Simplification of open educational resources in English: Its effect on text processing of English learners

Book Section

Chapter 7

Simplification of open educational resources in English

Its effect on text processing of English learners

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7.1 Introduction

Open Educational Resources (OERs) are an increasingly important part of the contemporary provision of education. Discussions about OERs are generating substantial interest regarding how these resources can reduce educational inequality, and decrease the cost of education, particularly in developing countries (e.g., Cobo, 2013). At the same time, a number of concerns have been raised about OERs failing to widen access to education (Casserly & DeBarger, 2020; Papathoma et al., 2020). Despite the aspirations to fundamentally open up education, OERs are still mainly used by well-educated learners residing in the Global North, and most OERs are offered in English (Farrow, de los Arcos, Pitt, & Weller, 2015).

A recent study by Rets, Coughlan, Stickler and Astruc (2020), which examined text complexity of 200 OER reading materials across different educational levels and subject categories from two major OER platforms, provided some empirical evidence supporting these concerns. The study showed that more than 86% of the examined OERs require an advanced level of English language proficiency. Thus, there might be a gap between many potential OER learners' language abilities and OERs that are expected to enable inclusive education. As a number of studies showed that one size does not fit all, particularly in online education, which gives immense opportunities for a personalised learning (e.g., Rets, Rienties & Lewis, 2020; Rienties, Lewis, O'Dowd, Rets & Rogaten, 2020), it is important to evaluate solutions that can make OERs more accessible globally.

Despite the scepticism of open education to help learners from non-English-speaking backgrounds, there is a lack of OER studies that conceptualise and test solutions for improving the linguistic accessibility of OERs to this global audience. Some solutions described in these OER studies focus on how to customise OERs to specific national contexts, such as translating OERs into local languages. Yet, such approaches do not generalise to a wider learning context (Casserly & DeBarger, 2020).

One solution that can potentially increase the linguistic accessibility of OERs is text simplification. Text simplification is the process of modifying authentic texts, or texts written for native speakers of a given language, with the intent to reduce the language level of these texts and increase their accessibility for the non-native

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speakers of this language (Tickoo, 1993). Previous studies on text simplification showed that simplified materials can enhance the learner's comprehension of the text, increase learner autonomy, and provide more opportunities for a learning success scenario (e.g., Crossley & McNamara, 2016).

At the same time, several questions arise from the existing text simplification research. First, empirical evidence in previous text simplification studies has been obtained using traditional methods of reading research, such as comprehension tests, which might limit the breadth and depth of the analysis. Since reading is a cognitive activity that involves lower- and higher-level processes, there is a need to also explore the "processes of reading" rather than only investigate the "product of reading", which is text comprehension (e.g., Brunfaut & McCray, 2015). Secondly, no previous research on text simplification has been conducted in the OER context, despite the calls for more accessible OERs. With this in mind, the primary goal of this chapter was to obtain emerging evidence on the effect of OER text simplification on text processing of non-native English speakers (NNES). This research primarily used eye-tracking stimulated recall methodology and was underpinned by Khalifa & Weir's model of reading (2009), which are described next.

7.2 Eye-tracking stimulated recalls to investigate text processing

An increasing number of studies investigate text processing through the use of eye-tracking (Conklin, Pellicer-Sánchez & Carrol, 2018). In the field of reading research, eye-tracking is defined as the real-time registration of an individual's eye movements, typically as they read the information on a computer screen with an eye-tracking technology integrated or attached to it (Conklin et al., 2018). Eye-tracking is also used as a stimulated recall interview technique in reading research, as part of which the recorded eye movements of the reader are played back to them after the reading task in order to stimulate the thoughts they were having during reading (e.g., Brunfaut & McCray, 2015).

Conceptualisations of processing levels vary depending on the focus of the underpinning reading theory. This research was mainly informed by Khalifa & Weir's model of reading (2009). This model was particularly relevant for this research due to its componential approach to researching text processing, which makes the model amenable to transformation into a research instrument to be used for data analysis and data coding purposes. The model comprises a hierarchical system of eight distinct cognitive processes, which are thought to tap into different levels of processing complexity and which by working together result in text comprehension. These comprise the following:

- so-called lower-level processes – word recognition, lexical access, syntactic parsing, and establishing propositional meaning;
- higher-level processes – inferencing, building a mental model and creating a text level or intertextual representation.

Amongst the studies that explored text processing of NNES and were both informed by this model and used it as a coding framework for qualitative data analysis is Brunfaut and McCray's work (2015). The study used eye-tracking stimulated recall interview data to describe the kind of text processing participants were engaged in during reading in language test conditions. The study showed that almost the entire range of cognitive processes, as specified by Khalifa and Weir (2009) (except for intertextual representation), was used by participants while completing the test reading component. This suggested that the test quite comprehensively tapped into the construct of reading. Furthermore, the study found some processing trends associated with participants' language proficiency, such as relatively more frequent use of syntactic parsing and paragraph-level representations, but less frequent use of lexical access processing by more proficient participants.

Chapter 7 aims to pilot a potential solution for increasing the linguistic accessibility of OERs to NNES by eye-tracking stimulated recall interviews. Underpinned by Khalifa and Weir's model of reading (2009) this research allowed a comparison between the types of processing strategies verbalised by participants across the two text conditions – simplified OERs and authentic (unmodified) OERs. As such, the research question of this chapter was as follows: What is the effect of text simplification on text processing, as evidenced in the frequency of use of cognitive processing strategies by NNES in eye-tracking stimulated recall interviews?

7.3 Materials and methods

7.3.1 Participants

Our aim was to recruit a sample that would reflect the diversity of the population of OER learners. Since OERs are developed as universally available educational resources (Cobo, 2013), OER learners constitute a diverse audience of learners regarding their educational background, age, and location. As the overall aim of this chapter was to explore how lower-level proficiency NNES respond to OER text simplification, only participants' language proficiency was controlled during sampling.

Twelve adult NNES took part in this research on a voluntary basis. Due to calibration problems and common problems with eye-tracking data quality (Catrysse, Gijbels & Donche, 2018), only data of nine participants (M_{age} = 37.6, SD = 5.41) were available for the analysis. All participants were female, which was a reflection of the population from which they were recruited and which was a predominantly female group. All participants were recruited from the same class, an intermediate (B1) English language course, at a local adult community learning centre in the UK. Their language level was determined by this education centre through the entrance language examination and was benchmarked against the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001). In terms of participants' educational background, most participants were university graduates (n = 6), n = 2 had vocational degrees, n = 1 had an A-level qualification. Participants' language backgrounds varied to reflect the diversity of the OER learner population generally.

7.3.2 Texts

Two OER texts in the domain of natural sciences were selected from the OpenLearn (2020) platform: Text 1 (160 words, two paragraphs) was selected from the OER course "Why sustainable energy matters", and Text 2 (145 words, one paragraph) – from the OER course "Galaxies, stars and planets". Both selected texts were part of the first section of introductory courses; the courses required no prior educational background. To control for the learning effect in each reading, the selected texts represented different topics, but were within a largely similar topic domain. As there is no single approach to simplifying texts, text simplification in this research was performed in line with the text complexity categories revealed in the earlier works of the first author (Rets, Coughlan, et al., 2020; Rets & Rogaten, 2021). The text simplification strategies used in this chapter are presented in Table 7.1.

The final version of simplified Text 1 contained 164 words, two paragraphs; simplified Text 2 contained 147 words, one paragraph. Thus, a total of four texts (two original texts and two simplified versions of these texts) were used. For further details of the formatting of the text, and the technical characteristics of the eye-tracking equipment, please, see Rets (2021, pp. 128–129).

7.3.3 Procedure

The session started with participants signing a consent form, completing a participant background questionnaire, and receiving oral instructions for their reading task. It was explained to participants that in this research their text comprehension would not be tested. However, since reading is a purpose-driven process, and in line with Catrysse et al. (2018), they were asked to read the texts as if they were taking the final language examination at their language learning centre. Reading was self-paced, and participants were asked to indicate they finished reading each

Table 7.1 Strategies used to simplify OERs

Text simplification strategy	*Description of the strategy*
Sentence length	Reduce the average number of words per sentence
Word repetition	Increase the proportion of repeated words in the text
Word length	Reduce the average number of syllables per word
Noun elements per sentence	Reduce the average number of noun elements per sentence
Amount of elementary and advanced lexis	Decrease the proportion of advanced lexis in terms of CEFR
Word frequency	Increase the proportion of commonly used lexis
Logical connectives	Increase the proportion of logical connectives between/within sentences

text by pressing the escape button on the keyboard. After receiving the task instructions, a technical eye-tracking calibration test was conducted. This was followed by participants reading from the computer screen, while their eye movements were recorded. The texts were presented one at a time on the screen. Each participant read two texts: they first read either an authentic or a simplified OER, on one of the two topics outlined in Section 7.3.2.

The reading of each text was immediately followed by a stimulated recall interview in English on participants' cognitive processes during reading. The interviews were conducted using the gaze plot videos produced by the eye-tracking software. Before each interview, each gaze plot video was visually inspected to check the eye-tracking data quality. Eye-tracking data from three participants had a drift, and stimulated recalls were not conducted with these participants.

In the gaze plot videos with the remaining nine participants, a moving red dot represented the point of fixation and the size of the dot was an indication of how long a fixation lasted. The replay was slowed down in order to give participants time to verbalise what they were thinking about during reading. The replay was paused after each fixation and a look-back (the times each participant looked back in the text). The research protocol with the interview script used in this research included such questions as:

Here you fixated a lot / you are going back in the text.
Why, do you think, you fixated on / looked back at this element in the text?
What were you doing / thinking about?

The stimulated recall interviews were recorded using a video camera to capture both the eye movement replay and participants' verbalisations. The entire session with each participant lasted approximately 90 min. The visualisation of the research procedure is presented in Figure 7.1.

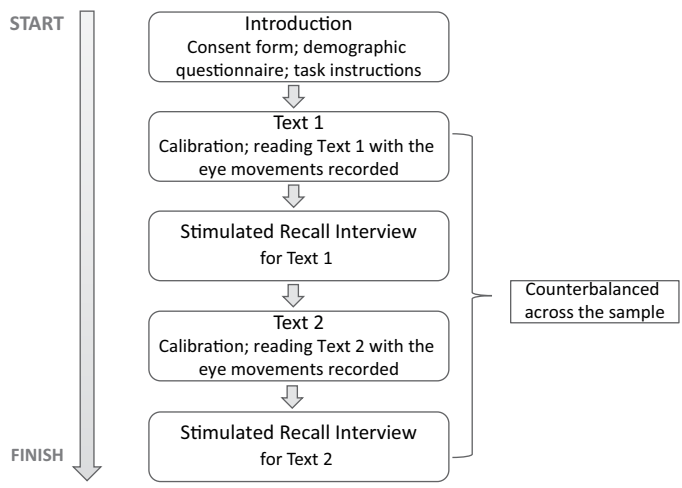

Figure 7.1 Visualisation of the data collection procedure.

7.3.4 Data analysis

Our research question was concerned with the effect of OER text simplification on text processing of NNES using the qualitative evidence from the eye-tracking stimulated recalls. Data analysed were comprised of 18 stimulated recall interview sessions (n = 9 with participants reflecting on their reading of simplified OER texts, and n = 9 – on their reading of the authentic texts). All 18 interview sessions were transcribed manually from the videotapes. The data were then manually coded in the qualitative analysis software package NVivo11, using the content analysis approach, as outlined by Neuendorf (2016). The aim was to analyse and code participants' thought processes during each eye fixation and look-back in the authentic and simplified texts they verbalised during the stimulated recalls. The average length of the transcribed interviews was 4000 words.

In the first coding cycle deductive coding was employed, using Khalifa and Weir's (2009) model of cognitive processing in reading as the a priori coding scheme. The last level of the original model – creating an intertextual representation – was removed from the coding scheme as participants read and reported on only one text at a time. In the second coding cycle inductive coding was employed to identify new processing strategies specific to the context of this research, which might not be reflected in the model of Khalifa and Weir's (2009), since their model was primarily used for test validation. Three additional codes were arrived at during the inductive coding process. In line with Neuendorf (2016), two inter-rater reliability sessions were conducted to finalise the coding scheme. The percent agreement after the first inter-rater reliability session was 75%. Having revised the coding scheme, paying particular attention to the category descriptions, the second inter-rater reliability session was conducted with a different independent rater. The final coding agreement with the third rater was 90%. Altogether, 80 codes were identified, which were then assigned to one of the ten cognitive processing strategies featured in the final version of the coding scheme. The final coding scheme used in this research with example quotes for each category is presented in Table 7.2.

7.4 Results

7.4.1 Cognitive processing strategy use across the sample

The first two strategies that concerned lower-level processing, namely word recognition and lexical access, were featured in participants' verbalisations when participants gave an account as to why they focused on a particular word in the text. Such accounts were mostly linked to participants experiencing confusion or difficulty in understanding the meaning of single words they encountered. Word recognition strategy seemed to be in use when participants tried to say the words out loud to themselves that they did not immediately recognise during reading.

> Participant 8: I don't think I've seen the word "current" before. I wasn't sure how to pronounce it. Usually pronouncing the word to myself helps me identify what kind of word this is and keep this word in my mind during reading.

Table 7.2 Final version of the coding scheme used in the study with example quotes

Level of processing	*Category*	*Example quote*
Lower level	word recognition	"When I saw 'encompasses', I tried to pronounce it properly".
	lexical access	"Nevertheless…I was thinking to myself, is it 'unless' or something?"
	syntactic parsing	"I didn't know the previous word, that's why I slowed down".
	establishing propositional meaning	"I think I didn't understand this at all: replicated? On Earth? In Laboratories? Aren't we talking about the Universe?"
	emotional resonance	"Thousands", "billions" – "Oh, that's a lot of stars, I thought to myself".
	mother tongue interference	"1970s" – "I said the year to myself in my language and then I realised I need to speak to myself in English!"
	vocabulary and grammar learning	"The Universe" – "we just learnt when to use 'the' in our English lesson yesterday, and I wanted to see how it is used in this context".
Higher level	inferencing	"When I saw the word 'atom' – I remembered a line from my physics book in high school: 'as small as an atom'".
	building a mental model	"When I was nearly to the end of the text, I tried to understand everything before I finish the text".
	creating text level representation	"Having finished reading the text, I reread the title – 'Where do we get our energy from?' 'We' – I established the reference with 'we as humans', and then I reread the first sentence and the last two sentences of the text to remember its key points".

The evidence that participants used lower-level processing strategies when struggling with the meaning of single words in the text was particularly salient when analysing the lexical access processing strategy. Lexical access was featured in participants' verbalisations when they reflected on the reasons for their long fixations on certain words in the text, talked about not knowing the meaning of those words, and trying to compare those words in their mind with the words they already knew that looked similar:

> Participant 3: I confused the word "scarce" with "scary". I think I looked at this word longer because I don't know the meaning of this word.

The other two strategies that constituted lower-level processing – syntactic parsing and establishing propositional meaning – were also used in the instances when participants could not understand the meaning of single words in the text. However, these strategies were used beyond fixating on only those single words and concerned fixating on larger lexical chunks in the sentence, such as word collocations and clauses. Both strategies were mostly associated with look-backs in the sentence. Syntactic parsing was used when participants tried to associate the meaning of a single word by looking back at a few surrounding words because they formed a conceptual unit together. Establishing propositional meaning was reported to be used when participants were looking back at larger context within a single sentence.

> Participant 4: Maybe I focused on the word "reserves" and then looked back at a couple of preceding words because I tried to read these two or three words together rather than understand them separately [when talking about reading the collocation "fossil fuel reserves"] [syntactic parsing].

The three remaining strategies on the lower processing level, as presented in Table 7.2, were the additional categories added to the a priori coding scheme after the inductive coding cycle. These categories – emotional resonance, mother tongue interference, and vocabulary and grammar learning – mostly concerned fixations on single words. However, in some instances these strategies also included look-backs at the preceding context in the sentence, similarly to the syntactic parsing and establishing propositional meaning strategies. Emotional resonance was reported by participants in the instances when the information they were reading in the text surprised them or resolved a previously held misconception about the fact described in the text. In some cases, participants also reflected on fixating on a word because they had strong emotional associations with it:

> Participant 6: I think I focused on the temperature in the universe -273C, because I thought: oh, my God! How many degrees is that!

Mother tongue interference was closely connected with the lexical access processing described earlier. Among the reasons participants gave for fixating on certain words was the need to translate these words into their mother tongue to better understand their meaning. As part of the final category within lower-level processing, vocabulary and grammar learning, participants associated the long fixations they had during reading with their attempts to learn the use of certain language structures in the text:

> Participant 7: I think I paid attention to such word combinations as "have been built" and "in the long term", "they will" because I want to understand

> better the grammar topic of tenses and time indications in English. It was interesting for me.

While lower-level processing included the strategies participants took to understand the text on a sentence level, the three categories within the higher-level processing – inferencing, building a mental model, and creating text level representation – were concerned with participants integrating sentences in the text together into a cohesive whole.

Participants used inferencing strategy when they tried to activate their background knowledge of the topic of the text to understand better what was being read, or to interpret the meaning of a series of words in a paragraph using their everyday experience. Similar to the emotional resonance processing, inferencing mostly concerned factual information in the text: geographical places, numbers, historical events:

> Participant 2: When I read "Gulf War", at first, I confused it with the WWII but then I realized it is a different event.

Building a mental model was used by participants to either confirm their understanding of how ideas in the text were developed, or to resolve any conflicting understanding they had when reading the different parts of the text. In contrast, the strategy of creating text level representation was mostly used when participants tried to apprehend what the text was going to be about when reading the title and opening sentences, or to rehearse the key points in the text to remember them better:

> Participant 5: When I finished reading the text, I looked back at any numbers, places, factual info that the text contained to make sure I remember them, as well as the last two sentences in the text. Usually these are the key points to take away from the text [creating text level representation].

A recurring observation that was made during the qualitative data analysis concerned the plasticity of cognitive processing. In cases when the use of one cognitive processing strategy did not facilitate text comprehension, participants reported having turned to another processing strategy to compensate for this failure. To exemplify, if lexical access was unsuccessful, participants would turn to syntactic parsing, establishing propositional meaning or building a mental model to make a better use of the context of the text:

> Participant 8: I don't know the word "overwhelmingly" and that's why I couldn't understand the preceding sentence and went back to re-reading the previous one [establishing propositional meaning].

7.4.2 Cognitive processing in authentic versus simplified OERs

The analysis of the eye-tracking replays showed that there were more fixations and look-backs to discuss in each participant's gaze plot video that corresponded to their reading of the authentic OER. Thus, in order to proceed to the analysis of

stimulated recall interviews and identify the frequency of use of each cognitive processing strategy, the number of each processing strategy from the content analysis was divided by the total number of processing strategies. By calculating this relative measure, it was possible to control for this difference in the amount of cognitive processes verbalised by participants during their reading of authentic and simplified texts.

The results of the stimulated recall data analysis are presented in Table 7.3, which gives an indication of the amount of use of the different cognitive processes in the total number of readings of authentic OERs (n = 9 readings / stimulated recall interview sessions) and simplified OERs (n = 9). No comparative statistics were run because of the relatively small sample size in this research.

Overall, the most used processes for both authentic and simplified texts, as judged by the relative frequencies of categories' occurrence in participants' verbalisations, were lower-level processes – lexical access, establishing propositional meaning and syntactic parsing. When exploring the differences in the frequency of use of different cognitive processing strategies for authentic vs. simplified OERs, three main differences became apparent. The key difference was in the amount of use of lower- vs. higher-level processing. Participants seemed to rely substantially less on lower-level processing when reading simplified OERs, as compared to their reading of the authentic texts. As has been outlined in the previous section, lexical access, syntactic parsing, and establishing propositional meaning were mainly employed when participants tried to resolve confusion in understanding the meaning of single words or clauses they encountered in the text. Using fewer strategies within these three categories for simplified OERs might indicate that participants experienced fewer comprehension difficulties, and their reading of the simplified

Table 7.3 Stimulated recall data analysis results: authentic vs. simplified OERs

Level of processing	*Category*	*Authentic OER n = 9*	*Simplified OER n = 9*
Lower level	word recognition	7	3
	lexical access	66	43
	syntactic parsing	40	28
	establishing propositional meaning	45	36
	emotional resonance	7	11
	mother tongue interference	4	5
	vocabulary and grammar learning	6	0
Higher level	inferencing	5	12
	building a mental model	15	25
	creating text level representation	11	10

OERs was smoother. In contrast, increased use of higher-level processing, particularly inferencing and building a mental model, when reading the simplified OERs indicates that participants had more capacity for connecting the text to their personal experiences and focus on the main themes of the text. Among the higher-level processing strategies, creating text level representation was used slightly less when reading the simplified OERs. A potential explanation of this finding could be that participants did not have to take an additional effort, reread and rehearse the text as they might have had more capacity to understand the text well during their initial reading.

The other two differences in the use of processing strategies for authentic vs. simplified OERs concerned the frequency of use of the strategies that were added to the coding scheme after the inductive coding cycle. On the one hand, "vocabulary and grammar learning" was mentioned only with the authentic OERs. On the other hand, as can also be seen from Table 7.3, the use of the strategy "emotional resonance" was slightly higher for the simplified OERs, as compared to the authentic texts. The latter finding suggests that, similarly to the case with higher-level processing, participants might have had more working memory capacity available to ponder over the simplified texts and to resolve a previously held misconception about a fact described in the text, or to draw stronger emotional associations with it. The frequency of appearance of "mother tongue interference" strategy was largely similar between the reading of authentic and simplified OER, which suggests that at times participants turned to the resources of their mother tongue to understand the texts, irrespective of the complexity of these texts.

7.5 Discussion

Open educational resources (OERs) are learning, teaching and research materials in any format and medium that are freely available in the public domain. Although pioneered with the intent to widen access to education globally, very few studies explored solutions on how to improve their accessibility to non-native English speakers (NNES). Chapter 7 aimed to obtain emerging evidence on the effect of OER text simplification on text processing of NNES at lower levels of proficiency, using qualitative evidence from eye-tracking. To that end, this research focused on comparing the frequency of use of different cognitive processing strategies at lower- and higher-levels of processing, as verbalised by participants in the eye-tracking stimulated recall sessions after they had read an authentic and a simplified OER.

Chapter 7 showed that participants engaged in a wide range of cognitive processing when reading both authentic and simplified texts. This finding is partly in line with the earlier test validation studies that used eye-tracking stimulated recalls (e.g., Brunfaut & McCray, 2015) and showed that the entire spectrum of processes specified in the central core of the Khalifa and Weir (2009) model were elicited by the test questions during reading. Yet, Brunfaut and McCray (2015) also found that the frequency of use of lower- and higher-level strategies was largely similar across the sample. In contrast to this research, the research at the centre of this chapter identified proportionally lower reported usage of higher-level processing

(inferencing, building a mental model and creating text level representation) when reading both authentic and simplified OERs.

Overall, the most used processes in this research were lexical access, syntactic parsing and establishing propositional meaning, as evidenced in the stimulated recall data. This finding might be due to the fact that participants knew there would be no comprehension assessment after reading. Reading the text for an immediate comprehension test is likely to have elicited a wider use of different cognitive processing strategies when reading authentic and simplified texts. This finding might also be due to the proficiency level of participants in this research. As has been shown in the study of Brunfaut and McCray (2015), participants at lower levels of language proficiency used lower-level processing strategies more frequently than participants at higher levels of proficiency. This could be the case in this research, where all recruited participants were from an intermediate (B1) English language course.

In the comparison of the frequency of use of different cognitive processing strategies when reading authentic vs. simplified texts one key difference was observed in the amount of use of lower- vs. higher-level processing. Although lower-level processing was still dominant, participants seemed to rely less on the use of lower-level processing in the simplified OER. To exemplify, the use of "lexical access" strategy implied that participants made an effort to understand the meaning of a word in the sentence (Khalifa & Weir, 2009). The less frequent use of this strategy during the reading of the simplified OERs suggests that participants had fewer points of confusion or doubt about the meaning of a word, as compared to their reading of the authentic texts. This tendency was also observed when exploring the replays in the eye-tracking software which showed that there were fewer areas in the simplified texts where participants had to stop and make long fixations.

Chapter 7 also provided some empirical evidence that text simplification facilitated higher-level text processing. The categories that concerned higher-level processing occurred more frequently in participants' verbalisations for the simplified OERs, as compared to their reflections on authentic OER reading. It can be assumed that participants had fewer instances where they had to use lexical access and other lower-level processing strategies to understand the text on a sentence level. Besides the use of lower- vs. higher-level processing, another difference in processing of authentic vs. simplified OER concerned the frequency of use of the "emotional resonance" strategy. Since in this research "emotional resonance" referred to the instances where participants talked about feeling surprised, as well as about their emotional associations or ability to learn a new fact from the text, this strategy can also represent situational interest. Situational interest is defined as a relatively short-lived psychological state of focused attention, curiosity, and positive affect (Soemer & Schiefele, 2019). When defined through the lens of situational interest, the evidence from this chapter concerning the increase in emotional resonance when reading the simplified OERs is in line with the study of Soemer and Schiefele (2019). The authors showed that more difficult texts were perceived by the readers to be less interesting, and less interest, in turn, was associated with reduced focus of the readers towards the text. The finding of this research on

increased emotional resonance to the simplified text suggests that text simplification provides opportunities for the creation of stronger bonds between linguistic and emotional content, which is an aid for foreign language reading. Drawing from the aforementioned piece of evidence in the literature (Soemer & Schiefele, 2019), higher emotional resonance suggests a positive effect of text simplification on text processing among NNES.

The final difference in processing of authentic vs. simplified OERs was the use of the strategy "vocabulary and grammar learning". This strategy was mentioned only with the authentic texts. The reason for that might be a higher lexical diversity of the authentic OERs, which might have given participants more instances of exposure to various lexis and grammar structures. Thus, this finding suggests that simplified texts may limit incidental vocabulary learning. However, since learning with OERs is primarily concerned with subject content comprehension, rather than with language acquisition, incidental vocabulary learning might not have immediate relevance in this context.

7.5.1 Implications for practice

Chapter 7 provided emerging evidence in support of the use of text simplification to increase linguistic accessibility of OERs to NNES. The important practical implication from this research is to encourage OER material writers to check the text complexity level of their materials prior to publication and to linguistically simplify them, where possible. Simplification strategies such as splitting sentences, choosing words of a shorter length and higher frequency, using fewer nouns and more connectives between/within sentences have a beneficial effect on the text processing of NNES. Simplification stimulates greater focus and more interest towards the content of the text. As long as the linguistic accessibility of open education is being ignored, and OERs continue to draw on native speaker capital in language, the capacity of these resources to widen access to quality education will only remain that: a potential.

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