

2022

Scaffolding genre-based writing in the subjects: Lecturers' learning processes in a design-based research project

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Recommended Citation

Kuiper, C., & Smit, J. (2022). Scaffolding genre-based writing in the subjects: Lecturers' learning processes in a design-based research project. *Journal of University Teaching & Learning Practice*, 19(5).
[https://doi.org/#N/A!](https://doi.org/#N/A)

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Abstract

To promote student writing development, integrated approaches such as genre-based writing instruction (GBWI) are advocated in tertiary education. However, most subject lecturers are not used to centralise writing in their subjects as they focus on content teaching. Capitalising on teacher learning within GBWI is therefore necessary. Design-based research can offer a fruitful learning environment for such innovative type of content and language integrated instruction. In a multiple case study (n=2) in Dutch higher professional education, we aimed to explore what subject lecturers can learn in a design-based research project in terms of scaffolding students' writing. Qualitative data on teacher learning were collected through logs and interviews before, during and after three GBWI interventions. These data were transcribed verbatim and analyzed using transcription software. Results showed the subject lecturers reported multifaceted learning outcomes, particularly concerning changed knowledge and beliefs. Some of these were directly related to GBWI (e.g., metalanguage, deconstruction, text features) whereas others were related to scaffolding language in subject learning more generally, and to the lecturers' teaching roles. Both lecturers also reported learning outcomes in terms of changed practices, but to a lesser extent. This may be related to the challenging character of enacting GBWI in the subjects. On a more general level, this study has yielded valuable insights into what factors are at stake when subject lecturers learn to enact GBWI. Further, it has shown the potential of a design-based research learning environment which we view as part of a causal field instigating subject lecturers' professional development.

Practitioner Notes

1. Creating a design-based research learning environment in which subject lecturers act as co-designers can promote their learning process as they are closely involved in designing, enacting and reflecting on an intervention, and valued for their situated expert knowledge.
2. Subject lecturers can improve their writing instruction in particular, but also their teaching competence more generally, when they are fully introduced in genre-based writing instruction and its underpinning functional language theory, sociocultural learning theory, and the notion of scaffolding.
3. In training subject lecturers on scaffolding students' genre-based writing development, designed scaffolds (e.g. genre analysis, sample texts) aimed at student learning can also function as scaffolds for lecturers in their own learning process.
4. As genre-based writing instruction cannot simply be learnt and implemented as a formulaic, rigid and prescriptive how-to-do list, allowing subject lecturers sufficient time to discover this integrated approach as well as to test and reflect on it, is recommended.

Keywords

genre-based writing, scaffolding, design-based research, teacher learning

Introduction

To promote higher education students' writing development, content-based approaches are advocated (Kruse, 2003; Wingate et al., 2011). In these approaches, content and language instruction are integrated, as language learning is perceived as a discipline-specific rather than a generic skill (Snow & Brinton, 1988). Genre-based writing instruction (GBWI) is such an integrated approach aimed at providing students with an explicit understanding of how texts are structured and why they are written in the ways they are (Derewianka, 2015; Hyland, 2008). It has been argued to be a realistic, effective and feasible approach to promote tertiary students' writing in the subjects, thereby offering a promising alternative to current writing instruction (Wingate, 2012). GBWI has been implemented successfully in both L2 (e.g. Azaz, 2016; Chaisiri, 2010; Changpueng, 2012; Lughmani et al., 2016; Yang, 2012b) and L1 higher education contexts (e.g. Kuiper, 2018; Kuiper et al., 2017; Wingate, 2012).

Despite its potential, GBWI is not common practice in higher education. Next to workload and time issues, subject lecturers' preparedness to deliver GBWI is a major hurdle (Chanock et al., 2012; McWilliams & Allan, 2014; Wingate et al., 2011). Promoting students' writing is historically thought to be the sole responsibility of language teachers, whereas subject lecturers are supposed to focus on subject matter (Tan, 2011). As a consequence, most subject lecturers in higher education are not accustomed to paying attention to writing and do not have explicit knowledge of the typical features of language and texts in their subject (Jacobs, 2005). Therefore, capitalizing on teacher learning within GBWI is necessary to take full advantage of this approach (Mazdayasna & Ghane, 2022; Rezat & Rezat, 2017; Traga Philippakos, 2020).

In view of shaping such teacher learning, design-based research (DBR) seems a fruitful approach (Bakker, 2018; Brown, 1992). The purpose of DBR is to develop theories about learning and the means that are designed to support that learning (Bakker, 2018, p. 18). Within DBR, teachers often participate in the role of co-designer of an educational innovation (Konrad & Bakker, 2018; Smit & Van Eerde, 2011). As local experts with situated knowledge, they can play a valuable role in the design of educational innovations, while developing their own expertise at the same time. To date though, little research has investigated how teachers' expertise develops when they participate as co-designer in a DBR project (exceptions are Smit & Van Eerde, 2011; Sztajn, Wilson, Edgington, Myers, & Dick, 2013), especially in the context of higher education. Therefore, the overall aim of the present study is to gain insight into how DBR as a learning environment can promote subject lecturers' enactment of GBWI in their subjects.

Theoretical background

Teacher Learning in the Context of DBR

In a study focusing on teacher learning in the context of educational innovation, Bakkenes, Vermunt and Wubbels (2010) define teacher learning as 'an active process in which teachers engage in activities that lead to a change in knowledge and beliefs (cognition) and/or teaching practices (behavior)' (p.536). They identify experimenting, interacting with others, using different sources, and reflecting on own teaching practices as recurring learning activities in the literature that can foster teacher learning. In the same vein, Desimone (2009) identified five core features of successful professional development programs: content focus, active learning, coherence, duration (>20 hours) and collective participation. In order to meet such conditions for teacher learning, DBR is contended to be a fruitful environment (Cobb et al., 2009; Sztajn et al., 2013).

The primary goal of DBR is to design learning opportunities and produce theories of learning related to these opportunities through iterative cycles of design, implementation, analysis, and redesign (The Design-Based Research Collective, 2003). In DBR, the messiness of real-world

practice is acknowledged and perceived as a core part of understanding how learning works (Barab & Squire, 2004; Cobb et al., 2003). Rather than focusing on *if* an intervention works, DBR primarily focuses on how, why and when an intervention works or doesn't work (Bakker & Van Eerde, 2015). DBR can be characterized by its interventionist and cyclic character as well as its focus on reflection and evaluation. Besides, involving practitioners actively in research is valued by many DBR researchers (Cobb et al., 2003).

Within DBR projects, teachers typically have a considerable role. They are not perceived as individuals merely undergoing an educational innovation, but as agents who have an important voice in designing, enacting and reflecting on an intervention (Konrad & Bakker, 2018; Penuel & Gallagher, 2009). The underlying assumption is that teachers have situated knowledge of the educational context at stake, and can thus best understand the opportunities and pitfalls surrounding an intervention (Akkerman et al., 2013). In line with this, teachers often fulfill a role of co-designer in DBR (Konrad & Bakker, 2018; McKenney & Reeves, 2012). Co-design is not only thought to contribute to teachers' sense of ownership of the intervention (Cviko et al., 2014; Fullan, 1998) and to its viability (Plomp, 2010), but also to provide insight into how teachers' own learning process develops over time (Smit & Van Eerde, 2011).

Genre-Based Writing Instruction

GBWI, as elaborated by the Sydney School, arose in Australia in the 1980s as a way to empower all students with linguistic resources for achieving success at school (Christie & Martin, 1997; Cope & Kalantzis, 1993). It aims to enable students to read and write successfully by explicitly inducting them into the goal, structural and linguistic features of particular text types (i.e. genres; Hyland, 2007). GBWI draws on Halliday's functional language theory (1994) and uses the notions of field (subject matter), tenor (relationship between reader and writer) and mode (communication channel: spoken-like versus written-like) to address the linguistic features of a text. In addition, text structure represented in the concept of 'moves' (Swales, 1990) is used to refer to the various moves or steps a writer uses to achieve a particular text goal.

Next to Halliday's functional language theory, GBWI also draws on sociocultural learning theory (Vygotsky, 1962, 1978), and the related notion of scaffolding (Wood et al., 1976). Scaffolding can be characterized as teachers' adaptive, temporary support with students' independence as the ultimate aim (Van de Pol et al., 2010). It is thought that students learn best in the so-called Zone of Proximal Development (ZPD), which refers to a metaphorical space where learning takes place (Litowitz, 1993). In the learning process, the role of teachers as more knowledgeable others is crucial, as teachers scaffold learners within their ZPD's. In GBWI, two types of scaffolding are distinguished: *designed* and *interactional* scaffolding (Hammond & Gibbons, 2005). Designed scaffolding refers to planned support in teaching materials and activities, such as a sample text that students explore with the help of an analysis tool. The teaching and learning cycle (Gibbons, 2002), used in GBWI, is a design heuristic that facilitates designed scaffolding. This cycle consists of four stages in which a particular text type is introduced, modeled, jointly practiced and eventually individually performed by students. Interactional scaffolding refers to the unplanned support offered by the teacher to students in live interaction, such as rephrasing students' questions or providing a recap of learning points.

To enact GBWI, subject lecturers ideally master particular skills and expertise, such as knowledge of language demands and genre features in their field (De Oliveira & Smith, 2019). Performing a genre analysis (i.e., exploring a genre's text features) can therefore be a valuable first step. Furthermore, subject lecturers are to become acquainted with the pedagogy of GBWI and to develop a language to talk about their texts, with students but also with their colleagues (Rezat & Rezat, 2017). This metalanguage (e.g., notions of text structure, signaling words, relationship reader and writer) enables them to explicitly make clear how texts work (Derewianka, 1990). In addition, subject lecturers ideally develop certain knowledge about writing (e.g., phases in the

writing process) and writing instruction (e.g., how to provide feedback on writing products), as well as knowledge of how to deploy the TLC in their subject lessons. Finally, subject lecturers need to be able to scaffold students' writing development in interaction, which requires particular expertise (Kindenberg, 2021; Smit & Van Eerde, 2011). All in all, providing content-based writing instruction such as GBWI is challenging. It not only requires subject lecturers to reflect on their current teaching practices and to reconsider existing beliefs on subject and literacy teaching, it also calls for an open and flexible attitude towards learning new teaching strategies in collaboration with writing experts (Blake & Pates, 2010; Wingate, 2012).

To fulfill our aim of gaining insight into how DBR as a learning environment can promote subject lecturers' enactment of GBWI in their subjects, we ask:

What can subject lecturers learn in a DBR project in terms of scaffolding students' genre-based writing?

Method

The present study was part of a larger DBR project focused on promoting tertiary students' writing by following a subject-specific genre-based approach (Kuiper, 2018). To answer the question central to this study, we conducted a (multiple) case study (Yin, 2014). We followed and compared the learning processes of two subject lecturers (i.e. two cases) who participated in the DBR project, to obtain insight into their learning experiences during a genre-based writing intervention.

Setting and Participants

The study was conducted between 2014 and 2016 in a Dutch higher professional education institution in the eastern part of the Netherlands. That is, the study took place in regular offline classrooms before the Covid-19 pandemic. The particular setting concerned the Dutch first-year programs (L1) within Hospitality Business School. Two subject lecturers were involved. The first subject lecturer (female/43 years/Dutch/pseudonym: Laura) taught Event Management subjects and had three years of experience in teaching in higher professional education and over ten years of experience in the field. The second subject lecturer (female/42 years/Dutch/pseudonym: Julia) had one and a half years of experience in teaching research-related subjects in higher professional education, and several years of experience as a primary school teacher. In addition, she had several years of experience working as a research consultant. Both subject lecturers had no previous experience in delivering subject-specific GBWI or other forms of integrated content and language teaching.

Professional Development

The professional development program comprised different kinds of learning activities, before and during the enactment of the GBWI interventions, to foster the aforementioned teacher learning as advocated by Bakkenes, Vermunt and Wubbels (2010).

Before the enactment phase, two sessions were developed to introduce the subject lecturers to the ideas of GBWI and its underlying concepts, and to provide them with articles and web lectures as background information. Also, they were both asked to analyze target genres within their subject (see further '*Intervention design*') in terms of goal, structural and linguistic features, based on their own and colleagues' knowledge. Additionally, they collected what they considered strong and weak examples of student texts in the target genres, and they constructed a good example themselves. Furthermore, four design sessions were held. These sessions comprised learning activities such as 'interacting with others' and 'using different sources' by means of which Laura and Julia actively contributed as co-designers to the development of teaching materials (i.e. designed scaffolding).

During the enactment phase, Laura and Julia were involved in construing lesson plans and formulating lesson goals inspired by the teaching and learning cycle, by way of professional development. Further, the enactment of lessons could be framed as ‘experimenting’: another learning activity Bakkenes, Vermunt and Wubbels (2010) put forward as contributing to teacher learning. In addition, several reflective activities were initiated such as reflections on lessons in digital logs and in interviews based on recorded lesson fragments. These activities were aimed at evaluating the designed and interactional scaffolding enacted in view of the formulated lesson goals.

Intervention Design

The GBWI intervention was based on the teaching and learning cycle and inspired by the notion of scaffolding. Throughout the phases of Building knowledge of the field, Deconstruction, Joint Construction towards Independent Construction, the lecturers were encouraged to scaffold student writing. The intervention was attuned to the educational context at stake, which resulted in a 7-week intervention with one (approximately) one-hour lesson per week. For both interventions, the subject lecturers together with the researcher formulated student learning goals. Laura’s intervention within the subject of Event Organization was aimed at developing students’ proficiency in writing texts in the target genre of an event proposal, whereas Julia’s intervention within the subject of Introduction to Research was focused at the target genre of a case analysis. While these goals were set beforehand as was the overall learning trajectory based on the teaching and learning cycle, the nature of particular lesson activities was determined together with the lecturers based on experiences and reflections on former lessons.

Data Collection and Instruments

To promote and trace the teacher learning processes over time, data were collected before, during and after the interventions. Laura enacted three cycles of the GBWI intervention, whereas Julia enacted two. The first instrument used to promote and trace the lecturers’ learning was a semi-structured interview guide that was developed to conduct interviews at the start of the research project, as well as before and right after each intervention cycle (see Table 1). The interview guide was inspired by the four categories of learning as distinguished by Bakkenes, Vermunt and Wubbels (2010; see example in Table 2). All interview data were transcribed verbatim with the help of F5 transcription software.

Table 1
Timeline interviews subject lecturers

	Pre-interview	Pre-interview	Post-interview	Pre-interview	Post-interview	Pre-interview	Post-interview
		1st cycle	1st cycle	2nd cycle	2nd cycle	3rd cycle	3rd cycle
Laura	Sept. 2014	Feb. 2015	April 2015	Sept. 2015	Nov. 2015	Feb. 2016	April 2016
Julia	Sept. 2015	Nov. 2015	Jan. 2016	Feb. 2016	April 2016	-	-
		Intervention 1		Intervention 2		Intervention 3	

Table 2
Example questions in pre- and post- interview guide (translated from Dutch)

Category	Example question
Changes in knowledge and beliefs	What have you learned about genre-based writing instruction in your subject in this cycle?
Changes in practice	What did you do differently in teaching your students how to write the target genre this cycle?
Intentions for practice	What kind of things do you plan to do differently in the next cycle?
Changes in emotions	How do you feel now about providing GBWI and to what extent has this changed over time?

The second instrument used was a digital log, which Laura and Julia were asked to fill out after each lesson. The format for the log was based on the teaching activities central to a lesson, and consisted of open questions (e.g. *What was your overall impression of this lesson?*) and 5-point Likert-scale questions (e.g. *Indicate how satisfied you are with the brainstorm activity*). The third instrument used to promote and gain insight into subject lecturers' learning was a guide for stimulated recall interviews (Meijer et al., 2002). These interviews were held after each lesson and consisted of a general reflection on the lesson in line with the logs, and a reflection on specific video fragments of the lesson selected by the researcher. Questions like *“How do you describe your role in this scaffolding activity?”*, *“How do you evaluate it?”*, *“How do you think it promoted student learning?”* and *“Would you do it differently next time?”* were aimed to encourage the lecturers to explicate their thinking on their current and desired scaffolding practices in view of promoting student learning. These interview data were transcribed verbatim as well.

Data Analysis

In the analysis, the pre- and post-interview data were used as the main source to determine if teachers learned from the intervention, whereas other data sources were used to understand what they learned. We conducted a qualitative analysis, which can be framed as cross-case (Boeije, 2009), as we aimed to examine themes, similarities, and differences across the two cases of Laura and Julia.

First, we identified the reported learning outcomes of the two lecturers. As an analytic framework, we used the four categories of learning outcomes as developed by Bakkenes, Vermunt and Wubbels (2010) in the context of a national innovation program in secondary education across different school subjects. In the framework, four categories of reported learning outcomes of teachers are distinguished: (1) changes in knowledge and beliefs, (2) intentions for practice, (3) changes in practice and (4) changes in emotions. We coded the reported learning outcomes per subject lecturer with the help of a coding scheme (see Table 3). All utterances in which Laura and Julia explicitly referred to a learning outcome were identified as units of analysis and coded by one researcher (the first author). Then, another researcher (the second author) coded a subset of fragments ($n=32$) per case to determine the interrater reliability of the coding process. This subset was calculated with the help of Cichetti's $2n^2$ -rule (Cicchetti, 1976), where n is the number of codes (4 in this study). In total, 64 fragments (32 per case) were coded by both researchers resulting in a .775 interrater reliability that can be interpreted as substantial (Cohen, 1988).

Table 3

Coding scheme reported learning outcomes

Code	Description	Example
Ckb	<i>Changes in knowledge and beliefs</i> : the lecturer reports on growing awareness, acquired knowledge, new ideas or on confirmation of existing beliefs	Right now, I am more aware of how I can contribute to students' writing, which I wasn't before the intervention.
Cp	<i>Changes in practice</i> : the lecturer reports on changes in her way of teaching	I have taken more time than I used to do to talk with students about the function of texts.
Ip	<i>Intentions for practice</i> : the lecturer reports on intentions to do things differently in the future or to do things the same as before based on research insights	I think conducting an analysis of the target genre is something I will also do in the other subjects I teach, because that really helped me to get a grip on the text characteristics.
Ce	<i>Changes in emotions</i> : the lecturer reports on changed emotions evoked by the research	In the second cycle of the intervention I felt more comfortable to release control of the lesson as compared to the first cycle.

Results

Table 4 and 5 show the frequency of reported learning outcomes in the four categories for each of the subject lecturers Laura and Julia. Both of them reported the most learning outcomes in the category of *changes in knowledge and beliefs* and the least in the category of *changes in practice*. Table 4 and 5 further demonstrate that the number of reported learning outcomes in the post-interviews increased throughout the intervention cycles. Furthermore, the tables show that Julia reported relatively more learning outcomes (54 in 4 interviews) than Laura did (60 in 6 interviews).

Table 4

Frequency of reported learning outcomes of subject lecturer Laura per category

	Interviews						Total
	Pre1	Post1	Pre2	Post2	Pre3	Post3	
Changes in knowledge and beliefs	2	4	2	4	1	6	19
Changes in practice	0	1	0	5	0	6	12
Intentions for practice	0	4	3	2	3	4	16
Changes in emotions	0	1	1	3	2	6	13
Total	2	10	6	14	6	22	60

Table 5

Frequency of reported learning outcomes of subject lecturer Julia per category

	Interviews				Total
	Pre1	Post1	Pre2	Post2	
Changes in knowledge and beliefs	2	12	2	12	28
Changes in practice	3	1	0	2	6
Intentions for practice	3	3	2	2	10
Changes in emotions	2	2	1	5	10
Total	10	18	5	21	54

In the following, the main results per category of reported learning outcomes across the two cases are described qualitatively.

Changes in Knowledge and Beliefs

In this category, a first change both lecturers reported concerned an increased insight into the specific features of the language of and texts within their own subjects. Especially after the first intervention cycle, Laura and Julia referred to this awareness whereby Julia related this to the genre analysis she had conducted in the preparation phase of the intervention:

“I have actually never thought of the fact that we [as Event Organization professionals] have our own language, our own expressions...I wasn't aware of that before.” (Laura, post1)

“I now know better what I expect of students' texts as I have written one myself. (...) I must say, it was a quite annoying, uncomfortable task: I actually ask so much of students, things I have never done myself before.” (Julia, post1)

Second, Laura and Julia both reported on their awareness of (the role and possibilities of) metalanguage for promoting students' writing development, such as using the concepts of *moves* and *tenor* when talking about texts. The following quotes of Laura illustrate this perceived benefit:

“I now have words to define certain text features. Features that I did see before, although I didn't have words for those at that time.” (Laura, pre1)

“The most important yield is that I now have words to explain how texts work, how language works...to explicate why certain language is used, and to learn them [students] the same words which makes them understand it too.” (Laura, post3)

At the same time, both lecturers reported on difficulties in understanding the metalinguistic concepts used in GBWI properly, and in using these in practice, especially in the first intervention cycle. Whereas Laura faced difficulties understanding and explaining *tenor*, Julia first struggled with grasping *field*. After having discussed these concepts in reflective sessions, Julia reported on her increased understanding of *field*, which also enabled her to make good use of this concept in discussing texts with her students.

“The notion of ‘field’ still remains vague to me, I mean, you’re looking for the subject of the text, but I don’t know exactly where or how to find that.” (Julia, stimulated recall interview, lesson 1.3)

“Now I know I have to focus more on the linguistic level and ask students more specifically: “Which words in the text make you understand what the text is about?” (Julia, stimulated recall interview, lesson 2.2)

A third reported change in knowledge and beliefs was subject lecturers’ insight into the functionality of language and texts. Whereas written assignments were common in both subjects, and Laura as well as Julia both had several years of teaching experience, perceiving language and texts as functional tools to establish purposeful communication was new to them. While Julia related this change to her own development as a lecturer (i.e. as something she had learned), Laura related it to students’ development (i.e. as something they could learn), as the following quotes illustrate:

“I think this is the most important thing I have learned: that you can persuade with language. I have never been aware of that before. That language has a function, in our case to persuade the reader of your capacity as a researcher.” (Julia, post1)

“Well, that was such an eye opener for me...till then it was kind of implicit knowledge, but what I really learned is that texts are good when they reach the text goal.” (Julia, stimulated recall interview, lesson 2.4)

“What I realize now is that we never made clear before what the aim is of texts that students have to write. What the function is of specific text parts and of the text as a whole, what is it exactly you want to achieve”? (Laura, pre2)

A further reported change in this category concerned both lecturers’ view on students’ learning processes with regard to writing. Throughout the interviews, Laura and Julia mentioned having become aware of the long-term character of this process instead of perceiving it as a one-off activity. Following on from that, they both expressed the desirability to integrate writing and content teaching so as to foster students’ writing. Laura related this to the expert role a subject lecturer has compared to a language teacher, whereas Julia referred to the self-evident connection between subject matter and language, as illustrated below:

“They [language teachers] don’t speak the language of the event industry; they don’t have a feel for that like we do.” (Laura, post3)

“It’s so logical to relate research and language! Actually, it’s strange we don’t do it in other subjects. (...) Language instruction should be taken out of its isolation, as in

itself it has a, a rather negative image amongst subject lecturers like I also had before.”
(Julia, post2)

In sum, Laura and Julia reported different kinds of changes in knowledge and beliefs, ranging from understanding the subject-specific features of texts, the merits as well as challenges of metalanguage, the functionality of texts, to more general awareness of what it takes to learn and teach subject-specific writing.

Changes in Practice

Two types of changes in practice were reported on by both Laura and Julia. The first concerned the fact that they had explicitly paid attention to language and writing instruction in their subject lessons. Both Laura and Julia indicated it was totally new to them to provide writing instruction in their content lessons despite the fact that written assignments were the main test form in both subjects. As Laura’s quote illustrates:

“Usually, we just don’t spend time on that like we do now. We tell students what they have to include [in the writing assignment], but not how to include it, that part is missing so far.” (Laura, post3)

Addressing writing instruction in their subject classes sometimes posed challenges to both lecturers. Laura for example referred to difficulties she experienced when discussing student texts during the phase of Joint Construction, while Julia mentioned her struggle with answering particular student questions:

“When discussing student texts, I noticed I wasn’t sharp enough. I had difficulties reading the text as I felt the pressure to have an opinion about it at the same time.”
(Laura, stimulated recall interview, lesson 2.4)

“Well, one student asked me this question whether coherence is related to headings and I thought “Wow, good question, I have no idea”. Actually I needed a language expert there, as I am not used to these kinds of questions.” (Julia, stimulated recall interview, lesson 2.2)

The second change in practice both lecturers reported concerned their changed teaching role over time. Laura and Julia mentioned having changed their role from rather teacher-centered and directive in the first cycle, towards a more student-centered, scaffolding role in the later cycles. In the following series of Julia’s quotes in chronological order, her changing role over time is illustrated:

“I could have allowed more room for interaction, for discussion.” (Julia, stimulated recall interview, lesson 1.1)

“It feels more comfortable to work hard myself and retain control. If I let go the control, it becomes unsettling because you don’t know what they [the students] will say or ask.”
(Julia, post1)

“We had discussed beforehand that it could be effective if I had students themselves taking the lead in a classroom discussion, and it indeed played out well in practice.”
(Julia, stimulated recall interview, lesson 2.3)

“It’s so encouraging to see that I am increasingly able to help students, not in the sense of providing the right answers, but by acting as their experienced conversational partner.” (Julia, stimulated recall interview, lesson 2.4)

“I feel I’ve become a better teacher. Constant monitoring students’ needs is something I always tried to do, but which I only now can actually realize, as I have been trained how to do so. To look at them and ask myself: are they still with me? How do they respond? What do they need?” (Julia, post2)

Apparently, the fact that the lecturers learned to take a linguistic perspective on their subjects, also made them rethink their teaching role in the course of the interventions.

Intentions for Practice

In this category, both lecturers reported the intention to structurally integrate content and writing instruction, especially in the final intervention cycles. They stressed how such an instructional practice can benefit student learning as well as enhance their own (and their colleagues’) teaching practice, as the following quotes illustrate:

“I think it would be good to add more language instruction to the subjects and have subject lecturers provide this instruction. It’s fun and it adds more depth to our lessons. Besides, it provides us with tools to end the frustrating feeling we experience now when reading student texts.” (Laura, post3)

“It has to be more integrated, we cannot think within boxes any longer. If we redevelop our curriculum, language has to be an integral part of it.” (Julia, post2)

Further, Laura expressed the intention to widely use sample texts in her classes and to inspire her colleagues to do the same. As she voiced in her final interview:

“I definitely want to use sample texts in my future classes. And to propose the notion of deconstruction to my colleagues....to have them take a good look at the texts: to find out how a text works, how it is structured, what kind of arguments are used.” (Laura, post3)

In addition, Julia reported on her intention to use different teaching methods in future:

“I want to use more interactive teaching methods. By expecting input from students, they actively get involved in the matter, which make them think more carefully about it.” (Julia, stimulated recall interview, lesson 2.4)

In sum, the interventions seemed to have generated ideas for future teaching, both on the curriculum level as well as on the classroom level.

Changes in Emotions

Throughout the intervention cycles, both subject lecturers reported growing confidence in providing language instruction through GBWI. The interview data showed a gradual development from both lecturers feeling somewhat anxious towards feeling more confident and relaxed when providing GBWI. The following quotes of Laura, in chronological order, illustrate this development:

“I mainly feel a bit anxious, like eh...how am I going to deal with language and writing and providing instruction on that...you have to be able to react quickly.” (Laura, pre1)

“Well, of course there are things I could have responded to more adequately, that’s logical as I am not a language teacher all of a sudden, but my overall feeling is positive.” (Laura, post1)

“I really felt happy after this lesson, as the students were actively involved.” (Laura, stimulated recall interview, lesson 2.2)

“This cycle felt good, like an 8 [grade A]. I liked it and it made me happy.” (Laura, post2)

The quotes show the lecturer’s growth process in becoming a language-sensitive subject lecturer over time.

Discussion

In this study, our aim was to gain insight into how DBR as a learning environment can promote subject lecturers’ enactment of GBWI in their subjects. In answer to the research question, we can conclude that in both cases most learning outcomes concerned *changes in knowledge and beliefs*. This coincides with results found in similar teacher learning studies in the context of design-based research (e.g., Smit & Van Eerde, 2011). The results further show that the lecturers reported different kinds of learning outcomes. That is, outcomes directly related to GBWI (e.g., metalanguage, deconstruction, text features), as well as outcomes related to scaffolding language in subject learning in a more general sense, and outcomes on the level of the lecturers’ teaching roles. These multifaceted learning outcomes corroborate the challenging character of enacting GBWI in the subjects as indicated before (Blake & Pates, 2010; Wingate, 2012).

The relatively high number of reported learning outcomes in the category of *changes in knowledge and beliefs* may not be surprising, because raising awareness and altering beliefs is perceived to be the first step in teacher learning (Bakkenes et al., 2010). In other words, the learning activities deployed in several iterations such as preparing, experimenting and reflecting on teaching has made both lecturers reconsider their current practices and teaching roles, but change these to a lesser extent. These results seem to indicate an initiated rather than a completed learning process (Smit et al., 2018). Apparently, GBWI cannot simply be implemented as a formulaic, rigid and prescriptive how-to-do list as some genre critics put forward (see Yang, 2012a). Rather, learning to provide GBWI seems to be a long-term process: one that challenges lecturers’ existing views on teaching and teacher roles, that requires testing and reflecting, and that allows for lecturers developing their confidence over time.

The results further indicate that subject lecturers have made progress in their realization of scaffolding writing. Laura and Julia initially felt uncomfortable in providing writing instruction which corresponds with findings in other studies (Blake & Pates, 2010; Wingate, 2012). With the help of testing, reflecting and guidance by the researcher however, the lecturers gradually developed confidence in their knowledge and skills to provide GBWI. It should be noted here that the reported learning outcomes were generally related to designed scaffolding (i.e. planned support, such as sample texts and metalanguage), and to a lesser extent to interactional scaffolding (i.e. unplanned support). Apparently, these designed scaffolds, aimed at student learning, also functioned as scaffolds for the lecturers as it offered them a framework for enacting GBWI. Hammond and Gibbons (2005) state that designed scaffolding provides the context in which interactional scaffolding can occur. In the context of this study, it may indicate that learning in terms of designed scaffolding precedes learning in terms of interactional scaffolding, which is generally perceived as very challenging as it has to be enacted on the spot and requires adaptivity to students’ needs (Smit & Van Eerde, 2011).

A related interesting finding is the fact that GBWI did not only make the subject lecturers take a linguistic perspective on their subjects, it also made them rethink what good teaching is about in a broader sense. That is, both lecturers became conscious of the importance of interaction, of the benefit of taking on a more coaching instead of directive role, and of the naturalness of integrating content and language instruction. One could argue that these benefits are not unique to GBWI (see also Hyland, 2007). However, we contend that GBWI with its underpinning

functional language theory (Halliday, 1994), sociocultural learning theory (Vygotsky, 1962, 1978) and notion of scaffolding (Gibbons, 2002) offers subject lecturers a comprehensive approach to not only improve their writing instruction, but also to improve their teaching competences more generally. As Julia voiced after her second intervention cycle: *“I feel I’ve become a better teacher.”*

Although specific causal relations between the reported learning outcomes and DBR as a learning environment cannot be made, we view the learning environment of DBR as part of a causal field instigating subject lecturers’ professional development (see also Smit & Van Eerde, 2013). For example, both lecturers were asked to analyze the target genre in their subject, to look for strong and weak examples, and to construct a sample text themselves, thus acting as co-designers. By doing so, they not only became aware of the text characteristics but is also raised their consciousness of what writing such a text requires; an experience they could exploit in their lessons. Further, the continuous reflection on enactment, as is common in DBR studies (Bakker, 2018), seemed to have contributed to both lecturers’ learning. Julia for example first faced difficulties in grasping the notion of ‘field’ as became clear in a reflective interview. This issue was addressed immediately after the lesson, after which Julia was better able to use this notion properly in the next lesson.

When looking back on both subject lecturers’ learning processes throughout the different intervention cycles, we argue in line with Konrad and Bakker (2018) that the close collaboration between researchers and teachers, as is advocated in DBR, is fruitful. Both types of professionals made their own contributions to the process of educational innovation. While the lecturers looked from inside the system with their situated expert knowledge and took on a co-designer role, the researchers took an outsider perspective and drew on literature and data to shape and improve the intervention thereby alternately assuming a participant designer role and a silent observer role (see Akkerman et al., 2013).

On a more general level, this study has shown what factors are at stake when subject lecturers learn to enact GBWI. That is, it has shed light on how subject lecturers can adopt GBWI and its underpinning theories in order to scaffold student writing in the context of their subject lessons. This yield is promising as a collaborative approach to promote student writing involving both language and subject lecturers is thought to be most effective (Carstens, 2014).

Limitations, Future Research and Implications

A first limitation concerns the small scale of this study. Both Laura and Julia were subject lecturers working at the same faculty with the same target group of first-year students in higher professional education. This implies that the findings of this study can be framed as context-specific. Therefore, a next step in this research is to find out if designing and enacting GBWI in the subjects in another (higher) educational context, in a different field (than Hospitality Business), and with other lecturers leads to the same findings as presented here. In addition, future research may also focus on investigating to what extent subject lecturers can employ their GBWI competencies in other subjects, classes and contexts.

A second limitation of the present study may be that we did not explicitly formulate a conjecture map on the intervention design, including the role of the subject lecturers in that design. Sandoval (2014) advocates the use of conjecture maps in DBR to clarify how design characteristics may be related to intended processes (or mechanisms) and outcomes. Although a conjecture map was formulated in the larger DBR project this study is part of (Kuiper, 2018), the role of subject lecturers was not explicitly included. Furthermore, Sandoval’s initial model of conjecture maps does not accommodate this (Konrad & Bakker, 2018). In view of the crucial role of lecturers in the design process and functioning of an intervention design, it would therefore be interesting to construct such a conjecture map in which the role of a lecturer, as part of the ‘design characteristics’ contributes to the intended outcomes.

Further, a remark that needs to be made is that this study was conducted well before the Covid-19 pandemic and fully offline. The fact that the subject lecturers' professional development has taken place in face-to-face sessions only, and was focused at providing GBWI in offline classroom contexts, may have affected the results. Recent studies on GBWI show that distant professional development models can work out well (Traga Philippakos & Voggt, 2021), although providing GBWI fully online may be less effective due to the fact that teachers and students do not interact directly (Hutabarat & Gunawan, 2021). More research is needed on both professional development and provision of GBWI in online contexts, as remote and hybrid teaching and learning are here to stay (Hofer et al., 2022).

All in all, this study has shown that DBR as a learning environment can indeed promote subject lecturers' enactment of GBWI in their subjects, thereby generating some implications for practice. First, when higher education institutions consider addressing writing instruction in all subjects, the findings suggest that GBWI can be a feasible approach for subject lecturers to do so, while enriching their pedagogy more generally at the same time. Second, in preparing such GBWI enactment, it is recommended to create opportunities for close collaboration between GBWI experts and subject lecturers as is common in DBR. This kind of collaboration, combined with iterative cycles of design, implementation, analysis and redesign, is key in realizing educational innovations. Finally, allowing sufficient time for teacher learning is crucial, as learning how to scaffold students' genre-based writing is a long-term process.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Akkerman, S. F., Bronkhorst, L., & Zitter, I. (2013). The complexity of educational design research. *Quality & Quantity*, 47(1), 421–439.
- Azaz, M. (2016). Integrating the Genre-Based Approach into Teaching Writing in Arabic As a Foreign Language. *Journal of the National Council of Less Commonly Taught Languages*, 19(Spring 2016), 31–60. <http://forum.wordreference.com/showthread.php?t=338471>
- Bakkenes, I., Vermunt, J. D., & Wubbels, T. (2010). Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teachers. *Learning and Instruction*, 20(6), 533–548. <https://doi.org/10.1016/j.learninstruc.2009.09.001>
- Bakker, A. (2018). *Design Research in Education: A Practical Guide for Early Career Researchers*. Routledge.
- Bakker, A., & Van Eerde, D. (2015). An Introduction to Design-Based Research with an Example From Statistics Education. In A. Bikner-Ahsbabs, C. Knipping, & N. C. Presmeg (Eds.), *Approaches to Qualitative Research in Mathematics Education* (pp. 429–466). Springer Science+Business Media. https://doi.org/10.1007/978-94-017-9181-6_16
- Barab, S., & Squire, K. (2004). Design-Based Research: Putting a Stake in the Ground. *Journal of the Learning Sciences*, 13(1), 1–14.
- Blake, R., & Pates, J. (2010). Embedding report writing workshops into an undergraduate Environmental Science module through a subject specialist and learning developer partnership. *Journal of Learning Development in Higher Education*, 2, 1–17.
- Boeije, H. (2009). *Analysis in Qualitative Research*. Sage Publications.
- Brown, A. L. (1992). Design Experiments: Theoretical and Methodological Challenges in Creating Complex Interventions in Classroom Settings. *The Journal of The Learning Sciences*, 2(2), 141–178.
- Carstens, A. (2014). Collaboration: The key to integration of language and content in academic literacy interventions. *Journal for Language Teaching*, 47(2), 109. <https://doi.org/10.4314/jlt.v47i2.6>
- Chaisiri, T. (2010). Implementing a Genre Pedagogy to the Teaching of Writing in a University Context in Thailand. *Language Education in Asia*, 1(1), 181–199.
- Changpueng, P. (2012). The Effects of the Genre- Based Approach on Engineering Students '

- Writing Ability. *Learn Journal: Language Education and Acquisition Research Network*, 5, 1–18.
- Chanock, K., Horton, C., Reedman, M., & Stephenson, B. (2012). Collaborating to embed academic literacies and personal support in first year discipline subjects. *Journal of University Teaching and Learning Practice*, 9(3), 1–13.
- Christie, F., & Martin, J. R. (Eds.). (1997). *Genre in institutions: Social processes in the workplace and school*. Continuum.
- Cicchetti, D. V. (1976). Assessing inter-rater reliability for rating scales: Resolving some basis issues. *The British Journal of Psychiatry*, 129, 452–456.
- Cobb, P., Confrey, J., DiSessa, A., Lehrer, R., & Schauble, L. (2003). Design Experiments in Educational Research. *Educational Researcher*, 32(1), 9–13. <https://doi.org/10.3102/0013189X032001009>
- Cobb, P., Zhao, Q., & Dean, C. (2009). Conducting design experiments to support teachers' learning: A reflection from the field. *The Journal of The Learning Sciences*, 18, 165–199.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Lawrence Erlbaum.
- Cope, B., & Kalantzis, M. (1993). *The powers of literacy: A genre approach to teaching writing*. Falmer Press.
- Cviko, A., McKenney, S., & Voogt, J. (2014). Teachers as co-designers of technology-rich learning activities for early literacy. *Technology, Pedagogy and Education*, 1–17. <https://doi.org/10.1080/1475939X.2014.953197>
- De Oliveira, L. C., & Smith, S. L. (2019). Systemic Functional Linguistics in Teacher Education. *Oxford Research Encyclopedia of Education*, July 2019, 1–27. <https://doi.org/10.1093/acrefore/9780190264093.013.494>
- Derewianka, B. (1990). *Exploring how texts work*. Primary English Teaching Association.
- Derewianka, B. (2015). The contribution of genre theory to literacy education in Australia. In J. Turbill, G. Barton, & C. Brock (Eds.), *Teaching writing in today's classrooms: Looking back to looking forward*. (pp. 69–86). Australian Literary Educators' Association.
- Desimone, L. M. (2009). Improving Impact Studies of Teachers' Professional Development: Toward Better Conceptualizations and Measures. *Educational Researcher*, 38(3), 181–199.
- Fullan, M. (1998). *Educational Reform as Continuous Improvement*. November.
- Gibbons, P. (2002). *Scaffolding Language, Scaffolding Learning: Teaching Second Language Learners in the Mainstream Classroom*. Heinemann.
- Halliday, M. A. K. (1994). *An introduction to functional grammar* (2nd ed.). Edward Arnold.
- Hammond, J., & Gibbons, P. (2005). Putting scaffolding to work: The contribution of scaffolding in articulating ESL education. *Prospect*, 20(1), 6–30.
- Hofer, S. I., Nistor, N., & Scheibenzuber, C. (2022). Online teaching and learning in higher education: Lessons learned in crisis situations. *Computers in Human Behavior*, 121. <https://doi.org/https://doi.org/10.1016/j.chb.2021.106789>
- Hutabarat, D. S. A., & Gunawan, W. (2021). GBA in Teaching Writing to Scaffold Students in Online Learning. *Proceedings of the Thirteenth Conference on Applied Linguistics (CONAPLIN 2020)*, 546, 102–106. <https://doi.org/10.2991/assehr.k.210427.016>
- Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing*, 16(3), 148–164. <https://doi.org/10.1016/j.jslw.2007.07.005>
- Hyland, K. (2008). Genre and academic writing in the disciplines. *Language Teaching*, 41(4), 543–562. <https://doi.org/10.1017/S0261444808005235>
- Jacobs, C. (2005). On being an insider on the outside: New spaces for integrating academic literacies. *Teaching in Higher Education*, 10(4), 475–487. <https://doi.org/10.1080/13562510500239091>
- Kindenberg, B. (2021). Fixed and flexible, correct and wise: A case of genre-based content-area writing. *Linguistics and Education*, 64, 100938. <https://doi.org/10.1016/j.linged.2021.100938>
- Konrad, U., & Bakker, A. (2018). From implementer to co-designer. A teacher's changing role

- in a design research project. In *Design Research in Education: A Practical Guide for Early Career Researchers* (pp. 246–254). Routledge.
- Kruse, O. (2003). Getting Started: Academic Writing in the First Year of a University Education. In G. Rijlaarsdam (Series ed.), L. Björk, G. Bräuer, R. L., & P. Stray Jörgensen (Volume Eds.) (Eds.), *Studies in Writing, Volume 12, Teaching Academic Writing in European Higher Education* (pp. 19–28). Kluwer Academic Publishers.
- Kuiper, C. (2018). *Promoting Tertiary Students' Writing. A Subject-Specific Genre-Based Approach* [KU Leuven]. <https://doi.org/10.13140/RG.2.2.13730.53446>
- Kuiper, C., Smit, J., De Wachter, L., & Elen, J. (2017). Scaffolding tertiary students' writing in a genre-based writing intervention. *Journal of Writing Research*, 9(1), 27–59.
- Litowitz, B. E. (1993). Deconstruction in the Zone of Proximal Development. In E. A. Forman, N. Minick, & C. A. Stone (Eds.), *Contexts for learning: Sociocultural dynamics in children's development* (pp. 184–196). Oxford University Press.
- Lughmani, S. D., Gardner, S., Chen, J., Wong, H., & Chan, L. (2016). English across the Curriculum: Fostering collaboration. *ELTWO: Special Issue on 5th CELC Symposium Proceedings*, 19–33.
- Mazdayasna, G., & Ghane, M. (2022). The Impact of Genre- based Instruction on Academic Writing & Self- efficacy : The Case of Graduate Students ' Thesis Proposal. *Journal of English Language Teaching and Learning*, 14(29), 99–117. <https://doi.org/10.22034/ELT.2021.48005.2441>
- McKenney, S., & Reeves, T. C. (2012). *Conducting educational design research* (1st ed.). Routledge.
- McWilliams, R., & Allan, Q. (2014). Embedding Academic Literacy Skills: Towards a Best Practice Model. *Journal of University Teaching and Learning Practice*, 11(3), 1–20.
- Meijer, P. C., Zanting, A., & Verloop, N. (2002). How Can Student Teachers Elicit Experienced Teachers' Practical Knowledge?: Tools, Suggestions, and Significance. *Journal of Teacher Education*, 53(5), 406–419. <https://doi.org/10.1177/002248702237395>
- Penuel, W. R., & Gallagher, L. P. (2009). Preparing teachers to design instruction for deep understanding in middle school Earth science. *The Journal of The Learning Sciences*, 18(4), 461–508.
- Plomp, T. (2010). Educational Design Research: an Introduction. In T. Plomp & N. Nieveen (Eds.), *An Introduction to Educational Design Research* (pp. 9–35). SLO.
- Rezat, S., & Rezat, S. (2017). Subject-specific genres and genre awareness in integrated mathematics and language teaching. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(7), 4189–4210. <https://doi.org/10.12973/eurasia.2017.00805a>
- Sandoval, W. (2014). Conjecture mapping: An approach to systematic educational design research. *Journal of the Learning Sciences*, 23(1), 18–36. <https://doi.org/10.1080/10508406.2013.778204>
- Smit, J., Gijssel, M., Hotze, A., & Bakker, A. (2018). Scaffolding primary teachers in designing and enacting language-oriented science lessons: Is handing over to independence a fata morgana? *Learning, Culture and Social Interaction*, 18, 72–85. <https://doi.org/10.1016/j.lcsi.2018.03.006>
- Smit, J., & Van Eerde, D. (2013). What counts as evidence for the long-term realisation of whole-class scaffolding? *Learning, Culture and Social Interaction*, 2(1), 22–31. <https://doi.org/10.1016/j.lcsi.2012.12.006>
- Smit, J., & Van Eerde, H. A. A. (2011). A teacher's learning process in dual design research: learning to scaffold language in a multilingual mathematics classroom. *ZDM Mathematics Education*, 43(6–7), 889–900. <https://doi.org/10.1007/s11858-011-0350-5>
- Snow, M. A., & Brinton, D. M. (1988). Content-Based Language Instruction: Investigating the Effectiveness of the Adjunct Model. *TESOL Quarterly*, 22(4), 553–574.
- Swales, J. (1990). *Genre Analysis: English in academic and research settings*. Cambridge University Press.
- Sztajn, P., Wilson, H., Edgington, C., Myers, M., & Dick, L. (2013). Using Design Experiments to Conduct Research on Mathematics Professional Development. *Revista de Educação*

- Em Ciência e Tecnologia*, 6(1), 9–34. <https://doi.org/10.5007/%x>
- Tan, M. (2011). Mathematics and science teachers' beliefs and practices regarding the teaching of language in content learning. *Language Teaching Research*, 15(3), 325–342. <https://doi.org/10.1177/1362168811401153>
- The Design-Based Research Collective. (2003). Design-Based Research: An Emerging Paradigm for Educational Inquiry. *Educational Researcher*, 32(1), 5–8. <https://doi.org/10.3102/0013189X032001005>
- Traga Philippakos, Z. A. (2020). A yearlong, professional development model on genre-based strategy instruction on writing. *The Journal of Educational Research*, 113(3), 177–190.
- Traga Philippakos, Z. A., & Voggt, A. (2021). The effects of distant professional development model on second grade teachers' instruction and students' quality of procedural papers. In *Reading and Writing* (Vol. 34). Springer Netherlands. <https://doi.org/10.1007/s11145-021-10120-1>
- Van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in Teacher–Student Interaction: A Decade of Research. *Educational Psychology Review*, 22(3), 271–296. <https://doi.org/10.1007/s10648-010-9127-6>
- Vygotsky, L. (1962). *Thought and language*. MIT Press.
- Vygotsky, L. (1978). Interaction between learning and development. In *Mind and Society* (pp. 79–91). Harvard University Press.
- Wingate, U. (2012). Using Academic Literacies and genre-based models for academic writing instruction: A 'literacy' journey. *Journal of English for Academic Purposes*, 11(1), 26–37. <https://doi.org/10.1016/j.jeap.2011.11.006>
- Wingate, U., Andon, N., & Cogo, A. (2011). Embedding academic writing instruction into subject teaching: A case study. *Active Learning in Higher Education*, 12(1), 69–81. <https://doi.org/10.1177/1469787410387814>
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17, 89–100.
- Yang, W. (2012a). A Study of Students' Perceptions and Attitudes toward Genre-based ESP Writing Instruction. *The Asian ESP Journal*, 8(3), 50–73.
- Yang, W. (2012b). Evaluating the Effectiveness of Genre-Based Instruction: A Writing Course of English for Hospitality and Tourism. *The Asian EFL Journal Quarterly*, 14(4), 174–193.
- Yin, R. K. (2014). *Case Study Research: design and methods* (5th ed.). Sage.