

Textbook Research and Language Use

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1. Introduction

The textbook is an important and integral component of the educational process. As a distinctive genre, it basically serves the communicative function of providing a readership with new information, knowledge in various disciplines and at different levels of education.

As the social situations, contexts, including textbook writers' intentions and purposes change, the way language is used also changes. Language varies in a number of ways, depending on the people who use it, on how, in what circumstances and why it is used. In consequence, a variety of distinct linguistic forms, meanings, rhetorical and interaction strategies are applied in a wide range of textbooks.

In the context of education, textbooks basically fulfil (1) subject specific, disciplinary and (2) pedagogical functions. They provide content in accordance with academic research, and in parallel, they are based on pedagogy, i.e. some methodological approach applied to enable readers to learn the content. Both these functions are realized by language, and it is of crucial importance to use textbooks with language making messages accessible and interpretable for the readers.

Despite the dynamic interrelationship between the communicative functions of the textbook and language, there has been relatively little research focusing on language use demands. However, the way language is used in different textbooks can not be neglected as it may promote or hinder the interaction and interpretation processes between textbook writers and textbook users.

In a wide range of educational contexts, there have been many criteria developed to analyse and evaluate textbooks, resulting in a relatively large amount of publications with various aspects of textbook analyses. As an example, one of the most contemporary and comprehensive sources used internationally is the 'UNESCO Guidebook on Textbook Research and Textbook Revision', the second and revised edition of which was published in 2010 (Pingel 2010). It is an excellent source of reference with an up to date overview of the state of the art, and it offers a first overview of the different aspects that have to be taken into account when planning textbook research projects. It also provides a wide range of reference to various approaches and methodologies in textbook research. In addition, the book contains practical advice for textbook reviewers, including methods and aspects for analysis, a selective list of institutes of textbook research and a reading list.

However, we still have not enough information for a full understanding of the linguistic demands placed on textbook authors and readers across disciplines in various educational contexts. With the development of needs-based communication and task based approaches in education, the linguistic characteristics of textbooks must be fully described and understood before adequate teaching materials can be developed.

The aim of this study is to draw attention to the importance of raising professionals' awareness of some features of language use in the textbook, which may promote or hinder the effective use of textbooks in educational processes. A specific emphasis will be laid on the interpersonal function of the textbook supported by examples, the sources of which are textbooks analyzed by the author of the present study.

2. The textbook as a particular genre

The textbook bears the characteristic features of the genre in general on the one hand, and specific characteristics as a particular type of genre in certain educational contexts on the other hand. It requires specific purpose language use, and the reading demands, roles and attitudes differ from corresponding demands, roles and attitudes belonging to reading in other contexts e.g. reading in leisure time. The readers, the learners are faced with demands to learn and develop themselves through reading and interpreting texts.

The textbook as a particular type of genre can be analysed in terms of its functions, some of which can be summarised in the following (Kurtán 2001)¹:

- Textbooks embody a view of the nature of the content, the state-of-the-art in the given discipline; making statements about what authors think about the essentials of their discipline.
- Textbooks provide stimulus to learning. Good textbooks do not teach: they encourage learners to learn. Therefore, they contain scientific content knowledge which is reliable, embedded in texts that engage the readers' thinking capacities and students can cope with.
- Help to organise the teaching-learning process, by providing a path through the material. Structuring of facts, knowledge is basically determined by discipline-based theoretical background.
- Textbooks reflect what authors think about the potential readers, their anticipated knowledge, motivation, and needs.

1 Translation by the author

- Textbooks create a balanced outlook which both reflects the complexity of the given field, yet makes it appear manageable.
- Textbooks contain appropriate language use, functioning as a vehicle for learning, facilitating the construction of knowledge.

The similarities and differences between general and specific purpose communication can be grasped looking at how participants of discourse communities carry out social actions using language in various situations. Swales (1990) found that a discourse community has a broadly agreed set of common public goals, has mechanisms of intercommunication among its members, uses its participatory mechanisms primarily to provide information and feedback, utilizes and hence possesses one or more genres in the communicative utterance of its aims, has acquired some specific lexis (specialized terminology, acronyms), has a threshold level of members with a suitable degree of relevant content and discourse expertise.

The definition of genre is provided by Swales (1990: 58):

A genre comprises a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognized by expert members of the parent discourse community, and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and influences and constrains choice of content and style. Communicative purpose is both a privileged criterion and one that operates to keep the scope of a genre as here conceived focused on comparable rhetorical action. In addition to purpose, exemplars of a genre exhibit various patterns of similarity in terms of structure, style, content and intended audience.

Within the wider frame of discourse and text analysis, genre analysis can be based on the pragmatic contextual analysis as a first stage to be followed by the functional and linguistic (lexical-grammatical features, textual patterning, text structure) analysis.

Contextual analysis can reveal in what social setting a particular kind of text is typically produced, and what constraints and obligations this setting may impose on writers and readers. The communicative purpose of the text is investigated together with what roles may be required of writers and readers in the particular genre. Analysis also covers what knowledge of other texts may be necessary for writers and readers, and what shared knowledge of formal texts features, i.e. conventions is demanded to communicate effectively in a particular genre. Using and complementing the speech event model by Hymes (1974), the main factors that may influence the choice of linguistic forms and may serve as aspects for the contextual analysis of textbooks are the following:

- *Norms, conventions, expectations, requirements for text*
(e. g. textbooks provide readers with new information; they encourage and motivate learners to learn; texts are interpretable)
- *The setting of the textbook*
(e. g. texts are mediated to the reader by textbook authors in various disciplinary subjects; they are used in a wide range of primary, secondary and tertiary level educational contexts)
- *The intended audience, their expected needs, purposes*
(e. g. the author takes the role of a guide, and depending on the role of the reader assigned by the author, more or less guidance is provided for them)
- *Background knowledge assumed, expected*
(e. g. textbook authors rely on the readers' assumed previous knowledge)
- *The intentions, aims, purpose(s) of the author*
(e. g. authors express their assumption about the necessity of the subject, emphasizing its importance, arousing readers' interest, engaging and motivating them for reading and interpreting the text)
- *The relationship between participants (author, reader)*
(e. g. textbook authors establish the presence of their readers by addressing them directly with questions, directives, references to shared knowledge)
- *The topic, focus and perspective of the textbook*
(e. g. topics are highlighted in various structural parts of the textbook; authors usually define what the topic is and point out their main and secondary themes; authors draw in the reader with the use of macro- and micro-structural discourse markers, logical connectives, endophoric markers, various types of references, deixis, code glosses)
- *Relationship with other texts*
(e. g. textbook authors guide their readers to recognize relations to other texts, drawing their attention to other parts of the textbook and also referring to texts from other sources).

On the theoretical basis of Halliday's systemic functional grammar (1974), three interrelated functions of language can be described and applied for textbooks:

- (1) the *ideational* function of representing experience, concerned with the selection and presentation of information;
- (2) the *interpersonal* function of expressing the relations between the people (textbook writers and readers) interacting, and their attitudes;
- (3) the *textual* function of organizing and constructing a coherent message or text.

This functional approach to language provides a link between language seen as an abstract system of rules and language in real communication as used in context. It also helps us to understand how functional variables will have some effect on the linguistic and pragmatic choices we make in textbook interactions.

3. Textbook research and the functions of language

3.1. In textbook research it is the *textual* function of the textbook which has been the main focus of studies of the language of the textbook. The basic aim of such studies was mainly to point out syntactic structures which were predicted or empirically found to pose difficulties for the intended readership.

It has been identified and summarised (Harrison 1980) that the main sources of difficulties can be grasped in the high number of clauses per sentence, the use of the passive voice, nominalizations deriving from verbs, ellipsis, and the modal verbs. Factors that affect the relative accessibility of the language of textbooks have also been pointed out, including the choice of sentence initial element or theme, or cohesion. There has been an assumption that the element selected for first, initial position in the written language of the textbook may be essential in processing.

Lexical density related to the written mode of textbook communication can also be another significant source of problems, which is worth investigating. On the whole, technical vocabulary, for instance, is less of a problem as teachers emphasize it and pupils seem to absorb it quite readily. Of more concern are familiar words which have different meanings according to their contexts (Perera 1984).

3.2. Textbook research from the aspect of the *ideational* function of the textbook can be exemplified by the identification of topic types based on lexico-semantic categorisation rather than grammatical (Davies and Greene 1984). It has been pointed out that certain topics are consistently represented in texts with certain functions, for example description (properties, structure, and process), classification, instruction, etc. However, topic-type analysis for the evaluation of textbooks has not been systematically carried out concerning the relative distribution features across textbooks in the school curriculum.

3. 3. The *interpersonal* function in textbooks has received little attention in research despite its great importance to investigate the roles of authors and readers in interactions through language. Focusing, for instance, on the perspective of what roles textbook authors may take to create relationships with their readership, their potential roles may be summarized for use in textbook analysis in the following:

- the textbook author as a source of information, knowledge;
- the textbook author as an interactive facilitator of learning;
- the textbook author as a manager/trainer in methodology;
- the textbook author as a model of language use in various disciplines.

Each of these functions are realized in distinct linguistic forms in textbooks, the analysis and evaluation of which can contribute to the understanding of essential features of textbook characteristics and their potential influence on the readers².

The informant role, for instance, is mostly expressed through the use of declarative clauses³:

This chapter looks at eight countries – four industrial and four developing – that together account for 56 percent of the world’s population.
(ENVIR)

The interactive facilitator role is typically associated with the use of questions and personal pronouns:

First of all, how does DNA replicate faithfully? To answer that question, we need to know the overall structure of the DNA molecule as it is found in the chromosome. (AGR)

The manager/trainer role is represented by imperatives:

Consider various ways of describing the morphemic structure of sentences (LING)

The model of language role is typically realized by providing the reader with definitions:

Morphemes are the smallest elements that have meaning. (LING)

3.4. Certainly, the above roles can not be sharply separated in textbooks. The dominant role of textbook authors is that of the informant, however, authors often shift to other roles, mostly to that of the interactive facilitator. In the following, some examples are given to demonstrate a few possible language use forms and strategies authors apply to interact with their readers.

2 A more detailed description with further examples of textbook analysis can be found in Kurtán 2009

3 The sources of examples are disciplinary textbooks used in higher education (economics, agriculture, environmental studies, EU law, biology, linguistics) analyzed by the author

Authors explicitly establish the presence of their readers by addressing them directly with questions, directives, references to shared knowledge, using a wide range of linguistic forms, person and relational markers. They apply relational markers to explicitly refer to or to build relationship with the reader:

As you can see... you may be discouraged by the economics you have encountered in textbooks and newspapers... (ECON)

The first person plural pronoun seems to be frequently used even by a single author, for example, introducing or summarizing a topic, drawing in the reader:

We will have to determine... We have found... We saw that ...

The reader is seen as an equal partner:

We like a good story, and the history of genetics is a very good one. (BIOL)
We should bear in mind... (BIOL)

Authors use evaluatives, which can serve the purposes of guidance and orientation for readers, pointing out differences between more or less essential issues in the text:

A knowledge of the subject is essential...
It is important to recognize that...
Fortunately.... much more simple and straightforward... (LING)

Textbook authors express their attitude (agreement, disagreement) towards the propositional content, and emphasize force, importance or the writer's certainty in the message:

Of course, the failure to reverse in only five years trends that have been under way for decades is not surprising. Unfortunately, few governments have even begun the policy changes that will be needed to put the world on an environmentally sustainable path. (ENVIR)

Authors attempt to convince the reader about the advantages of the subject with the use of evaluatives:

The study upon which you are embarking is a fascinating one... (BIOL)

The language use forms and strategies textbook authors apply in the above examples show that authors intend to engage and bring in their audience, which has great importance since these attempts may elicit the learners' strategies for interaction and discourse interpretation in the process of reading the textbook (Kurtán 2009).

4. The interpersonal function of questions in textbooks

In the communicative interactions between authors and readers, the dialogic nature of textbooks can be studied, for example, by the investigation of questions. I have analyzed the frequency of occurrence of questions in introductory textbooks⁴ used in higher education in five disciplinary areas: economic, agriculture, environmental studies, EU law, and biology (Table 1).

DISCIPLINARY SUBJECT AREA	WORDS	QUESTIONS (WORDS)	%
Economics	73854	5298	7,2
Agriculture	19815	246	1,2
Environmental studies	3563	0	0
EU law	115768	1270	1,1
Biology	141925	4722	3,3
Total	354925	11536	3,3

Table 1 Frequency of occurrence of questions in disciplinary textbooks

The results show that there are proportional differences in the use of questions by textbook authors as interactive strategies across disciplines. The highest number of questions can be found in the textbook on economics (7, 2 %), lower numbers can be seen in the textbooks on biology (3, 3 %), agriculture (1, 2 %) and EU law (1, 1 %), while there are no questions in the text on environmental issues. As the results demonstrate, the small textbook corpus investigated (354925 words) contained questions in the proportion of 3, 3 % in unequal distribution.

In the above sources the questions occur embedded in the text or separated from the text, for instance, in the title, and they can often be seen graphically emphasized (larger size, bold letters etc.). Questions may take different positions, serving a number of functions in various structural parts of the textbooks, for instance in the title, at the beginning of chapters, paragraphs, or towards the end of certain structural parts. At the beginning of the text, for example, they can highlight a topic, challenge the reader into thinking about the topic of the text, or they may signal a change of subject:

4 Examples have been compiled based on the National Scientific Research Fund project titled 'Specific purpose translation from English into Hungarian: typical activities, features of translated LSP texts and their assessment' (2004–2008), in which the author studied discourse characteristics of English and Hungarian LSP texts, also including textbooks. Further details in Kurtán 2008

WHY READ THIS BOOK?

CHAPTER 1

What's Going On?

ON THE NATURE OF ECONOMICS

WHAT ARE WE STUDYING?

"What does it study?" Another way of approaching the same issue is to ask,

"What basic assumptions does it bring to its examination of the world?"

At the end of a structural part in the textbook questions are used to point to the future with suggestions for discussion or future research:

Where do we go from here?

Questions in the textbooks examined are of various types, typically yes-no questions, alternative questions, Wh-questions, embedded questions, and rhetorical questions. In everyday communication, when uttering a question, addressors express that they do not know something for sure, and want to get to know it from the addressees of the question.

In yes-no questions the function is usually to get epistemic information by the listener, to receive confirmation whether something is the case or not. The addressor has less information than the addressee, who is supposed to be capable of answering the question. However, in textbooks the writer does not address the question to the reader, he knows more, and does not expect the reader to be capable of answering the question. Questions are frequently asked on behalf of the reader, and the text can be regarded as the answer to the question raised. Readers are called upon to make the question asked by the textbook writers to their own question. The readers accept the necessity of answering the question, as their motivation is aroused. They will look forward to read the text because they are interested in the answer the writers provide.

Can we lift our standard of living by protecting domestic industries?

Can it really be that the universe at its most fundamental level is divided, requiring one set of laws when things are large and a different, incompatible set when things are small? (ENVIR)

Alternative questions ask the receivers of the question to make a decision between two or more alternative facts. The writers assume that the readers are aware of the problem and may be aware of the solutions. The alternative question may serve as a reminder of a specific problem. In addition, the readers are made curious because they want to know which of the alternative solutions the writers argue for.

Who can best decide how much to spend on such marketing: The owners of the exporting companies, who have their own money on the line, or government bureaucrats, betting other people's money on the outcome?

Rhetorical questions may also serve various functions, for instance to convince their readers about their claims, to attack or criticise other authors or theories:

Can anyone be considered educated today who does not understand a little about molecular biology? (BIOL)

Why should the subject seem so obscure? (ECON)

5. Research on the use of the textbook

There has been relatively little research based on observations, related to how textbooks are used in educational contexts. Therefore, we can only introduce a few examples to demonstrate some typical approaches to the investigation of linguistic and pedagogical characteristics of the use of textbooks in educational processes.

Few studies on how students use textbooks in an unsupported situation have revealed that the potential sources of difficulties exemplified above do create problems for learners (Nicholson 1984). There is also some evidence, however, that when teachers provide support for the learner readers, the difficulties of the language of textbooks can be overcome.

There have been few examples of comprehensive studies of the use of textbooks from linguistic perspectives, for instance in Australia and the United Kingdom. The Australian ERICA (Effective Reading in Content Areas) project (Morris and Stewart-Dore 1984) was developed as a program for improving high school reading in content areas. The Reading for Learning Project in the UK focussed on the informative-ideational function of the textbook, and a topic-type categorization of texts was suggested based on their information constituents (Lunzer et al 1984). Evidence that topic type analysis has great potential for raising teachers' awareness towards text characteristics has been accumulated, and teacher training programmes were based on the methodology 'DARTS' (directed activities related to text). These activities were designed with the aim to sensitize readers to the nature of texts in the textbook and to enable them to process texts in an analytical and critical way.

Horsley and Walker (2003, 2006) reported about findings of video-based classroom observations focusing on the role of teaching and learning materials and textbooks in learning. They point out that there were many differences in the way novice teachers and expert teachers used textbooks. The novice teacher, for instance, laid less emphasis on alerting students to the underlying structure of

the knowledge source, while the expert teacher was far more focused on using materials to help students understand the knowledge to be learned. The expert teacher, with greater pedagogic knowledge and experience, chose teaching and learning material which best represented disciplinary understandings and which met the learning needs of her students. From the perspectives of a sociocultural analysis of expert and novice teacher use of textbooks, it was clear that novice teachers were much less concerned with using texts to acculturate students into the academic disciplines taught. While the expert teacher used text material to provide students with essential disciplinary knowledge sources, novice teachers used texts as sources of activities and exercises for students. Novice teachers scaffolding was far more focused on the content itself. These differences in scaffolding strategies also draw our attention to the importance of language used in textbooks, and the need to sensitize teachers to language use characteristics in the textbook.

6. Summary

All teachers should be aware that readers construct the meaning they get from the textbook as a result of their interaction with it, and many factors affect this process, including language used by textbook authors. The readers are offered explicit or implicit guidelines by the authors. Depending on the role of the readers assigned by the authors, more or less guidance is provided for them. A deeper knowledge of how language is used in textbooks is of great value to teachers, learners, translators, and textbook authors themselves. This knowledge may lead to a heightened awareness of the language forms and strategies applied by authors.

There is no textbook which can be directly applied in educational contexts, fully satisfying the needs without any modifications. It is the teachers' important role to bridge the gap between the textbook, its language and the actual context of use. Therefore teachers have to use various methods and techniques of adaptation, modification, and supplementation.

The above findings, statements and examples indicate the need for large scale empirically based investigations of the functional roles textbook authors may fulfil through language and their effect on readers in textbook corpora across disciplines in a wide range of educational contexts.

Textbook sources of examples

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