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Disciplinary writing

Four empirical studies on historical and philosophical literacy

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CHAPTER 1

GENERAL INTRODUCTION

Nowadays, life is full of texts. Phones and computers confront us with a variety of text types, forcing us continuously to be readers. Over the past decades, increased literacy standards have heightened the need for advanced literacy skills. Our current society requires readers who can select, organize, and critically assess this constant stream of information. The ability to be an analytical and critical reader is quite challenging to obtain. Reading texts on screens has become prevalent, instead of reading paper newspapers or books. Screen texts elicit a different kind of reading process: screens encourage us to read fast and superficial. Digital reading thus challenges the ability to read deep.

The societal importance of writing skill development is also prominent. A high writing proficiency is a prerequisite for independent participation in social life. Furthermore, writing skills are important for students' cognitive development (Graham et al., 2020), and writing as well as writing education can also enhance students' reading skills (Graham & Hebert, 2011).

In school settings, students are repeatedly asked to read texts, mostly with the goal of knowledge construction. To process new knowledge, reading activities are habitually accompanied by writing. Note-taking, answering study questions, and writing reports or essays, are examples of such writing activities. In education, students are thus required to both read and write on an advanced level. Especially in upper secondary grades, where the texts to read or write are long, and contain complex, abstract content.

However, writing activities across school subjects are rarely intended to be opportunities to learn-to-write; most frequently, the aim of writing in content classes, is to assess students' discipline specific reasoning or to process content explained by the teacher. Writing is thus rarely utilized as a learning activity in the sense of knowledge development, although the act of writing is well suited to do so (Graham et al., 2020). Possibly, learning content and learning to write could go hand in hand. However, this potential has not fully been utilised.

Meanwhile, Dutch students' literacy proficiency seems to be declining, according to reports of PISA (OECD, 2018): an international comparative study that tests the skills and knowledge of 15-year-olds from about 80 different countries. This trend does not only apply to the Dutch context: international reports have also revealed a worrying decrease of students' ability to read and write critically (Goldman, 2012). With the current research project, we tried to tackle this literacy decrease.

First steps have been taken by educational researchers (e.g., Lee & Spratley, 2010; Moje, 2008; Shanahan & Shanahan, 2008), who have called for the development of students' literacy skills to be seen as a responsibility for all teachers, and not of the language teacher alone. The Dutch policy makers (Ministry of Education, Culture, and Science, 2009) have adopted this view. A similar development has occurred in the United States, with the adoption of "Standards for Literacy in History/Social Studies, Science, & Technical Subjects" in the Common Core State Standards (National Governors Association & Council of Chief State School Officers, 2010). With these standards, literacy is acknowledged to differ from subject to subject, and learning to communicate in a subject should therefore be part of the subject objectives (Shanahan & Shanahan, 2017). After all, language is inseparable from knowledge acquisition and knowledge exchange, and should therefore concern all teachers.

Literacy being a shared responsibility does not mean that all teachers are language teachers. Instead, content teachers might take responsibility for the aspects of literacy that are part of their discipline, and thus focus on disciplinary literacy. With this view prevailing among content teachers, literacy development will no longer be considered to be a burden, or even an exasperation; it will be seen as an essential part of a subject, to learn how to communicate knowledge and reasoning in that subject.

Nonetheless, the outdated view that literacy is a matter for the language teacher, is still prevailing in educational practice. Although many teachers state that they support shared responsibility, they do not act on their beliefs (Graham et al., 2014). With this thesis, we aimed to align teachers' practice with their (unobtrusive) beliefs about literacy, and government principles.

1. MAIN CONCEPTS

1.1 Disciplinary Literacy: Reading and Writing

For a long time, reading and writing have been considered generalist notions: teachers often have the idea that from the moment students master the basics

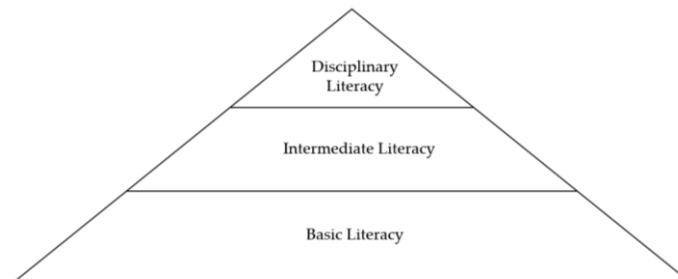
of reading and writing, they can successfully read and write anything. Indeed, the role of basic skills cannot be excluded: reading and writing highly depend on these generic skills. However, we can distinguish between multiple levels of literacy, disciplinary literacy being the most advanced form of literacy (Figure 1.1; Shanahan & Shanahan, 2008). Although Shanahan and Shanahan concentrated this model on reading, it could also be applied to writing. According to the model, basic literacy concerns highly generalizable skills needed for all or most reading and writing tasks. For example, basic decoding, handwriting, and spelling skills, understanding of conventions in texts, word comprehension, and basic fluency routines. The basic literacy level is to be achieved before secondary grades.

Support for students to develop literacy skills is drastically reduced when students reach proficiency in the basic level. However, it is a misconception that students need no support to master the more advanced literacy levels (intermediate and disciplinary literacy). Since these literacy levels are assumed to be reached at secondary school, secondary school teachers are likely to provide support and instruction, to reach the advanced levels.

Every discipline has its nuances, and with regard to text genres, these are the use of concepts, and heuristics. Goldman and colleagues (2016) clustered the differences which can be appointed between disciplines into five categories: (1) epistemology; (2) inquiry/reasoning strategies; (3) underlying concepts; (4) text genres; and (5) discourse/language character. Thus, addressing subject specificity in each of these five domains is an important task for the content teacher.

Within the Dutch education system, the context of our research, teaching writing skills is usually the responsibility of the language department, and not part of other subjects. Even for subjects with high demands in literacy, such as history and philosophy, learning to communicate disciplinary reasoning is no vital part of the curriculum. This might be due to the examination program: content knowledge is mostly examined by means of questions requiring short answers, and not by, for example, document-based essay questions. These would imply more writing, which again would reinforce the need for advanced writing skills. Apparently, short answers are not regarded to be "texts", which could be considered a problem.

Figure 1.1 *The Increasing Specialization of Literacy Development* (Shanahan & Shanahan, 2008, p. 44)



As a result of examination through question answering, focusing on content, subject objectives do not contain explicit literacy goals; these generally remain implicit. For example, the final attainment levels for philosophy do include argumentative skills, which potentially address students' speaking, reading, and writing skills. As a consequence, in most subjects, reading-writing tasks are mainly means for the teachers to assess students' thought processes. Consequently, teachers spend little time guiding students in their process, and hardly provide instruction on reading and writing (Gillespie et al., 2014; Motart et al., 2009). Overall, content teachers do not seem to add much to learning-to-write.

Nevertheless, using writing tasks as a learning activity can add value to school subjects. Writing itself can contribute to the learning process (Graham et al., 2020), as the writing process can allow thoughts to develop. After all, being forced to pause to formulate thoughts, can in turn lead to new thoughts (Klein, 1999). This idea is known as writing-to-learn.

A combination of reading and writing, source-based writing, could be even more stimulating (Graham, 2020). A meta-analysis of Graham and Hebert (2011) has shown that writing and writing instruction might enhance reading performance. Furthermore, a subsequent meta-analysis (Graham et al., 2018) showed that reading instruction improved students' writing as well. Reading and writing are thus intricately connected. Moreover, since writing about content has been shown to reliably enhance content learning (Graham et al., 2020), the combination of reading, writing, and learning seems judicious.

However, writing task design is a deliberate process, since writing does not necessarily imply learning; there are conditions attached. For instance, the text genre affects the learning effect (Applebee, 1984). Argumentative writing, for example, tends to create a deeper thought process and better understand-

ding of learning than summarizing, narrative writing or explaining (Wiley & Voss, 1999). In addition, it is important to consider subject-specific elements: characteristics of a good text differ from subject to subject and are embedded in what is common in those subjects (Bazerman, 1981). Overall, it can be quite a challenge for teachers to integrate effective subject-specific writing tasks into their subject teaching, and teaching aids are hardly available.

1.2 Writing Instruction and Support

When a writing task is assigned, research has shown it is effective to support students' writing process. How can a student learn to write a good text? What cognitive processes should be activated? From research conducted in the field of writing and writing instruction, we can derive recommendations for how to do this effectively (Graham & Harris, 2018). For example, by explicit writing strategy instruction or supporting students' writing process. This domain of research, however, is generally focused on learning-to-write, and not on content classrooms. Although writing instruction has been validated as effective for content classrooms as well (i.e., writing quality and knowledge gain) (De La Paz, 2005; Foxworth & Mason, 2017), subject teachers do not always have the knowledge to provide writing instruction or support, like language teachers have (Gillis, 2014; Moje, 2008).

In practice, when content teachers support students' writing, they tend to focus mostly on the product (Alkema, 2022; De Oliveira, 2011; Holdinga, 2013). Students often perform writing assignments out of sight of the teacher, for instance as homework, and students regularly only receive feedback on text quality after their texts are fully completed. This thus results in teachers providing feedback on the eventual texts students wrote, but not on how they came to this result.

To develop such process instruction and support, we will need understanding of cognitive processes needed to perform the particular source-based writing task. Several theoretical research has been conducted on cognitive processes of general reading and writing (Flower & Hayes, 1981), and the relationship between reading, writing, and learning (Galbraith, 1992, 2009; Graham, 2020; Hebert et al., 2013). However, disciplinary aspects of these processes have been less extensively researched. Studies researching disciplinary literacy are often based on comparisons of processes from experts with those of novices (e.g., Shanahan et al., 2011; Wineburg, 1991), or focus on functional linguistic analyses of the characteristics of disciplinary text genres (e.g., Coffin, 2006; Monte-Sano, 2010).

Up until now, the extent to which characteristics of expert reading and writing apply to subject-specific reading and writing of students in upper secondary grades, has been less widely researched. With our research, we will elaborate on studies on disciplinary writing at upper secondary level focusing on a single discipline (e.g., Van Driel et al., 2022b). In this thesis, we explore students' cognitive processes, in two different school subjects, by using a disciplinary lens. Furthermore, we transfer theoretical understanding of general reading and writing instruction into the practice of content classrooms, and thereby address issues concerning implementation of writing instruction, considering the conundrums mentioned earlier.

1.3 Innovating Practice

When innovating teachers' practice, an important influential factor is practicality. Writing instruction must be easily applicable to teachers who are not accustomed to providing such instruction because it is not part of the subject culture (O'Brien et al., 1995). Practicality should meet three criteria, all related to the ecology of the classroom and teachers' goal systems (Westbroek et al., 2020). A first criterion is instrumentality: procedures should be available, that show how the innovation is to be implemented. A second criterion is congruence: the innovation should be sufficiently congruent with regular practices and important goals to which the teacher is attached. And a third criterion is low cost: the estimated benefits of implementation should outweigh the effort required to implement the innovation. Keeping track of these practicality criteria is highly recommended for instructional design.

In our studies, congruence in particular turned out to be an important criterion for content teachers in their attitude towards writing instruction. As literacy development is not a priority on content teachers' agendas, it is even more important that we attempt to align literacy goals with learning goals of the subjects. Therefore, we consider flexibility of innovative designs to adapt to content goals and school contexts (curriculum, topics) as particularly relevant. We employed this criterion by involving teachers into the design process as much as possible.

Furthermore, innovation of teaching practices involves building teachers' knowledge and challenging their beliefs (Desimone, 2009). Simply designing new materials for teachers to implement, thus probably will not suffice to establish durable change; teachers' beliefs highly guide their teaching approaches. Therefore, in our studies, we increasingly aimed to challenge teachers' beliefs, to eventually initiate a lasting development of their writing

practice. In an initial implementation study we used a teaching manual only, in a subsequent study we added a professional development session explaining design principles to better prepare teachers for implementation; and in the final study we added several other guiding activities focused on reflection.

2. RESEARCH DESIGN AND SCOPE

The goal of this research was to design, implement, and test lesson materials for content teachers, in order to facilitate them in the development and support of secondary school students' disciplinary writing. Our main research question was:

Which instructional approach is suited to develop students' disciplinary literacy effectively and efficiently in upper secondary history and philosophy education?

We focused on two subjects: history and philosophy. Both of these subjects demand an elevated level of literacy: in upper secondary, pre-university levels, teachers expect students to read complex texts, to assess them critically, and to reflect on the content of source material in a well-written, coherent text. Such tasks transcend basic and intermediate literacy, and address disciplinary aspects.

In the field of history education, quite some research has been conducted to enhance students' writing. For example, De La Paz and colleagues (2010, 2017) and Van Drie and colleagues (2006, 2015) have explored how students' writing in history might be enhanced by interventions. We used these studies as a knowledge base for the design of our new lesson materials.

For philosophy, educational design studies have been scarce, and they rarely focus on writing. This was our rationale to start with the historical context; we built on previous intervention studies from history to eventually be able to transfer to another knowledge domain: the context of philosophy.

Regarding methodology, the overall research project can be characterized as design research. According to McKenney and Reeves (2019), educational design research can be typified by "its commitment to developing theoretical insights and practical solutions simultaneously, in real-world contexts, together with stakeholders" (p. 6). This methodology suited our goal of improving educational practice, in tandem with gaining theoretical knowledge of disciplinary reading-writing processes perfectly.

A typical design research, is an iterative and highly flexible organization of three core processes: (1) analysis and exploration, (2) design and construction, and (3) evaluation and reflection. In the first stage we explored the context of our studies: the educational context in two subjects, history and philosophy. We conducted background studies from two perspectives: teachers and students. Based on these background studies, we designed two instructional units (one for each subject) in the second phase. In the evaluation and reflection phase, we tested and evaluated our instructional units.

3. STRUCTURE OF THE THESIS

This thesis is a collection of four studies, on which we have reported in four chapters. These four chapters can also be read separately, since we have aimed to report the studies in four journal articles for publication. This created a certain amount of overlap between chapters.

Chapter 2 reports on a background study on students' perspectives on writing, while focusing on students' cognitive processes during source-based writing. In this study, 11th grade students performed writing tasks for history and philosophy while thinking aloud. The study provided the basis for designing the disciplinary strategy instruction, since it revealed the disciplinary aspects of the writing process. This study confirmed that the two subjects required different learning materials. We decided to continue with a design study for history first, and to make a transfer to philosophy at a later stage.

Chapter 3 presents a design study, which resulted in an instructional unit for historical writing, applicable to different topics. We started the research with a prestudy exploring the context from teachers' perspective. We conducted explorative interviews with history and philosophy teachers, to obtain a clear image of teachers' current knowledge of writing processes and instruction, and their habits around providing writing tasks and teaching writing. In real time, this prestudy preceded the think-aloud study presented in Chapter 2. However, we decided not to report on the prestudy in a separate chapter, but to integrate it in Chapter 3 (history teachers' perspective) and Chapter 5 (philosophy teachers' perspective) instead, for the benefit of coherence.

The prestudy, plus the think-aloud study from Chapter 2, as well as a literature search, provided the foundations for the instructional unit presented in Chapter 3. Overall, it resulted in two design principles, which formed the foundations for an instructional unit. After a trial study, in which the

instructional design was implemented and evaluated by two history teachers, recommendations for redesign were formulated.

In Chapter 4 we report on a larger-scale quasi-experimental study ($N = 268$) set-up in the history classroom, testing an optimized version of the instructional unit as presented in Chapter 3. The research design contained three experimental conditions, to assess the effectiveness of (a) implementation of writing tasks, developed by participating teachers, and (b) implementation of discipline-specific strategy instruction. In the first experimental condition, teachers developed writing tasks, which they used in their own history lessons. In the second experimental condition, participating teachers developed writing tasks tailored to their own year plans and they implemented additional writing strategy instruction. A third condition was a non-writing control condition.

In Chapter 5, we made the above-mentioned transfer to philosophy. The intervention materials we had designed for history, were adjusted to the discipline of philosophy, and subsequently implemented by three philosophy teachers. Again, in this study, teachers developed their own writing tasks, based on design principles. Additionally, in this study guiding activities were implemented, prompting teachers to reflect on their writing practice. We used qualitative measures to research teachers' interaction with the designed learning materials, and to explore if the intervention was effective for students' philosophical writing. Methods to measure effectiveness were not only the assessment of students' texts by independent jury teams, but also the teachers' reflections on their students' results.

In the general discussion, we discuss new insights concerning the main concepts presented in this introduction: disciplinary literacy, supporting writing, and innovation of teachers' practice. Furthermore, methodological issues, and directions for future research are discussed. We end with a series of recommendations for content teachers. As far as the subjects of philosophy and history are concerned, we will offer our readers some concrete tools. However, in the discussion, we also aim to connect the two subjects, to eventually conclude which actions are recommended to enhance students' disciplinary writing skill, regardless of subject-specificity.