitions 4.1 Introduction 4.2 Theoretical framework 4.2.1 Differentiated instruction 4.2.2 Teachers' interactive cognitions 4.3 Method 4.3.1 Context: Differentiated challenging of talent in school	98 99 99 101 103
cognitions 4.1 Introduction 4.2 Theoretical framework 4.2.1 Differentiated instruction 4.2.2 Teachers' interactive cognitions 4.3 Method	98 99 99 101 103 103
cognitions 4.1 Introduction 4.2 Theoretical framework 4.2.1 Differentiated instruction 4.2.2 Teachers' interactive cognitions 4.3 Method 4.3.1 Context: Differentiated challenging of talent in school 4.3.2 Participants	98 99 99 101 103 103 104
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments	98 99 99 101 103 103 104 106
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments  4.3.4 Procedure  4.4 Results	98 99 99 101 103 103 104 106
cognitions 4.1 Introduction 4.2 Theoretical framework 4.2.1 Differentiated instruction 4.2.2 Teachers' interactive cognitions 4.3 Method 4.3.1 Context: Differentiated challenging of talent in school 4.3.2 Participants 4.3.3 Instruments 4.3.4 Procedure	98 99 99 101 103 103 104 106 106 112
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments  4.3.4 Procedure  4.4 Results  4.4.1 Context/goal setting	98 99 99 101 103 103 104 106 106 112
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments  4.3.4 Procedure  4.4 Results  4.4.1 Context/goal setting  4.4.2 Student assessment	98 99 99 101 103 103 104 106 106 112 112 115
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments  4.3.4 Procedure  4.4 Results  4.4.1 Context/goal setting  4.4.2 Student assessment  4.4.3 Attention for the individual	98 99 99 101 103 103 104 106 106 112 112 115 117
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments  4.3.4 Procedure  4.4 Results  4.4.1 Context/goal setting  4.4.2 Student assessment  4.4.3 Attention for the individual  4.4.4 Instruction and class routine	98 99 99 101 103 104 106 106 112 112 115 117 119
cognitions  4.1 Introduction  4.2 Theoretical framework  4.2.1 Differentiated instruction  4.2.2 Teachers' interactive cognitions  4.3 Method  4.3.1 Context: Differentiated challenging of talent in school  4.3.2 Participants  4.3.3 Instruments  4.3.4 Procedure  4.4 Results  4.4.1 Context/goal setting  4.4.2 Student assessment  4.4.3 Attention for the individual  4.4.4 Instruction and class routine  4.4.5 Positive, supportive learning environment	98 99 99 101 103 104 106 106 112 112 115 117 119 121

Chapter 5. Teachers' sense-making processes during two years of		
an innovation aimed to differentiate instruction	131	
5.1 Introduction	132	
5.2 Theoretical framework	133	
5.2.1 Differentiated instruction	133	
5.2.2 Educational innovations	134	
5.2.3 Teachers' sense-making	135	
5.2.4 The dynamic process of sense-making	137	
5.3 Method	137	
5.3.1 Context: The innovation GUTS	137	
5.3.2 Participants	139	
5.3.3 Instruments	139	
5.3.4 Procedure	140	
5.4 Results	145	
5.4.1 Teachers' search for meaning and sources of ambiguity	145	
5.4.2 Teachers' sense-making	150	
5.5 Conclusion and discussion	153	
5.5.1 Sense-making as a dynamic process through type of search for mean	iing 155	
5.5.2 Sense-making through sources of ambiguity	155	
5.5.3 Teachers' personal frames of reference	156	
5.5.4 Limitations and future research	157	
Chapter 6. Discussion	161	
6.1 Introduction	161	
6.2 Conclusions per chapter	161	
6.2.1 Chapter 2	161	
6.2.2 Chapter 3	163	
6.2.3 Chapter 4	164	
6.2.4 Chapter 5	166	
6.3 General discussion	168	
6.3.1 Perspectives on differentiated instruction	168	
6.3.2 The importance of context	171	
6.4 Practical implications	173	
6.4.1 Support for teachers to experiment with innovative ideas	173	
6.4.2 Taking differences between teachers into account	175	
6.5 Limitations and future research	177	
6.5.1 Limitations	177	
6.5.2 Future research	179	

References	183
Appendix A - Observation form	193
Nederlandse samenvatting	208
Publications and presentations	209
Curriculum vitae	212
Dankwoord	213
ICLON PhD dissertation series	215

# **Chapter 1**Introduction