

A review of Sheida Marzban's Ph.D. dissertation *Second language learners' strategies of reading multimodal texts: the effect of social media use on reading*

Reviewer: Márta Lesznyák

General remarks

The aim of the dissertation is to “investigate reading habits, modal preferences, and multimodal strategies among different age groups of second language learners (L2).”. The topic is timely as multimodal text processing has become an everyday reality. In the context of foreign language learning, course books and online materials contain lots of multimodal elements that learners have to process. Visual information is believed to support learning, but it also leads to changes in the reading process as it puts an extra load on cognitive processing. The dissertation reports the results of a questionnaire- and an eye-tracking study. The research design is sound, but because of time constraints the author could only complete the pilot study, as a result, findings of the research can hardly be generalized. The structure of the dissertation follows what is expected of empirical research studies. The author uses robust statistics to analyze her data. In my opinion, however, it is not the results that constitutes the most valuable part of the dissertation, but the effort to create a novel questionnaire on multimodal reading. Although the questionnaire that was used for data collection, suffers from numerous shortcomings, the author reflects on these and offers suggestions for improvement. This is very promising: on the one hand, it shows that the candidate is creative and able to come up with novel research ideas, to design her own instrument and reflect on it and improve it. On the other hand, it also suggests that the questionnaire can really be turned into a valid and reliable instrument that can be used in future research, too.

In detail:

After an Introduction in Chapter 1., the theoretical review is presented in Chapter 2. First, the concept of multimodality is defined and described, then models which explain interaction between various semiotic modes (i.e. visual and textual) are discussed. In Section 2.3 possible relations of text and picture are reviewed, paying special attention to cohesion and tension. Section 2.4 focuses on multimodality and learning in general, whereas section 2.5 is devoted to multimodality in second language learning, specifically. In this section, some course book analyses are reviewed, and this is followed by the overview of research on using caption (subtitles) in videos for language learning purposes. Finally, research on reading tasks with static visual information is discussed. In these sections, a large amount of information is provided, nevertheless, no attempt is made to highlight what is relevant for this research and how.

Sections 2.6 and 2.7 offer valuable insights into cognitive processes in reading and eye-tracking research, respectively. Section 2.8 covers research on age and multimodal processing, and multimodality and social media (in and outside the classroom) are the central topics of section 2.9.

The conclusions of Section 2.9.1 (p. 42) sound somewhat unfounded, as the chapter is about studies on multimodal processing in social media and nothing is written about school policies. Then the author concludes that schools are more open to phones. This may be true but seem to be unrelated to the previously presented literature. Section 2.9.2 focuses on the effect of social media on Academic Reading habits. However, throughout the chapter, academic reading habits are not defined, so it is not clear what the author is writing about. When presenting previous research – again, it is not described how academic reading habits were operationalized. Reading habits are defined in the Methodology section on page 52, but as this is a key term, it should have been defined earlier and more clearly.

In section 2.10, a sound foundation is created for the research and the research questions are listed.

In conclusion, the theoretical review is the strength of the dissertation. The research topic is extremely complex, and the author had to cover a large number of areas. She did succeed in conveying a huge amount of information, but she did not always synthesize what she had presented. In addition, I can see two shortcomings of the theoretical review:

- 1) The author does not provide a general overview of reading, thus the review is slightly mosaic-like: some important aspects are missing. Thus, the author does not deal with the topic of text types, and the fact that different text types may include different amounts of visual information, as a result, different strategies might be needed to process them. There seems to be an overtone that suggests that multimodal reading is the norm nowadays. This might be true for everyday personal communication, but it is hardly the case in any sort of professional communication, where sometimes you meet 100% verbal texts, other times multimodal processing has long been the norm (i.e. figures and diagrams, X-rays, drawings etc.). It is not emphasized that the multimodal processing studied here is just one part of the overall reading skills (even multimodal reading skills) needed in the 21st century.
- 2) the author does not take into account the context and the aim of the reading either. Multimodal processing can be highly dependent on what the aim of the reading task is. The author unconsciously taps into this problem by overviewing reading in learning (languages). However, learning is not the only aim of reading, there can be several others: e.g. entertainment, information extraction, information exchange, special professional (reading for translation, proofreading, reading for evaluation, reading for summarizing etc.). From this perspective, it would have been a good idea to contextualize the reading tasks on the test.

Methodology:

The overall methodological design of the research is good, nevertheless, there are minor problems that should be pointed out.

- 1) Reading habit questionnaire (Page 52.) – how was the questionnaire developed? Did you rely on previous questionnaires and literature? If so, what were these?
- 2) The multimodal reading test is a completely novel test developed by the candidate. The idea of the test is great, and it is on its way to become a good one. Nevertheless, I would think that the way the test is structured, there is no room for real multimodal processing, or at least, the respondents have no chance to show that they engaged in multimodal processing. This is because they are forced to choose between 2 options, there is not “both” or “neither” option. Using open-ended questions would have offered the opportunity to participants to indicate spontaneously how they processed the text and the visual information.

Moreover, the test items right now do not seem to reliably assess modal preference and only modal preference. Some items lend themselves to several interpretations, others are contradictory or confusing. Nevertheless, the author reflects on these problems in the Discussion section and offers solutions for them, which is really promising but does not help the interpretation of the results received with this version of the questionnaire. When the multimodal reading test is discussed, it is not indicated whether the author alone decided about the types of image-text relations and other features of the items. If so, it would be beneficial to involve other experts in making such decisions.

Concerning data collection procedures I have two questions: why were the participants not allowed to use the “back” button? And why they were not informed about this?

On page 63, Table 6 shows the differences between the online reading test and the eye-tracking test, but no justification or explanation is given for the changes.

For the future: it would be interesting to do the same test with a control group in their 1st language (Hungarian in this case).

Methods of data analysis are described clearly, although no information is given on how data on reading- and response duration was collected. (With what software?)

Results:

The results are presented in an appropriate style and manner, and the statistical tests employed are adequate. Nevertheless, sometimes the formulation of the results is slightly misleading:

e.g. p. 72-73. “*The results show 65.60% of the participants acknowledged that the pictures helped their reading comprehension ('Yes' condition) while 34% of the participants did not find the pictures helpful ('No' condition). According to the Chi-square test results, the relationship between the two variables was also significant ($\chi^2 (1, N = 61) = 61.00, p = .00$).*” – Do you mean that there is a significant difference between the “yes” and the “no” **answers**?

Page 77-78.: apparently, the author uses noteworthy as a synonym for significant, which is inaccurate if we talk about statistics. Significant difference means that the difference is real (= it is not a measurement error). Non-significant differences should not be interpreted as difference, as they can be measurement errors. (This paragraph suggests that the author is not aware of this).

Discussion:

In the Discussion section the author provides insightful interpretations of her findings. Below, I will make some comments on some of her explanations.

p. 96. *“This could be due to the fact that what schools offer to students and prepare them for is quite different from the visual and pictorial world outside school (Kress, 2003).”* – The term „outside school” is vague: it includes domains that are visual and domains that are verbal, and domains that are both visual and verbal. The school as an academic domain can't do otherwise than rely on verbal processing. But it does not mean that students are not able to rank visual information first or to integrate it with verbal information if it is needed. This is something we do not have information about.

p. 96. *„As a consequence, it may have hindered the participants from adopting a multimodal approach when reading multimodal texts.”* – It is not clear what the author means by multimodal approach and how she can decide whether the subjects have adapted it or not? The *process* itself was not studied. The question arises whether processing both visual and verbal information, *then deciding to rely on one of them* is a multimodal strategy or not. Also, when answering the follow-up questions, the respondents expressed a positive attitude towards the visual information presented and found them useful. This indicates that they did process this information, whatever answer they gave. My question to you would be: What result (answer) would indicate for you that the subject has engaged in multimodal processing?

Reliability and validity of the questionnaire

p. 106. Calculating Cronbach alpha and Pearson r for the questionnaire pre-supposes an item-based scoring of the multimodal reading test. However, the scoring system is not described in the dissertation, although it can be figured out how it must have been done. A more serious problem is presented by Table 23 (page 107) which claims to show the Pearson correlation coefficient “between each question in the multimodal reading” test. Looking at the format of the table, this can hardly be the case. I would think that the table shows each item's correlation with the total test score. Moreover, while item-total correlations can be a good indicator of construct validity, there are other types of validity that are not dealt with at all. The critical one would be content validity, that is, whether the test really assesses multimodal processing (and not some other cognitive processes).

In the subsections of Chapter 6.2, critical items are reviewed and modifications in the wordings, positionings of texts and visuals, choice of visuals are suggested. These suggestions show that the candidate is able to analyze her instruments and findings critically. However, we do not learn how the author realized that these items are controversial, confusing etc. Was it on the basis of test scores? Did another expert look at the items? Did she herself notice these problems?

Conclusions

In this chapter, the candidate summarizes the main findings of the research, discusses the limitations and the implications of the study and gives suggestions for future research.

“The Limitations of the study” shows that the author understands the shortcomings of her research and will be able to avoid these problems in the future.

In the “Implications of the research” sections the author offers some suggestions for textbook developers and teachers. These suggestions are relevant but it is not clear how they come from the results of this research.

Moreover, it can be somewhat risky to propose that teaching should be adjusted to students’ preferences: whereas it can be fun for teenagers to read texts from social media in some classes, they must get acquainted with other genres and text types, too.

Making textbooks and assessment more multimodal in schools is another difficult issue. Whereas it is relatively easy to visualize cognitively easy material for beginners or young children, it becomes increasingly difficult as the curriculum content is getting more abstract. This is something you discussed in the theoretical review, too. Also, English textbooks (particularly language coursebooks) are usually full of visuals. Very often, a larger proportion of a page is taken up by photos and pictures than by texts.

As for assessment, visuals are often avoided because a person must be able to interpret a text without visual assistance. It is very often the case in real life too, you cannot avoid that.

Formal aspects:

The dissertation fulfils the formal requirements. Nevertheless, there are minor language issues, like unusual word choices and collocations, subject-verb agreement mistakes, capital letters in the middle of a sentence etc.

Summary

The topic of the dissertation is highly relevant and the theoretical overview of the field is excellent. The candidate developed a multimodal reading questionnaire, with the help of which she could

collect data and more importantly, she could reflect on the properties of the questionnaire and suggest modifications for it. Coupled with eye-tracking, the questionnaire helped the candidate uncover cognitive processes of subjects who were involved in multi-modal reading processes.

In consequence, I recommend that the dissertation is presented at the oral defence . If the oral defence is successful, I recommend the award of a Phd-degree to the candidate.

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