SYSTEMATICALLY DESIGNED LITERATURE CLASSROOM INTERVENTIONS: DESIGN PRINCIPLES, DEVELOPMENT AND IMPLEMENTATION: AN INTRODUCTION

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Schrijvers, M, Murphy, P. K. & Rijlaardam, G. (2020). Systematically designed literature classroom interventions: Design principles, development and implementation: An introduction. Introduction to a special issue Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation, edited by Marloes Schrijvers, P. Karen Murphy, and Gert Rijlaarsdam. L1- Educational Studies in Language and Literature, 19, 1-12. https://doi.org/10.17239/L1ESLL-2019.19.04.06
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1. ORIGIN AND AIM OF THE SPECIAL ISSUE

Intervention studies in L1 language arts and literature classrooms are pivotal to investigate the effects of instructional approaches that have been purposefully designed to achieve certain learning outcomes. Ideally, design principles, design procedures and the resulting interventions (i.e., lessons, projects, materials) would be comprehensively described in research papers. Unfortunately, intervention research in the education sciences are often focused on empirical intervention effects rather than the content and mode of instruction. Even now that journals provide more room for additional digital information about instructional materials and measurement, information on critical design choices made in interventions for reading and literary instruction remains underwhelming (see Schrijvers, Janssen, Fialho, & Rijlaarsdam, 2016).

Yet, it is important to shed light on the content and structure of evidence-based instructional programs for reading and literary instruction, for two aims and audiences: research and practice. First, insight in the key elements of an intervention enhances the opportunities for both theory building as well as conducting replication studies in different contexts. Research that explicitly and coherently reports the theoretical, practical and contextual choices in the instructional design provides a deeper understanding about the relation between basic design principles (the instruction) and the desired and realized learning outcomes. These basic design principles, presented in an argumentative structure, must be judged by the research community from the perspective of construct validity: the perspective is then on the extent into which the basic principles in the study under review do represent the theory. The second layer of the report, on the contextual operationalizations – adaptations to specific aims, age group of students and cultural traditions – provides information that may prove invaluable in the evaluation of content validity: to which extent the operationalizations match the theoretical construct. These theories may serve as the steppingstones for other researchers, in other national, regional and cultural traditions, to establish studies in their particular context to improve literacy instruction. Such studies do not replicate the original study but adapt the theory to cultural contexts and contribute to the generalizability of instructional theories in literacy education.

Second, educational studies in the L1 domain do not serve further research only. Intervention studies are mostly set up with the same aim as all educational practices: to change something, somewhere, in someone. Teachers who prepare a literature lesson, considering which story to introduce – or which stories, because different students might be affected by different stories – are driven by a desire for accomplishing change in their students. A lesson is meant to contribute to a student's new understanding, to new affect, or to check assumptions (De Groot,1980; see for an application Schrijvers, Janssen, Fialho & Rijlaarsdam, 2016, p. 9). According to De Groot (1980), education contributes to several types of learning experiences including the construction of rules and the exceptions to rules as they apply to the inside and outside world. Further, education is about affecting positive change in the life trajectories of students, and the education sciences, through intervention studies, explicitly aim to contribute to the improvement or enhancement of language arts and literature teachers' daily practices, directly or via change agents like national in-service training institutes. To support further implementation of evidence-based, theoretically underpinned learning programs, mere availability of concrete instructional activities is insufficient. Teachers and teacher educators must understand these activities in the context of the theoretical framework: the design principles, embedded in research literature, in terms of key-learning activities that must take place; the instructional acts to generate these learning activities; and the changes in the learner that are intended. Practice must be fully informed, as providing materials is not enough to change teachers' understandings and beliefs (e.g., Nieveen, 1999; O'Donnell, 2008).

Although design research has built a certain tradition, reporting instructional designs and materials is not an easy task in doing research likely due in part to underdeveloped instructional theories in the literacy domain as well as the lack of generally accepted reporting formats. A research tradition of reporting intervention designs is yet to take hold.

2. INSTRUCTIONAL DESIGN IN L1 STUDIES: FORMATS OF DESIGN PRINCIPLES

In this journal, a first attempt to create an instructional theory, with design principles as key-elements, was published in Toorenaar and Rijlaarsdam

(2011), as part of a design experiment. These authors used the term *design parameters* instead of *design principles*. From a designer's point of view, *design parameters* might be a more accurate term, as it more precisely functions as an element of a system to assess whether the system – the design – is functioning: it sets the boundaries to evaluate whether the instructional design indeed is the design that was intended. An instructional designer must 'prove' by argument that this design is set within the parameters that were theoretically set as point of departure. This is a content validity check, which must convince critical readers that the instructional design is a sound operationalization of the theory.

Toorenaar and Rijlaarsdam (2011, p. 66-67) formulated four design parameters for L1-instruction. The basis was a model in which they distinguished two roles between which learners in L1 education switch from time to time during lessons, the switch between acting as a language user and as a language learner. In a classroom, learners are connected to each other in communicative situations. They communicate for real: they discuss, they write their own texts, and they read each other's texts. In short, students are *language users* in the first place. From time to time, these situations of language use become *object of learning*: students move from the use of language into the study of language use, from communication to meta-communication. Toorenaar and Rijlaarsdam formulated four design parameters, using the means-end format "L1-instruction must be ..., and therefore one must ..."

1) meaningful … create authentic communication.
2) reflective … create relevant learning activities – analyzing, abstracting and generalization.
3) shared … create dialogues, in communicative and in learning roles.
4) aiming at transferable outcomes … create opportunities to abstract from the specific context and to generalize to other contexts.

The rationale for choosing these specific four aims as a comprehensive instructional theory is an argumentative text, supported by relevant theoretical and empirical studies. The second layer of argumentation focuses on the relation between aim and means, arguing which means fit best to achieve a specific aim in the case of literacy education.

This format to describe design parameters was taken further in a volume in the book series *Studies in Writing* (Fidalgo, Harris, & Braaksma, 2017), that completely focused on exploring how to report instructional designs. In this volume, Rijlaarsdam, Janssen, Rietdijk, and Van Weijen (2017) based their proposal how to report intervention designs on Van den Akker (1999). His mapping sentence reads as follows:

> If you want to design intervention X [for purpose/function Y in context Z];
>
> then you are best advised to give that intervention the characteristics C1, C2, …, Cm [substantive emphasis];
>
> and do that via procedures P1, P2, …, Pn [procedural emphasis];
>
> because of theoretical arguments T1, T2, …, Tn;
>
> and
>
> empirical arguments E1, E2, …, En.

This mapping sentence was constructed to serve instructional designers, indicated by the elements about the process of designing (P1, P2, Pn). For reporting key elements of instruction, we may reformulate the mapping sentence into:

> If you want to report design intervention X [for purpose/function Y in context Z];
>
> then you are best advised to report the characteristics C1, C2, …, Cn [substantive emphasis];
>
> because of theoretical arguments T1, T2, …, Tn, supported by empirical arguments E1, E2, …, En.

The issue now is to define 'characteristics'. Rijlaarsdam et al. (2017) chose learning activities as the unit of description, as a learning activity is the key to change knowledge, affect, and skills in an individual: "A learning activity is a building brick in a larger scenario, that contains acts or units" (Rijlaarsdam et al., 2017, p. 286). As Shuell (1986, p. 429) noted: "The teacher's fundamental task is to get students to engage in learning activities that are likely to result in achieving [the intended learning] outcomes. It is helpful to remember that what the student does is actually more important that what the teacher does." Applied to instructional designs: first define the learning activities, then the instructional cues that stimulate these learning activities best. So, there is a string of means-end relations is built: learning outcomes to achieve, by learning activities that most probably lead to the outcomes,

activated most probably by certain instructional activities that generate the learning activities.

As a definition we reformulate the mapping sentence for reporting interventions, based on Rijlaarsdam et al. (2017):

> If you report the design of intervention X (for the purpose/function Y in context Z),
>
> then report the (string/network of) planned student learning activities (in terms of learning activity and content: LC1, LC2, …, LCm)
>
> in concordance with the instructional activity that stimulates the learning activity (I1, I2, …, In), contributing to subgoal Y (Y1, Y2, …, Yn).

In short, to reach a goal (aim: establish level of empathy with the main character), students must collect words from the text (learning activity: identify descriptives), instructed by the teacher (teacher models the activity).

It was tempting to analyze the papers included in this special issue as cases within this framework. However, we decided to leave this endeavor for critical readers, and look forward to papers that contrast and compare the contributions as cases of design studies and come up with proposals how we best can present instructional designs in language and literature education.

3. THE CURRENT ISSUE

With the current special issue of L1-Educational Studies in Language and Literature, we aimed to advance the field of research into reading and literary instruction by introducing, presenting and discussing other options to report intervention studies. The default mode for reporting on intervention research is describing its effects rather than the content and mode of instruction (i.e., what is taught and how it is taught). It is important for the field that these reports are published. In addition, insight in the underlying instructional design theory of such studies and the operationalizations should be available.

For the current issue, we focused on papers that comprehensively describe the design of interventions in L1 language arts and literature classrooms. We welcomed papers covering a variety of design contexts, ranging from primary and secondary education level to professional development programs for pre-service and in-service teachers. These analytical descriptions could be reported in different research contexts or project phases. Therefore, we intended to include contributions that focused on:

1) the formulation of initial design principles based on theoretical-empirical models;
2) the subsequent iterative development process toward (several versions of) an intervention; and/or,
3) the implementation of the intervention in the literature classroom and the consequences of implementation for the original intervention design.

As such, this special issue does not publish traditional effect studies, rather the emphasis is on transitions from design principles to the development process, and subsequently, to implementation (i.e., experiences of teachers and learners in the classroom).

3.1 Selection of contributions

We received over forty abstracts in response to the call for papers. This large response suggested that attention for the topic of systematic intervention design is welcomed by the field of L1 researchers. Not all proposals were suited for this special issue on interventions in reading and literary instruction. For example, some studies were conducted on vocabulary, multi-modal language learning, and dialogic practices in the L1 classroom. Further, in selecting suitable contributions, several abstracts served as a case in point for the relevance of this special issue, as they presented traditional effect studies that focused on the outcomes rather than the design of an intervention. In this stage, nearly half of the authors were invited to submit a full paper to the special issue. About half of the invited authors chose to do so. After two rounds of reviewing and revisions, five papers were been included in the special issue.

3.2 Insights gained

From this process we learned that reporting about the instructional design of intervention studies is rather complicated, for two reasons. First, in contrast with experimental intervention studies, no generally accepted reporting formats for reporting on intervention design are available. This is certainly a field L1 Educational Studies in Language and Literature can contribute. Second, in some cases the description was a reconstruction of the intervention, written *after* having run the intervention study, which sometimes

revealed that some choices in the design were overseen in the design process, and/or were not deeply theoretically underpinned. This is understandable, as designing lessons and interventions is mostly a practical issue, not a theoretical one. Rethinking instructional design from a viewpoint of a logical string of learning activities may reveal that some choices were unconnected or rooted in conflicting design principles. Rethinking an instructional design, in fact, is a qualitative study on alignment. In addition, we came to realize that reviewing papers that present the underpinnings of an instructional design is not an easy task either, partly for the same reasons: there is no accepted format for such studies, so reviewers had to construct the frame of reference themselves. Some reviewers found it difficult to review a paper that did not report the effects of the instructional design, as this is the default mode of presenting intervention studies.

We hope that this special issue may lead to a lively publication boom and discussion in L1-Educational studies in Language and Literature on theoretical underpinnings of instructional designs in different linguistic-cultural settings.

ACKNOWLEDGEMENTS

We would like to thank the researchers who submitted proposals and papers for this special issue and hope that those who had to withdraw from the publication process at some point of time will share the instructional designs in L1-Educational Studies in Language and Literature soon. Many thanks also to the numerous reviewers involved in this process, putting much time and effort in reviewing a new type of studies. Tanja Janssen, our guiding L1-editor, dealt with this project in a way that might model gentle editorship.

Levine, S. & Trepper, K. (2019). Theory, design, and teacher experience in a literature-focused professional development. Contribution to a special issue Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation, edited by Marloes Schrijvers, P. Karen Murphy, and Gert Rijlaarsdam. *L1- Educational Studies in Language and Literature, 19,* 1-41. https:/doi.org/10.17239/L1ESLL-2019.19.04.05

This study answers a call for more transparency in descriptions of literature interventions that might inform future work in professional development design as well as literary pedagogy. The study draws on design-based research models to describe how principles of literary pedagogy were enacted in two iterations of a professional development program for U.S. secondary Language Arts teachers. The first iteration of the PD focused on surfacing teachers' beliefs about literature, helping them to leverage learners' everyday interpretive practices, to use affective evaluation to build literary interpretations, and to ask questions born of genuine curiosity. The second iteration revised the enactment of some principles and integrated activities designed to build trust in the learning community and make time for reflection on and integration of new concepts into current practice. Along with description, the study presents a preliminary experimental finding: teachers in the second iteration reported greater satisfaction with their learning experience and were more likely to implement professional development practices in their classrooms. The study hypothesizes that these gains result from the integration of time and trust into the learning design.

McMaster, K. L., Kendeou, P., Bresina, B., Slater, S., Wagner, K., White, M. J., Butterfuss, R., Kim, J. & Umana, C. (2019). Developing an interactive software application to support young children's inference-making. *L1-Educational Studies in Languages and Literature, 19,* 1-30. https://doi.org/10.17239/L1ESLL-2019.19.04.04

We describe the design and development of a technology-based inference-making intervention system that includes a set of interactive learning modules, each of which engages students to (a) view age-appropriate children's videos, (b) learn vocabulary words that are central to main ideas in each video, (c) respond to inferential questions, (d) receive scaffolding and specific feedback for each question, and (e) engage in a set of read-aloud lessons implemented by the classroom teacher and designed to promote transfer of inferencing from non-reading to reading contexts. First, we present the design principles that guided development, drawing on an integrated language comprehension framework. Next, we describe the design process, drawing on a field test of the usability and feasibility of the intervention system. Findings revealed that students and teachers found the system to be usable and helpful for support inference-making, and that it was feasible for classroom use. Then, we provide evidence from a field trial that showed that children who used the intervention system made gains in language comprehension, and that a version with 'offline' questioning (questions asked after viewing videos) was slightly superior to an 'online' version (questions asked during viewing). Finally, we highlight lessons learned that are informing additional development.

Hansen, T.I, Elf, N., Gissel, S. & Steffensen, T. (2019). Designing and testing a new concept for inquiry-based literature teaching: Design Principles, development and adaptation of a large-scale intervention study in Denmark. Contribution to a special issue Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation, edited by Marloes Schrijvers, P. Karen Murphy, and Gert Rijlaarsdam. *L1-Educational Studies in Language and Literature, 19*, 1-32.

Departing from a newly developed phenomenological inquiry-based approach to literature, this article examines the process of designing, developing, and refining a large multi-pronged intervention program in Danish lower secondary schools (86 schools, 265 classes, 5531 students), including randomized controlled trials in 72 schools. In order to offer greater insight into the complex causality between design, process, output, and outcome, the intervention process is described by means of an initial program theory, a pre-study with three reviews of available evidence and practice, and a Design Based Research (DBR) process with iterations and interconnected phases: small-scale interventions, a pilot study, and three rounds of large-scale interventions with randomized controlled trials with different samples. This article focuses particularly on the crucial decision points at which participants change their role, and redesigns contribute to a deeper insight into the social mechanisms of the complex intervention.

Schrijvers, M., Janssen, T., Fialho, O., & Rijlaarsdam, G. (2019). Toward the validation of a literature classroom intervention to foster adolescents' insight into human nature: an iterative design process. Contribution to a special issue on Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation, edited by Marloes Schrijvers, P. Karen Murphy, and Gert Rijlaarsdam. *L1 - Educational Studies in Language and Literature, 19*, 1-47. https://doi.org/10.17239/L1ESLL-2019.19.04.02

We report on the design process of a literature classroom intervention for 15-year-old students in the Netherlands, which aimed to foster their insight into human nature—insight into themselves, fictional others, and real-world others. Starting from a model of transformative reading, an exploration of the educational context, and a review of previous intervention studies, we designed an intervention in an iterative process. We evaluated the validity and practicality of two versions of the intervention. From teacher and student data, we concluded that the validity and practicality of the first version were suboptimal and identified various suggestions for improvement. In a second iteration, the initial design principles were reoperationalized. Based on these reoperationalized principles, we designed a second version of the intervention, which was found to be sufficiently valid and practical. In addition, the second iteration led to specifying the initial design principles, by formulating subprinciples for operationalization in the classroom. All in all, this study demonstrates that an iterative design process is needed to arrive at a valid and practical intervention, and that this process may have the potential to further specify initial design principles.

Vansteelandt, I., Mol, S.E., & Van Keer, H. (2019). Design principles for professionalizing primary school teachers on promoting reading motivation. Contribution to a special issue on Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation, edited by Marloes Schrijvers, P. Karen Murphy, and Gert Rijlaarsdam. *L1-Educational Studies in Language and Literature, 19,* 1-26. https://doi.org/10.17239/L1ESLL-2019.19.04.01

Studies show that teachers' continuing professional development (CPD) is essential for educational quality, and moreover, when it comes to reading, key for students' success in education and participation in our 21st-century society. Most of the research investigating professional development programs on improving teachers' self-efficacy for teaching reading and in particular on fostering students' reading motivation, however, fails to include clear and detailed descriptions of the design principles underlying the programs. Therefore, the present study provides a comprehensive description and operationalization of the design principles of a CPD program for primary school teachers focusing on promoting students' reading motivation combining Desimone's (2009) framework for effective professional development with Self-Determination Theory (Ryan & Deci, 2000). Consequently, the CPD program's core features as distinguished by Desimone (i.e., content focus, coherence, active learning, collective participation and duration) and the need for autonomy, competence and relatedness as put central in SDT are analytically described and elaborated on. In view of reporting on the implementation check of the CPD, we further provide insight into whether these operationalized design principles were also perceived as such by the teachers participating in a first iteration of the CPD intervention.

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