Why or when to include narrative and voice elements in educational texts?

Dutch publishers' opinions and policies

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Abstract

This study presents the results of two focus group sessions and a group interview on the opinions and policies of Dutch educational publishers regarding the use of narrative and voice elements in educational texts for biology, geography, and history. This gives insight into the perceived advantages, disadvantages, and additional considerations publishers take into account during decision making concerning these elements. It appears that publishers' motives for including narrative and voice elements are not influenced by educational level (primary vs. secondary education) but do depend on school subject (biology vs. geography vs. history). For instance, publishers strategically add narrative elements to history texts, in order to distinguish different historical perspectives and to stimulate students to imagine themselves in another time period. For biology and geography, however, publishers experience a tension between adding such elements and keeping the texts short and goal-oriented. In addition, publishers are torn between including narrative texts because these are favored by teachers and leaving them out because of a lack of convincing empirical effects on reading and learning outcomes.

1. Introduction

In present-day Dutch classrooms, educational texts play an essential role in the transfer of knowledge (Woldhuis et al., 2018). Whether students comprehend and thereby actually learn from these texts, depends on characteristics of a) students themselves (e.g., language proficiency, background knowledge, motivation), b) the reading activity (e.g., reading at one's own pace or participating in class reading), and c) the text (Snow, 2002). The current paper focuses on this third aspect. Educational "texts" can range from short paragraphs to entire textbooks, but in this paper most examples are of paragraph length.

Well-designed educational texts allow students to construct a coherent mental representation in which they connect the textual content to their background knowledge, thereby either expanding or correcting this knowledge (cf. Kintsch, 1998; van den Broek, 2010). An optimal design is especially important in texts for content-area subjects, such as biology and geography, because these tend to introduce unfamiliar terminology, use

academic language, and/or discuss topics that are not directly related to students' daily lives or background knowledge. Thus, they are often difficult for students to read (Chambliss, 2002; Graesser et al., 2002; Schleppegrell, 2004). For instance, the excerpt from a biology text in (1) discusses the term "biotope", which is far from self-explanatory (excerpt translated from Dutch).

> (1)   *Lions live in Africa and penguins live on the South Pole. This way, every animal and every plant has a place where it can live well. Such a place is called a biotope. The biotope contains the right food, the proper climate, and sufficient shelter.*
>
> (Talsma & Vogelesang, n.d., biology grade 5, p. 40)

Dutch educational publishers adopt a variety of strategies intended to alleviate the abstraction level of the to-be-learned information, and to make the content of the text more relevant to students' daily life experiences. In this paper, we use "publishers" as an umbrella term, referring to both the editors and policy makers who work at a publishing company, as well as the actual educational content writers. Besides fully expository texts like excerpt (1), Dutch educational textbooks include texts that combine expository elements with all kinds of non-expository features, such as sequences of particularized events, narrative characters, and landscapes of consciousness (so-called "narrative elements", cf. Sangers et al., 2020). For instance, the biological content in excerpt (2) is placed in a narrative context, with forester Jan explaining a group of children how gregarious animals in the Lauwersmeer area live.

> (2)   *Forester Jan and the group carefully sneak to a herd of Konik horses. These are grazing. "These large grazers keep the grass nice and short," says Jan. "This way, we don't have to mow it all the time." The horses graze in small groups. A stallion is the boss. He determines where the group grazes. Caspian terns live in groups just like Konik horses. These birds search for food together. Forester Jan: "When a tern finds food, it warns the rest of the group. By roaring hard or by flying in a certain way. Such a form of communication is noticeable!"*
>
> (van Riel & Soet, 2012, biology grade 5, p. 57)

In other educational texts, publishers use so-called "voice elements" to make the text "speak" to students (cf. Beck et al., 1995; Sangers et al., 2020). For instance, in excerpt (3), the author interactively conveys geography content by asking students a question that relates this content to their own lives. Similarly, in excerpt (4), the author addresses the students as being part of an in-group ("we") and as individuals ("you"), while actively referring to their background knowledge on biology.

> (3)   *Are you sitting on a wooden chair at a wooden table at this moment? There is a good chance that the wood comes from Scandinavia. Over there in the taiga, millions of trees are cut down each year. This is done with gigantic machines.*
>
> (van Riel & Soet, 2012, biology grade 5, p. 57)

(4)   *We never get tired of talking about the animal kingdom. You know hundreds of kinds of animals yourself. From ants to blackbirds, from sea lions to zebras. There are carnivores, herbivores, and omnivores. Some animals live in large herds. Others prefer to go their own way. There are even very different kinds of animals that help each other live. And let us not forget that, according to biologists, we also belong to the animals!*

(van Riel & Soet, 2012, biology grade 5, p. 57)

While we would expect Dutch educational publishers to apply narrative and voice elements with the aim of enhancing students' text comprehension and learning, we do not yet know their specific rationales behind these strategies. Empirical research has shown conflicting results with respect to effects of narrativity in educational texts: while some studies show positive effects on comprehension and retention of the to-be-learned information (cf. Best et al., 2008; Romero et al., 2005), other studies report negative outcomes (cf. Cervetti et al., 2009; van Silfhout, 2014). In addition, while no negative outcomes appear to be found for voice elements, the amount of positive evidence for these elements is limited (cf. Beck et al., 1995; Sangers et al. submitted A). Still, this does not seem to discourage Dutch educational publishers from including narrative and voice elements, as both elements are quite common in their texts: 45 percent out of 999 biology, geography, and history texts were found to contain one or more narrative elements (Sangers et al., 2021), while voice elements were located in more than 60 percent of the texts in a similar set of educational materials (Sangers et al., submitted B). In these studies, "texts" were defined as units of at least three sentences that belong to a marked text box and/or are grouped under a subheading.

Looking more closely at Dutch biology, geography, and history textbooks, we encounter significant variation in the ways in which publishers incorporate narrative and voice elements in their texts. For instance, while narrative elements are often represented in history texts, they are less regularly incorporated in texts for biology and geography (Sangers et al., 2021). Conversely, voice elements are more frequently applied in biology and geography texts than in history texts (Sangers et al., submitted B). This variation could be related to the divergent educational content of these school subjects. In addition, publishers might adopt varying policies when it comes to educational level. Therefore, the following research question guided two focus groups:

What are the opinions and policies of Dutch educational publishers regarding the use of narrative and voice elements in educational texts, and to what extent are these affected by school subject (biology vs. geography vs. history) and educational level (primary vs. secondary education)?

2. Method

In this section, we discuss the selection of participants (Section 2.1), materials (Section 2.2), procedure (Section 2.3), and process of data analysis (Section 2.4). Our study was granted ethics approval by the Faculty Ethics Assessment Committee of the Humanities Faculty of Utrecht University (reference number: 3800776-01-01-2019).

2.1 Participants

In the Netherlands, educational textbooks are developed by independent publishing companies that are free to translate government-set curricular objectives into educational materials. At present, the Dutch educational textbook market is dominated by four major publishing companies that have a combined 80 percent market share, namely Malmberg, Noordhoff Uitgevers, ThiemeMeulenhoff, and Zwijsen, and are closely followed by a fifth, upcoming publishing company named Blink (Bisschop et al., 2016). Table 1 shows the school subjects (biology vs. geography vs. history) and educational levels (primary vs. secondary education) these companies design educational textbooks for.

Table 1 – School subjects and educational levels for which the publishing companies design textbooks

	Primary education			Secondary education		
	BI	GEO	HI	BI	GEO	HI
Blink	📖	📖	📖			📖
Malmberg	📖	📖	📖	📖	📖	📖
Noordhoff Uitgevers	📖	📖	📖	📖	📖	📖
ThiemeMeulenhoff	📖	📖	📖	📖	📖	📖
Zwijsen	📖	📖	📖			

Publishers from all five companies accepted our invitation to take participate in our study. For practical reasons, focus groups that grouped participants working at the same educational level (F1: primary education; F2: secondary education) were preferred over individual interviews (see Krueger & Casey, 2014). In total, two men and three women participated in F1, representing three companies, whereas F2 was attended by two men and six women, representing all four companies that publish secondary education textbooks. Participants from one primary education company were unable to attend F1 on the set date, and instead invited us for a separate group interview with two men and one woman (labelled INT) at their company one week later. In the three sessions (F1, F2, INT), each of the school subjects (biology vs. geography vs. history) was represented by at least one participant. The participants worked as editor(-in-chief), portfolio manager, content manager and/or content developer. At least half of the participants were (also) the education writers of the materials under investigation.

2.2 Materials

Prior to the focus group sessions, we held a plenary introductory session in which we explained our interpretation of narrative elements (see Section 2.2.1) and voice elements in educational texts (see Section 2.2.2). This was to ensure that we would start off the focus group sessions with a sufficient level of shared common ground, and to provide the participants with a set of example texts to refer back to (see the hand-out in Appendix A).

2.2.1 Narrative elements

Three narrative elements typically pertain to the context of educational texts (cf. Sangers et al., 2020). First, narrative educational texts represent two or more logically connected events that are particularized rather than generic: they take place only once, at one point in time and at one location, as opposed to recurrent phenomena (compare "Yesterday, Billy went to the Utrecht city cinema to see the new James Bond. He went for a drink at the Ubica bar afterwards" versus "Many people go to the cinema on weekends, visiting a bar afterwards"). Second, narrative educational texts contain at least one individual who experiences the events, either by taking active part in these events or by passively experiencing them. Third, narrative educational texts involve the representation of an inner world through the expression of thoughts, feelings, and/or sensory perceptions ("Billy was excited to seeing the movie").

These elements are combined in various ways in Dutch educational texts, resulting in texts that range from fully- to less-pronounced narratives. An educational text is most narrative if it contains all three narrative elements, as in excerpt (5). This history text represents a series of logically related particularized events, that focus on an army commander named Mauritius, of whom we gain insight in the inner world by the representation of his opinions ("Mauritius approves of this plan"), feelings ("Mauritius is terribly shocked"), and thoughts ("After all, the empire needs order and peace!").

(5)   *Army commander Mauritius has trouble falling asleep. Tomorrow, he and his troops will be travelling to Gaul, to quell a rebellion. Mauritius approves of this plan. After all, the empire needs order and peace! However, the emperor has given an additional order: Mauritius has to kill all the Christians in the area. Mauritius is terribly shocked: he is a Christian himself, just like his soldiers. What should he do? The following days he cannot think of anything else. When they arrive in Gaul, he has made up his mind: Mauritius and his men refuse to kill the Christians. The emperor is furious about his disobedience and, as a punishment, gives the order to assassinate Mauritius and his soldiers. Many years later, the church decided to canonize Mauritius as a saint. People started to worship and depict him.*

(Kruis, 2014, history grade 5, p. 43)

Less-pronounced narratives contain some but not all narrative elements. For instance, the history text in excerpt (6) represents a series of logically related particularized events that evolve around two characters, namely soldier Thomas and an unnamed gamekeeper. This text, however, lacks the explicit representation of the characters' inner world. For instance, students gain no insight into Thomas' thoughts or feelings regarding his attempted escape. Instead, students have to make inferences about his inner world themselves. Nonetheless, the text reads like a story.

> (6)   *Many soldiers wanted to get out of the trenches. The British soldier Thomas James Highgate had a plan. On a day off he took off his uniform, put on ordinary clothes and went off. But he got lost and asked a gamekeeper for directions. This man turned out to be an Englishman, who immediately reported the fled soldier to the British army. On 8 September 1914 Thomas received the death penalty for his attempt to escape.*
>
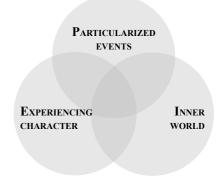> (Wiechers, 2014b, history grade 5, p. 15)

Correspondingly, the geography text in excerpt (7) describes the process of erosion by focusing on one particular case: logically related particularized events evolve around individualized natural objects (*one* cleft, *one* seed, and *one* tree) instead of the entire group of objects. While these non-conscious objects cannot be considered experiencing characters, and students will not automatically infer an inner world for them, this text still gives students the impression of being present in the center of the action.

> (7)   *It started with a small crack in the rock. Moisture started to grow in it and at some point some seeds. A tree grew from one of those seeds. The roots of that tree penetrated further and further into the crack. And so the crack became wider and deeper. Snow and ice made the crack a little wider every year because water expands when it freezes. And then one day, this huge piece of rock broke loose and popped down...*
>
> (Janssen, 2017, geography grade 5, p. 12)

The ways in which narrative elements are combined in Dutch educational texts are visualized in Figure 1. Each circle represents one of the three narrative elements, while the intersections depict the different combinations of elements. As Figure 1 shows, less-pronounced narrative texts, such as excerpts (6) and (7), center around the more fully pronounced narratives classified in the center of the diagram because they contain all three narrative elements (e.g. excerpt (5)).

Figure 1 – Different combinations of narrative elements identified in Dutch educational texts

PARTICULARIZED EVENTS

EXPERIENCING CHARACTER

INNER WORLD

2.2.2 Voice elements

Voice elements represent the features of an educational text that make it "speak" to students, imitating a "here and now" interaction between them and text's author (Beck et al. 1995; Sangers et al., 2020). Various types of voice elements, as well as combinations thereof, are incorporated in Dutch educational texts. For instance, in (8), the author utilizes a question and an exclamation to introduce the text's topic of air. In addition, the author directly addresses students by using the pronouns "you" (individual) and "us" (in-group). Furthermore, the author uses an imperative to encourage students to do something ("Just blow..."), poses a second question, and evaluates the text's content ("That is really festive...").

> (8)   *What are you unable to see, smell or touch, but does exist? Air! This invisible stuff is all around us. You cannot feel stationary air. Yet it takes up space. Just blow through a straw in a glass of lemonade. What you see are bubbles with air. And what about a balloon? That is really festive with a lot of air in it.*
>
>   (van Riel & Soet, 2012, biology grade 5, p. 52)

2.3 Procedure

Both focus groups were semi-structured. At the beginning of each focus group, we informed the participants that we would ask for their opinions and policies regarding the use of narrative and voice elements in educational texts. This included questions on the advantages and disadvantages of using these elements, as well as the feasibility of incorporating them in texts for different school subjects (biology vs. geography vs. history) and educational levels (primary vs. secondary education). In addition, we focused on the participants' current policies of using narrative and voice elements, asking about the guidelines they formulate with respect to these elements and the difficulties they come across during the design and writing process. At the end of each focus group, the participants were given the opportunity to elaborate on matters they considered important but that remained undiscussed during their session. For an overview of all questions, see Appendix B. We stressed that all input was well-appreciated and that there were no wrong answers. After the participants formalized their collaboration through written informed consent and introduced themselves, the group discussion was started. Both focus groups lasted one hour. Audio recordings were made to expedite data processing. A similar procedure was followed for the separate group interview, which also lasted one hour.

2.4 Data analysis

After the audio recordings were transcribed and each response was converted to a single line in Excel, we analyzed the data using a grounded theory approach, distinguishing three non-linear phases of coding: open coding, axial coding, and selective coding (cf. Strauss & Corbin, 2015). In the open coding phase, we analyzed the data line-by-line, allocating *in-vivo codes* to the responses, adopting the phrasing used by the participants themselves (cf. Lyons & Coyle, 2016). In this phase, we also broke lines that contained more than one substantial comment down into multiple Excel-lines, so that each comment could receive its own code. In the axial coding phase, we made connections between the open codes and reassembled them into larger categories, using umbrella codes (e.g., "meaningful learning", "motivation"). This refinement reduced the number of initial codes, and allowed

for connections between related responses given in the various sessions. Finally, in the selective coding phase, we grouped the axial categories into core themes (e.g., "advantages"). The coding was carried out by a single coder, but to assure validity and reliability, an inter-observer assessed the consistency of the coding. There were only minor disagreements, which were resolved without difficulty.

3. Results

In this section, we present the opinions (Section 3.1) and policies (Section 3.2) that were discussed in the two focus groups (F1 for primary education and F2 for secondary education) and the separate group interview (INT). In the various translated quotes, the term "stories" can refer to educational texts a) that are fully narrative, or b) with just one or two narrative elements, and/or c) containing voice elements. Where possible, we clearly indicate which quotes were specifically made about narrative elements, voice elements, and/or both.

3.1 Opinions

Participants consider the current Dutch educational practice highly goal-oriented: lesson goals have to be reached in a short period of time. For this reason, their first objective when developing biology, geography, and history texts is to convey the actual to-be-learned information. Meeting this objective does not always leave enough room for the addition of narrative elements, which inevitably take up more lesson time and textbook space.

> (9) *Education is becoming more goal-oriented, of course. So if you do not touch the goal within five minutes... That is a bit exaggerated, but if time is limited, then you start to work in a goal-oriented way and then a nice story is sometimes scraped off. And that is actually a pity.*
>
> (F1, participant 5, narrativity)

Still, these elements are quite commonly used in present-day Dutch educational texts (Sangers et al., 2021), which begs the question why the participants would want to do so.

3.1.1 Advantages

A first beneficial effect participants mention is that narrative elements may contribute to conveying the to-be-learned information, especially when considering their significant value across age groups.

> (10) *If I go back all the way to the beginning: stories have always been the basis for conveying information, of course, from way back. So why not? Why should stories not be useful to convey information? It has always been that way.*
>
> (INT, participant 1, narrativity)

In addition, narrative elements can be utilized to motivate students to want to learn more about the topic at hand, and to actively involve students, or assist teachers doing so, at the beginning of the lesson. Participants agree that both motivation and activation are important factors for learning in all three school subjects, stating that elevation of these factors via narrative texts may lead to better learning than by offering texts that merely contain pallid educational content. However, as the participants point out, not all students are equally motivated and/or activated by texts with narrative elements, which is why students are deliberately presented with a mix of genres.

> (11) *The reason for using elements like these was to increase motivation. For science, for example... students find it all very dry and factual (...). And then we try to add context and then maybe students will enjoy it and understand why this lamp is burning and why this room is warmed up.*
>
> (INT, participant 1, narrativity)

> (12) *What you often see in the design of educational materials is that we try to get in closer proximity to students. So you come up with all kinds of things, like: how can you interest students? That is something you want to help teachers with, because they have the same problem. They start the lesson and want to get students involved. And you see that a lot of educational materials use those narrative elements, those introductory narratives, to reach that effect.*
>
> (F2, participant 3, narrativity)

> (13) *I think it also has to do with student preferences. Some students are very fact oriented and are eager to know how something works and what has happened, and they want to get to the very heart of the matter. And there are students who are not at all charmed by that, and who find factual information boring and are rather drawn to those narrative elements or just a good story. (...) So I think that educational materials should always consist of a combination [of genres].*
>
> (F1, participant 5, narrativity)

Similarly, the beneficial role of voice elements in activating students is emphasized. Participants claim that voice elements trigger students to be interactively involved during biology, geography, and history lessons, and activate them to respond to the educational content, particularly when asked the right questions.

> (14) *I think the strength of voice elements is that they create interaction. Indeed, the best way is to ask students a good question. (...) A good question they would like to respond to.*
>
> (F1, participant 5, voice)

Another frequently mentioned advantage is that narrative and voice elements stimulate meaningful learning (Dutch: *betekenisvol leren*). Both types of elements help bring the educational content in closer proximity to students, by relating it to their daily life experiences and/or background knowledge, and thereby, showing students its relevance for learning.

> (15) *There must be something meaningful to it, so that you can place it in your own frame of reference and relate it to your vocabulary and prior knowledge.*
>
>   (F1, participant 5, voice)

Meaningful learning is considered relevant for multiple school subjects, as illustrated for science in quote (16) and for history in quote (17).

> (16) *For science, they [i.e., narrative elements] are used to make the educational content more concrete, less abstract. So also to bring it in closer proximity to students.*
>
>   (F2, participant 1, narrativity)

> (17) *I think the most interesting thing is that you manage to scale down very large events to something students can understand. That is the big challenge, and I think you can do this very well with narrative elements, or at least by presenting it as a story.*
>
>   (F1, participant 5, narrativity)

Furthermore, participants believe that narrative and voice elements can help students to put themselves in another time period (in history texts) or place (in geography texts).

> (18) *You actually want students to imagine themselves in history, and then stories are… How else can you ensure that they start to imagine and visualize what the past was like? I think stories play an important role there.*
>
>   (F2, participant 4, narrativity)

> (19) *If you talk about climate, landscapes, and the like, it can work very well if you challenge students to imagine what it is like to live there. That is, we have a certain climate that we are used to, but what is it like if you have beautiful weather throughout the year, 45 degrees [Celsius] in summer and it never rains? If you use, say, an example of a family or child living in such a country, then that can be very enriching for students' understanding, like: what does this actually mean?*
>
>   (F1, participant 5, narrativity/voice)

Related to imagining oneself in a historical time period, one participant considers it important that students learn to distinguish between different historical perspectives, arguing that this can be taught by presenting different narrative characters and/or real historical figures in history texts.

> (20) *Different students might identify themselves with different characters, and from there we start examining: what would I have done in this case? If you were to omit narrative elements altogether, then you are in fact presenting history like "this is how it happened". While, of course, there is always room for discussion. And we would very much like to bring that discussion into the classroom, [and show] that you can consider events from different perspectives. To teach students to think critically.*
>
> (F2, participant 4, narrativity)

A final advantage of narrative and voice elements is of a more practical nature: they can help establish a connection between different lessons and/or chapters in the textbook.

> (21) *There is a formal side to it as well. (…) You can also use personal language towards students to connect themes or lessons. If you pick a character who directly addresses students at different points throughout the lessons, you obtain a connecting factor through language.*
>
> (F1, participant 1, narrativity/voice)

3.1.2 Disadvantages

No disadvantages of incorporating voice elements in educational texts are mentioned by the participants. However, they do share several potential drawbacks of applying narrative elements. A shared concern is that narrative elements could distract students from the actual biology, geography or history content. Participants are afraid that students might focus on narrative details instead of the to-be-learned information, because they are unable to distinguish between the two. This would result in confusion and, as a consequence, in studying incorrect parts of the textbook. In this respect, participants are particularly concerned that students might get distracted by the expression or inferenced interpretation of a narrative character's inner world, as one participant explains by referring to history excerpt (5).

> (22) *Students often find it [i.e., reading texts with narrative elements] very difficult. They simply cannot see that the first paragraph is a story, an introduction, and that the rest is the actual to-be-learned information. That causes enormous confusion.*
>
> (F2, participant 2, narrativity)

> (23) *That example of army commander Mauritius is obviously about: what happened in those days? What power did he have? There are all kinds of learning goals, but – as a student – I think: oh no, army commander Mauritius cannot sleep. Would he have been in a tent? What did that tent look like? And did he have a guard at the door? I am completely distracted. So then my whole lesson goal is lost, because – as a teacher – I want students to learn what the relation between the Gauls and the Romans was like. But I am with Mauritius in his tent. That distracts me.*
>
> (INT, participant 1, narrativity)

To make sure students focus on the actual educational content, participants claim that narrative elements should be clearly distinguishable from this content. In addition, participants deliberately consider the extent to which a narrative character's inner world should be included in educational texts, in order to prevent distraction.

> (24) *What they ultimately need to know in terms of knowledge needs to be offered in an orderly fashion.*
>
> (F1, participant 3, narrativity)

> (25) *How do you incorporate just enough of it, without creating too many distractors?*
>
> (INT, participant 2, narrativity)

Another concern, raised in F1, is that narrative elements make educational texts longer and hence require more reading effort by the students. Consequently, these participants are afraid that the focus of the lesson will shift from pure knowledge transfer to increasing reading proficiency, which they consider highly undesirable for biology, geography, and history lessons. They even go a step further by claiming that reading in general should not be an impediment for learning in these school subjects. Accordingly, they claim that reading assignments should not be about narrative elements, but rather focus on the educational content itself.

> (26) *Reading does not even have to be an impediment. (...) We really want students to learn how to read properly, but if you are talking about these school subjects... they are not reading classes. Students with insufficient reading proficiency should still be able to study these school subjects without difficulty. And I have to say that I sometimes find it remarkable that texts still play such a central role.*
>
> (F1, participant 5, narrativity)

By contrast, participants in F2 consider reading "highly important" in biology, geography, and history lessons, arguing that it should also be part of the curriculum in these content-area subjects. The role of reading in biology, geography, and history lessons remained undiscussed in the separate group interview. However, since these participants choose to integrate biology content in their language arts textbooks, we infer that they would rather agree with the participants in F2.

A final reason to be hesitant about including narrative elements is the lack of empirical evidence on the effectiveness of these elements in biology, geography, and history texts. In all sessions, it was evident that the participants are on top of the Dutch literature on narrativity in the educational domain, having ample knowledge about studies on this topic, such as the dissertations of Land (2009) and van Silfhout (2014). This knowledge influences their opinions.

> (27) *Participant 2: We do believe, of course, that it has to bring about certain learning outcomes. So, if we would really have the impression that those are realized, then I would embrace it sooner, compared to what I am thinking right now: where is the evidence?*
>
> *Participant 1: That is exactly what I thought too: it has been proven [by van Silfhout] that narrative elements are not effective. For that reason, we have excluded it from one of our educational textbook series.*
>
> (INT, participant 1 and 2, narrativity)

3.1.3 Differences between school subjects and educational levels

The aforementioned advantages and disadvantages of using narrative elements show that the participants perceive some tension between the presence of these elements and a focus on the educational content that needs to be conveyed. This tension seems to be smaller for narrative elements in history texts than in biology and geography texts. Indeed, upon asking about potential variation over school subjects, participants state that they consider narrative elements most applicable in history texts.

> (28) *For history in particular, I think there should be more stories. (…) For geography and biology, this is much less [necessary]. These school subjects are more direct and in the present. For history, you really have to imagine yourself in another time. That is a totally different state of mind. (…) I would go for purely expository texts here [i.e., for biology and geography].*
>
> (F1, participant 1, narrativity)

(29) *For history, I think those three elements are not only the most important and easiest to incorporate, but they are also really of added value. I consider it really valuable if students try to imagine what it was like to be on a VOC ship for four months. (...) If you want to let students think about such a situation, it is very useful to incorporate all kinds of narrative elements. But for biology, this is less important, of course, because it is less about imagination and more about what do I perceive, what do I see happening. (...) In this case, I think it can be disadvantageous. It might be confusing if you incorporate all kinds of narrative elements, while the focus is on actual events or knowledge, or on describing what you perceive.*

(F1, participant 5, narrativity)

While participants in F1 prefer fully expository over narrative biology and geography texts, the INT participants believe that narrative elements could also be beneficial in these school subjects. In addition, F2 participants would use voice elements rather than narrative elements in these contexts, to relate abstract processes to students' daily life experiences.

(30) *You can also do that with the circulatory system, for example. This can be compared to a city, where all kinds of things have to be delivered. You drive down the street and deliver a package here and there.*

(F2, participant 6, voice)

The sessions reveal that within publishing companies, educational writers from primary and secondary education work independently. As a consequence, they diversify the use of narrative and voice elements within their own educational level, taking into account students' age group, but they do not align it across educational levels (i.e. between primary and secondary education).

(31) *The ultimate thing, of course, is that it [i.e., the use of narrative elements] relates to students' perception of the world. A six-year-old is different from an eight-year-old and a ten-year-old. I think that that is the link that you are looking for, in relation to the knowledge you want to convey.*

(F1, participant 3, narrativity)

> (32)   *We also very carefully considered the age group students belong to. That is, we only do this [i.e. include fictitious narrative elements] in the first year of secondary education [i.e., grade 7], and we will never do it in the higher grades. We considered [the views of philosopher] Kieran Egan, for example: seventh-graders are still in a romantic phase, they still want to be drawn into a story, and that is why it works very well for this age group. (...) Subsequently, students move on to a philosophical phase, and you should no longer include such a fictitious story.*
>
> (F2, participant 4, narrativity)

3.1.4 Additional considerations

The participants put forward several additional considerations for including or excluding narrative and voice elements. For instance, they take the needs of three groups into account throughout the decision-making process: students, teachers, and the general public. They deliberately provide a mix of genres to accommodate students' varying genre preferences, and also acknowledge the importance of inclusiveness, emphasizing that educational texts with narrative and/or voice elements should be relevant to *all* students. They feel, however, that this inclusiveness aim sometimes complicates the design process, as it may be hard to come up with inspiring examples.

> (33)   *For instance, in an educational textbook, you describe a family that goes on a holiday by air. This textbook is then used at a school in Amsterdam South-East and not a single student has the experience of flying. Well, then your example is completely off the mark. You cannot predict that in advance, of course, because you are designing a textbook for all students in the Netherlands. But that is very interesting, because then you have a class looking at you like: I have never flown, I know it exists, but... In that case, it suddenly becomes a lot more difficult to interact with that target group.*
>
> (F1, participant 5, narrativity/voice)

> (34)   *That is the tricky thing for us experts: you want to interest all students, without becoming too general or obvious, because (...) then we all come up with the same example.*
>
> (F1, participant 5, narrativity/voice)

In addition to – and sometimes discordant with – students' needs, it is crucial for publishing companies to sell their textbooks on the educational market. Because teachers are often the ones deciding which textbooks will be used in class, the participants identify them as a second group to bear in mind throughout the design process. The participants are under the impression that the inclusion of narrative elements generally meets the needs of teachers, and hence consider these elements a unique selling point.

> (35) *For publishing companies, it is very important to incorporate in the educational textbook what they think customers will like. That is slightly different from whether it is actually effective. (…) It affects the choices you make.*
>
> > (F2, participant 3, narrativity/voice)

> (36) *We thought: these narrative texts might be a unique selling point, so to speak. Something interesting for this educational textbook, which really sets us apart. (…) That is why we use them in this particular educational textbook series.*
>
> > (INT, participant 1, narrativity)

A final group that has a bearing on decision making is the general public. F2 participants recount that the use of fictitious narrative elements has resulted in public criticism, which is why they often prefer texts with real narrative examples over fictitious ones.

> (37) *What we have also learned by trial and error, especially recently, is that using fictitious examples can cause a lot of criticism, because: where does the story come from? (…) If all kinds of people experiencing things are made up, then other people have views on that. And then they say: what is the source of this example? Yeah, we made it up. That is not possible. (…) You will be flooded with criticism.*
>
> > (F2, participant 3, narrativity)

Still, F2 participants see a limit to the extent to which different opinions can be accommodated for in the design of educational texts. Upon asking whose needs eventually gain the upper hand in decision making, participants from both focus groups indicate that particularly the trade-off between effectiveness (students' needs) and market value (teachers' needs) is quite complex, and that final decision making is influenced by all kinds of other factors as well.

> (38) *It is impossible to have everything checked anyway, because then where does it stop? If I let one party review my chapter (…), then I have to do this for all other chapters too (…). And especially with respect to biology, for each chapter there are so many organizations that would have an opinion on my chapter. Then I will never get the materials published.*
>
> > (F2, participant 6, narrativity)

> (39) *That is a fairly complex consideration, you know, because all sorts of things come into play. Do they do it [i.e., use narrative elements] at other publishing companies too? (…) Rivalry also plays a role. (…) And scientific insights, pedagogical things. (…) What are teachers used to?*
>
> (F2, participant 3, narrativity)

Finally, F2 participants pay close attention to the ways in which narrative elements are included in the final examinations for secondary education, especially for science, as these are to be constructed via a context-based approach (Dutch: *concept-contextbenadering*). Since 2013 students are required to learn new concepts by encountering them in various contexts, which should enable students to derive their generic characteristics (cf. Bennett et al., 2007). Because the newly-developed final exams occasionally include narrative elements – though not always in ways preferred by the participants – these participants stress the importance of including them in their materials as well, in order to optimally prepare students for their exams.

> (40) *Eventually, you have to prepare students for their final exams. So what is asked of them on the final exams? Students often have to work with contexts. And sometimes in a silly way, (…) you read this whole story, (…) and then the question is: what is the name of part P? And the answer is just something like "the lens of the eye". And then I think: why do I have this whole story?*
>
> (F2, participant 6, narrativity)

3.2 Policies

We asked participants whether they had implemented overarching writing guidelines (Section 3.2.1), and whether incorporating such elements requires specific writing expertise (Section 3.2.2).

3.2.1 Guidelines

Although participants give the impression that specific guidelines are formulated with respect to the use of narrative and voice elements in educational texts, they remain rather vague when asked to elaborate on actual guidelines. Hence, we cannot draw firm conclusions about this, but we will return to this issue in the discussion (Section 4).

> (41) *Well, you either do it [i.e., use narrative elements] or not. And if you do it, you do it like this and in that place. And then you have multiple flavors: you have several places; you have several ways to elaborate. And beforehand, you often discuss with your author team or editors: which flavor do we choose this time?*
>
> (F2, participant 3, narrativity)

(42) Participant 1: *A very concrete one, for example, is that you use as few passive sentences and impersonal words as possible, but that you rather address students directly with "you". Or that you no longer use "we". "We are now going to..."*

Chair: *Why not use "we"?*

Participant 1: *Well, that could be a guideline. There could be all kinds of reasons... because it creates distance, for example. Or because it is considered old-fashioned. (...)*

Chair: *Why "you"?*

Participant 1: *It differs, you can agree on either of them. It also differs, of course, by publishing company or educational textbook.*

(F2, participant 1, voice)

Even though the implementation of guidelines is generally verified by editors, this does not necessarily extend to the level of narrative and voice elements. In addition, while some participants indicate that they ask student and/or teacher panels to evaluate the incorporation of narrative and voice elements in educational texts, they point out that this is generally not done in detail, but rather in the light of to-be-achieved goals and levels of engagement.

(43) *There is no verification for narrative elements. The author is free to apply those narrative elements, because that is what that author is for. (...) Subsequently, you present it to panels, of course, so you ask students to read it.*

(F1, participant 5, narrativity)

3.2.2 Required writing expertise

Participants consider the writing expertise required for educational texts with narrative elements different from that for educational texts with voice elements. All participants choose to have their narrative texts written by external authors, preferably writers of children's books, because they consider the act of narrative writing an art it itself. INT participants' trust in the writing skills of children's book authors is so strong that they choose to have their expository texts written by these authors as well.

> (44)   *We have most of the texts in our educational textbooks written by authors of children's books, so both narrative and informative texts, because it really is the art of writing. We make a comparative assessment: do we want to provide the content to children's books authors, or do we want to teach company-internal authors the art of writing? (…) For larger texts, it is simply easier, better, and more effective to give children's book authors the content.*
>
> (INT, participant 3, narrativity)

By contrast, none of the participants hire external authors with the sole purpose of incorporating voice elements into educational texts. Nevertheless, one of the F1 participants asserts that voice elements are taken into consideration in the selection of company-internal authors.
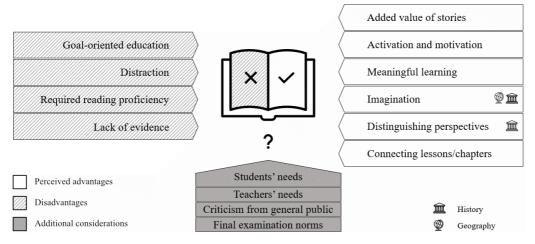
> (45)   *I also have a very strong feeling that the company-internal author selection is partly based on writing style, and I think this relates closely to the use of those voice elements. (…) You look for authors whose natural style of writing is sort of like what you aim for.*
>
> (F1, participant 3, voice)

4. Discussion

In this paper, we have charted the advantages, disadvantages, and additional considerations that Dutch educational publishers – referring to both editors and policy makers, as well as the actual educational content writers – take into account when deciding on the inclusion of narrative and voice elements in their materials, as summarized in Figure 2. In what follows, we revisit several competing arguments that the participants of our focus groups and the separate group interview mentioned for incorporating such elements in their educational texts for content-area subjects. This discussion generates interesting avenues for future research, as well as practical implications for the development of comprehensible educational texts.

Figure 2 – Perceived advantages, disadvantages, and additional considerations of using narrative and voice elements in educational texts

4.1 Focus on content knowledge vs. use of narrative elements

The focus groups have demonstrated that the transfer of content knowledge, which participants find the most essential goal of educational texts, is considered to be at odds with the use of narrative elements in educational texts. In line with their goal-orientation, participants claim to vary the extent to which they incorporate narrative elements across school subjects. For instance, they are more inclined to strategically add narrative elements to history texts, because they find it valuable that these elements stimulate students to imagine themselves in another time and help them to critically distinguish between different historical perspectives. Such benefits of narrativity in historical educational texts have also been put forward by researchers on multiperspectivity in history textbooks. For example, these researchers claim that comparing two texts about the same topic, and identifying different perspectives, allows students to understand the interpretative nature of history (cf. Houwen et al., 2020; Kropman et al., 2019, 2020).

Conversely, participants consider these beneficial effects less likely to occur for biology and geography texts, which is why they are less inclined to apply narrative elements in these contexts. Alternatively, in biology and geography texts, they prefer the use of voice elements. These preferences align with actual practices, as is demonstrated by two studies that quantitatively charted the distribution of narrative and voice elements in Dutch biology, geography, and history texts (Sangers et al., 2021; Sangers et al., submitted B).

Even though both primary and secondary education participants consider knowledge transfer of paramount importance in educational textbooks, this goal is pursued with even greater determination by the F1 participants, as demonstrated by the contrasting views on reading within content-area subjects. The F1 participants believe that the inclusion of narrative elements increases the length of educational texts, which would require better reading comprehension skills and hence present a problem to less-skilled readers. As they are afraid that a focus on reading would impede knowledge transfer, these participants are quite hesitant to include narrative elements in their texts, despite the advantages these elements might bring about. By contrast, the F2 participants consider reading an essential component of all school subjects, thereby taking the inclusion of longer and/or more difficult educational texts for granted and objecting less against the inclusion of narrative elements in educational texts.

Although it is quite common practice in the Netherlands to teach reading comprehension as a subject separate from content-area subjects, the fear expressed by F1 participants concerning the integration of reading comprehension and science can be questioned, as it is not supported by results from international scientific research. Studies on the impact of integrating language arts (including reading) and science reveal that integrated approaches result in greater student achievement and improved student attitudes in *both* disciplines across all levels of primary education (see Bradbury, 2014; Cervetti et al., 2012; Wijekumar et al., 2017). This indicates that it is not only beneficial to integrate reading comprehension instruction in biology, geography, and history lessons, but also worthwhile to incorporate educational content from the latter subjects in language arts lessons. This reciprocity could alleviate the time/space tension the participants reported during the focus group sessions, as the integrated approach allows for a transfer of content knowledge in multiple ways and in multiple lessons. Recently, there has been a growing interest in integrative approaches and the role of texts in inquiry learning in the Netherlands (see Kooiker-den Boer et al., 2022). A practical implication of the international findings is that Dutch educational publishers as well as Dutch teachers should be educated about the

beneficial effects of integrating language arts and science, thereby correcting any misconceptions they might have in this area. In addition, future scientific studies could explore the best ways to keep educational publishers informed about recent findings in scientific research. This will not only assist in bridging the current research-practice gap with respect to the role of reading in content-area school subjects, but also help to prevent similar gaps in the future.

4.2 Accommodating teachers' vs. students' needs

Since successful sales are crucial for publishing companies, and teachers have an important say in which textbooks schools will purchase, teachers' opinions are highly valued by the participants. They are under the impression that the inclusion of narrative elements corresponds with teachers' desire "to tell stories", which is why participants see these elements as a "unique selling point". However, this impression should be corroborated by findings from in-depth interviews with teachers.

More importantly, accommodating teachers' needs appears to generate a conflict with accommodating students' needs. Participants are slightly hesitant about the inclusion of narrative and voice elements, because they are unsure about the accompanying effects on students' reading and learning outcomes. The sessions made apparent that the participants are on top of the Dutch empirical studies on narrativity in the educational domain, and that the negative effects these studies report influence their opinions and policies. Again, however, participants' knowledge about scientific results appears to be limited. Although the Dutch literature mainly recounts negative results, international empirical studies paint a more varied picture. In fact, a close comparison of Dutch and international studies on narrativity in the educational domain shows that the jury is still out on the eventual advantages and disadvantages of including narrative elements in educational texts (cf. Sangers et al., 2019). Again, a practical implication is that Dutch educational publishers and teachers should be made aware of the conflicting results in this area.

In order to arrive at well-founded advice for the construction of comprehensible educational texts, we need more research, both in a Dutch and an international context (cf. Sangers et al., 2019). It is important that such research takes new target groups into account. For instance, while both Land's (2009) and van Silfhout's (2014) research focus on Dutch pre-vocational secondary education, and international studies often target undergraduate psychology students, hardly any empirical research on this topic has concentrated on primary education, nor on other levels of Dutch secondary education at either theoretical (pre-university), general or vocational levels.

In addition, future research should extend to the effectiveness of voice elements in educational texts. The limited research conducted on this topic has led to positive outcomes, but one empirical study contained a confound between the presence of voice and the coherence of the experimental texts (see Beck et al., 1995), while another study was only able to show students' appreciation for educational texts with voice elements in a forced-choice task (Sangers et al, submitted A). This calls for additional empirical research to determine the exact effects of including voice elements in educational texts on students' text engagement, comprehension, and learning.

Finally, future research could provide more insight into the interaction between the presence of narrative and voice elements in educational texts, and the concreteness of these texts. This is interesting, because the level of concreteness is thought to contribute to the complexity of texts, which ideally should reflect a progression from relatively simple to more challenging texts in the course of a school career (e.g., Brabham & Villaume, 2002; Shanahan et al., 2012; Snow, 2002). The focus groups indicated that participants do not seem to be aware of the opportunities in this area. The participants did not express strong preferences for the diversification of narrative and voice elements over texts for different educational levels, which corresponds to their actual choices in Dutch texts for primary vs. secondary education found in two previous studies on the distribution of narrative and voice elements (Sangers et al., 2021; submitted B). This might be a lost opportunity, since narrative and voice elements are argued to alleviate the abstraction level of texts.

5. Conclusion

Our focus groups allowed for a fruitful exchange of Dutch educational publishers' motives to include narrative and voice elements in educational texts. Allowing us a peek behind the scenes of the design process, participants enlightened us about the advantages, disadvantages, and additional considerations they take into account during decision making on these elements. As such, we learned that their motives for the including such elements are not affected by educational level, but do differ between the school subjects biology, geography, and history.

Participants' opinions and policies regarding their use of narrative and voice elements have provided us researchers with valuable input regarding the ecological component of educational texts for content-area subjects. At the same time, the focus group sessions showed an eagerness on the participants' behalf to learn (even) more about how to write comprehensible texts. We hope that the discussion with other participants about the effects of using these elements was a first means to making them more attentive to the potential of these elements in the design of engaging and comprehensible educational texts. We would like to stress again that additional research in this area is needed, as well as activities that promote closing the research-practice gap. After all, it is hard to overestimate the significance of well-designed educational texts.

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Appendix A – Hand-out used in the focus groups

Educational texts with narrative elements

Narrative elements in educational texts:

1. Particularized events
2. Experiencing character
3. Representation of inner world

Example texts:

1. Army commander Mauritius has trouble falling asleep. Tomorrow, he and his troops will be travelling to Gaul, to quell a rebellion. Mauritius approves of this plan. After all, the empire needs order and peace! However, the emperor has given an additional order: Mauritius has to kill all the Christians in the area. Mauritius is terribly shocked: he is a Christian himself, just like his soldiers. What should he do? The

following days he cannot think of anything else. When they arrive in Gaul, he has made up his mind: Mauritius and his men refuse to kill the Christians. The emperor is furious about his disobedience and, as a punishment, gives the order to assassinate Mauritius and his soldiers. Many years later, the church decided to canonize Mauritius as a saint. People started to worship and depict him.

2.   a. Hi, I am Tom. I am a pilot and make flights throughout Europe. I have seen a lot of Europe.

    b. When I fly over Europe, the landscape often shows me where I am.

    c. Do you know the mountains and waters of Europe?

    d. Europe has more than 50 countries.

3. The Indian Rajo Devi Lohan gave birth to a healthy daughter. Rajo and her husband had wished for a child for years, but it did not happen. That is why they decided to take an IVF treatment. With this treatment an egg cell and a sperm cell are brought together in a test tube. When they fuse, the fertilized egg is placed in the womb of the woman. This is how Rajo got pregnant. She is the eldest mother in the world. IVF is also used for young women who cannot have children any other way.

Educational texts with voice elements

Voice elements in educational texts:

1. Pronouns
    a. You
    b. We
2. Questions
3. Imperatives
4. References to personal environment
5. Exclamations
6. Evaluations

Example texts:

1. *What are you unable to see, smell or touch, but does exist? Air!* This invisible stuff is all around *us. You* cannot feel stationary air. Yet it takes up space. *Just blow* through a straw in a glass of lemonade. What *you* see are bubbles with air. *And what about a balloon?* That is *really festive* with a lot of air in it.

2. *Did you know that everything you eat comes from plants? Just think of* strawberry jam and pasta, which is made of grain. Even when *you* eat meat, *you* actually eat plants. Because meat comes from a cow, for example. *And a cow eats plants!* Without plants, people and animals would have no food.

    There is *something special* going on with plants: they produce their own food. They do this in their leaves. Just like people and animals, plants are composed of very small living parts. *We* call them cells. *You* can compare them with *bricks that form a house together*.

3. *Imagine*: yesterday, *you* went out for shopping or a snack in the center. *You* went to the big shopping street in *your* hometown. *Didn't you?* The center is a place where many people meet. There also need to be many roads that lead there.

You can turn any city or place into a center. *How can you do this? You* make the place important. Build a palace there, or let the government work there. Such a center is called a center of administration. People should be able to get there easily. Build roads and provide public transport. *And if people from abroad want to visit the center?* Then *you* need hotels. *What do you think: can your center do without an airport?*

Appendix B – Focus group questions

Opinions

1. What is your opinion about the application of narrative and voice elements in educational texts? Good idea or not, and why?
2. What effect do you think these elements have on the text and on the reader? What do think are the advantages and disadvantages of using these elements?
3. What are your ideas regarding differentiation in the use of these elements, for example between school subjects and/or educational levels?

Policies

1. To what extent do you make overarching guidelines within the group of authors/the publishing company about the use of narrative and voice elements? Or is every author free to choose his/her own approach?
    a. Shared approach: What guidelines are formulated? Who is responsible for verifying the implementation of these guidelines?
    b. Own approach: Which narrative and voice elements do you recognize from your own practice/in your own writing style?
2. Some educational texts are fully narrative in nature. Who are the authors of these texts? Are they written by educational authors or are third parties hired to write them?
3. What difficulties do you encounter with respect to narrative and voice elements when developing educational materials? What kinds of considerations do you run into?

About the Authors

Nina L. Sangers is a teacher and researcher in Language & Communication at the Institute of Language Sciences at Utrecht University, the Netherlands. Her PhD research focused on the application and effectiveness of vivid elements in educational texts: which textual elements make an educational text more, or less, vivid? How are vivid elements currently being used in Dutch educational texts? And which combinations of vivid and educational content enhance students' engagement and comprehension?

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