

5 Cognitive perspectives on the role of genre in reading comprehension

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5.1 Introduction

This chapter explores the role of genre in cognition and the role of cognition in understanding genre in the context of reading. We draw on various fields of expertise (i.e., psycholinguistics, cognitive developmental science, educational science) to identify areas of convergence and highlight aspects of genre in which these fields vary, as opportunities for future research.

The term “genre” can be applied to many types of media such as art, film, or music (see also Bateman, Chapter 2). In this chapter, we focus on research on *text* genres, as there is a relatively robust body of research concerning genre effects on reading. Texts can range from traditional formats such as newspapers, textbooks, and novels to new media formats such as tweets and blog posts. Broadly, we are interested in exploring how genre impacts the processes and products of reading and text comprehension. However, reading comprehension processes are complex and dependent on a variety of factors related to the text, task/goal, and reader as well as interactions amongst those factors (Snow, 2002). Therefore, this chapter addresses the following questions:

- 1 How does genre impact comprehension?
- 2 How do features of the text mediate genre effects on comprehension?
- 3 How do individual differences moderate genre effects on comprehension?

For clarity and specificity, we address these questions separately, but it is important to note that there are strong connections and interrelations across them. Before turning to these questions, we discuss the notion of “genre” from a cognitive perspective and provide some introduction to the types of cognitive processes involved in reading comprehension in general.

5.2 Defining “genre” from a cognitive perspective

5.2.1 *Genre as a multidimensional construct*

The exact definition of genre differs across fields and disciplines (see also Bateman, this volume), but there is general agreement that genre reflects conventionalized ways of communicating (e.g., Stukker et al., 2016). In texts, there are multiple dimensions that can affect how information is communicated (Biber, 1992; Biber & Conrad, 2009). These dimensions include:

- purpose or function (e.g., transportation into a fictional world, entertainment, knowledge transfer, instruction);
- medium (e.g., blogs, health leaflets);
- content (e.g., topics, familiarity, vocabulary);
- text structure (e.g., textual organization, cohesion);
- linguistic features (e.g., formal vs. personal style);
- surface aspects (e.g., length, layout);
- sociocultural context (e.g., academia, doctor-patient communication, classroom, everyday conversation).

To some degree, the dimensions co-vary. For example, texts with the purpose of knowledge transfer tend to have a systematic and logical structure, concern content (partly) unfamiliar to the reader, focus on facts, be written in an objective style, and have relatively difficult vocabulary. Texts with the purpose of transporting the reader tend to display temporal and causal structures, have content that readers can relate to their own experiences, focus on events, and have relatively straightforward vocabulary. However, these constellations of dimensions are not always in perfect alignment. For example, texts aimed at knowledge transfer sometimes follow a temporal order or have very simple vocabulary. In addition, some texts (many, in fact) mix structures. For example, newspaper articles often combine narrative and informational structures. The properties of different texts and their similarities and differences, therefore, are best captured by a multidimensional space (e.g., Biber, 1992), in which individual texts are positioned according to their properties on the various dimensions. Due to the abovementioned frequent covariation of dimensions, texts tend to be clustered within this space. These emergent clusters result in *genres* of text. Thus, genre is defined as *a family of texts that resemble each other in a multidimensional space of text properties*. The genre name reflects the common denominator or prototype of the cluster that emerges in this space.

5.2.2 Implications of the multidimensionality of genre

The focus on genre in a multidimensional space indicates that genre membership is based on prototypicality (Rosch, 1973) rather than membership of a strictly defined category. There are several implications of this view:

- individual texts fit a particular genre to varying degrees such that some are closer to the prototype than others;
- an individual text may not only fall mostly in one genre but can also display properties of another genre;
- judgments of genre membership are probabilistic, and the boundaries between genres are blurry.

For instance, the often-used dichotomy between narrative and expository texts is a simple distinction and convenient for research purposes. However, researchers have argued that it is overly simplistic and obscures important differences across the dimensions described above (e.g., Black & Barnes, 2015; Sangers et al., 2020). Closer inspection of “narrative” and “expository” texts have led some researchers to view these less as specific genres and more as umbrella terms for related types of texts and genres (e.g., Clinton et al., 2020; Goldman & Bisanz, 2002; Lorch, 2017).

With respect to the development of reading skills, the probabilistic nature of genre classification or categorization implies that readers are likely to gradually develop their knowledge about text dimensions and genres through interaction with texts. As readers’ multidimensional representation of texts becomes richer, subtle differences are noted and stored. Indeed, adolescent and adult readers without formal training can readily categorize texts into genre categories (K. McCarthy, 2020; P. McCarthy & McNamara, 2007). However, the development of this knowledge through experience may be supplemented by explicit instruction in recognizing genres and their constituent dimensions (see Stukker et al., Chapter 7; Bogaerds-Hazenbergh et al., 2021; Hebert et al., 2016; Pyle et al., 2017). For example, students who receive instruction about narrative *story grammars* (Dimino et al., 1995; Dymock, 2007) and informational *text structures* (e.g., Meyer & Ray, 2011) show improved text comprehension (Bogaerds-Hazenbergh et al., 2021).

5.3 Theoretical background: Models of discourse comprehension

One common assumption of cognitive accounts of text and discourse comprehension is that readers engage in a variety of processes that support

the construction and maintenance of a coherent and elaborated *mental model* (see McNamara & Magliano, 2009). Depending on their purpose for reading, readers may instantiate different levels at which they are “satisfied” with the quality of their mental model. Van den Broek and colleagues refer to these levels as implicit or explicit *standards of coherence* (van den Broek et al., 2011; van den Broek & Helder, 2017). These standards of coherence set the bar for what the reader finds an acceptable level of comprehension. When maintaining coherence is easy, readers predominantly rely on *passive* or *implicit* processes that help them to decode and understand the semantic content of the text (e.g., McKoon & Ratcliff, 1998; O’Brien & Myers, 1999; Perfetti & Stafura, 2014). Such passive processes are bottom-up and emerge through spreading activation in which the text content resonates with semantically related concepts.

Passive processes are necessary for text comprehension but often are not sufficient to achieve understanding at a level that fits the reader’s purpose and standards. When readers sense that they no longer sufficiently understand the text, they may engage in a variety of top-down, *reader-initiated* processes and strategies (Lorch, 2017; van den Broek & Helder, 2017). In particular, readers may generate different types of inferences to connect information from across disparate parts of a text or to integrate information from prior knowledge and the current text (e.g., Singer, 1998). For example, readers may need to make causal inferences in order to understand why something occurred in a text, they may need to make spatial inferences in order to make sense of the relations between characters and objects, etc. The extent to which readers engage in different reader-initiated comprehension processes not only depends on their standards, as a result of their purpose for reading, but also of various individual differences and of features of the task and context (McNamara & Magliano, 2009; Snow, 2002; van den Broek et al., 2001).

Much of the extant work assumes that genre affects comprehension through its influence on attentional focus (what parts of the text are more deeply encoded and maintained in the mental model) and on what knowledge is being recruited and integrated with the text (Catts et al., 2022; van den Broek, 2010). Consequently, cognitive researchers investigate the effects that genre has on processing and how these differences translate into differences in the representation (i.e., the product) that gradually evolves out of these processes.

5.4 Q1: How does genre impact reading comprehension?

In this section we highlight ways in which reading processes can vary across genres. In doing so, we also address whether such differences can be related to reading goal and/or genre expectations, or should be labeled as indirect

effects of differences in text topic. Most of what is known about comprehension differences as a function of genre comes from studies comparing how participants read narrative texts versus expository texts. Consistent with the multidimensional conceptualization of genre, the narratives and expository texts used in this research tend to cluster in terms of communicative purpose, content, and linguistic features. Broadly speaking, narratives are *story-driven*, and the reader's goal is to understand a particular event or series of events. Narratives tend to have a relatively clear and familiar structure, and rely on general or "everyday" knowledge and experiences (e.g., Best et al., 2008; Graesser & McNamara, 2011; Graesser et al., 2011; Mandler & Johnson, 1977). By contrast, expository texts tend to be *information-driven*, with readers reading to acquire new knowledge. Expository texts tend to rely more heavily on abstract concepts and involve more unfamiliar and complex structures as well as more content-specific vocabulary and knowledge (Best et al., 2008; Graesser et al., 2002; Lorch, 2015). As mentioned, the narrative-vs.-expository distinction is neither absolute nor ideal. Therefore, the following review of findings is not intended to support the dichotomization of narrative and expository texts, but rather to demonstrate ways in which reading processes can vary across genres.

In order to investigate differences in cognitive processes during comprehension of narrative and expository texts, researchers often rely on think-aloud methods. In a think-aloud, or verbal protocol, readers articulate their thoughts as they are reading to externalize their mental processes (e.g., Pressley & Afflerbach, 2012). Think-aloud studies reveal that readers engage in a variety of processes and strategies that support mental model construction, such as restating or paraphrasing the content, asking questions, searching for information, creating connections between ideas in the text (text-connecting inferences), and elaborating on the text by drawing upon prior knowledge (knowledge-based inferences). The extent to which readers rely on different processes is partly driven by person-level differences, but the extant research also demonstrates relatively reliable genre effects. For example, Kraal and colleagues (2018) found that second graders tended to use text-connecting and knowledge-based inferences when reading narrative texts. When reading expository texts, they tended to ask more questions and the knowledge-based inferences that they drew were frequently incorrect or invalid. Similar results have been found across other age groups (e.g., Best et al., 2008; Karlsson et al., 2018) and have been further bolstered by results on other process measures such as eye-tracking (e.g., Kraal et al., 2019). Recent meta-analyses (Clinton et al., 2021 examined 19 studies; Mar et al., 2021 examined 75 separate effects) support our assertion that comparison of narrative and expository texts is a common way of exploring genre and also that reported narrative-vs.-expository

effects are robust. Narratives afforded more inferential processing and resulted in superior recall and comprehension performance relative to expository texts, even when controlling for person-level variables (e.g., age) and text complexity.

An important limitation of many narrative-vs.-expository studies (as well as of studies comparing other genres) is that they rely on comparisons of texts that differ on many dimensions. This is especially the case when, for ecological validity, naturally occurring rather than experimenter-designed texts are used. As a result, it is difficult to determine if any observed comprehension differences are indeed due to genre or to other textual differences (e.g., topic, content, vocabulary, text difficulty). To overcome this limitation, an alternative method is to embed the same target content within either a narrative or an expository text (e.g., van Silfhout et al., 2014, Wolfe & Mienko, 2007). For instance, Wolfe and Woodwyk (2010) asked readers to generate think-alouds as they read either the expository or narrative version of a text about the circulatory system. To create the narrative version, the researchers embedded the relevant scientific content in a story about a boy named Alex who travels through the circulatory system. Of particular interest were target sentences that contained the same information across both versions, as they allowed for a direct comparison of processing differences as a function of genre rather than content or other text-specific differences. Results showed that, although the sentence content was identical, sentences embedded in an expository text led readers to generate a greater number of elaborations that drew upon their prior knowledge. The authors speculate that the narrative genre focused readers' processing efforts on maintaining coherence within the story (e.g., causal connections, character goals). As such, the readers were not encoding circulatory system content as it related to their own knowledge about that topic, but rather as it related to the events in the story. Such studies provide strong, convergent evidence that genre influences the processes that learners bring to bear during reading.

The influence of a text's genre on processing may not only be a direct effect of textual properties, but it also may be an indirect effect via the reading goals that readers set themselves when they encounter a certain genre, as different genres tend to align with specific communicative purposes. Genre information allows readers to instantiate a reading goal, which may alter the accompanying standards of coherence, and, in turn, direct processing (van den Broek & Helder, 2017). That is, readers use their genre knowledge as a heuristic for their current reading task: genre is likely to impact how reading tasks are perceived and, by extension, indirectly affect the processes that readers bring to bear.

Additional evidence suggests that the effects of reading goals initiated by other sources, such as external task instruction (e.g., a teacher assigning

a text for a particular purpose), may be constrained by the goal implicitly instantiated by the genre of the text (see also Goldman & Bisanz, 2002; Lorch, 2017). For example, Narvaez et al. (1999) explored how genre (narrative, expository) influenced the impact of reader goals (read for entertainment, read to study) on processing. Analysis of the readers' think-alouds showed (a) a main effect of genre in that expository texts elicited more knowledge-based inferences, associations and meta-comments, whereas narratives elicited more within-text explanatory and predictive inferences; (b) a main effect of reading goal in that readers prompted to study more often repeated the text, acknowledged a lack of background knowledge, and evaluated the text content as compared to those who were prompted to read for entertainment; and (c) importantly, there also was a genre-by-goal interaction such that the effects of reading goal were more pronounced in the expository texts than in the narrative texts. Such interactions between reading goals and genres (e.g., Narvaez et al. 1999) support the notion that some genres align more with certain communicative goals than other genres.

These results align with those by researchers who have used manipulations of genre *expectations* to test the effect of reader's implicit goals on comprehension. In a now-classic study, Zwaan (1994) had students read a text that was presented as either a "news story" or a "literary short story". Thus, the text itself was exactly the same for all readers. The only difference was the readers' expectations about the text's genre. Readers who had the expectation of a literary work spent more time reading the text, and had better memory for specific language in the text, indicative of a strong surface code. By contrast, readers who believed the text was a news story had poorer memory for the specific wording of the text but better situation model representations. Similar studies have demonstrated expectation effects in "sub-genres" within narrative. For example, structuring a literary text to appear as poetry or prose alters readers' pattern of attention to various parts of the text and the processes in which they engage (Blohm et al., 2022; Peskin, 2007). Interestingly, more recent work has failed to replicate Zwaan's (1994) genre expectation effects (Triantafyllopoulos et al., 2021). These authors argue that one explanation for this difference in findings is that the increasing reliance on reading from digital sources has decreased people's awareness and knowledge of genre: they have a less well built-up representation of the contexts and expectations for different genres. Thus, one interpretation of these mixed findings is that genre is relatively stable, but that expectations – and the reading goals and processes that readers recruit to meet these expectations – may vary across time, across contexts, and across people. In this scenario, the top-down processes related to genre are driven by readers' familiarity with the genre and their sensitivity to the relevant genre features.

To summarize, genre influences the frequency, type, and quality of comprehension processes in which readers engage when they read as well as the resulting mental representation of a text. Familiarity with different genres not only supports genre identification but also provides genre information that can support comprehension. Using a feature or set of features to identify a genre gives the reader implicit *processing instructions* (Gernsbacher, 1990; Givón, 1977, 1992) or expectations about the other features (e.g., Zwaan, 1994). For example, if a text starts with “Once upon a time”, a reader may, consciously or subconsciously, set up expectations about the content, structure, and purpose of the text that follows. Thus, both the genre features and readers’ knowledge and expectations about the genre impact comprehension.

5.5 Q2: How do features of the text mediate genre effects on comprehension?

The previous section hinted at the importance of top-down processes when dealing with different genres, including genre expectations and goal maintenance. It is conceivable, however, that several bottom-up processes are at play as well. After all, given that genres are conventional combinations of structure and style (used to arrive at specific communicative goals), the text features that drive such bottom-up processes are part of what makes a text belong to a particular genre. Thus, it is interesting to explore how genre effects may be mediated by text features. Some of these features operate at a more micro-level (e.g., individual words), whereas other text features are more macro-level (e.g., text structure).

5.5.1 Micro-level features

At the micro-level, text content may trigger bottom-up *genre recognition*, which in turn may trigger top-down processes, as in the case of “Once upon a time”. Other examples are a text that contains a table of contents or that starts with “There are three types of...” – raising the expectation by the reader that the text is informational – or with a person’s name, raising the expectation by the reader that the text is narrative. Likewise, variations in the text may prompt readers to actively adopt a particular reading goal or set of reading goals. In addition, the specific words used in a text may signal genre: more concrete words (e.g., *mug*, *window*) are indicative of narrative texts, whereas more abstract words (e.g., *process*, *justice*) are indicative of expository and informational texts (P. McCarthy et al., 2009). There may also be stylistic variation: aspects such as exaggeration or humor may indicate a more story-like or narrative context, whereas they may seem inappropriate for fact-driven informational texts. These

conventions may encourage readers to recognize the text's genre, which helps them to establish appropriate standards of coherence (e.g., van den Broek et al., 2011; van den Broek & Helder, 2017) and to draw upon discipline-specific knowledge (e.g., Peskin, 1998).

In addition to genre recognition, micro-level text features characteristic of particular genres may also operate more directly on cognition. For example, poetry is often marked by use of stylistic techniques such as alliteration and rhyme. Both rhetorical devices have been shown to drive passive *resonant* processes that support memory of the specific nearby content. For instance, alliterative phrases can provide retrieval cues that extend to a sublexical level and reactivate previous information that shares alliterative content (Lea et al., 2008). Rhyme produces analogous memory-reactivation effects and results in the anticipation of imminent rhymes (Lea et al., 2021). These poetic devices result in differences in reading time, recall, and memory for textual information (Lea et al., 2008, 2021), suggesting that these salient features of the genre mediate the relation between poetry and its effects on processing and comprehension.

5.5.2 Macro-level features

Macro-level features of texts are also likely to influence genre comprehension. For example, macro-text features, especially the ones related to text structure, are known to influence text comprehension. For instance, Lorch et al. (2012) found that the presence of preview sentences and communicative headings improved the quality of college students' outlines of informational texts, compared to texts without such headings or preview sentences. The higher-quality and more organized outlines are assumed to elicit more elaborated and coherent mental representations during reading of these texts. Similarly, there is a large body of evidence on the facilitative role of connectives (e.g., *because*, *but*, and *then*) and signaling phrases (e.g., *a reason for this is*) on reading processes as well as reading comprehension (e.g., Cain & Nash, 2011; McNamara et al., 1996; van Silfhout et al., 2014; 2015). Again, the facilitative effects of genre might be attributed, at least, in part, to the presence of such text-structural features.

The role of text-structural features has been recognized in many story-grammar interventions and text-structure interventions in which students were taught about important features of narratives (e.g., setting, character, plot, resolution) and/or informational texts (e.g., text structures such as *sequence*, *cause-consequence*, *compare-contrast*, or *problem-solution*, and their accompanying coherence markers). Story grammar instruction resulted in better story comprehension (Baumann & Bergeron, 1993; Fitzgerald & Spiegel, 1983), better story recall (Short & Ryan, 1984), as well as better recognition of episodes (Calfee & Patrick, 1995), and several

meta-analyses have shown the benefits of text structure instruction on text comprehension, recall, summarization skills, and so on (Bogaerds-Hazenberg et al., 2021; Hebert et al., 2016; Pyle et al., 2017).

It is not always easy to relate specific genre effects to specific text features (Golke et al., 2019), however. Sangers (2022) conducted a literature review and found that many studies that report genre effects contain confounds. That is, the texts that participants read differed not only in genre but also in content (see the section on Q1). Only in a small number of studies did readers read texts with similar contents but presented in either a narrative or an expository genre (Cervetti et al., 2009; Eng, 2002; Kim, 2017; Romero et al., 2005; van Silfhout, 2014; Wolfe & Mienko, 2007; Wolfe & Woodwyk, 2010). Sangers' analysis revealed mixed results on the extent to which genre affects text appreciation, text recall, and text comprehension. In an attempt to connect these results to the features of the texts at hand, Sangers (2022) characterized each experimental narrative and expository text in these studies on three features typical of narrative texts (Sangers et al., 2020), namely the presence of a) particularized events, b) a specific character, and c) a landscape of consciousness (i.e., a representation of the thoughts and feelings of the character). This analysis revealed large variation within and between expository and narrative genres across the selected studies. Half of the "expository" texts manifested one or more narrative elements as well, highlighting the fact that a dichotomy of narrative versus expository is an oversimplification. More importantly, no clear patterns were found regarding the occurrence of specific narrative elements or specific combinations thereof. For instance, Romero et al. (2005) found better recall for the narrative genre in comparison to the expository genre, although the combinations of narrative elements diverged between the two narrative texts that were used in the experiment. Conversely, the same combination of narrative elements did not result in consistent genre effects in other studies (e.g., van Silfhout, 2014).

So far, we have considered mediating effects of text features on genre effects, which does not always display clear patterns. The reverse is also possible: genre may mediate the effects of specific text features. While processing text, readers build and incrementally update their representation of the text. This may not only involve combining existing information but also resolving incongruencies when new information is brought to bear. The perceived semantic incongruence of newly encountered words with the preceding context may be influenced by genre (e.g., Blohm et al., 2017; Nieuwland & van Berkum, 2006). For example, Nieuwland and van Berkum (2006) had people listen to texts while their brain activity was recorded via EEG. When semantically-incongruent sentences such as "The peanuts fell in love" were presented, participants demonstrated an N400 effect indicative of an anomaly detection. However, when such sentences

were embedded in a narrative story about two peanuts, the sentence “The peanuts fell in love” did not lead to an N400 effect (Nieuwland & van Berkum, 2006). Similarly, readers were more likely to judge semantically incongruent sentences as meaningful in poetry compared to in a neutral condition (Blohm et al., 2017). Thus, genre is likely to influence what readers’ perceive as a coherence break as they read through a text which, in turn, affects the extent to which they might recruit different comprehension processes.

The extent to which semantic associations affect memory for text may be influenced by genre. Wolfe (2005) used Latent Semantic Analysis (Landauer et al., 1998) to estimate the semantic relatedness of specific text elements. This study showed that the more semantically interrelated the elements in a text are, the better they are remembered, but this effect is larger for expository than for narrative texts. Apparently, readers rely more heavily on prior semantic associations in expository texts, whereas they are more likely to deviate from these default associations while reading narrative texts.

All in all, some text features do seem to mediate the effects generated by genre and seem to be related to how a reader comes to the conclusion that a particular text is of a particular genre. However, the relation is intricate, as it involves complex interactions between top-down and bottom-up processes that are simultaneously at play. Irrespective of the exact nature of these relations, it is apparent that it is fruitful to educate students in recognizing important genres and text features and the relations between the two.

5.6 Q3: How do individual differences moderate genre effects on comprehension?

Understanding the relations between genre and comprehension requires examining individual differences across readers. These individual differences can be coarsely categorized as differences that operate (1) on foundational, lower-level skills and processes, or (2) on higher-order skills and processes.

5.6.1 *Individual differences in lower-level skills and processes*

Theories of reading implicate several lower-level skills that may impact the relation between genre and comprehension. The Simple View of Reading argues that reading comprehension is the product of *decoding* and *oral comprehension* (Hoover & Gough, 1990). The Lexical Quality hypothesis, as placed within the Reading Systems Framework (Perfetti & Stafura, 2014), emphasizes the quality of *vocabulary knowledge* (at orthographic,

phonological and semantic levels). In addition, *working memory* and other aspects of *executive functioning* (EF) are related to reading comprehension (Budd et al., 1995; Butterfuss & Kendeou, 2018; Linderholm & van den Broek, 2002; Whitney et al., 1991).

Given these specific individual differences, researchers have also explored the effect of learning difficulties and disorders. In particular, researchers have examined reading differences in children with dyslexia and developmental language disorder, ADHD, and autism spectrum disorder. These issues have received attention, as they are marked by or comorbid with deficits in the individual differences mentioned above. Dyslexia is characterized by inaccurate decoding and poor reading fluency, whereas developmental language disorder is characterized by poor oral comprehension and/or expression (Snowling et al., 2019). ADHD is associated with poor EF, and autism is related to abilities such as Theory of Mind (e.g., Carlson et al., 2004). Indeed, research suggests that poor reading comprehension may be a secondary problem for these groups of learners (see Brown et al., 2013; Parks et al., 2021; Reis et al., 2020).

Decoding is a first factor of interest. A meta-analysis (García & Cain, 2014) showed significant relations between decoding and reading comprehension, but this relation becomes weaker as children grow older. Genre was found to be a significant moderator in that decoding was a strong predictor of comprehension in narratives but less so in expository texts. These results suggest that decoding skill is less important in expository text. However, more recent work displayed benefits of decoding skill in expository, rather than narrative text. Wu and colleagues (2020) found that word-reading efficiency in early elementary school was predictive of reading comprehension performance in later elementary school, but only for expository texts, not narratives. This is consistent with work by Paige et al. (2015), who categorized their participants as either “proficient” or “struggling” by evaluating their reading fluency on the Gray Oral Reading Test (GORT). Although there was an overall effect such that expository texts were read more slowly than narratives, the effect was driven by the struggling readers who spent significantly more time reading the expository texts. Again, this suggests that processing expository texts is more dependent on decoding skills.

Interestingly, the cited researchers appeal to the same mechanisms to support their competing findings: They all suggest that differences as a function of genre are due to the generally more challenging and unfamiliar words in expository texts. Those studies that found a strong relation between decoding and comprehension in the expository texts argued that the increased difficulty of the words means that readers are *more* reliant on their decoding skill. In addition, the meta-analysis (García & Cain, 2014) argued that – over time – reading of expository texts becomes less

dependent on decoding skill because the complex vocabulary is more specialized and, thus, comprehension is more dependent on readers' word knowledge rather than on their decoding skill alone (see also Best et al., 2008).

Other studies that examine decoding specifically explored differences in students with and without dyslexia. Primor et al. (2011) used structural equation modeling to examine the relations between a variety of individual differences (reading specific and domain-general) and both narrative and expository text comprehension for students with and without dyslexia. Overall, they discovered similar predictors for both the groups but found that the relations between the individual differences and comprehension varied as a function of genre. Specifically, spelling ability was a strong predictor of expository comprehension for children with dyslexia, whereas scores on the WISC similarities task (a measure of verbal reasoning) was a stronger predictor of narrative comprehension for typical readers. Leea et al. (2021) found that typical readers showed no difference in comprehension across genres, whereas children with developmental dyslexia had more problems with expository texts than with narratives.¹ These studies support the idea that genre influences the extent to which decoding skills predict reading comprehension, but that the directions of those effects are inconsistent. As we describe below, this may be due to interactions across a variety of other individual differences and across particular dimensions of the genres.

Regarding *vocabulary*, correlational analyses revealed a trend toward strong effects of vocabulary in expository text comprehension in early grades and weaker effects in later grades (e.g., Santos et al., 2017). In a more direct test of genre effects, Yildirim et al. (2011) showed that fifth graders' vocabulary was more strongly related to reading comprehension in expository texts than in narrative texts (see also Best et al., 2008). In contrast to these studies, Wu et al. (2020) found significant positive effects of first-graders' vocabulary on reading comprehension and reading comprehension growth, but this did not vary across genres. One explanation for these discrepancies across findings is the varying age ranges of the students in each study and the extent to which the studies controlled for other factors (e.g., socio-economic status) or included other variables in their models (e.g., decoding, domain-general skills).

In addition to these reading-specific individual differences, researchers have also found evidence of interactions between genre and domain-general abilities. Regarding *executive functioning*, Eason et al. (2012) showed that planning ability predicted comprehension of expository but not narrative or instructive (in their terms "functional") texts in 10–14-year olds. They observed the same pattern for inferencing skills. These results are in line with those from Wu et al. (2020), who showed that executive functioning

in grade 1 predicted expository but not narrative comprehension in grade 4. Regarding *Theory of Mind (ToM)*, the meta-analysis by Brown et al. (2013) is of relevance. These authors studied the reading comprehension skills of people with autism spectrum disorder (ASD) and examined genre by exploring whether the texts were high or low social knowledge. Students with ASD are known to have poor ToM (Brown et al., 2013). Consistent with this difficulty, students with ASD had lower reading comprehension scores overall, but their comprehension was particularly depleted for the high social knowledge texts. In summary, whereas *Theory of Mind* is more relevant for the comprehension of narrative texts, Executive Functioning is more relevant for the comprehension of expository texts.

Finally, genre also seems to impact the role of *working memory* in comprehension. Readers with higher working memory capacity are able to activate and maintain more information during reading and, thus, generally show better comprehension than readers with lower working memory capacity (e.g., Daneman & Carpenter, 1980). De Beni et al. (2007) compared young adults (18–30 years), “young-olds” (65–74 years), and “old-olds” (75–85 years), and demonstrated a decline in working memory across age groups. They found a more rapid age-related decline in the comprehension of expository texts (the young adults outperformed the other two groups) and a less dramatic decline in comprehension of narrative texts (the young adults and young-old readers had significantly better comprehension as compared to the old-old readers). The authors interpret these findings as reflective of the greater cognitive demand of expository texts. The effects of working memory also have been shown to be impacted by other genres beyond narrative vs. expository. In a study by Flynn and colleagues (2022), college readers produced think-alouds as they read both history texts and science texts. Natural language processing-based analyses of these think-alouds showed that more skilled readers generated more cohesive think-alouds, indicative of a well-connected mental model, regardless of genre, than did lower skilled readers. Working memory was related to the quality of readers’ think-alouds in response to the history texts but not the science texts. Specifically, readers with lower working memory generated history think-alouds that were less cohesive than their higher working-memory peers. Notably, the readers were not given explicit instruction about the text types they would encounter. Thus, these findings suggest that the particular constellation of features of these history texts was more cognitively taxing. As both of these text types constitute “expository” text, this again warrants additional work that goes beyond the simple narrative/expository dichotomy.

To summarize the findings on individual differences in lower-level skills, it seems that reading comprehension of expository texts is more complicated than that of narratives. This is why such cognitive abilities

as vocabulary knowledge and executive functioning are more important to comprehend such texts and points to the relevance of higher-order processes such as inferencing.

5.6.2 *Individual differences in higher-level skills and processes*

Research in discourse comprehension has implicated higher-level skills and processes such as establishing and maintaining *standards of coherence*, *coherence-building*, *inference generation*, and *comprehension monitoring* (e.g., Bogaerds-Hazenberg et al., 2021; Cain, 2015; Cain & Oakhill, 2007; Hebert et al., 2016; Kintsch, 1988; Kurby et al., 2007; Pyle et al., 2017; van den Broek et al., 2001; 2011). As with the lower-level factors discussed in the previous section, these higher-level comprehension processes are associated with specific reading problems (Cain, 2015; Cain & Oakhill, 2007; McMaster et al., 2012).

With respect to comprehension, research has focused not only on reading outcomes but also on the processes in which readers engage during reading. Genre appears to moderate at least two aspects of processing. First, reading processes are, in part, determined by the *standards of coherence* that a reader implicitly or explicitly adopts. As described earlier, these standards reflect the type of coherence that the reader pursues (e.g., spatial, causal, logical) as well as how high the reader sets the bar for coherence and, consequently, how much effort they will put into understanding the text (van den Broek et al., 1995, 2011). Expository texts tend to elicit *higher* standards of coherence than do narratives but also qualitatively *different* standards. With respect to qualitative differences, narrative texts orient readers toward building a coherent representation of the specific characters and events depicted in the text, whereas expository texts orient readers towards building a coherent representation of the textual information as it relates to the readers' background knowledge (Wolfe & Mienko, 2007). Readers with strong reading skills tend to adjust their standards more to reading goals and text types, and do so more efficiently, than readers with weak reading skills (e.g., Linderholm & van den Broek, 2002).

The specific processes that emerge at a given point during reading are influenced by the specifics of the task and text. However, the propensity to draw upon particular strategies systematically differs between readers as well. Based on inference generation and other higher-level processes that readers display in think-aloud tasks, subgroups or *profiles* of readers have been identified: *paraphrasers* tend to stay close to the text as they proceed through the text, whereas *elaborators* tend to engage in more elaborations on the text by drawing on their background knowledge. This has been observed for readers in both primary and secondary education in various countries (Carlson et al., 2014; Karlsson et al., 2018; Kraal et al., 2018;

McMaster et al., 2012; Rapp et al., 2007). To some degree these profiles of individual readers remain largely consistent across different texts, but the particular processes and strategies that a given profile of readers uses can be “pushed around” by the text’s genre (Carlson et al., 2014; Karlsson et al., 2018).

5.6.3 Individual differences in prior knowledge

As described in the preceding section, different genres are likely to invite different amounts of inferencing. In order to generate inferences, particularly knowledge-based inferences, readers must be able to activate and integrate prior knowledge. Thus, a reader’s *prior knowledge* of the topic or domain is likely to interact with genre. Early cognitive research in expertise relied on narrative texts to study the effects of topic knowledge on recall and comprehension (e.g., Schneider et al., 1989; Voss et al., 1980), providing evidence that prior knowledge contributes to comprehension in narrative texts. However, direct comparisons across genres tend to show more pronounced effects for expository texts. For example, studies by Wolfe and colleagues (Wolfe & Mienko, 2011; Wolfe & Woodwyk, 2010) found that prior knowledge was a strong predictor of comprehension for expository versions of texts but not for narrative texts (see the discussion of the latter study in the section about Q1, and also McNamara et al., 2011). Overall, the relation between vocabulary or prior knowledge and reading comprehension is modestly impacted by genre, with the effects being stronger for expository texts. This makes sense, as expository texts are marked by a more content-focused communicative purpose and involve more complex content and academic language (Snow, 2010), and thus require increased vocabulary and/or topic knowledge.

Apart from vocabulary and content knowledge, other aspects of knowledge also impact and are impacted by genre. For instance, having knowledge about text structures and text topics and the application of such knowledge exert powerful influences on comprehension (e.g., Bogaerds-Hazenbergh et al., 2021; Cain, 2015; Elbro & Buch-Iversen, 2013; McNamara, 2004). Knowledge of genres and text structures facilitates processing as well. In general, readers tend to be more familiar with the structure of narratives than that of expository texts (Lorch, 2017), which is one reason that it is difficult to attribute genre differences exclusively to text features. In developmental studies, knowledge of structures has been found an important predictor of reading comprehension performance as this knowledge provides the reader with a constrained set of goals and conventions through which they can organize incoming information and make relevant inferences (e.g., Meyer & Ray, 2011; Oakhill

& Cain, 2012). Thus, the extent to which genre affects comprehension depends on the familiarity with different genres. These and other potential ways in which genre moderate individual differences in decoding, vocabulary, and comprehension are an important area of future research, for both theoretical and educational reasons.

5.7 Considerations for future research

Despite the robust body of research examining the relations between genre and cognition as described above, there remains great need for deeper exploration into how cognition and genre influence comprehension.

5.7.1 *Developing clearer constructs toward a comprehensive theory*

A recurring theme in this volume is that genre as a construct is both ubiquitous and elusive. Genre serves as a parsimonious way to explore a variety of dimensions and features of text all at once, and yet the ambiguity of what makes a genre a genre can make it difficult to precisely evaluate and predict its effects on cognition. Perhaps because of this ambiguity, research in reading comprehension has focused on elements or dimensions that are constitutive of genre (e.g., purpose, structure, modality, linguistic features) rather than on genre itself. Even when studies explicitly examine effects across genres, the employed definition of genre often is ambiguous.

Our current understandings of genre in cognition serve more as a framework than as a precise and comprehensive theory. More research must be done to specify which dimensions are most crucial, whether they interact or are independent, and whether the crucial dimensions change as a function of development or context. A more systematic exploration of particular constellations of features and systematic manipulation of dimensions is warranted. Through clearer articulation of how specific genres and genre dimensions impact specific comprehension processes, we can deepen our understanding of genre and cognition.

5.7.2 *Examining specificity and generalizability*

A second area of future work concerns exploring generalizability of findings across other genres, contexts, and populations. First, the discussion in this chapter focused on reading comprehension. As shown in other chapters in this volume, genre influences comprehension and production across a variety of media, modalities, and registers. Understanding of how the cognitive processes involved in these areas converge with or challenge what we present here is an important future direction for a broader understanding of the phenomenon “genre” across media and contexts.

Second, as described above, there is general agreement that narrative and expository reflect two genres, or families of genres, and there is clear evidence that genre impacts cognitive processes and products. The vast majority of research has been on these two genres (although their definitions vary somewhat across studies). The findings are very illuminating and form the foundation for the theoretical framework advanced in this chapter, but the reliance on these two genres also carries the risk that the conceptualization of genre, and its effects on comprehension is too narrow. The study of other text types (e.g., instructions) and of less prototypical exemplars of genres would test the generalizability and limitations of the current conceptualization. Such work would help elucidate which aspects of genre are most critical in a given context. For instance, certain genre features that support genre identification might turn out to be more salient than others and, consequently, be more important than others for comprehension.

Third, our definition of genre supports the notion that genres are not objectively defined but based on *conventions* (Biber & Conrad, 2009). As a result, cultural and linguistic differences in conventions about dimensions and their covariation may result in different constellations of genres across different communities. Although some of the studies mentioned in this chapter explore genre and reading in languages other than English, there remains a largely Western bias in the literature. Our definition of genre invites the idea that genres will function similarly in different cultures in the sense that genre will influence the reader's processes and mental mechanisms. However, it is likely that the *specific* content of these processes and mechanisms will differ across texts and readers as a function of their cultural and linguistic backgrounds. The small body of work in this regard suggests that this is the case, but the extent to which genres and genre-related processes systematically vary across cultural contexts remains an important empirical question.

5.7.3 *Developing genre knowledge*

Our exploration of the extant work highlights that genre has some direct and relatively uniform effects on comprehension, but that much of genre's influence on comprehension is mediated by particular skills and knowledge that the reader brings to the task. Although it seems reasonable that knowledge of genre accumulates as a result of communication and language experience, the precise trajectories of genre acquisition have not been well-investigated. Do all children (within a culture) experience more or less the same trajectories, or do they follow many different trajectories to lead to adult processing? Is the emergence of knowledge of a genre purely the result of exposure or are certain genres more "natural"?

One assumption of genre-as-processing-instruction is that having knowledge of the genre facilitates reading and supports comprehension (Meyer & Ray, 2011). Part of this genre knowledge is gained implicitly – built up through experiences with texts. But although teaching about story grammar and text structure is known to be effective (see Bogaerds-Hazenberg et al., 2021; Dimino et al., 1995; Dymock, 2007; Hebert et al., 2016; Pyle et al., 2017), much of reading instruction is still focused on lower-level processes (e.g., phonics, decoding, vocabulary-building), with little instructional time set aside for explicit instruction on reading across different genres or in different disciplines (Moje, 2008).

This is consistent with research showing that students are generally able to identify genres and articulate particular reading goals for that genre, but they often lack knowledge of what comprehension strategies best align with different genres and reading goals (e.g., K. McCarthy, 2020). That is, they may know what the genre is, but they often do not know how to enact the accompanying processing instructions. Research in adjacent fields such as text-structure instruction suggests that interventions aimed at building such knowledge can positively impact comprehension outcomes (Bogaerds-Hazenberg et al., 2021; Hebert et al., 2016; Pyle et al., 2017). Research into the teaching of genres can be extended to include questions such as: Is the benefit of knowing genres worth the effort and is it greater than educational attention going to other aspects of cognition and communication? And, if so, how can genre knowledge best be taught? The development of a more comprehensive theory of the relations between genre and cognition will support the growing body of research on genre pedagogy (see Stukker et al, Chapter 7).

5.8 Conclusions

This review of the literature employs a multidimensional view of genre, with texts of different genres being marked by different communicative purposes and text features and with genres reflecting clusters of these dimensions rather than being based on precise, mutually exclusive definitions.

The results indicate that genre influences and, conversely, is influenced by the comprehension of texts in many ways. Broadly, reading comprehension research suggests that genre guides the extent to which readers engage in various passive and effortful processes. Genre serves as a set of *processing instructions* that help the reader instantiate particular reading goals and deploy different cognitive processes and strategies in order to meet those goals. However, because there is inherent variation across the many dimensions of genre, these instructions serve as heuristics that are likely to be effective but may not perfectly align with the needs of the particular text or task context, especially in less prototypical cases. Indeed, genre effects may even interfere with the recruitment of more text- or goal-appropriate processes.

Our perspective highlights a multi-componential view of reading comprehension in which the processes involved in reading within and across genres are driven by task, text, and reader. Evidence suggests that individual differences, features of the text, and aspects of the task and context are highly interactive. The literature reviewed here suggests promise in a more systematic investigation of the role of genre in comprehension as a way to better understand both genre and cognition.

Note

- 1 This paper is published in Korean with an English abstract. None of the authors are fluent in Korean and we want to be transparent about our limited interpretation of this work.

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