

A Linguistically-Informed Assessment Model for Multidimensional Competence Building in Romanian School Writing

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Abstract

Keywords:

linguistic assessment; multidimensional school competences; Romanian Language and Communication textbooks; writing assignment; textbook corpus (ROTEX).

In education, student involvement in writing activities is crucial for enhancing their learning experience and developing multiple competences. The development of any national curriculum within Europe is based on the indispensable competences required for lifelong learning as outlined in the European Parliament's Reference Framework. In response to the changing landscape of education, the Romanian national curriculum has undergone revisions that currently prioritise a competence-based approach to teaching writing. This approach aims to equip students with the necessary skills and knowledge to effectively communicate through writing, enabling them to express their ideas and thoughts clearly and concisely. Nevertheless, it is noteworthy that there has been a lack of research conducted to assess the efficacy of the didactic resources and materials developed to facilitate these educational goals. This study uses corpus linguistics methodologies to examine the correlation between the content of textbooks used for writing tasks in primary education, secondary education, and high schools and the pedagogical skills they aim to develop. For this purpose, we have constructed a preliminary textbook corpus called ROTEX, which consists of online materials, specifically Romanian language and communication textbooks approved by the Ministry of Education. The corpus includes three datasets, one for each educational level (4th grade, 8th grade, and 12th grade). Our analysis uses writing tasks to identify linguistic and thematic complexity patterns. This approach allows us to determine the competences that are effectively enhanced at each educational level. Our conclusions are backed up by quantitative linguistic evidence, which provides valuable insights into the dominant competences fostered within the educational framework.

Zusammenfassung

Schlüsselworte:

linguistische Bewertung; multidimensionale Schülerkompetenzen; Lehrbücher für rumänische Sprache und Kommunikation; Schreibaufgabe; Lehrbuchkorpus (ROTEX)

Im Bereich der Bildung ist die Beteiligung von Schülern an schriftlichen Aktivitäten entscheidend für die Verbesserung ihrer Lernerfahrung und die Entwicklung von Mehrfachkompetenzen. Die Entwicklung jedes nationalen Lehrplans in Europa basiert auf den unverzichtbaren Kompetenzen, die für lebenslanges Lernen gemäß dem Referenzrahmen des Europäischen Parlaments erforderlich sind. Als Reaktion auf die sich verändernde Bildungslandschaft wurde der rumänische Nationalcurriculum überarbeitet, wobei ein kompetenzbasierter Ansatz für den Schreibunterricht im Vordergrund steht. Dieser Ansatz zielt darauf ab, den Schülern die notwendigen Fähigkeiten und Kenntnisse zu vermitteln, um effektiv durch Schreiben zu kommunizieren und ihre Ideen und Gedanken klar und übersichtlich auszudrücken. Es ist jedoch erwähnenswert, dass bisher nur wenige Untersuchungen durchgeführt wurden, um die Wirksamkeit der entwickelten didaktischen Ressourcen und Materialien zur Förderung dieser Bildungsziele zu bewerten. In dieser Studie werden korpuslinguistische Methoden eingesetzt, um die Korrelation zwischen dem Inhalt von Lehrbüchern, die für Schreibaufgaben in der Primar-, Sekundar- und Oberstufe verwendet werden, und den pädagogischen Fähigkeiten, die sie entwickeln sollen, zu untersuchen. Zu diesem Zweck haben wir ein Lehrbuchkorpus namens ROTEX erstellt, das aus Online-Materialien besteht, insbesondere aus rumänischen Sprach- und Kommunikationslehrbüchern, die vom Bildungsministerium genehmigt wurden. Das Korpus umfasst drei Datensätze, einen für jede Bildungsstufe (4. Klasse, 8. Klasse und 12. Klasse). Unsere Analyse verwendet Schreibaufgaben, um sprachliche und thematische Komplexitätsmuster zu identifizieren. Dieser Ansatz ermöglicht es uns, die Kompetenzen zu bestimmen, die auf jeder Bildungsstufe effektiv gefördert werden. Unsere Ergebnisse werden durch quantitative linguistische Daten gestützt, die wertvolle Einblicke in die vorherrschenden Kompetenzen innerhalb des Bildungsrahmens liefern.

1. Introduction

Without delving into the intricacies of the involved processes, it becomes evident that writing plays a fundamental role in the educational journey of school students, catalysing enhancing learning and fostering multidimensional competences. Consequently, any pedagogical approach to cultivate competences and

bolster learner autonomy must prioritise tailored strategies for improving writing skills. In the case of Romania, the formulation of national syllabi is guided by the Key Competences for Lifelong Learning delineated in the European Reference Framework developed by the European Parliament (2019). Within



this framework, the latest national school curriculum advocates for a competence-oriented methodology in teaching writing, which should ideally be reflected in the learning objectives concerning writing at the systemic level. Despite this emphasis, research in the Romanian context has yet to be conducted to evaluate the efficacy of didactic materials in aligning with these objectives.

Addressing this research gap, we aim to assess the relationship between how writing tasks have been formulated and the competences they target, manifestly centred around the connection between critical thinking and writing. We have taken a twofold approach as far as methodology is concerned; namely, we have based our endeavour on the linguistic approach, consisting of typical corpus linguistics methods – first by building a dataset, then extracting n-grams, building a verb list and assessing the relevant frequencies. This is coupled with a contrastive approach, in which the tasks themselves are confronted with the syllabus upon which they are based and Bloom's revised taxonomy of educational objectives (Anderson & Krathwohl, 2001), one of the most significant developments at the heart of much pedagogical scholarship and reform concerning the correlation between tasks and learning outcomes.

2. Background

The premise that the connection between critical thinking and writing is essential is supported by scholarly literature. Writing becomes a means towards achieving higher critical thinking skills and engaging with various discourses (Çavdar & Doe, 2012); this is made evident, particularly in connection to argumentation assignments; thus, the notion of constructing one's arguments in the classroom setting becomes pivotal (Bean & Melzer, 2021). This is impossible without the proper vocabulary, which should be carefully selected and adapted to the students' level of comprehension (Sun & Dang, 2020). Moreover, some types of writing assignments are correlated explicitly with Bloom's taxonomy of educational objectives; it might not be hazardous to claim that, as one progresses to higher levels of education, the standard for achievement should also increase by following Bloom's taxonomy, in complex areas such as analysis, synthesis and evaluation, as noted by Graves (2017).

Investigations into correlations like the one between critical thinking and writing and developing appropriate assessment models for such correlations are at the heart of the endeavours spearheaded in

Romania by the Centre for Corpus Related Digital Approaches to Humanities (CODHUS), to which this present research pertains. To address the limited utilisation of digital methods in the Humanities in Romania, researchers from the Faculty of Letters, History, and Theology at the West University of Timișoara established the CODHUS research centre in October 2019. The centre aims to bring philological research and digitalisation together by yielding immediately applicable outcomes within the interdisciplinary fields. CODHUS operates as a research centre advocating for the multidisciplinary application of digital methods in corpus linguistics (<https://codhus.projects.uvt.ro/>). Its practical orientation is evident through developing software solutions for universities and pre-university settings (such as digital teaching methods in the Humanities, translation tools, and language teaching), online resources (databases, web pages, digital guides), and training programs in digital humanities.

The strategy followed in this research (as with other endeavours conducted within CODHUS) is adapting to and from the educational environment. This adaptation facilitates the implementation of digital humanities pedagogies and encourages digital transformation in research and practical applications in the Humanities domain. While the research centre's work has mainly focused on university students, which is supported by the corpora compiled as part of larger research projects, such as ROGER (a bilingual student writing corpus) and EXPRES (a bilingual expert writing corpus), in the past two years, we have also focused on the pre-university level to understand our students' needs properly and to adapt the curriculum accordingly (e.g. see Chitez et al. 2023 for the latest project – LEMI, a literacy support tool with an automated assessment of the text's reading complexity).

3. Material and Approach

This present study ostensibly focuses on writing in the secondary school context. Thus, the material at the basis of our effort consists of three textbooks for the Romanian Language and Literature school subject for the 4th, 8th and 12th grades, respectively, which have been approved by the Romanian Ministry of Education and have been written per the objectives and expectations of the latest national syllabus, in place since 2017. From the three textbooks from each level, we have selected 105 writing tasks per grade (35 from each book), which we have compiled into a corpus dubbed ROTEX. This corpus was processed with a

query system familiar to most corpus linguists: Sketch Engine. We were mainly interested in producing an N-gram list and a verb list according to their relative frequency, which we then assigned to each of the stages in Bloom’s taxonomy of educational objectives and relating these words to the expectations enshrined in the syllabus.

4. Results and analysis

For the 4th grade, the curriculum mentions small-scale writing assignments – short descriptions, short informative, functional texts – based on lived experience or simple plans. Although several tasks are focused on oral communication, the interest in the writing component is extensive. The most frequent N-gram, “write a text/composition” (Romanian: „redactează o compunere”), has 39 occurrences and is general but implies the highest level of Bloom’s taxonomy, i.e. producing a new, original text. Additionally, 33 tasks involve writing imaginative stories. The most frequent verb, “write” (Romanian: „redactează”), has 66 occurrences related to “story”, “composition”, “message”, and “text”. Its word sketch generated with Sketch Engine (see Figure 1) also shows the intended frequent recipient (“colleague”, “child”).

Figure 1. Word sketch for "write" („a redacta”) in 4th-grade ROTEX corpus

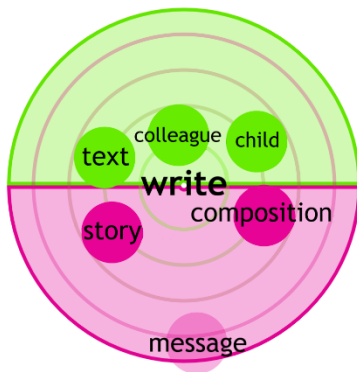


Table 1. ROTEX_4 - verbs of understanding

Understand	–	prezenta (“present”)	6
Explain ideas or concepts	–	exprima (“express”)	6
	–	ilustra (“illustrate”)	6
	–	explica (“explain”)	6
	–	relata (“report”)	6
	–	povesti (“narrate”)	6
TOTAL: 36			

The level of evaluation is represented by writing tasks that involve arguing (9 N-grams) or expressing an opinion (12 N-grams). At the same time, categories

such as analysis (6 cases) and application (12 cases) are underrepresented. The stage of understanding is more common (Table 1), with tasks also related to retrieving certain information from the given texts.

For the 8th grade, the N-gram results reveal a firm reliance on creation, which means producing new or original work in the form of “write a text” of various genres (argumentative or narrative) and application, namely using the information in new situations by respecting spelling norms and word limits, along with demonstrating the adequacy of the produced content concerning the given task. The categories of evaluation, analysis and understanding are poorly represented, with one N-gram for each, most focusing on arguing a point of view, following a logical succession and describing an occurrence, respectively.

Table 1. ROTEX_8 N-grams

Bloom’s Revised Taxonomy	ROTEX_8 N-grams	Occurrences	
Create – Produce new or original work	Scrie un text (“Write a text”)	17	
	Redactează un text (“Write a text”)	11	
	Un text argumentativ (“An argumentative essay”)	7	
	Un text narativ (“A narrative essay”)	5	
	Redactează o compunere (“Write a composition”)	7	
Evaluate – Justify a stand or decision	Punctul de vedere (“Point of view”)	6	
Analyse – Draw connections among ideas	Succesiunea logică (“Logical sequence”)	5	
Apply – Use the information in new situations	Veți avea în vedere (“You will consider”)	14	
	Să respectați normele (“Follow the guidelines”)	9	
	Conținut adecvat cerinței (“adequate content to the task”)	8	
	Normele ortografice și de punctuație (“Spelling and punctuation rules”)	6	
	Te încadrezi în limita de cuvinte (“Keep within the word limit”)	5	
Understand	–	Să prezinți o întâmplare (“Present an event”)	7
Remember	–	Recall facts or basic concepts	

In terms of verbs, the most representative also come from the area of creation, such as “write”, “imagine” or “formulate” – a total of 72 occurrences, followed by understanding, with verbs such as “present”, “express”, “integrate”, “describe”,

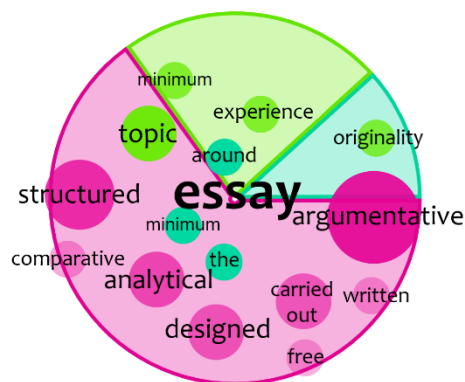
“explain” and “report” totalling 65 occurrences. A close third is represented by application, with 58 occurrences of verbs such as “adhere to”, “use”, and “conduct”. However, the distant fourth and fifth are evaluation, with 27 occurrences of verbs such as “value”, “comment upon”, “support”, and “justify”, and analysis, with only 12 occurrences of the verbs “highlight” and “relate”.

Table 2. ROTEX_8 Verbs

Bloom's Taxonomy	Revised	ROTEX_8 Verbs	Occurrences
Create – Produce new or original work		scrie (“write”)	30
		redacta (“write”)	24
		imagina (“imagine”)	11
		formula (“formulate”)	7
		TOTAL: 72	
Evaluate – Justify a stand or decision		valorifica (“value”)	8
		comenta (“comment upon”)	7
		susține (“support”)	7
		justifica (“justify”)	5
TOTAL: 27			
Analyse – Draw connections among ideas		evidenția (“highlight”)	7
		asocia (“relate”)	5
TOTAL: 12			
Apply – Use the information in new situations		respecta (“comply”)	25
		folosi (“use”)	15
		utiliza (“use”)	9
		realiza (“design”)	9
TOTAL: 58			
Understand – Explain ideas or concepts		prezenta (“present”)	25
		exprima (“express”)	12
		încadra (“frame”)	7
		integra (“integrate”)	6
		descrie (“describe”)	5
		explica (“explain”)	5
		relata (“report”)	5
TOTAL: 65			

In the case of the last investigated grade (and its corresponding textbooks), the prevalence of the three highest levels of Bloom's taxonomy is mainly explained by a correlation between the general curriculum of the 12th grade and the writing requirements present in the baccalaureate syllabus or sample tests. However, the stage of creation is often present in assignments (“write” – 18 occurrences; “design” – 14 occurrences; “formulate” – 12

occurrences), the levels of evaluation and analysis are predominant (with verbs such as “comment upon”, “argue”, “analyse”, “compare”, “motivate”). This fact is corroborated by the most frequent N-grams that highlight the most usual academic genres practised in high school: “argumentative essay” (24 occurrences), and “referat” (12 occurrences). Furthermore, the word sketch for “essay” in the 12th-grade subcorpus details the structured character of the writing assignment, which is often based on a previously provided outline or draws on references from secondary literature (Figure 2).

Figure 2. Word sketch for "essay" in 12th grade ROTEX corpus

5. Discussions

The results showcase that most N-grams and verbs target creation at the 4th (1 N-gram with 39 occurrences) and 8th level (5 N-grams with 47 occurrences; 4 verbs with 72 occurrences), which is the highest end of Bloom's taxonomy; one cannot but wonder whether this reliance on creation might be too excessive, particularly given the students' study level. Moreover, other N-grams and verbs showcase an imbalance: while verbs imply understanding, N-grams focus on application; this imbalance is also seen in the disregard for analysis (1 verb with 6 occurrences for the 4th grade; 2 verbs with 2 occurrences + 1 N-gram with 5 occurrences for the 8th grade) and evaluation (12 cases for the 4th grade; 4 verbs with 27 occurrences + 1 N-gram with 6 occurrences). Although the higher level of the writing tasks is partly justified in the case of the 12th grade, there is a lack of consistency in the design of the textbooks. Some textbooks are very theoretical, with writing tasks that require extensive synthesis and neglect the stages of understanding and application (e.g., Corint Publishing House). Other textbooks are more balanced and focus more on student's individual work (e.g. Niculescu publishing house). Thus, there is a need for correlating the verbs and phrases used in the task formulation, on the one hand, and to underscore the connection between the

current school and examination curricula, on the other hand. Indeed, most of the verbs scrutinised are not part of the N-grams, which focus more on the genre than on the actions expected from students. Yet, one does have to acknowledge that these findings may only be supported by a more extensive study, which would involve the entire secondary education level.

6. Conclusions

Our paper closes with a series of open questions. Through the case study on the 4th, 8th and 12th-grade textbooks, Romanian school writing indicates a need for systematic investigations of the written tasks students receive and their adaptation to the curriculum-required competences, the study level as far as age-specific cognitive skills are concerned, and a preoccupation with multidimensional competence building but this seems to be poorly implemented in practice since it lacks systematic task complexity growth, structured content (e.g. written genre analysis and description followed by written task) and linguistic complexity didactic verifications.

A series of pivotal questions remain to be answered by future studies:

- Is the linguistic profile of writing task assignments clear and adapted for complexity level so that students can address the writing task efficiently?
- Is the linguistic profile of writing task assignments correlated with the complexity of reading texts (i.e., readability indices)?
- Do students have problems understanding their writing tasks and conducting writing activities due to the reading and writing requirements that are too complex and exceed their level of cognitive development?

Further research would also enable universities to adjust their own curricula: at least in the field of humanities, the prescriptive pre-university writing pedagogies (see Tucan et al. 2020; Crașovan & Rogobete, 2020), although extensively focused on original, consistent writing tasks, determine stereotypical phrasing in literary text analysis or argumentative writing.

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