

The Relationship between Native and Foreign Language Speaking Proficiency in University Students

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Background: There are many factors that affect the development of speaking in a foreign language. Drawing on the theories that state that competencies established in a native language will transfer across foreign languages, this study examines whether there is a relationship between native and foreign language speaking proficiency.

Purpose: Although literature research indicates that native and foreign language acquisition processes are interrelated, there is a lack of studies comparing proficiency levels of native and foreign language speaking skills in adult learners. The purpose of this study was to examine the relationship between speaking competences in English as a Foreign Language and Czech as a Native Language in university students.

Methods: A between-group design was used to compare two groups of fifty university students at two different levels of their speaking proficiency in English. Both groups were tested in speaking in Czech. Each test was assessed by an analytical rating scale examining four speaking sub-skills: accuracy, discourse, content and paralinguistics. The scores were analyzed using the F-Test for Equality of Variances and T-Test for the Differences between the Means.

Findings: The results showed that the group with the lower level of speaking proficiency in English achieved significantly worse scores for their speaking sub-skills in Czech than the group with the higher level of speaking proficiency in English.

Implications: The study offers another piece of empirical evidence in support of the theories that state that competencies established in a native language will transfer across foreign languages and suggests the importance of the development of native language competence with regard to later proficiency in a foreign language.

Keywords: language learning, speaking skill, communicative competence, assessment of speaking, Czech as a Native Language (NL), English as a Foreign Language (FL), adult language learner

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INTRODUCTION

Over the last decades native language (NL/L1) and foreign language (FL/L2) learning and teaching has been predominantly affected by the integrated approach to the development of four language skills: listening, speaking, reading and writing. Most teachers and students would agree that one of the most difficult skills for students to master is speaking

(Darancik, 2018; Abugohar et al., 2019; Hruby & Stankova, 2020). One of the reasons is that despite the declared emphasis on language skills development, learners of English as a Foreign Language (EFL) in countries where English is not widely spoken outside the classroom, such as in the Czech Republic, might still build substantial knowledge about the language through study of its grammar and vocabulary, but have difficulty in de-

veloping oral proficiency because they lack exposure to the language and experience in using it (Abbaspour, 2016).

Apart from the opportunity to speak, there are many other factors related to the learner that affect the development of speaking in a foreign language, such as personality, language aptitude, learning style, strategies, motivation, metacognition, autonomy, and, last but not least, the effect of an NL/L1. Among others, Ellis (2015) examined several studies on language and skills transfer and concluded that:

The effects of L1 transfer on L2 learning are extensive, varied and persistent. They are also illuminative of the cognitive processes involved in L2 use and acquisition: no theory of L2 use or acquisition can be complete without an account of L1 transfer. (Ellis 2015, p. 154).

Among numerous suggestions for further research, Ellis suggested focusing on the general relationship between L1 and L2 proficiency. In an effort to address the need, this study examines the relationship between speaking competences in an NL and FL. The aim is to find out whether there is empirical evidence of the relationship between speaking proficiency levels in Czech as a Native Language (CNL/L1) and English as a Foreign Language (EFL/L2) in university students.

The theoretical framework of this study is centered on theories stating that competencies established in a native language will transfer across languages. They stem from the Common Underlying Proficiency Model (CUP), in which the aspects of a bilingual's proficiency in L1 and L2 are seen as common or interdependent across languages (Cummins, 1981), and the linguistic interdependence hypothesis which states that in bilingual development, language and literacy skills can be transferred from one language to another (Cummins, 1986).

Objective of the Research

The research objective aimed to find out whether there was a significant relationship between the students' levels of EFL and CNL speaking skills at the Functional level after 11-12 years of their compulsory English language study and 13 years of their Czech language study. Although the scientific literature provides corroborative evidence on various aspects of the interaction between FL and NL acquisition, we did not dare to predict that such a relationship exists in adults, especially when their NL was tested at the Functional level. We believed that students were supposed to master their NL at the Functional level, which does not require high cognitively demanding tasks, during their primary and secondary education. Therefore, we assumed that there was no significant relationship between the levels of students'

speaking skills in EFL and CNL. Therefore, the hypothesis was formulated as follows: 'There is no difference between G1 and G2 in the means of the scores for speaking skills in Czech.'

The objective was achieved by comparing the scores for speaking skills in CNL between two groups of students at the University of Defence in Brno, the Czech Republic. Group 1 (G1) consisted of students who had achieved Level 1 in speaking in English, and Group 2 (G2) had achieved Level 2 in speaking in English. Students' speaking skills in English had been tested prior to the research by the NATO STANAG 6001 Examination¹ during the students' first or second year of study

The following section presents pertinent concepts related to the variables used in the research, and the account of studies that examine various aspects of language acquisition with respect to the interaction between native and foreign languages. Then the background for the study is briefly explained, followed by the sections introducing the research, its findings and their implications.

LITERATURE REVIEW

Communicative Competence in Speaking

The purpose of this sub-section is to introduce the nature of speaking and concepts related to its assessment on which our variables depend.

One of the frequently cited definitions of *speaking* states that 'speaking is an interactive process of meaning that involves producing, receiving and processing information' (Burns & Joyce, 1997). We distinguish between two modes of speaking - *presentation* and *communication*. The presentation mode allows students to plan and rehearse what they will say until they are satisfied with the final product, whereas communication in the sense of face-to-face speaking allows speakers to get immediate feedback and adjust further communication to it. Communication is interactive, where the main feature is turn-taking, and it happens in real time, which implies that the production of speech in real time imposes pressures, but also allows freedoms in terms of compensating for these difficulties. The use of formulaic expressions, hesitation devices, self-correction, rephrasing and repetition can help speakers become more fluent and cope with real time demands (Hughes, 2002). The purpose of our research is to compare speaking proficiency in CNL and EFL through communication simulations of real-life situations.

In modern linguistics, Chomsky (1965, p. 4) introduced the terms *competence* and *performance*. In his view, competence

¹ BILC (2021). <http://www.natobilc.org/en>

is the speaker-hearer knowledge of the language, and performance is the actual use of the language in concrete situations. Since Chomsky's definition of *competence* was considered simplistic by many linguists, Hymes (1966) elaborated on it and coined the term *communicative competence* that included communicative form and function in integral relation to each other. The concept was broadened by Canale & Swain (1980), the proponents of communicative approach to second language teaching and testing, who argued that the ability to communicate requires four sub-competencies:

- grammatical (ability to create grammatically correct utterances),
- sociolinguistic (ability to produce sociolinguistically appropriate utterances),
- discourse (ability to produce coherent and cohesive utterances), and
- strategic (ability to solve communication problems as they arise).

Similarly, The Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001) defines *communicative language competence* as 'knowledge of, and ability to use, the formal resources from which well-formed, meaningful messages may be assembled and formulated' (p. 118). It comprises several components:

- linguistic (lexical, grammatical, phonological, semantic, orthographic and orthoepic competencies),
- sociolinguistic (rules of politeness, norms governing relations between generations, sexes, classes and social groups, linguistic codification of certain fundamental rituals in the functioning of a community), and
- pragmatic (it concerns the mastery of discourse, cohesion and coherence, the identification of text types and forms, irony and parody).

Communicative competence manifests itself in a number of different genres (narrative, identifying, comment-elaboration, debate and argument, decision-making and negotiating outcomes), informal and formal with varying functions (Carther & McCarthy, 1997). The development of communicative competence is closely related to *linguistic literacy*, defined by Ravid & Tolchinsky (2002, p. 420) as 'gaining control over a larger and more flexible linguistic repertoire and simultaneously becoming more aware of one's own spoken and written language systems'. Berman (2016) addresses the topic of developing linguistic literacy from the perspective of 'later language development'. She states that linguistic literacy involves the ability to use language in different discursive contexts and for varied functions by appropriate deployment of three interrelated facets of language use: genre, register and stance. The results of her research suggest that the spoken language of well-educated literate adults demonstrates the impact with their familiarity with written discourse. The view that the two modes of verbaliza-

tion are intertwined is in line with our experience in teaching EFL at the University of Defence, where speaking and writing present considerable challenge (Hruby & Stankova, 2019, 2020).

In terms of developing speaking sub-skills, Abbaspour (2016) emphasizes two inseparable aspects – fluency and accuracy, in addition to cognitive, linguistic, affective, sociolinguistic factors and factors of speaking effectiveness, grammar, discourse, strategy and interaction that influence the speaking of learners. Although different scholars give various definitions for the terms, in general, accuracy refers to the ability to produce correct sentences (not only grammatically but also with the emphasis on vocabulary, intonation and register), while fluency refers to smoothness, rate of speech, absence of excessive pausing, absence of disturbing hesitation markers, length of utterances and connectedness. Both accuracy and fluency concern the ability to communicate ideas effectively and the ability to produce continuous speech without causing comprehension difficulties or a breakdown of communication. Therefore, they belong to commonly assessed sub-skills in speaking.

Dimensions of Proficiency

Due to its complexity, speaking proficiency is difficult to assess. Cummins (1984) suggested two dimensions of proficiency, contextualized (conversational fluency) and decontextualized (used in academic situations), that relate in specific ways to determinants of the acquisition process, namely, attribute-based and input-based aspects. Attribute-based aspects of proficiency refer to those dimensions of proficiency whose acquisition is strongly influenced by relatively stable attributes of the individual learner, for example, cognitive and personality variables. On the other hand, input-based aspects are considerably less related to stable attributes of the individual than they are to the quality and quantity of input received from the environment. In support of developing language proficiency within contextualized and decontextualized dimensions, Cummings (1984) differentiates between cognitively demanding and undemanding tasks. From our perspective, the dimensions of proficiency and proposed language tasks might be considered as one of the theoretical bases for the development and assessment of current language proficiency. They manifest themselves, for example, in the descriptors of the sources for standardized language assessment we used for creating the instrument for measuring speaking proficiency in Czech, as explained below.

Three decades later, language proficiency of native and nonnative speakers was thoroughly investigated by Hulstijn (2015). He claimed, similarly to Cummings (1984), that language proficiency can be seen as consisting of Basic Language Cognition (BLC) and Higher Language Cognition (HLC), where BLC is the language cognition that all native speakers have in common and HLC is the domain where

differences between native speakers can be observed. In contrast to Cummings (1984), who was preoccupied with literacy skills, Hulstijn restricted BLC to speech reception and speech production. One of the questions Hulstijn (2015, p. 154) raised was whether BLC comes close to the B1 level descriptions of the CEFR activities, even though the CEFR had been proposed for L2 learners and not for L1 users. Since our study examines CNL at the B1 level, we believe that we can offer a contribution related to this question.

Rating Scales

From a practical point of view, the criteria used to assess speaking can range from global assessments to detailed analytical scales. According to Luoma (2004), the developers of speaking assessment must have a clear understanding of what speaking is like and then define the kind of speaking they want to test in a particular context; after that, they develop appropriate tasks and rating criteria that test this. Moreover, they have to inform the examinees about what they test, and make sure that the testing processes follow the stated plans. Luoma (2004) presents samples of speaking tasks and scales for their assessment, and provides an excellent theoretical background and practical guidance for developing them. Astorga-Cabezas (2015) summarizes the opinions on holistic scoring, which stems from the overall impression of speaking, and is rapid because it benefits from the experience of interlocutors (Luoma, 2004; Goh & Burns, 2012). Analytic scoring contains a certain number of criteria, called competencies or sub-skills, usually 3-5, each of which has descriptors at the different levels of the scale (Luoma, 2004; Jones, 1996; Hughes, 1989). Teachers or testers can choose either a holistic or analytic approach to assessing speaking, or they can combine them, depending on the circumstances and institutional constraints. In our research, we opt for the analytic approach to assess speaking skills in Czech, since we consider it more objective.

The development of our speaking tasks and rating scale was guided by the intention of assessing the same speaking sub-skills in CNL as those being assessed in EFL by the standardized examination according to NATO STANAG 6001. Therefore, we introduce here the NATO STANDARD A TrainP-5 document as the main source on which our assessment instrument is based; and the CEFR for referring NATO STANAG 6001 proficiency levels to an internationally acknowledged civilian standard.

In NATO member countries, the guidelines for language curriculum, test development and for recording and reporting Standardized Language Profiles (SLPs) of military and civilian personnel are provided by *The Bureau for International Language Coordination (BILC)*. The SLPs of personnel are assessed in the NATO STANAG 6001 Examination, whose purpose is to evaluate the language competence that a candidate brings to real life in the specific and exactly defined context of the future (Shohamy, 2000). The tests of language

competence aim to assess language competence regardless of the way, content and length of language study, and they are based especially on the specification of what candidates should be able to express in the language. The descriptors of the main language skills (listening, speaking, reading, and writing) for six language proficiency levels coded 0-5 (No proficiency, Survival, Functional, Professional, Expert and Highly-articulate native) are published in NATO STANDARD A TrainP-5. Our research focuses on the Survival and Functional levels, whose descriptors are presented in Appendix A.

The Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR) (Council of Europe, 2001) is a guideline used to describe achievements of learners of foreign languages across Europe and, increasingly, in other countries. It discusses various purposes of assessment, different approaches to the assessment process, and offers illustrative descriptors of language ability, including some for speaking. Descriptors can be used as a basis to create test-specific criteria. The development of our rating scale was influenced by the Analytic descriptors for spoken language (Council of Europe, 2001, pp. 28-29). Like most CEFR scales, it provides descriptors for six proficiency levels (Basic: A1 and A2; Independent: B1 and B2; Proficient: C1 and C2) of five linguistic features: range, accuracy, fluency, interaction and coherence.

Although the assessment of communicative competence in a foreign language has received enormous attention, there is a lack of research studies on the assessment of communicative competence in a native language, especially in adolescents and adults (Hulstijn, 2015). The reason is obvious. Apart from assessing native language competence at schools, there is no need to assess it in most professional careers, contrary to that in a foreign language. In our opinion, the rating scales to assess an NL and an FL should differ, depending on what we want to measure. Our assumption is supported by Cummins (1981), who states that:

Native speakers achieve mastery levels in some sub-skills prior to others. For example, within grammatical competence, virtually all native speakers master pronunciation before spelling. Similarly, some aspects of sociolinguistic, discourse and strategic competence will be mastered at an early age, and others will be mastered much later, if at all. (Cummins, 1981, p. 21).

Therefore, we also considered the scale developed to measure Czech speaking skills in the Czech secondary school leaving examination, called the Maturita Examination, which was available on the Ministry of Education website until 2019. It provided scaled descriptors of four competencies – content, lexical, grammatical and phonological competencies – for four grades (1, 2, 3, 4). However, in 2020, the oral part of the Maturita Examination was subjected to changes and the rating criteria for oral performance were altered.

Now, only three competencies are assessed: performance in accordance with language standards and the principles of language culture; structure and fluency; and argumentative competence – for five grades (1, 2, 3, 4, 5)². The concept of this classification influenced the development of our scale designed to measure speaking skills in Czech.

In summary, this literature research presents various aspects of the assessment of speaking proficiency in native and foreign languages with the aim to justify the selection of the evaluation instruments we used in our research. As explained below, CNL was assessed by an analytical rating scale testing four speaking sub-skills: accuracy, discourse, content and paralinguistics, created by the authors of this article. EFL had been assessed by the NATO STANAG 6001 Examination prior to our research. Both languages were tested at the Functional level and the candidates were assigned similar speaking tasks.

Relationship between a Native and Foreign Language

The following studies examine various aspects of language acquisition with respect to the interaction between native and foreign languages. They provide theoretical background for our research aim to compare speaking proficiency between an NL and an FL in adult FL learners.

The relationship between the acquisition of L1 and L2 in bilingual children was thoroughly studied by Cummins (1979, 1981, 1991). His developmental 'interdependence hypothesis' proposed that 'the level of L2 competence a bilingual child attains is partially a function of the type of competence the child has developed in L1 at the time when intensive exposure to L2 begins' (Cummins, 1979, p. 233). Based on empirical evidence presented by numerous studies, he designed the Common Underlying Proficiency Model (CUP) in which the literacy-related aspects of bilingual proficiency in L1 and L2 are seen as common or interdependent across languages (Cummins, 1981). CUP refers to the interdependence of concepts, skills and linguistic knowledge found in a central processing system. Cummins (1984) states that cognitive and literacy skills established in L1 will transfer across languages.

Although the interdependence hypothesis and CUP were formulated in the context of bilingualism, which is different from learning ESF in the Czech Republic, we believe that their relevance extends beyond the submersion or immersion learning situations, and thus we can adopt them as a theoretical base for our research.

Cummins also examined several studies of adult L2 learners concerning correlations between L1 and L2 reading scores

and writing performance, and found enough evidence in support of the interdependence hypothesis. He emphasized that writing expertise is common across languages, but for effective writing performance in an L2 both expertise and specific knowledge of the L2 are required (Cummins, 1991, p. 83).

The most valuable studies related to our research are the studies aimed at identifying difficulties in FL learning related to problems with developing language skills in an NL in high school students. For example, Ganschow, Sparks & Javorsky (1998) conducted research which showed that high school students who achieved higher grades in an FL had significantly stronger NL and FL aptitude skills, which refer to the potential that a person has for learning languages, than students who achieved lower grades in an FL. They found out that most poor FL learners have overt or subtle problems with the phonological/orthographic and syntactic components of language, that their problems are likely to be a consequence of successful or unsuccessful FL learning, and that poor learners might benefit from direct and explicit instruction.

In addition to that, Sparks, Patton, Ganschow & Humbach (2009) provided evidence for a long-term cross-linguistic transfer of NL to FL skills. High school students classified as FL learners with high, average and low proficiency were compared on their NL achievement measures of reading, spelling, vocabulary, phonological awareness and listening comprehension administered in the first, second, third and fifth grades. An aptitude measure was administered in the ninth grade, as well as decoding and spelling of FL words. High-proficiency FL learners exhibited stronger NL skills and FL aptitude than average and low-proficiency FL learners. The results showed that the differences in NL skills had emerged early in elementary school and were related to FL proficiency and achievement several years later in high school.

Recent research on the interaction between NL and FL competencies has been focusing on literacy skills, reading and writing (Kecskes & Papp, 2000; Alkhateeb, 2018; Wei, 2020; Kim & Pae, 2021). For example, Kecskes & Papp (2000) examined positive consequences of learning an FL on the use of NL. Based on their experimental study on writing, they argue that language transfer contains not only forms and structures, as confirmed by previous studies, but also functions and knowledge. From their perspective, multi-lingual development is a dynamic and cumulative process characterized by transfer of different nature and results in a common underlying conceptual base with two or more language channels that constantly interact with each other. Their perspective is in line with the theoretical framework of this study.

² Kriteria hodnocení ustní zkoušky [Criteria for the Assessment of the Oral Exam]. Appendix 3. (2020). https://maturita.cermat.cz/files/files/maturita/KRITERIA-HODNOCENI/2020/prilohy_sdeleni_kriteria_hodnoceni_dle_135.pdf

So far, most current empirical studies regarding speaking have limited themselves to investigating the relationship between L1 and L2 fluency. For example, Derwing et al. (2009), who studied L1 fluency in Russian- and Ukrainian- and Mandarin-speaking adult immigrants to Canada, indicated a relationship between L1 and L2 in the initial stages of exposure to L2, although this relationship was found to be stronger in Slavic than in Mandarin learners. Duran-Karaoz & Tavakoli (2020), who investigated fluency behavior and L2 proficiency in Turkish English learners, concluded that L1 fluency contributed significantly to models that predicted pausing behavior and mid-clause pauses, while L2 proficiency scores predicted L2 speech rate and L2 repair. In our research, fluency is included in paralinguistics that contributes to the overall score for speaking ability in Czech.

The latest study on L1 and L2 speaking proficiency among college students was conducted by Botezatu et al. (2021), and focused on L1 and L2 proficiency from the perspectives of external and internal learner factors influencing language acquisition. The research team concluded that with respect to external learner factors, more frequent L2 exposure predicted higher L2 and L1 proficiency, while earlier L2 exposure predicted higher L2 proficiency, but poorer L1 maintenance. When considering internal factors of the learner, it was found that the levels of L1 and L2 proficiency were highly correlated and that better working memory accounted for additional variance in the L2 and L1 proficiency, while more frequent exposure to L2 was associated with better cognitive control. We believe that searching for factors influencing L1 and L2 acquisition is of paramount importance and that our research examining the relationship between NL and FL speaking proficiency contributes to this quest.

In addition to investigating transfer in L1 and L2 competencies, there are numerous recent case studies on cross-linguistic influence, the influence that knowledge of one language has on an individual's learning or use of another language (Jarvis & Pavlenko, 2008), focusing mainly on lexical, morphological, grammatical, semantic and syntactic transfer (Paquot, 2017; Orcasitas-Vicandi, 2019; Kaushanskaya & Smith, 2016; Yager & Gullberg, 2020; Yuan, 2010; respectively). Moreover, renewed attention has been paid to cross-linguistic influence from the psycholinguistic perspective (Dörnyei, 2005; Levy, McVeigh, Marful, & Anderson, 2007; Slabakova, 2017; Westergaard, Mitrofanova, Mykhaylyk, & Rodina, 2017; Sherwood Smith, 2020).

Although literature research shows that there is a large body of studies indicating the interrelationship between native and foreign languages in various aspects of language acquisition, studies comparing proficiency levels in native and foreign language speaking skills in adult learners are scarce; therefore, we have decided to examine the relationship between proficiency levels of speaking skills in CNL and EFL.

BACKGROUND FOR THE STUDY

At the University of Defence, where the research was conducted, foreign language training and testing is provided by the Language Centre. Military students, the subjects of this research, are obliged to reach at least the Functional level in EFL in all four language skills, expressed as SLP 2222 (for listening, speaking, reading and writing skills respectively), by the end of their sixth semester, and should achieve at least two threes in the SLP sequence by the end of their tenth semester. Compared to CEFR, SLP 2222 corresponds to B1, and two threes in the SLP sequence are close to B2.

Although the requirements do not seem to be very challenging, considering the fact that the expected output level of English in secondary school graduates corresponds to B2 at Grammar Schools and B1 at Secondary Specialized Schools according to the CEFR, not all students of the University of Defence meet them. The consequences are serious: if the students do not achieve SLP 2222 by the end of the fifth semester, they have to leave the University of Defence. This causes unwanted losses in the Czech military, since the students are already well-trained military professionals who might have reasonable prospects of becoming experts in their field of study. Such concerns led the University of Defence managers and educators to regular monitoring and evaluating student academic results (Cechova, Neubauer, & Sedlacik, 2019) with the aim of introducing effective measures to eliminate their failures (Hruby & Stankova, 2019, 2020).

Within monitoring the students' level of SLP, regular internal statistical evaluations conducted after each semester show that the students at the University of Defence experience more difficulties in achieving an appropriate SLP in productive skills - writing and speaking than in receptive skills - reading and listening (Hruby & Stankova, 2020). Therefore, educators from the University of Defence currently examine factors that might hinder the development of productive English language skills. Based on the research in the literature and our observation in classes, we suppose that among many factors, the level of proficiency of students in Czech speaking skills could play an important role. This assumption is supported by the students themselves, as sometimes some students at lower proficiency levels in the English language complain that they would not be able to perform some tasks or discuss some topics even in Czech. To investigate their claim, we decided to compare the levels of their speaking skills in EFL and CNL.

MATERIALS AND METHODS

The research was conducted in the years 2018–2020. To accomplish the research objectives, an empirical study em-

playing quantitative research methods was designed. The selection of appropriate methods was made from reference books on research in language learning and teaching (Brown, 2004; Mackey & Gass; 2008; Nuan, 2008).

Research Design

The research objective was addressed by using a between-group design (Mackey & Gass, 2008). Two groups of fifty participants with a different level of proficiency in speaking in English were tested in speaking Czech. Each exam was recorded, using a voice recorder, and the speaking skill was assessed by the authors of the article. The assessment was based on the analytical rating scale employing four speaking sub-skills: accuracy, discourse, content and paralinguistics. The scale was pretested and its validity and reliability were ensured by implementing recommendations stated by Luoma (2004). Each score assigned was the result of the consensus of two examiners, as is common practice in NATO STANAG 6001 testing. The scores were analyzed using inferential statistics with the aim of comparing speaking skills in Czech between both groups.

Participants

The research sample consisted of 100 Czech students attending the Faculty of Military Leadership or the Faculty of Military Technology at the University of Defence, the Czech Republic. In the years 2018–2020, when involved in the investigation, they were in their first or second year of study, 20-24 years old, and they had been learning EFL at primary and secondary schools for 11-12 years. Their level of speaking proficiency had been assessed using the NATO STANAG 6001 Examination by a two-level test, aiming to achieve SLP 1–2, during their first year of study at the university. They had been acquiring the Czech language for their whole life and had studied it at primary and secondary schools for 13 years. They were chosen at random as volunteers and they gave their express consent to participate in the research.

To obtain data to compare their Czech speaking proficiency, G1 and G2 were formed according to the level of participation in their speaking skills in English. G1 included fifty students who had reached SLP 1 (Survival level) in speaking English, which corresponds to level A1 according to CEFR.

G2 was comprised of 50 students who had obtained SLP 2 (Functional level) in speaking English, which corresponds to level B1 according to CEFR. However, we must bear in mind that the real level of participants in G2 might have been even higher, since at the time of the research, some of them had had the opportunity to undergo only a two-level NATO STANAG 6001 Examination aimed at SLP 1-2. The descriptors for both levels are stated in Appendix A and the characteristics of both groups are shown in Table 1.

The first three lines in Table 1 present three independent variables set for each group: the level of their speaking skills in English and the duration of their study of the English and Czech language. The proportion of men and women reflects the representation of male and female military students at the University of Defence.

Rating Scale and Speaking Tasks

The rating scale has been developed with respect to the assessment of speaking skills in NATO STANAG 6001 Examination at the Functional level (see Appendix A). Apart from using the descriptors for SLP 2 stated in NATO STANDARD A TrainP-5, its development has also been influenced by the descriptors for levels B1 and B2 according to CEFR, and the classification was inspired by the rating scale used to assess oral performance in Czech in the Maturita Examination, as explained in the introduction section. As shown in Table 2, we selected four commonly rated sub-skills – accuracy, discourse, content and paralinguistics, and specified what a candidate can do using the descriptors for the Functional level. The representation of each sub-skill in the overall assessment is expressed by the maximum score (Max.).

Each sub-skill was rated by three grades:

- Excellent (only occasional errors): 21–30 points for sub-skills 1–3 and 7–10 points for sub-skill 4.
- Good (some errors): 11–20 points for sub-skills 1–3 and 4–6 points for sub-skill 4.
- Insufficient (frequent errors): 1–10 points for sub-skills 1–3 and 1–3 points for sub-skill 4.

The speaking tasks were factually oriented and included description, narration, instruction and comparison. The topics

Table 1
Characteristics of the Research Sample

Characteristics	Group 1 (n = 50)	Group 2 (n = 50)
SLP in speaking E	1	2
EL study	11-12 years	11-12 years
CL study	13 years	13 years
Men	38 (76%)	42 (84%)
Women	12 (24%)	8 (16%)

Table 2

Rating Scale for Assessing Speaking Skill in Czech

Sub-skill	Detail	Max.
1 Accuracy	Can use the appropriate vocabulary, grammar and pronunciation correctly.	30
2 Discourse	Can combine and link sentences into paragraph-length discourse correctly. Can organize ideas in a logical way.	30
3 Content	Can deal with the topic, produces an appropriate amount and quality of content. Is creative in imitating the assigned real-life situations.	30
4 Paralinguistics	Can maintain appropriate volume, tempo, melody, pauses, articulation, Fluency and flow of interaction.	10
Total		100

Note. Max. = maximum score for each sub-skill.

corresponded to the themes stated in the descriptors for the Functional level (Appendix A). The exam consisted of four parts similar to those used in the NATO STANAG 6001 Examination: a conversation based on the background of the participant (family, study, hobbies, etc.), a role-play, an information gathering task and a short impromptu speech (e.g., my hometown, my favorite book/movie, and my best friend).

Data Analysis

The scores assigned for the Czech-speaking sub-skills of the students were gathered and processed as dependent variables. Microsoft Excel³ was used for data collection, analysis, and graphical presentation. The level of probability for all tests, the alpha level, was set at $*p < .05$ that is commonly used in educational research (Brown, 2004).

The hypothesis was formulated as follows: H: 'There is no difference between G1 and G2 in the means of scores for speaking skills in Czech.' To test it, it was necessary to carry out two statistical tests to compare the data sets of all variables – accuracy, discourse, content, paralinguistics and the total – between G1 and G2.

F-Test for Equality of Variances

First, the F-Test was utilized to determine the equality or inequality of variances at $*p < .05$ for the scores of individual sub-skills and the total between G1 and G2. Its results allowed us to select an appropriate unpaired T-Test with equal or unequal variances for testing each variable.

T-Test for the Differences between the Means

The T-Test determined the significance of the differences between the means of the variables of G1 and G2. The null

hypothesis for was formulated: H_0 : 'The means of the scores for speaking skills in Czech between G1 and G2 are equal.'

$$H_0: \mu_1 = \mu_2$$

$$H_A: \mu_1 \neq \mu_2$$

where

H_0 = null hypothesis,

H_A = alternative hypothesis,

μ_1 = the mean of a variable in G1,

μ_2 = the mean of a variable in G2.

The null hypothesis was tested by an appropriate T-Test with equal or unequal variances. Finally, the total scores of the individuals of both groups were plotted on a graph to illustrate the differences between the groups.

RESULTS

The objective of the study was to compare the subjects' speaking skills in CNL between G1 and G2 through measuring four sub-skills, accuracy, discourse, content and paralinguistics. The scores achieved for the sub-skills were totaled and are presented in Appendix B.

Significance of the Differences between G1 and G2 in Scores for Four Sub-skills and the Total

First, the F-Test was utilized to determine the equality or inequality of variances at $*p < .05$ for the scores for individual sub-skills and the total. It calculated the means for

³ <http://www.excelfunctions.net>

both groups, μ_1 and μ_2 , and the p-values, p (F-Test). Table 3 shows that the p-values for the two batches for accuracy, discourse, content, and total are higher than 0.05, which means that their variances are equal, and the suitable test for these variables is the T-Test with equal variances. In the case of the two batches for paralinguistic, the appropriate test is the T-Test with unequal variances.

The T-Test was expected to determine the significance of the differences between the means, μ_1 and μ_2 , between the groups. The results presented in Table 3 show that all the p-values calculated by the T-Test are smaller than 0.05. In addition to that, all the computed t-values, the absolute t-Stat values, are greater than the critical t-values (t-Crit), which allows us to reject the null hypothesis and conclude that there is enough evidence that there are significant differences between the groups in all the rated sub-skills and the total score at $*p < .05$.

The results demonstrate that students in G1 achieved significantly worse scores for all the rated sub-skills and the total for speaking in CNL than students in G2. Therefore, the null hypothesis (H_0 : 'The means of the scores for speaking skills in Czech between G1 and G2 are equal.') was rejected and the alternative hypothesis (H_A) was supported. The computed t-values allow us to order the differences in the scores for sub-skills between groups according to their significance: content, discourse, accuracy and paralinguistics. The order shows that the most significant difference between groups lies in delivering appropriate content.

Visual Comparison of Total Scores between G1 and G2

For visual comparison of the Czech speaking skills of the students between G1 and G2, the total scores of all the students in both groups have been sorted from the worst to the best results and plotted on the graph in Figure 1. The horizontal axis represents the order of the students in both groups, and the vertical axis shows the percentage of scores for the student's speaking skills in Czech.

The graph illustrates that the group with the lower level of speaking proficiency in English (G1) achieved worse scores for their speaking skills in Czech, compared to the group with the higher level of speaking proficiency in English (G2). The visual representation allows us to notice the exceptions in both groups, which are discussed in the following section.

To sum it up, the results did not confirm the hypothesis we formulated within our research objective H: 'There is no difference between G1 and G2 in the means of the scores for speaking skills in Czech.' Students in G1 achieved significantly worse scores for all rated sub-skills and the total in speaking in CNL than students in G2.

DISCUSSION

The results have revealed that there is a significant difference between G1 and G2 in terms of the means of scores for all rated speaking sub-skills and the total in CNL. As we explained, the hypothesis had been formulated on the basis of non-existent convincing evidence of a close relationship between NL and FL speaking proficiency tested at the Functional level, although we admitted that we had expected that a difference could be identified. What surprised us most was the high degree of significance of the relationship between the levels of proficiency in Czech and English speaking. Therefore, we believe that our study has offered a convincing piece of empirical evidence that supports the importance of understanding the impact of NL proficiency has on FL acquisition even in adulthood.

From a theoretical perspective, the outcome of our study supports Cummins' (1981) Common Underlying Proficiency Model (CUP) referring to the interdependence of concepts, skills and linguistic knowledge found in a central processing system, and his finding that cognitive and literacy skills established in a native language will transfer across languages. In addition to that, we believe that the results of our assessment of CNL speaking skills at the level close to B1, according to the CEFR, might contribute to the quest for a common core for language proficiency in native speakers, or Basic Language Cognition (BLC), introduced by Hulstijn (2015). As

Table 3

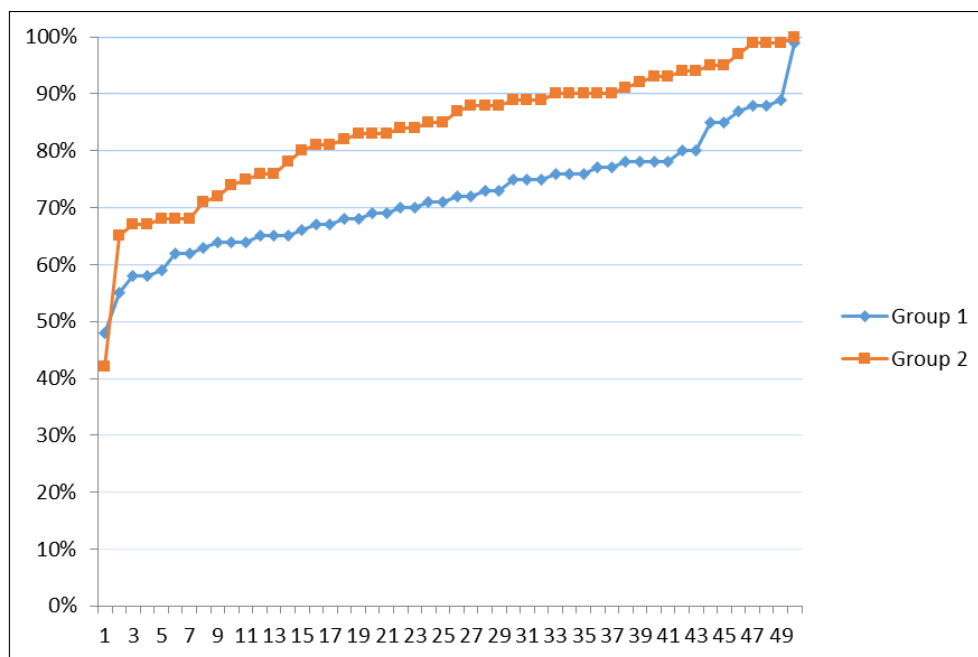
Results of the F-Test and T-Test performed on the Rated Scores for Speaking Sub-skills in Czech for G1 and G2

Variables	μ_1	μ_2	p (F-Test)	p (T-Test)	t-Stat	t-Crit
Accuracy	20.96	23.92	0.240178	9.95872E-05	-4.057911558	1.984467
Discourse	22.10	25.64	0.156579	5.98207E-07	-5.341658659	1.984467
Content	21.82	26.10	0.252516	2.04053E-07	-5.590719948	1.984467
Paralinguistics	8.08	7.08	0.006789	0.000121099	-4.023254286	1.987289
Total	71.96	83.74	0.240178	2.29141E-07	-5.564122831	1.984467

Note. μ_1 = the mean of a variable in G1 (n = 50), μ_2 = the mean of a variable in G2 (n = 50), p (F-Test) = the p-value of the F-Test, p (T-Test) = the p-value of the T-Test, t-Stat = the t-value of the T-Test, t-Crit = critical t-value, $*p < .05$.

Figure 1

Comparison of the Total Scores for the Students' Speaking Skills in Czech between G1 and G2 in Individual Students



illustrated in the graph in Figure 1, the vast majority of the undergraduates tested at CNL at the level close to B1 scored more than 50%. Therefore, we can assume that the B1 level constituted a 'comfortable' level for our research sample, in terms of both language activities and general competencies. This outcome supports Hulstijn's assumption that BLC could come close to the descriptions at the B1 level of CEFR's activities, although we are aware of the fact that the sample of undergraduates differs from the population of native speakers in terms of the internal and external factors that affected their acquisition of an NL and an FL.

The outcome of our study is consistent with other studies which proved a positive relationship between different aspects of native and foreign language proficiency, and the evidence on long-term, cross-linguistic transfer of skills from an NL to FL (Ganschow, Sparks, & Javorsky, 1998; Sparks, Patton, Ganschow, & Humbach, 2009; and others as cited in Ellis, 2015 and Hulstijn, 2015). Although these studies differ from our research aim in various aspects, e.g., they focused on different language competencies, they did not employ a discourse-analytic approach to assessment, and they tested learners whose formal educational process in learning both languages had been yet in progress, our findings are in line with their convincing results regarding long-term linguistic influence between an NL and FL.

To our best knowledge, there is a paucity of studies aimed at comparing speaking proficiency between an NL and an FL in adults; therefore, the researchers who have been system-

atically preoccupied with language proficiency in native and non-native speakers (Ellis, 2015; Hulstijn, 2015) call for more empirical research in this field. Recent studies concerning speaking have mainly examined the dependence between L1 and L2 fluency in different stages of L2 exposure and indicated cross-language interference in fluency (Derwing et al., 2009; Paap et al., 2019). Duran-Karaoz & Tavakoli (2020) found an interdependence of L1 and L2 in pausing behavior and mid-clause pauses. Our result in paralinguistics, which comprised fluency, showed a significant relationship between CNL and EFL, which is in accord with the mentioned studies. Nevertheless, fluency is only one part of the speaking process, and current research should not limit itself to the examination of this competence only.

The latest study on L1 and L2 proficiency, examining external and internal sources of variation in L1 and L2 proficiency in 112 native English L2 college students, detected a high correlation between L1 and L2 speaking proficiency in association with working memory (Botezatu et al., 2021). Thus, we can assume that working memory is one of the crucial internal factors that influence language acquisition, manifesting itself in NL and FL proficiency levels. We believe that similar studies substantially contribute to language acquisition research and that researchers might consider using our method of rating and comparing NL and FL speaking skills in their quest for factors influencing language acquisition. In our future research, we intend to follow this path and examine some internal and external factors which have affected CNL and EFL proficiency levels in our research sample.

Implications and Recommendations

The implications of our findings are consistent with studies that emphasize the importance of developing linguistic literacy from the perspective of later 'language development' (Ravid & Tolchinsky, 2002; Berman, 2016). Regarding speaking competence in a native language, our opinion is in line with the findings emphasizing the importance of its development from the earliest stages of life (Cummins, 1979, 1981, 1984, 1991; Sparks, Patton, Ganschow, & Humbach, 2009). As suggested by Cummins (1984), the acquisition process depends on relatively stable attributes of the individual learner and on the quality and quantity of input received from the environment, which implies that educators should elaborate on the input to address shortcomings in speaking competence.

The role of the input is further analyzed by Kuo et al. (2020) who investigated the relationship between the input and literacy and linguistic/metalinguistic development in bilingual children and suggested that the concept of the input should be reexamined and go beyond the quantity and quality of the exposure of the assessed language. With regard to our results showing that the most significant difference between G1 and G2 occurred in the production of an appropriate content, we hope that educators will react to this challenge and join us in the effort to examine, suggest, and offer poor speakers a tailored input aimed at producing rich content in an organized way. For example, many researchers emphasize writing expertise as common across languages (e.g., Cummins, 1991; Ravid & Tolchinsky, 2002; Kecskes & Papp, 2000; Alkhateeb, 2018; Wei, 2020; Kim & Pae, 2021). Berman's (2016) findings that well-educated literate adults demonstrate the impact of their familiarity with written discourse should encourage educators to search for ways to implement writing tasks to improve speaking competences, namely content and discourse. Ultimately, all language skills are important and their growth is interdependent (Winke & Gass, 2019).

In general, we believe that our findings have indicated that the assessment of speaking sub-skills in an NL is meaningful and beneficial, since it may identify strong and weak points of learners' speaking competency, and thus prepare the ground for a tailored development in speaking in all stages of education. The rating scale we are offering here can be considered a suitable instrument for assessing NL speaking proficiency at the Functional level (close to B1) in secondary and tertiary education not only in the Czech Republic.

Promoting Speaking in Czech Education

The interest in the development of communicative competence in Czech education is declared by the Ministry of Education, Youth and Sports and is demonstrated, for example, by an increasing number of theses examining how communicative competence is taught and trained in primary

and secondary education. They conclude that although more attention is paid to the theoretical basis of rhetoric and communication, pupils and students have problems applying the theory in practice (Khyrova, 2016; Potuckova, 2019). Moreover, there may still be some teachers who do not offer enough speaking opportunities in classes (Solcova, 2011). Some educators believe that rhetoric should become an inseparable part of all subjects. Methodology specialists recommend practicing speaking skills by using topics in which students are interested and which do not require deep previous knowledge. Students should be able to speak naturally and react adequately to real-life communication situations, as suggested by Krashen (1981) and others.

Another widely discussed issue is whether to include rhetoric in the curriculum of secondary schools in the Czech Republic. Communication competence is normally developed within the educational branch Language and language communication which covers Czech Language and Literature and the study of two foreign languages. Some educators propose splitting Czech Language and Literature into two separate subjects to gain more space to improve communicative competence in Czech. Some methodologists claim that communicative competences should be developed across all school subjects. In our opinion, all of these suggestions would contribute to improving speaking in native and foreign languages and should be implemented.

In addition to that, we believe that there is a great potential in sharing research and teaching practice among educators around the world. From the perspectives of native and foreign language teachers, we notice, for example, that language educators in English-speaking countries pay more attention to communication, rhetoric and writing compared to Czech language teachers. Therefore, it might be beneficial to compare curricula, coursebooks and teaching methods concerning the development of communicative competence between the countries and take lessons from the outcomes.

Limitations

No research is flawless, and we are aware of the limitations of this study. As it is common in research studies, we had to limit the variables in this study to a reasonable extent to give a comprehensible account of what we wanted to prove. For example, it is obvious that the participants experienced different conditions in their previous CNL and EFL study, and their command of both languages had been influenced by many factors that could not have been taken into consideration with regard to the scope of this paper. Nevertheless, we are planning to investigate other factors that influence the performance in speaking a foreign language in our future research.

With regard to the assessment of the speaking skills in Czech at the Functional level, there is no doubt that any rating scale is perfect. We created the rating scale based on the

NATO 6001 STANAG and Maturita Examination scales. Obviously, the weight of individual speaking sub-skills in the total score could be a subject for discussion, as well as a broader topic of native language assessment.

In addition to that, we are aware of the fact that we were testing students at a certain period of their foreign language speaking skill development and that due to the intensive EL training, their speaking skills in English might be further developing faster than their Czech speaking skills, and the difference between their speaking skills in English and Czech might become larger. On the other hand, in line with other researchers, we believe that the development of speaking competencies is transferable (Kecskes & Papp, 2000; Van Hell & Dijkstra, 2002; Dörnyei, 2005; Kecskes, 2015; Belkina & Yaroslavova, 2018), and thus the differences between the levels of foreign and native languages in individuals might also decrease with more practice and training. In short, we have to keep in mind that the results of comparing foreign and native speaking skills in individual participants might vary in time.

Comments on extreme scores

To illustrate the last point, let us take a closer look at a student who outperformed her peers in G1. In Figure 1, the 50th student in G1 reached 99% for her Czech speaking skill. However, within a year after her speaking competence in Czech was tested, she reached SLP 2222 in English. We believe that her strong motivation and well-developed speaking skill in Czech contributed the most to her success in developing speaking in English. Thus, even this exception allows us to believe that NL speaking proficiency might be considered a predictor of speaking proficiency in an FL.

Another interesting case in Figure 1 concerns the first student in G2, who achieved the lowest score in his Czech speaking skill. It might be worth mentioning here that this student was not able to complete academic requirements, and therefore had to leave the University of Defence within a year after his speaking competence in Czech was tested. Examining the extent to which the poor Czech speaking skill contributed to his failure is beyond our research aim.

In general, we believe that our findings have indicated that the assessment of speaking sub-skills in an NL is meaningful and beneficial, since it may identify strong and weak points of learners' speaking competency, and thus prepare the ground for a tailored development in speaking in all stages of education. The rating scale we are offering here can be considered a suitable instrument for assessing NL speaking proficiency at the Functional level (close to B1) in secondary and tertiary education not only in the Czech Republic.

CONCLUSION

Speaking a foreign language is very difficult and takes a long time to develop. Many studies have been devoted to the search for factors that might influence this process. Our study aimed to investigate whether there is a relationship between the proficiency levels in foreign and native language speaking skills in 100 first- and second-year students at the University of Defence in the Czech Republic.

The results of the study have shown a significant relationship between the proficiency levels of the students' speaking skills in English and Czech. Students with less developed speaking skills in English (Group 1) showed less developed speaking skills in Czech at the Functional level compared to students with better results in both languages (Group 2). The most significant difference occurred in the amount and quality of the content in the communication, which confirmed the concern of some students that they would not be able to perform some tasks or confidently handle most normal, casual conversations on concrete topics, as required for the Functional level in the NATO STANAG 6001 Examination (see Appendix A), even in Czech. Thus, our research succeeded in addressing the need to examine the relationship between native and foreign language proficiency, and identified the weakest sub-skill in speaking in the native language which might hinder the progress in the development of speaking in a foreign language.

In light of these findings, not only FL teachers, but also NL teachers at primary and secondary schools must encourage students to use language for social interaction both inside and outside the classroom. Through interaction, students can build their own conversations and create the meaning that they understand and can develop. The topics or themes around which students learn language should capture their attention, expand their imagination, and encourage them to interact more with each other. The input for interaction could be facilitated through all four language skills.

The findings of our research are consistent with current studies that emphasize the need to view the first language as one of many factors that shape foreign language development. We believe that this study is meaningful in terms of the potential contribution it might make to language acquisition research by offering an additional piece of evidence suggesting the importance of the development of native language competence with respect to subsequent proficiency in a foreign language. Further research could focus on the identification and development of other native language sub-skills which are transferable across languages.

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DECLARATION OF COMPETING INTEREST

None declared

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APPENDIX A

NATO STANAG 6001 Descriptors for SLP 1 and 2 according to NATO STANDARD A TrainP-5 (2016)

Level 1 – Survival

Ability to maintain simple face-to-face communication in typical everyday situations. Can create with the language by combining and recombining familiar, learned elements of speech. Can begin, maintain and close short conversations by asking and answering short simple questions. Can typically satisfy simple, predictable, personal and accommodation needs; meet minimum courtesy, introduction and identification requirements; exchange greetings; elicit and provide predictable, skeletal biographical information; communicate about simple routine tasks in the workplace; ask for goods, services and assistance; request information and clarification; express satisfaction, dissatisfaction and confirmation. Topics include basic needs such as ordering meals, obtaining lodging and transportation, and shopping. Native speakers used to speaking with non-natives must often strain, request repetition and use real-world knowledge to understand this speaker. Seldom does he speak with natural fluency and cannot produce continuous discourse, except for rehearsed material. Nevertheless, it can speak at the sentence level and may produce strings of two or more simple, short sentences joined by common linking words. Frequent errors in pronunciation, vocabulary and grammar often distort meaning. The concepts of time are vague. May often use only one tense or tend to avoid certain structures. Speech is often characterized by hesitations, erratic word order, frequent pauses, straining and groping for words (except for routine expressions), ineffective reformulation and self-corrections. (p. A-3)

Level 2 – Functional

Ability to communicate in everyday social and routine workplace situations. In these situations the speaker can describe people, places and things; narrate current, past and future activities in complete but simple paragraphs; state facts; compare and contrast; give straightforward instructions and directions; ask and answer predictable questions. Can confidently handle most normal, casual conversations on concrete topics such as job procedures, family, personal background, interests, travel and current events. Can often elaborate in common daily communicative situations, such as personal and accommodation-related interactions; for example, can give complicated, detailed and extensive directions and make non-routine changes in travel and other arrangements. Can interact with native speakers not used to speaking with non-natives, although natives may have to adjust to some limitations. Can combine and link sentences into paragraph-length discourse. Simple structures and basic grammatical relations are typically controlled, while more complex structures are used inaccurately or avoided. Vocabulary use is appropriate for high-frequency utterances, but unusual or imprecise at other times. Errors in pronunciation, vocabulary and grammar may sometimes distort meaning. However, the individual generally speaks in a way that is appropriate for the situation, although the command of the spoken language is not always firm. (pp. A-3–A4)

APPENDIX B

Scores for Speaking Sub-skills and the Total in Czech for Groups 1 and 2

Order	Group 1					Group 2				
	Accuracy	Discourse	Content.	Paral.	Total	Accuracy	Discourse	Content.	Paral.	Total
1	13	18	11	6	48	15	11	12	4	42
2	17	18	14	6	55	21	19	18	7	65
3	18	19	15	6	58	18	22	20	7	67
4	18	19	15	6	58	21	21	18	7	67
5	20	17	17	5	59	20	21	21	6	68
6	17	18	19	8	62	18	22	21	7	68
7	16	19	21	6	62	16	21	24	7	68
8	20	19	18	6	63	20	22	21	8	71
9	19	18	20	7	64	18	23	23	8	72
10	19	18	21	6	64	20	23	27	4	74
11	18	19	21	6	64	22	23	23	7	75
12	18	20	21	6	65	19	24	25	8	76
13	17	21	20	7	65	23	22	23	8	76
14	17	19	23	6	65	24	25	21	8	78
15	19	20	20	7	66	22	25	25	8	80
16	19	21	20	7	67	23	25	25	8	81
17	20	21	19	7	67	20	24	28	9	81
18	20	20	21	7	68	23	25	26	8	82
19	20	20	20	8	68	20	27	28	8	83
20	21	20	22	6	69	23	27	25	8	83
21	20	21	21	7	69	24	26	26	7	83
22	19	23	21	7	70	20	27	29	8	84
23	21	20	22	7	70	25	25	27	7	84
24	20	22	21	8	71	29	26	21	9	85
25	21	22	21	7	71	25	25	27	8	85
26	20	23	22	7	72	28	26	25	8	87
27	21	25	20	6	72	22	28	30	8	88
28	21	24	21	7	73	27	25	28	8	88
29	21	23	22	7	73	26	27	27	8	88
30	23	23	22	7	75	23	27	29	10	89
31	21	25	21	8	75	24	28	29	8	89
32	24	22	21	8	75	27	28	29	5	89
33	23	22	23	8	76	25	28	27	10	90

Order	Group 1					Group 2				
	Accuracy	Discourse	Content.	Paral.	Total	Accuracy	Discourse	Content.	Paral.	Total
34	15	25	28	8	76	28	25	28	9	90
35	20	23	25	8	76	27	28	27	8	90
36	24	22	23	8	77	28	28	27	7	90
37	22	23	24	8	77	26	26	29	9	90
38	21	24	25	8	78	27	26	29	9	91
39	23	24	23	8	78	25	27	30	10	92
40	22	24	25	7	78	25	29	30	9	93
41	23	22	25	8	78	23	30	30	10	93
42	24	23	25	8	80	27	29	28	10	94
43	22	24	25	9	80	29	28	30	7	94
44	27	27	26	5	85	28	29	30	8	95
45	27	26	25	7	85	28	29	29	9	95
46	27	27	27	6	87	27	30	30	10	97
47	28	26	26	8	88	29	30	30	10	99
48	25	27	28	8	88	29	30	30	10	99
49	28	29	25	7	89	29	30	30	10	99
50	29	30	30	10	99	30	30	30	10	100

Note. The scores for each group are arranged in order according to the Total score from the worst to the best one.

Exploring the Impact of Process-genre Approach on Learners' Academic Writing and Higher Order Thinking Skills

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Research Background: The study of using process-genre approach that was used to increase the writing competence had been conducted by many researchers. However, the contribution of this learning approach for HOTS aspects has not been done by many researchers, especially on learning writing Indonesian

Gap in Knowledge and Purpose the Study: Many studies only focused on one research approach, consequently, the finding was not quite comprehensive. Besides, to examine the effect of process-genre approach on academic writing competence and HOTS, this research also aimed to explore attitude and students' expectation on their learning experience by using this approach.

Method: The research used a sequential, mixed-method explanatory approach. Two grades were randomly chosen to enroll in the experimental class and a monitoring class of up to 52 students. The individual is a member of the Indonesian language education department who is currently taking the writing 1 course at the Bengkulu University, Indonesia. There are two instruments used in this analysis, the writing test & HOTS test for Quantitative statistics and semi-structured qualitative data interviews. The data from the writing test and the HOTS were quantitatively analysed for the paired sample t-test, the stand-alone sample t-test and the MANOVA, while the interview data were analysed using thematic analysis techniques.

Findings and Value Added: The results have found that process-genre approach had a substantial positive effect on scholarly writing and student HOTS. Besides, thematic research also reveals that there are favorable views and expectations of students regarding the influence of the process-genre approach towards academic writing and student HOTS. This finding is expected to enrich knowledge about how students could enhance their writing ability and HOTS by using process-genre approach.

Keywords: academic writing, higher-order thinking skills, mixed methods, process-genre approach

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INTRODUCTION

The Higher Order Thinking Skills (HOTS) are basic skills that students must possess in addition to their academic achievement (Marshall & Horton, 2011; Tajudin & Chinnappan, 2016). In other words, these skills can assist students

in constructing knowledge and various information. HOTS are also considered an important aspect of education and teaching because these skills The ability, speed, and efficacy of student learning can be impaired (Alrawili et al., 2020). The HOTS in the continuum of education and learning are therefore required in response to the demands of evolution. of

education (Ramadhan et al., 2019) and produces qualified human resources that following the demand of the industrial world. (Heong et al., 2012; Misrom et al., 2020).

One way to develop HOTS for students is through learning academic writing. This is based on the fact that by using thinking skills a person can generate ideas critically and analytically in writing activities (Singh et al., 2018). Besides, with writing activities, students are invited to be creative which can encourage them to a higher taxonomic level of thinking applying, analyzing, synthesizing, and evaluating (Singh et al., 2020). Besides, with writing activities, students able to express their ideas and then organize the information through the writing they produce (Helaluddin et al., 2020).

Various studies on HOTS through the infusion approach in learning to write have been carried out by many researchers. Studies on student perspectives in learning writing to improve HOTS were carried out by Ganapathy & Kaur (2014). The results of this study stated that students felt involved in active learning, experienced independence in learning, developing writing skills, and personal skills. The study of the instructor's perspective states that they have used various strategies that can help learners increase HOTS through real-life situations and problem-solving skills (Singh et al., 2020). Research & development in learning to write by integrating HOTS was also carried out by several researchers to create valid, practical, and effective learning products in the form of syllabus, modules, and textbooks (Lustyantie et al., 2019; Singh et al., 2018). Besides, another study revealed that HOTS questions were able to improve the descriptive text writing skills of grade 8 junior high school students (Sianturi et al., 2020).

From these studies, there is one thing that has been missed by researchers/teachers an in-depth exploration effort of learning to write using the best approach in maximizing student HOTS the process-genre approach. This approach is the most advanced of several existing approaches. The genre method approach includes an understanding of vocabulary, meaning & aims, and language skills (Badger & White, 2000; Tesfie, 2017; Yanghee & Jiyoung, 2005) that can be used to improve student HOTS. The purpose of this thesis is therefore to fill in previous study gaps by using the following research queries.

1. How successful is the genre approach in improving student writing skills and HOTS relative to the traditional approach?
2. What attitudes and expectations do students have of the process genre approach to learning to write?

LITERATURE REVIEW

Higher-Order Thinking Skill

The word higher-order thinking skills (HOTS) has been commonly used in numerous paper papers, but it is not a straightforward term to describe (Schraw et al., 2011). It should be remembered, though, that while the definition is difficult to describe, it is reasonably straightforward to list some of its features (Resnick, 1987). HOTS are non-algorithmic, appear to be dynamic, and often include problems of complexity. Simply put, HOTS are characterized as the willingness of students to think at a higher level so that they can assess, examine and develop inventions to solve current problems (Ichsan et al., 2019)

Based on Bloom's taxonomy and the updated model (Krathwohl, 2002; Leighton, 2011), the implementation, review, assessment, and improvement of skills are core elements at the HOTS stage. Brookhart (2010) suggests that HOTS include logical thought skills, reflective logic, and metacognitive skills. And the imaginative thought. In line with Brookhart, Martinez & McGrath (2014) claimed that thinking skills are closely linked to HOTS and deeper learning. Moreover, the topic of HOTS usually gives preference to the insertion of triggers in contextual contexts (Abdurahman et al., 2019; Tiruneh et al., 2017).

Concerning the current knowledge age, HOTS can be defined as the highest level in the cognitive process hierarchy. With HOTS, students will face problems dominated by multiple types of information and with comparatively small processing time (Nourdad et al., 2018). In other words, HOTS concentrate on improving students' knowledge to be able to interpret accurately, assess current knowledge and construct something different (Chinedu & Kamin, 2015). HOTS will appear when students receive new information, store it in memory, relate existing awareness and product details to accomplish priorities or overcome difficult problems (Nourdad et al., 2018).

Academic Writing

Based on its name, academic writing is of course related to writing activities carried out in an academic environment. There are several criteria used in classifying types of writing into groups of academic writing. Zainurrahman (2011) describes several criteria for academic writing: (1) academic writing is written by components of the academic community, (2) scientifically, and (3) conventional in nature or restrained by various rules. In addition to these four criteria, there are other criteria used in categorizing academic writing containing definition, description, classification, causality, comparison, contrast, and argument (Murray & Hughes, 2008).

Oshima & Hogue (2006) describes that academic writing is the type of writing required at the college level which is different from personal writing, literature, journalism, and business. These differences are identified in the specific audience, the tone or tones, and the purpose of the writing.

Several types of academic writing are differentiated into several genres, narrative, procedure, hortatory, expository, observation, and implantation (Mahsun, 2014). Indrawati & Subadiyono (2018) added that academic writing can be divided into several forms, such as books & book reports, translations, essays, research articles, conference papers, academic journal articles, theses & dissertations, and abstracts.

Process-Genre Approach

In general, there are three approaches used to learn how to write a product based approach, a process-based approach, and a genre-based approach. All three approaches are judged by experts to have their respective drawbacks, so it is important to merge the three approaches. The term for combining the three approaches is the process-genre approach. This approach is a writing activity that adopts a process model and genre theory which is intended as a solution to the various limitations of the three approaches (Agibuary, 2017; Babalola & Litinin, 2012).

Several stages must be passed in the process of learning to write using the process- genre approach. Jarunthawatchai (2010) mentions several stages in this approach: (1) Construction of the context, (2) examination of the text of the model, (3) collective construction of the text, (4) individual construction of the text, and (5) contemplation on prose. Another stage model in the process-genre approach is also proposed by Zhao (2017)) by simplifying the stages into just four parts analysis of model texts, independent writing, revising, and editing or proofreading. On the other hand, there is a stage model that includes six stages: (1) exploration of intent and functions, (2) language scaffolding, (3) modeling, (4) mutual/joint text construction, (5) individual text construction, and (6) description, free conversation, Q&A, & assignment (Du, 2015). In this study, the design of the writing learning approach used was the Jarunthawatchai process genre-based approach which included five stages as mentioned above.

METHOD

Research Design

This thesis employs a sequential mix-method approach to data collection and interpretation to address a variety of research questions (Ebadi & Rahimi, 2017; Riazi & Candlin, 2014). The goal of this approach is to test the feasibility of a genre-based approach to developing student writing skills & HOTS and to examine their expectations and attitudes towards learning. The use of mixed-method methodology helps researchers to carry out in-depth experiments utilizing two or three stages of study or data collection at the same sample (Bakla, 2020; Greene et al., 2005; Kamalodeen & Jameson-Charles, 2016; Kazazoglu, 2020). Moreover, mixing approaches are useful for exploring inconsistencies

and increasing efficiency by cultivating a holistic viewpoint (Creswell, 1994; Creswell & Plano-Clark, 2007; Luo & Dappen, 2005). In other words, this study uses qualitative findings to help explain, elaborate, and clarify quantitative findings (Creswell et al., 2003).

The use of mixed-method methodology helps researchers to carry out in-depth experiments using two or three steps to evaluate or extract data from the same sample (Bakla, 2020; Greene et al., 2005; Kamalodeen & Jameson-Charles, 2016; Kazazoglu, 2020).

Participants

Two classes from the first semester of the Indonesian Language Education Program at the University of Bengkulu, Indonesia, were chosen as participants in this research. One class was randomly chosen to act as an experimental group and as a monitoring group. Both of the participants are students aged 19 n.d. 52 students are taking composition lessons (26 experimental group & 26 control group).

Data Collection

The dataset was grouped into two aspects of the collection of quantitative and qualitative data. Quantitative data collection was carried out using active evaluations in the form of essay writing tests (pretest & post-test) and HOTS tests in the form of multiple open-ended questions. In addition, qualitative data collection used approaches in the form of semi-structured interviews. More in-depth, the instruments in data collection were described in the following section.

Instruments

Performance Test

The type of test used in data collection to see students' academic writing skills is a writing test using Indonesian. This writing test is carried out at the beginning before the learning treatment (pretest) and also afterward (post-testing) granted to experimental and control groups. Student writing results. These are then assessed using the academic writing assessment rubric using assessment rubric developed by Oshima & Hogue (2006). Some of the aspects assessed are: (a) format aspect/maximum score of 5, (b) mechanics/maximum score of 5, (c) content/maximum score of 20, (d) organization/maximum score of 45, and (e) sentence structure & grammar/maximum score 25.

To reduce subjectivity and assessment bias, the researchers measured the consistency of the rubric score, known as inter-rater reliability. That is, it is not only researchers who are in charge of assessing student writing but also involving one of the experienced Indonesian language course teachers (Landis & Koch, 1977; Panou, 2013). Measurement of inter-rater reliability is done by selecting 10 writings randomly

from both pretest and post-test (Alwaleedi, 2018). The measurement results show that the acceptable consistency of the two assessors is 0.90 which is obtained using the Pearson product-moment correlation coefficient with the SPSS version 23 application.

Higher-Order Thinking Skill Test

Another instrument used in this study is the HOTS performance test. This test measures three levels of student HOTS which include the ability to analyze, evaluate, and create open-ended questions (Salem, 2018). This test consists of three main parts: (1) the first part measures the level of student performance in the analysis task, (2) the second part measures the level of students' ability to evaluate and assess evidence and arguments in their writing, and (3) the third part measures the level of the ability of students to create something new or unusual in supporting their writing. The overall score on the HOTS performance test is 75 points with 25 points each.

Semi-Structured Interview

Subsequent data collection was carried out using semi-structured interviewing methods to examine student expectations and perspectives towards the process-genre approach to develop their academic writing skills and HOTS. Half-structured interviews were chosen by researchers because they have the potential to explore deeper and allow researchers to add several questions as a process of clarification and elaboration (Guthrie, 2019). Besides, the questions in the interview were obtained from the interview instruments used by Ebadi & Rahimi (2017) dan Pham & Usaha (2016). Twenty six students were willing to be interviewed were asked by the researcher to fill out the willingness sheet. Interviews were conducted directly for approximately 30-45 minutes for each student. All conversations in the interview were recorded using a digital recorder by asking for participant consent. The language used for the interview was Indonesian to make easy the process of getting the information from students. Interview was conducted in a closed room to avoid distractions during the interview process (Lee et al., 2019).

Data Analysis

Quantitative Analysis

The data obtained from the pre-test and post-test were then quantitatively evaluated using the SPSS 23 application. In this analysis, the researcher estimated the mean value, the standard deviation, the t-test, and the one-way MANOVA Multivariate Analysis. Paired-t samples were run to see whether there was a substantial improvement in HOTS and student academic writing using the process-generic methodology in the experimental community and traditional approaches in the control group. Besides, the examiner also

conducted a one-way MANOVA test to monitor the effect of covariates on the post-test of both classes.

Qualitative Analysis

The data collected from the interviews were analysed using a thematic approach. This study was used to identify the most influential trends in student attitudes and activities regarding the impact of the genre approach on the production of academic writing skills and HOTS. Some experts suggest that thematic research often helps to analyse the viewpoints of different students, highlight parallels and differences, and produce surprising insights (Braun & Clarke, 2006; King, 2004; Nowell et al., 2017). Thus, the interviews were transcribed and coded based on open thematic coding to find the most crucial key variables on student impressions (Liu & Sadler, 2003).

Besides, in determining the accuracy of student responses to interview questions (credibility), researchers used the member checking technique (Morse et al., 2002). This technique is an opportunity for participants to examine and agree on certain aspects of the interpretation of the data they have provided. During the interview process, participants were given a transcript of the interview and then asked to verify it by editing, clarifying, elaborating, and even if possible, they deleted their words from the transcript (Carlson, 2010).

Procedure

As previously reviewed, this report incorporates Quantitative and contextual approaches to data analysis and analysis. For this cause, in general procedures for this study can be illustrated in the following chart.

In the early stages, the researcher carried out a writing test (pretest) for all participants, both the experimental class and the governing class. This is the researcher/lecturer presented pictures/photos on written themes such as education, health, law, and other recent issues. In this pretest, the lecturer allocates 60 minutes for students to write essays with a minimum number of 500 words.

Furthermore, the intervention phase was carried out by the researcher by applying the genre process approach in learning to write to the experimental group. On the other hand, the control group was approached using a traditional approach that involved multiple steps to clarify the definition of the text, to present illustrations, to identify examples of essay texts and to write separately. On the other hand, referring to the opinion of Jarunatawatchai (2010) there are five stages in the genre process approach, (1) building context, (2) analyzing sample texts, (3) writing texts together, (4) writing essays independently, and (5) reflection.

After the intervention process in learning academic writing is complete, the researcher conducts a writing test which

Figure 1
Research flow

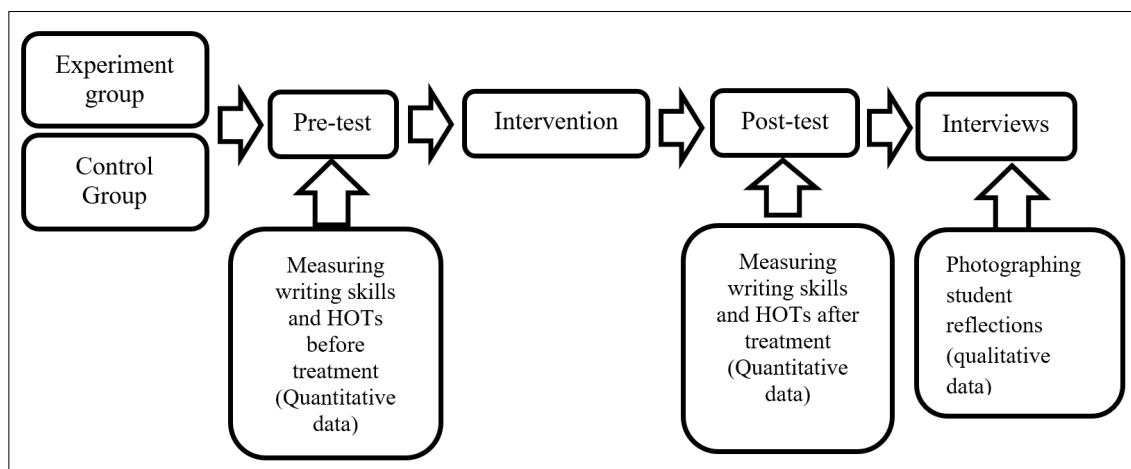
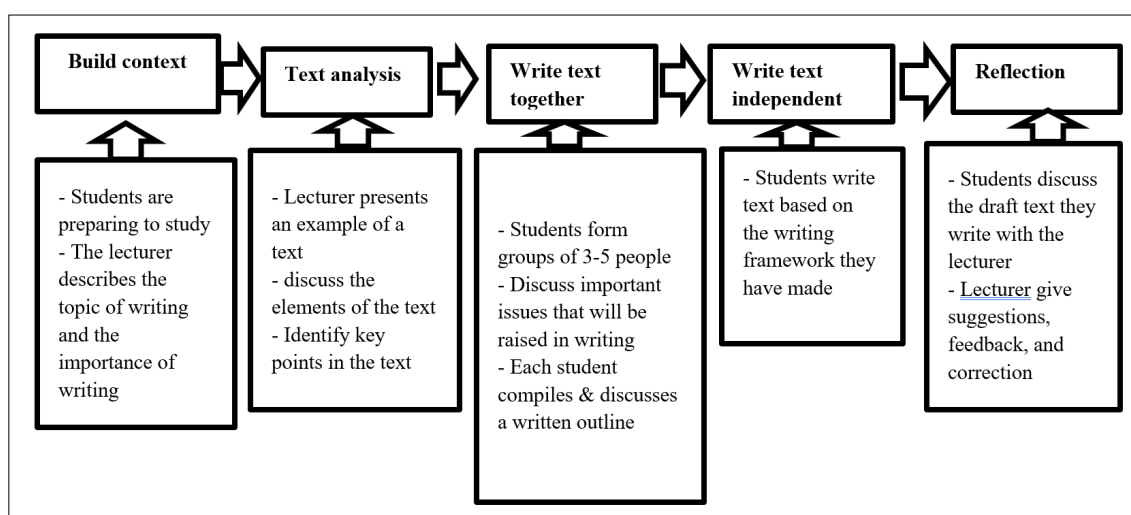


Figure 2
Learning steps with the genre process approach



is commonly called a post-test. Similar to the pretest, this post-test was given to both groups with duration of 60 minutes with a minimum of 500 words. Finally, the interview phase was carried out by a special researcher on group participants who were superior to the HOTs level they achieved by seeing the increase in HOTs scores from pretest to post-test. This interview was conducted to help describe and explain known quantitative research findings in the pretest and post-test processes.

RESULTS

Quantitative Analysis

Academic Writing

The first results to be quantitatively analysed were student pre-test and post-test scores in all schools. The researcher

performed two paired t-test experiments to determine the impact of the process-genre approach on the development of writing skills. Table 1 below displays the overall disparity between the experimental community's pre-test and post-test scholarly writing and the control class. From the data seen in the table, it can be observed that the overall post-test score of the two groups is higher than the pre-test average.

Table 2 is also the outcome of the study using the t-test matched samples to determine the discrepancy between the pre-test and the post-test in both grades. The table indicates that there is a difference in the pre-test and post-test academic writing of the two groups. In other words, there was a wide difference between the pre-test and post-test academic writing of the two schools. This difference is the consequence of the use of a solution for the process-genre