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The TUNJO battery as a predictor of phonetic ability: A survey among English Philology students

Abstract. Some learners are more successful in foreign language mastering than others. Among the plausible explanations discussed in the literature (Carroll 1981; Skehan 1991; Dörnyei 2005; Stansfield & Reed 2019; Griffiths & Soruç 2020), the concept of foreign language aptitude (FLA) is regarded as one of the key factors that can influence or predict learners' success in the process of foreign language acquisition. The present pilot quantitative study aims to assess the extent to which learners' level of foreign language aptitude can be correlated to their general phonological ability based on the example of first-year MA English Philology students (N=10). To assess the students' level of aptitude, the Polish adaptation of the Modern Language Aptitude Test (MLAT), called the Test of Aptitude for the Learning of Foreign Languages (Test Uzdolnień do Nauki Języków Obcych – TUNJO), was used. On the other hand, to measure their level of phonetic ability, the test, which focused on several chosen areas covered during practical and theoretical phonetics classes during the BA programme, was constructed and submitted to the group. The quantitative data gathered throughout those two stages were subsequently analysed and interpreted. The results obtained revealed no significant correlation between the students' level of aptitude and their general phonetic ability. Other individual differences and affective factors in language learning, alongside the structure of the measuring tools and the measurement itself, may justify the apparent lack of correlation.

Keywords: foreign language aptitude, phonological ability, aptitude testing, pronunciation testing, correlational analysis

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1. Introduction

The notion of Individual Differences (ID) has attracted great scientific interest in applied linguistics, resulting in a daunting array of publications on the subject (Carroll 1991; Skehan 1991; Horwitz 2000; Dörnyei 2001; Ellis 2004). According to the differential psychological approach, which focuses on understanding the nature of human functioning, dissimilarities between people can contribute to several areas of their lives, including learning. Those dissimilarities are frequently referred to as IDs (Skehan 1991: 275–276).

A literature review might offer a vast number of individual learner variables. Ellis (2004: 525–528) reports that factors that may contribute to how successful one is in learning a language can be of an affective, cognitive, or social nature. Among the frequently discussed cognitive and affective individual difference factors in second language acquisition, the author mentions language aptitude, learning styles, motivation, anxiety, personality traits and learner beliefs.

The present study focuses on the notion of language learning aptitude, which is one of the cognitive factors that predicts one's future success in language performance. The existing body of research on language aptitude suggests that it can be linked to different spheres of L2 performance, including knowledge of grammar and vocabulary (Suzukida 2021: 50). Recent years have witnessed growing academic interest in the links between learners' pronunciation skills and their language aptitude (Baker Smemoe & Haslam 2013; Saito et al. 2019). The present study, therefore, was developed to examine the relationship between English philology students' aptitude levels and their phonetic performance.

2. The notion of Foreign Language Aptitude (FLA)

According to Spolsky (1995: 321), research in the field of language aptitude began at the start of the 20th century, with its most fruitful period dating back to the 1950s and 1960s. Initial endeavours to create language aptitude measures can be observed in the 1920s and 1930s and during World War II. During that period, the studies focused on finding a tool that would predict one's success or failure in learning a foreign language, and the tests created were known as so-called prognosis tests (Spolsky 1995: 323–325). However, the most comprehensive study of language aptitude in the 20th century was undertaken by J.B. Carroll, a famous American psychologist and linguist, whose effort and pioneering work are still regarded to be the most significant in the field (Saito et al. 2019: 203–204). Alongside his colleague S.M. Sapon, Carroll designed the Modern Languages Aptitude Test (1957), thereby marking the beginning of the wave of interest in the language learning aptitude concept. Thus, it is reasonable to commence the discussion of the notion of language learning aptitude with the work of Carroll.

The construct of foreign language aptitude can be defined in several ways. According to the basic definition based on Carroll's preliminary assumptions, language learning aptitude or foreign language aptitude (FLA) can be described as "the specific talent

for learning a foreign or second language" (Wen et al. 2017: 2). Others construe FLA as a "gift for languages" (Rosenthal 1996: 59) or "an ear for languages" (Pimsleur 1966). Still, a classic and widely used definition presented by Carroll (1981: 86) states that language learning aptitude is "an individual's initial state of readiness and capacity for learning a foreign language and probable facility in doing so given the presence of motivation and opportunity." FLA can also be described as "a set of perceptual and cognitive abilities" which contribute to the effectiveness and efficiency of the language learning process (Saito et al. 2019: 203). Throughout this paper, I will interchange the terms language learning aptitude, foreign language aptitude, and aptitude itself.

Regarding FLA as a multifaceted concept, Carroll (1965) created a four-component taxonomy for the distinction of sub-areas of aptitude. Currently, there is no finer or more influential categorisation of FLA components presented in the literature than Carroll's (Skehan 2012). According to Carroll (1965: 128–130), one can distinguish between four measurable elements of foreign language aptitude: *phonetic coding ability, grammatical sensitivity, inductive language learning ability*, and *associative memory.*

The Carrollian (1965) taxonomy of FLA components, which is widely used to measure learners' aptitude, can be summarised using the following table:

Table 1. Carroll's (1965) taxonomy of Foreign Language Aptitude components

Phonetic coding ability	Learners' ability to recognise sounds and link them to their graphemic representations in the form of letters.
Grammatical sensitivity	Learners' ability to grasp the meaning of grammatical functions of words based on the context.
Rote learning ability	Learners' ability to learn new pieces of vocabulary and match them with their translations in L1.
Inductive language learning	Learner's ability to form general rules by means of analysing specific examples.

The first subcomponent of foreign language aptitude is the so-called phonetic coding ability. Carroll (1965: 128) defines it as one's "ability to code auditory phonetic material." To be more precise, it means that a person has the capacity to identify and later retrieve recently introduced sounds of a specified phonetic system from memory. However, when it comes to this particular ability, whether one is linking them to their visual and auditory representations is also measured (Wen 2012: 233).

The second component of FLA, namely, grammatical sensitivity, makes it easier for learners to identify the grammatical functions of lexical units in a text in various contexts (Carroll 1965: 129). Nevertheless, Robinson (2001: 324) states that grammatical sensitivity is occasionally confused with one's knowledge of grammar in a given language. So, it is

crucial to remember that this construct deals with one being aware of syntactic patterns within sentences.

The third variable, inductive language learning ability or inductive language learning, stands for the process of inducing linguistic rules through evaluating the structure of a given language by learners. Defining inductive learning, Carroll (1965: 130) states that it is "the ability to infer linguistic forms, rules, and patterns from new linguistic content itself with a minimum of supervision or guidance". It means the student's task is to discover rules by themselves while observing language samples.

The last of the four variables is associative or rote memory for foreign language materials. Wen (2012: 234) describes it as one's ability "to rote learn vocabulary items paired with their associated translations." Moreover, rote learning ability for foreign languages is also connected to one's capacity to form this set of associations in a relatively short period of time.

3. Research in the area of FLA

The primary research in the field of foreign language aptitude testing can be divided into two major branches: (1) the construction of aptitude tests, and (2) the validation of aptitude measurements, in particular, their construct and predictive validity. The former survey approach has been predominant since the late 1950s. Initial aptitude studies were conducted to set an effective language aptitude measure with a robust and solid predictive power (Spolsky 1995: 334). The latter approach is currently gaining in popularity and interest among researchers. According to Li (2015: 807–810), a considerable volume of studies investigate whether aptitude tests are valid and reliable so that language aptitude can be regarded as a predictive tool for L2 outcomes.

3.1. Testing aptitude: the MLAT battery and its adaptations

Initially, to measure the likelihood of one's success in acquiring a language, the Modern Language Aptitude Test (MLAT) was created and published by J.B. Carroll and S. Sapon in 1959. Targeting literate English-speaking adults, the construction of the test battery is done in such a way that it covers several components of FLA, so it is possible to measure the skills required to learn a foreign language.

On the whole, the MLAT is comprised of five sub-tests. Each of these parts focuses on distinct abilities and will be briefly discussed as presented in Stansfield & Reed (2019). The MLAT battery has the following framework:

(1) Number learning;
(2) Phonetic script;
(3) Spelling clues;
(4) Words in sentences;
(5) Paired associates.

In the first part (1), examinees are to learn the names of the numbers in a new language. The language used to cover the numerical system is fictitious. Chosen single-figure and multi-figure numbers consisting of digits from 1 to 4 are presented to the group aurally so that they can remember the names of the numbers they learnt and associate them with their written representations. In due course, after some practice, the task of the test-takers is to differentiate between those numbers while completing a listening comprehension activity. The figures in numbers are put into different variations up to hundreds. This sub-test covers rote-learning, inductive learning, and phonetic coding abilities according to its composition and procedure.

The second sub-test (2) rates one's ability to form a set of links between speech sounds and their graphemic equivalents while learning a language. However, unlike in the Number Learning test, the authors of the MLAT battery decided to conduct the second part using the symbols and sounds of the English language. The examinees are provided with sets of four syllables presented to them in oral form. Their task is to choose one of the four syllables which contains the sound they hear. Therefore, the Phonetic Script test mainly focuses on assessing phonetic coding ability.

The third element of the MLAT test (3) requires the task-takers to be able to create associations between the meaning of a given word and its synonym. Nonetheless, the pieces of vocabulary which express the synonymous expression are provided with a distorted spelling. It is also critical that successful performance in this activity is mainly dependent on one's knowledge of the target vocabulary in the English language. Thus, this sub-test can be regarded as a practical implantation of phonetic coding ability.

The fourth part (4) tests one's grammatical sensitivity or, in other words, examinees' awareness of grammatical structures. It is accomplished by analysing the structure of two sentences and the syntactic function of certain words in those chunks. In the first sentence, there is an underlined target word whose syntactic function should be matched with one of the five highlighted words in the second sentence. Task-takers examine the sentences without knowing the exact names of syntactic functions.

In the fifth part of the MLAT battery (5) the examined have to learn new pieces of vocabulary from another language alongside its English translations in a relatively short time. After completing an exercise to practice the newly learnt words, they are asked to perform the actual task. Due to the fact that the last sub-test aims to check how well one can recall the translations of the given words, it is connected to rote learning ability.

The MLAT test is one of many aptitude tests available on the market. There is a profusion of aptitude testing tools to choose from. Among other frequently used FLA measures, we can list the Pimsleur Language Aptitude Battery (PLAB) (Pimsleur 1966), the Cognitive Ability for Novelty in Acquisition of Language-Foreign (CANAL-F) (Grigorenko et al. 2000), the Language Learning and Meaning Acquisition (LLAMA) (Meara 2005), and the High-Level Language Aptitude Battery (Hi-LAB) (Doughty et al. 2010) tests. Still, it

is crucial to note that scholars (Li 2015: 387; Griffiths & Soruç 2020: 64) claim that those tests are mainly constructed on the basis of the MLAT. It is also not yet proven whether the alternative measures are more valid than the original source. Therefore, although the MLAT is often criticised for its uneven coverage of Carroll's four FLA components, since its publication in the 1950s the battery is still regarded as the most influential, popular, and comprehensive tool and measure in aptitude research. Besides, some scholars assert that there is no need to question the validity of the MLAT battery since "the validity of the MLAT and other FL tests had been amply demonstrated" (Sparks & Ganschow 2001: 101).

3.2. Implementations of aptitude measures

With regard to the second domain in aptitude research, scholars endeavour to correlate the content and results of aptitude tests to (1) other learners' individual differences, affective and cognitive factors that may influence language acquisition and learning processes, as well as (2) learners' results or achievement in L2 acquisition. In reality, those two strands of research often overlap because researchers consider both individual differences and learning outcomes.

It is also crucial to note that the primary intention of such studies is to gain evidence of the validity of the aptitude construct due to the ongoing argument on whether language aptitude can serve as a predictor of one's language performance (Li 2015: 808–809). Research findings present strong evidence that foreign language aptitude is a reliable predictor of learning outcomes. The vast majority of conclusions suggest that foreign language aptitude can be included as a predictor of future language performance due to consistent positive correlations that occur between FLA and L2 performance (Chappelle 1988; Sparks & Ganschow 2001; Hummel 2009; Haslam 2010; Baker Smemoe & Haslam 2013; Li 2015). For instance, such a hypothesis was examined in the study performed by Baker Smemoe and Haslam (2013), which is one of the very few examples of analysing foreign language aptitude and its relation to students' pronunciation skills. Their study focused on establishing correlations between language learning context, language learning strategies and language learning aptitude in terms of pronunciation gains. Interestingly, the study's results suggest that the higher the learners' level of aptitude, the higher their pronunciation accuracy is. The survey conducted by Haslam (2010) also provides support for FLA being regarded as a predictor of future performance. The results obtained by Haslam (2010), whose research tried to find the associations between language aptitude, learning strategies, and pronunciation proficiency, revealed no link between general aptitude and pronunciation gains. However, Haslam (2010: 96–97) suggests that "there was reason to believe that sound discrimination, aptitude and auditory ability quite possibly predict gain in pronunciation proficiency." The author suggests that only auditory aptitude can be implemented as an L2 learning success predictor.

On the other hand, the study of Zeidner (1987) offers some evidence that may diminish the role of language aptitude in predicting the results or performance in L2 courses. The results of the study failed to demonstrate consistent predictive validity in terms of performative differences. As stated by Zeidner (1987: 46–47), not only did the representatives of ethnic minorities in Israel obtain slightly lower aptitude results than the majority, but their scores also failed to predict their future marks. Following Zeidner's (1987) assumptions, using aptitude measures as a credible prognostic tool in the learning process might be revised for students from different backgrounds.

Considering the abovementioned facts, language learning aptitude may be acknowledged as a valid predictive measure. This point is supported by the statistical relationships established between learning outcomes and foreign language aptitude levels. If revised attentively, FLA can significantly predict one's future language learning success. As a result, aptitude tests can be utilised during the placement process. This conclusion is consistent with the point presented by (Bachman 1990; Spolsky 1995). As claimed by Bachman (1990: 58–59), "in many language programs, students are grouped homogeneously according to factors such as level of language ability, language aptitude, language use needs, and professional specialisation."

4. Aims of the study

This article reports on the results of the pilot study that was undertaken within the framework of establishing a correlation between foreign language aptitude with a particular area of language ability, i.e., pronunciation skills. Therefore, it was required to establish whether students' level of language aptitude predicted their pronunciation gains in foreign language acquisition. To do so, the following research questions were set:

1) What is the level of language aptitude in a group of English philology students?
2) What is the level of phonetic ability in a group of English philology students?
3) Is there a correlation between learners' level of foreign language aptitude (FLA) and their general ability in terms of phonetics?
4) What is the predominant aptitude profile in a group of English philology students?

Based on the assumptions found in the literature, the initial hypotheses were formulated as follows:

1. Both aptitude and phonetic ability levels are comparatively high in a given sample.
2. There is a positive correlation between students' level of foreign language aptitude and their general ability in terms of phonetics.

5. Methodology of the study

5.1. Participants

Ten first-year MA English Philology students who responded to the research inquiry participated voluntarily in the experiment. All of them had graduated from the University of Białystok and were in the process of obtaining their master's degrees in the field of TESOL during the study. The participants were Polish native speakers, holding bachelor's degrees in English Philology. Moreover, all participants had covered the same programmes regarding their phonetics training (both theoretical and practical phonetics) during their BA studies, so it could be assumed that their phonetic knowledge and abilities were comparable.

5.2. Procedures and measures

The experimental setup of the current pilot study is similar to the one proposed in the study conducted by Baker Smemoe & Haslam (2013). However, the choice of measurement tools was different. Two measures were set to find the answer to the research questions:

1. The level of foreign language aptitude;
2. The rate of the students' general phonetic ability.

Specifically, the pilot study included the following significant steps:

1. Submitting the FLA test (the TUNJO Battery) and the phonetics assessment to the students in order to measure their level of aptitude alongside their phonetic ability;
2. Collecting aptitude and phonetics tests results and carrying out the analysis.

Since the MLAT battery is aimed at native English speakers, several Polish versions of the aptitude tests were proposed (Kuliniak 2002; Rysiewicz 2008; Wojtowicz 2006). For the purpose of this study, the Foreign Language Aptitude Test – Polish (Test Uzdolnień do Nauki Języków Obcych – TUNJO) which was developed by J. Rysiewicz (2008) was selected. The field testing of the TUNJO battery and correlational analysis demonstrates ample evidence for the reliability and validity of the MLAT adaptation for Polish speakers. Therefore, it may be stated that the TUNJO battery can serve as a valid aptitude measure (Stansfield et al. 2019).

To a large extent, the structure of the TUNJO battery is highly similar to that of the MLAT test and can be described as a reflection built upon the original source (Stansfield et al. 2019). The sub-tests serve as a straightforward adaptation with slight changes in pace. However, one of the tasks, which concerns inductive language ability and is not found in the MLAT, was newly created by the test developer.

There are six parts of the test, regarded as:

(1) Phonetic Alphabet ("Alfabet Fonetyczny");
(2) Artificial Language ("Sztuczny Język");
(3) Hidden Words ("Ukryte Słowa");

(4) Number Learning ("Uczenie się liczb");
(5) Words in Sentences ("Słowa w zdaniach");
(6) New Words ("Nowe słowa").

The Phonetic Alphabet test (1) focuses on phonetic coding ability, which means that it examines one's ability to link the auditory version of the sound with the letter and retrain this association from memory for further manipulations while completing a particular task. Moreover, according to the author, the test allows measuring the capacity of one's auditory memory.

The second part, the Artificial Language test (2), which is not presented in the MLAT battery, tests the inductive language learning ability, letting learners perceive patterns in how linguistic forms change. Those patterns include singular and plural forms of nouns, tense shifts, and word formation rules. The task presents a list of different forms of words and phrases in an artificial language. After studying the examples for some time, examinees have to translate some fragments using both Polish and the artificial language of the task.

The Hidden Words sub-test (3) measures learners' phonetic coding ability. It is achieved in terms of comparing synonymous lexical items. The participants' task is to match synonyms despite one of them being in the form of a distorted word or phrase that lacks particular letters. The gaps in spelling should be completed based on the memorised version of the given word and the ability to associate sounds with letters.

The fourth component (4) combines examining two FLA variables covered in prior sub-tests, namely, phonetic coding ability and inductive language learning. However, its structure is more auditory-based if compared with the first sub-test of the battery since the information and the instructions are transmitted through audio. Moreover, learners' phonological memory is also tested due to the immediate response required.

The next sub-test (5) serves as a tool for grammatical sensitivity assessment. It examines learners' ability to notice syntactic functions of chosen words that are presented in a sentence without explicitly and specifically naming them.

The closing TUNJO part is specifically constructed to evaluate learners' capacity to remember a lexical item provided in an isolated context via visual and audio channels within a relatively short period of time.

The structures of the TUNJO and MLAT tests and their coverage of the FLA components are presented in the table below:

Table 2. The structure of the MLAT and the TUNJO batteries compared

The TUNJO battery	The MLAT battery	FLA components covered
Test I Phonetic Alphabet	Test II Phonetic script	Phonetic coding ability
Test II Artificial Language	not presented	Inductive language learning ability
Test III Hidden Words	Test III Spelling Clues	Phonetic coding ability
Test IV Number Learning	Test I Number Learning	Phonetic coding ability, inductive language learning and phonological memory
Test V Words in Sentences	Test IV Words in sentences	Grammatical sensitivity
Test VI New Words	Test V Paired Associates	Rote learning ability

Based on the total number of points earned in the TUNJO test, the level of aptitude is set. On the one hand, the results provide information about the relative ease and speed with which a learner masters a foreign language. The higher the learner scores in a given group, the higher their level of aptitude. Furthermore, according to Rysiewicz (2008), relying on the results of sub-tests, one can distinguish between three aptitude modalities or profiles: phonetic, analytical, and memory. From a pedagogical and educational perspective, these findings are extremely valuable and precious since it may be possible to adjust teaching techniques and methods to suit the needs of learners with a particular modality.

The results of the test, which included total scores in the battery and its subtests, as well as the information regarding the learning modalities of the students, were interpreted following the instructions provided by the author.

In the second stage, the oral phonetics test (Appendix 1) was used to assess the rate of participants' general phonetic ability. The test employed for the phonetic ability assessment was created as an adaptation of the existing examples (Celce-Murcia et al. 2010). Even though in pronunciation testing prosodic features such as intonation or stress are often neglected due to their assumed complexity (Dlaska & Krekeler 2008: 508), the implemented test focuses both on segmental and suprasegmental phonetics. Additionally, the content of the test corresponds to the syllabi of the practical phonetics courses taught during the BA programme at the University of Białystok.

The phonetics test is comprised of four minor parts. While the first part of the test covered only segmental features—the accurate pronunciation of the chosen items, the remaining subtests holistically assessed pronunciation, addressing both segmental and suprasegmental phonetics. The sub-tests can be regarded as follows:

Part I. The Minimal Pairs test;

Part II. The Scripted Paragraph test;

Part III. The Scripted Dialogue test;

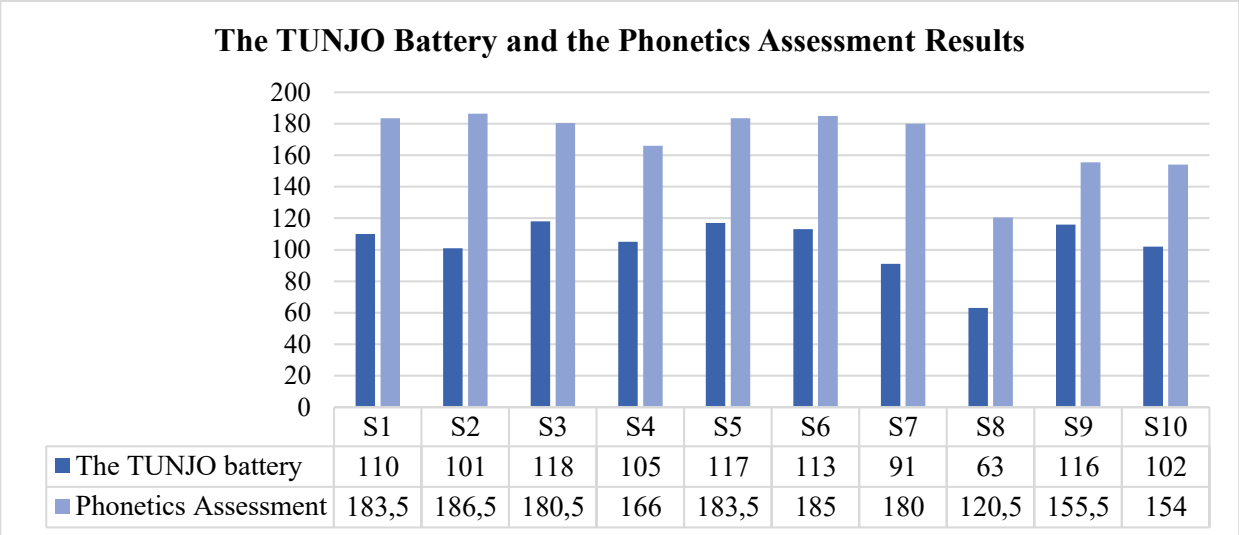
Part IV. The Free Speech test.

To design the test, thorough analyses of the syllabi content and the teaching materials used during practical phonetics classes were initiated. As a result, the most problematic sounds were selected for the first subtest, and the list of twenty minimal pairs that differ only in one phoneme was created. During the second part, the test-takers were asked to read the paragraph diligently, paying particular attention to the pronunciation of vowels and consonants, reduced forms, word and sentence stress, linking, and the intonation of statements. The following part, the scripted dialogue test, required being especially beware of intonation. Finally, the free speech subtest was designed to establish how well students could control their English pronunciation when they simultaneously had to concentrate on accuracy and content.

Each sub-test was recorded in the phonetics laboratory. The participants were asked to read the fragments aloud while being recorded. They were also offered several minutes so that they could prepare before they started recording parts II and III. The recordings were assessed by a phonetician teaching phonetics classes, using a scale from 1 to 5 (1=poor to 5=excellent) for each phonetic phenomenon.

6. Findings

The overall scores of the participants gained in the TUNJO battery (max. possible score = 145, max. score in the group = 118, min. score in the group = 63) and the phonetics assessment (max. possible score = 210, max. score in the group = 186.5, min. score in the group = 120.5) are presented in the bar graph below (Figure 1):



	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
The TUNJO battery	110	101	118	105	117	113	91	63	116	102
Phonetics Assessment	183,5	186,5	180,5	166	183,5	185	180	120,5	155,5	154

Figure 1. The TUNJO Battery and Phonetics Assessment total

The scores obtained in the sub-tests of the TUNJO battery by each participant are presented in Figure 2.

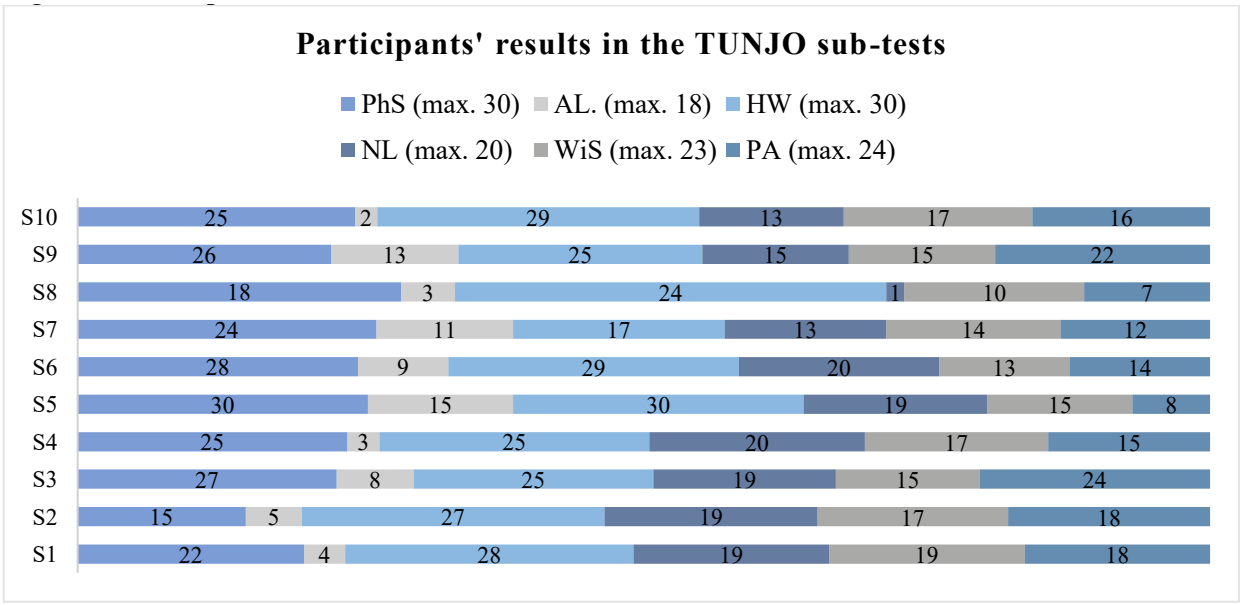


Figure 2. Participants' results in the TUNJO sub-tests

It is apparent from this chart that in the TUNJO test (M = 103.6, SD = 16.63, range = 55), with a total of 145 points, the majority of the students scored from 100 to 118 points. Only two participants obtained scores lower than 100 points, earning 91 and 63 points. The participants gained an average score of 24 points in the Phonetic Script test, 7.3 points in the Artificial Language test, 25.9 points in the Hidden Words test, 15.8 points in the Number Learning, 15.2 points in the Words in Sentences test, and 15.4 points in the Paired Associates test.

The scores accumulated in the minor parts of the Phonetics assessment test can be demonstrated by employing the following graph (Figure 3):

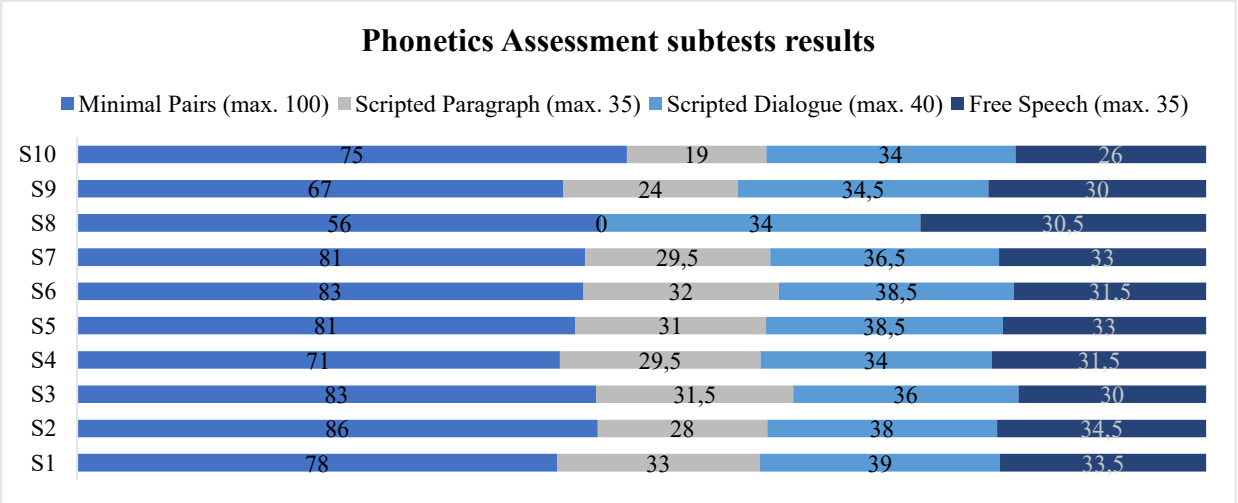


Figure 3. Phonetics Assessment subtests results

In the Phonetics Assessment test (M = 169.5, SD = 21.09, range = 66), test-takers mainly gained more than 150 out of 210 possible points. The average scores constitute 76.1 points in the Minimal Pairs test, 25.75 points in the Scripted Paragraph test, 36.3 points in the Scripted Dialogue test, and 31.35 in the Free Speech test.

Owing to the fact that this research looked into the nature of the relationship between learners' level of language aptitude and phonetic ability, the results revealed that half of the students in the group have a phonetic profile (N=5). Furthermore, data perusal revealed three representatives of a memory profile and two representatives of an analytical profile.

Statistical analysis was performed using SPSS software. Spearman's rank correlation coefficient was implemented to statistically analyse the data due to the relatively limited sample (N=10). Three primary variables were taken into consideration while conducting correlational analysis:

(1) the total results obtained in the TUNJO test;

(2) the total score gained in the phonetics assessment;

(3) aptitude modalities.

Contrary to the initially formulated hypothesis, correlational analysis of the quantitative data conducted utilising the SPSS software and the Spearman correlation coefficient revealed no significant correlations between the level of aptitude and the rate of pronunciation skills in the sample (Spearman's rho = 0.316, p = 0.374). Further steps in the analytical examination of the results showed no correlations between students' phonetic aptitude modalities and their results in the phonetic assessment (Spearman's rho = 0.137, p = 0.980).

7. Discussion

An initial objective of the currently discussed study was to identify the relationship between English Philology students' level of foreign language aptitude and their general phonetic ability. With respect to the fact that strong correlations between FLA and L2 performance have been reported in the literature (Baker Smemoe & Haslam 2013; Li 2015), it was hypothesised that there would be a positive correlation between the two variables. In order to determine this relationship, the study also set out with the aim of assessing students' aptitude level and their pronunciation skills. Regarding the first and the second research questions, it was hypothesised that participants, who belong to the group of English Philology students, would have relatively high levels of FLA and phonetic performance. The final research question was designed to identify the predominant aptitude profile among the participants.

From the data, we can see that students' FLA (max. = 145, M = 103.6, SD = 16.63) and pronunciation skills (max. = 210, M = 169.5) levels are relatively high. On the question of the relationship between FLA and phonetic abilities, the results of the research do not

support the previous findings. The present study fails to show any statistically significant correlations that occur between students' language aptitude and phonetics skills. These inconsistencies and rather contradictory results may have occurred because the sample consisted of English philology students. Therefore, test takers either may have initially had high levels of aptitude that may have influenced their choice of the academic discipline to study, or might have made considerable progress in terms of their pronunciation skills as a consequence of their studies.

Another significant piece of information, especially from didactic and pedagogic points of view, is students' aptitude modalities. The results indicated five representatives of a phonetic aptitude profile, three of a memory aptitude profile, and two of an analytical aptitude profile. Proper interpretation of these findings is essential to the teaching and learning processes since it can impact the choice of the aids, methods and techniques implemented during the classes. Both teachers and learners might gain from setting up a more personalised learning environment based on students' needs and preferences in terms of their aptitude profiles.

Among the potential limitations of the undertaken study that may have impacted the final results, the following criteria can be acknowledged and reviewed: (1) insufficient sample size for statistical measurements, and (2) measurement procedures and materials implemented in the study. Firstly, the sample was relatively limited because it comprised only ten students, so caution must be applied while discussing the results. Nevertheless, considering that the given study serves as explanatory research, the rather limited sample size can be justified. Therefore, as far as the proceeding steps of the study are concerned, the number of participants should be increased in view of the fact that a larger sample size yields more reliable data. Another limitation may have arisen from the choice and composition of the measurement tools. Yet, in the case of the TUNJO test, which seeks to determine the level of aptitude, there is strong evidence suggesting its validity submitted by Rysiewicz (2008) and Stansfield & Reed (2019).

8. Conclusion

The present study examined the relationship between learners' level of foreign language aptitude and the level of general phonetic ability in a group of English Philology students. The participants earned relatively high scores both in aptitude and phonetics tests. These results should be interpreted with caution since correlational analysis revealed no correlations between students' aptitude and phonetic ability. The reason for the lack of correlation may lie in the composition of the sample. The group of students, with similar linguistic competencies and experiences, may have scored highly because of their prior knowledge and high levels of aptitude. The main conclusion that may be drawn from the examination of the results is that foreign language aptitude cannot serve as a universal predictor of learners' success in FL mastering. Therefore, while conducting

fully-fledged research, other individual differences or affective factors might be taken into account. In addition, a larger sample would allow for investigating the issue from a broader perspective and provide more accurate results.

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Appendix 1

Phonetics Assessment

Part 1 – Minimal Pairs

The participants are asked to read the list of twenty minimal pairs while being recorded. Then, the rater listens to their recordings and assesses their correctness. The scale will be the same for each pair:

In your opinion, rate the pronunciation of each pair from 1 to 5 (1=poor to 5=excellent).

The anticipated pronunciation of sounds is provided in the brackets after each pair; the participants will not see it.

1) peach pitch /i: – ɪ/
2) mess mass /e – æ/
3) mark much /a: – ʌ/
4) odd awed /ɒ – ɔ:/
5) Luke look /u: – ʊ/
6) allusion illusion /ə – ɪ/
7) Roy raw /ɔɪ – ɔ:/
8) ear err /ɪə – ɜ:/
9) poor pour /ʊə – ɔ:/
10) rope robe /p – b/
11) mouth *(n.)* mouth *(v.)* /θ – ð/
12) long longer /ŋ – ŋg/
13) soot sought /ʊ – ɔ:/
14) sum psalm /ʌ – a:/
15) use *(v.)* use *(n.)* /z - s/
16) wrote road /t – d/
17) couch catch /aʊ – æ/
18) cloy claw /ɔɪ – ɔ:/
19) breathe breeze /ð – z/
20) sick psych /ɪ – aɪ/

Part 2 – Scripted Paragraph

The group is asked to read the paragraph while they are being recorded. The participants are given several minutes to prepare before reading the fragment out loud. Later, the assessor rates the recordings, paying particular attention to the following criteria:

In your opinion, rate the pronunciation of the paragraph from 1 to 5 (1=poor to 5=excellent) regarding the following phenomena:

The pronunciation of vowels	
The pronunciation of consonants	
Reduced forms	
Word stress	
Sentence stress	
Linking	
Intonation of statements	

Over the past one and a half centuries, photography has been used to record all aspects of human life and activity. During this relatively short history, the medium has expanded its capabilities in the recording of time and space, thus allowing human vision to be able to view the fleeting moment or to visualise both the vast and the minuscule. It has brought us images from remote areas of the world, distant parts of the solar system, as well as the social complexities and crises of modern life. Indeed, the photographic medium has provided one of the most important and influential means of capturing the essence of our being alive. Nonetheless, the recording of events by means of the visual image has a much longer history. The earliest creations of pictorial recording go as far back as the Upper Palaeolithic period of about 35,000 years ago and, although we cannot be sure of the exact purposes of the early cave paintings, pictorial images seem to be inextricably linked to human culture as we understand it *(taken from Cambridge English Level 3 Certificate in ESOL International. Sample Paper).*

Part 3 – **Scripted Dialogue**

The participants are asked to read the dialogue as if role-playing it while being recorded, paying attention to weak forms, linking, intonation, and syllable and sentence stress. The dialogue is taken from "How now, brown cow?: A Course in the Pronunciation of English with Exercises and Dialogues" by M. Ponsonby (1987). The participants are given a few minutes to look through the text. Later, the rater is asked to assess their reading according to the following chart:

In your opinion, rate the pronunciation of the dialogue from 1 to 5 (1=poor to 5=excellent) regarding the following phenomena:

The pronunciation of vowels	
The pronunciation of consonants	

Weak forms	
Word stress	
Sentence stress	
Linking	
The intonation of tag questions	
Falling intonation of statements and 'wh-' questions	
Falling-rising intonation of 'yes-no' questions	

DIALOGUE 56. Listening to the plants talking

GEORGE: That's a funny sort of position you're sitting in, isn't it?
ANDREW: I'm listening to the plants talking.
GEORGE: Andrew! Plants can't talk—everybody knows that.
ANDREW: But they make noises. Not noises like the ones human beings make. Not even animal noises. Special sounds. You can hardly hear them with the human ear.
GEORGE: Well, if they aren't audible, how do you *know* they make them? Come on, you're just joking, aren't you?
ANDREW: I'm as serious as . . . as . . . Sunday. Honestly, George. Cross my heart and hope to die.
GEORGE: What's that thing that's hanging round your neck? Looks like a sort of a snake.
ANDREW: It's a doctor's stethoscope. Lie down on the ground and put the stethoscope into your ears. Hear anything?
GEORGE: Golly, I *did*! How extraordinary! A very high-pitched squeaking! It can't be the plants, can it?

Image 1 Part 3 Scripted dialogue (taken from Pronsonby 1987)

Part 4 – Free speech

The participants are asked to answer questions about their experiences while completing courses on phonetics at the university during their BA programme:

- *What do you think about the two-year course on phonetics that you completed during your bachelor's programme?*
- *Has the level of your competence when it comes to pronunciation changed? If so, what are the areas in which you made significant progress?*
- *Did you find the classes you attended helpful in acquiring the rules of English phonetics?*
- *What interesting things did you learn?*
- *What part of the course did you find the most important/least important?*

After that, the rater assesses the recorded fragments of participants' speech regarding the following criteria:

In your opinion, rate the pronunciation from 1 to 5 (1=poor to 5=excellent) regarding the following phenomena:

The pronunciation of vowels	
The pronunciation of consonants	
Weak forms	
Word stress	
Sentence stress	
Linking	
Intonation	