



## Diplomová práce

# Effectiveness of phonemic awareness-based exercises in enhancing the skill of transcribing

*Studijní program:* N0114A300106 Učitelství pro střední školy a 2. stupeň základních škol

*Studijní obory:* Anglický jazyk  
Dějepis

*Autor práce:* **Bc. Aneta Stejskalová**

*Vedoucí práce:* Mgr. Alexey Tymbay, CSc.  
Katedra anglického jazyka

Liberec 2023



## Zadání diplomové práce

# Effectiveness of phonemic awareness-based exercises in enhancing the skill of transcribing

<i>Jméno a příjmení:</i>	<b>Bc. Aneta Stejskalová</b>
<i>Osobní číslo:</i>	P21000930
<i>Studijní program:</i>	N0114A300106 Učitelství pro střední školy a 2. stupeň základních škol
<i>Specializace:</i>	Anglický jazyk Dějepis
<i>Zadávací katedra:</i>	Katedra anglického jazyka
<i>Akademický rok:</i>	2021/2022

## Zásady pro vypracování:

Účelem této diplomové práce je posoudit, zdali cvičení zaměřená na fonémické vědomí mají účinek na schopnost transkribovat slova. Práce navazuje na předešlý výzkum, jež cílil analyzovat chyby, které se objevují v transkripcích, a to z důvodu využití zanalyzovaných chyb jako zdrojového materiálu pro určení chyb typických pro výzkumné subjekty této diplomové práce. Potřebná data budou získána prostřednictvím diagnostického testu ověřujícího schopnost subjektů transkribovat a již zmíněnými cvičeními zaměřenými na fonémické vědomí. Zároveň budou ona potřebná data seskupena od dostatečného počtu subjektů. Odborné poznatky budou získány na základě čtyř relevantního akademického materiálu.

*Rozsah grafických prací:*

*Rozsah pracovní zprávy:*

*Forma zpracování práce:*

*Jazyk práce:*

tištěná/elektronická

Angličtina

### **Seznam odborné literatury:**

Brown, Adam. 2014. Pronunciation And Phonetics: A Practical Guide For English Language Teachers. 1st ed. New York: Routledge. ISBN 978-0-415-72275-9.

Crystal, David. 2008. A Dictionary Of Linguistics And Phonetics. 6th ed. Oxford: Blackwell publishing. ISBN 978-1-405-15296-9.

Roach, Peter. 2009. English Phonetics And Phonology Fourth Edition: A Practical Course. 4 ed. Cambridge: Cambridge Press.

Lewkowicz, N. K. 1980. "Phonemic awareness training: What to teach and how to teach it." *Journal of Educational Psychology*, 72, 686–700.

Robinson, Gregory C., Justus, Barbara, Mahuri, Stacey L. 2011. "Predicting Difficulties in Learning Phonetic Transcription: Phonemic Awareness Screening for Beginning Speech-Language Pathology Students." *Contemporary Issues in Communication Science and Disorders*, 38, 87-95.

Snider, V. E. 1995. "A primer on phonemic awareness: What it is, why it's important, and how to teach it." *School Psychology Review*, 24, 443–455.

*Vedoucí práce:*

Mgr. Alexey Tymbay, CSc.

Katedra anglického jazyka

*Datum zadání práce:*

6. listopadu 2021

*Předpokládaný termín odevzdání:* 15. prosince 2022

L.S.

prof. RNDr. Jan Pícek, CSc.  
děkan

Mgr. Zénó Vernyik, Ph.D.  
vedoucí katedry

V Liberci dne 6. listopadu 2021

## Prohlášení

Prohlašuji, že svou diplomovou práci jsem vypracovala samostatně jako původní dílo s použitím uvedené literatury a na základě konzultací s vedoucím mé diplomové práce a konzultantem.

Jsem si vědoma toho, že na mou diplomovou práci se plně vztahuje zákon č. 121/2000 Sb., o právu autorském, zejména § 60 – školní dílo.

Beru na vědomí, že Technická univerzita v Liberci nezasahuje do mých autorských práv užitím mé diplomové práce pro vnitřní potřebu Technické univerzity v Liberci.

Užiji-li diplomovou práci nebo poskytnu-li licenci k jejímu využití, jsem si vědoma povinnosti informovat o této skutečnosti Technickou univerzitu v Liberci; v tomto případě má Technická univerzita v Liberci právo ode mne požadovat úhradu nákladů, které vynaložila na vytvoření díla, až do jejich skutečné výše.

Současně čestně prohlašuji, že text elektronické podoby práce vložený do IS/STAG se shoduje s textem tištěné podoby práce.

Beru na vědomí, že má diplomová práce bude zveřejněna Technickou univerzitou v Liberci v souladu s § 47b zákona č. 111/1998 Sb., o vysokých školách a o změně a doplnění dalších zákonů (zákon o vysokých školách), ve znění pozdějších předpisů.

Jsem si vědoma následků, které podle zákona o vysokých školách mohou vyplývat z porušení tohoto prohlášení.

## **Acknowledgements**

First and foremost, I would like to thank my supervisor Mgr. Alexey Tymbay, CSc. for his guidance and constructive criticism provided. Secondly, I would like to thank Mgr. Nicola S. Karásková, M.A., PGCE, Dip. RSA, LTCL DipTESOL for the opportunity to conduct the research in her course. Finally, I would like to thank my friends and family for their encouragement.

## **Abstrakt**

Diplomová práce se zabývá vlivem fonémického vědomí na četnost chyb v transkripcích. Práce cílí posoudit do jaké míry cvičení zaměřená na fonémické vědomí ovlivňují četnost chyb v transkripci. Tento jev byl zkoumán prostřednictvím metody aplikovaného výzkumu. Na základě zjištěných výsledků byla stanovena rozsah vlivu vytvořených cvičení na četnost chyb.

## **Abstract**

The diploma paper deals with the effect of phonemic awareness on the frequency in transcription mistakes. The aim of paper is to identify the extent to which the frequency alter under the influence of phonemic awareness-based exercises. This phenomenon was studied following the method of action research. Based on the findings the extent to which the frequency alters under the influence of phonemic awareness was recognized.

## **Anotace**

Diplomová práce pojednává o výzkumu vlivu cvičení využívajících fonémické vědomí na četnost chyb ve fonémických transkripcích. Práce popisuje dřívější výzkum, který se zabýval využitím fonémického vědomí jako nástroje pro detekování problematických jevů spojených s transkribováním. Práce navazuje na předcházející výzkum, jehož cílem bylo analyzovat nejčastější chyby ve fonémických transkripcích. Tyto chyby sloužily jako základ pro vytvoření diagnostického testu, skrze nějž byly detekovány chyby typické pro účastníky tohoto výzkumu. Na základě zjištěných chyb byla vytvořena cvičení zaměřená na fonémické vědomí. Cvičení byla založena na vybraných dovednostech definovaných institucí National Reading Panel. Těmito dovednostmi jsou identifikace a izolace fonémů. Vliv vytvořených cvičení byl následně ověřen prostřednictvím testu zaměřeného na transkripci. Výsledky diagnostického testu, vytvořených cvičení a ověřovacího testu byly vzájemně porovnané. Na základě komparace byly vyvozeny závěry o vlivu cvičení využívajících fonémické vědomí na četnost chyb v transkripcích.

**Klíčová slova:** foném, fonémické vědomí, fonémická transkripce, chyby v transkripci, cvičení zaměřená na fonémické vědomí

## **Annotation**

The diploma paper studies the effect of phonemic awareness-based exercises on the frequency of transcription mistakes. The paper makes reference to previous research into the phonemic awareness being used as a tool for diagnosing problematic aspects related to transcribing. The paper follows up an earlier research into transcription mistakes. These mistakes served a basis for designing a diagnostic test by means of which transcription mistakes typical the participants of this research were analysed. On the basis of the mistakes analysed, phonemic awareness-based exercises were created. The exercises were based on selected phoneme tasks recognized by the National Reading Panel. Namely, these phoneme tasks were phoneme identity and phoneme isolation. The effect of the phonemic awareness-based exercises was assessed through a final transcription test. The results gained in the diagnostic test, phonemic awareness-based exercises and the final transcription test were afterwards compared. Based on the comparison, the conclusions about the effect of phonemic awareness-based exercises on the frequency of transcription mistakes were formulated.

**Key words:** phoneme, phonemic awareness, phonemic transcription, transcription mistakes, phonemic awareness-based exercises



# Contents:

List of Tables.....	10
List of Abbreviations .....	11
Introduction.....	12
<b>1 Literature review .....</b>	<b>14</b>
1.1 Definition of a phoneme .....	14
1.2 Phonemic awareness.....	16
1.2.1 Problematic aspects of sound-spelling rules in English.....	19
1.2.2 Phonemic awareness teaching .....	22
1.2.3 Methodological implications on teaching phonemic awareness .....	23
1.2.4 Phonemic awareness as a teaching tool.....	26
1.3 Implication of phonemic awareness-oriented training .....	27
1.4 Previous research into transcription mistakes.....	30
1.4.1 Most common miswritten phonemic symbols.....	32
1.4.2 Problematic digraphs .....	32
1.4.3 Problematic two-letter graphemes .....	33
1.4.4 Problematic one-letter graphemes .....	34
1.4.5 Lack of familiarity with progressive assimilation of voice and silent letters....	34
1.4.6 Limitations.....	36
<b>2 Methodology of research.....</b>	<b>36</b>
2.1 Research method .....	36
2.2 Procedure .....	38
2.3 Phonetics and Phonology course .....	39
2.4 Participants.....	41
<b>3 Practical part .....</b>	<b>42</b>
3.1 Materials .....	42
3.1.1 Diagnostic test .....	42
3.1.2 Phonemic awareness-based exercises .....	45
3.1.2.1 Exercise 1 .....	46
3.1.2.2 Exercise 2 .....	47
3.1.2.3 Exercise 3 .....	49
3.1.2.4 Exercise 4.....	51
3.1.2.5 Exercise 5.....	52
3.1.2.6 Exercise 6.....	54
3.1.2.7 Exercise 7.....	56
3.1.3 Final transcription test.....	57
3.2 Results analysis .....	58
3.3 Discussion .....	67
Conclusion .....	72
Bibliography.....	76

## List of Tables

<b>Table 1</b> Same pronunciation but different .....	20
<b>Table 2</b> The same spelling/different pronunciation .....	20
<b>Table 3</b> Phoneme tasks applied by Robinson, Mahurin, and Justus.....	28
<b>Table 4</b> Miswritten phonemic symbols.....	32
<b>Table 5</b> Problematic digraphs.....	33
<b>Table 6</b> Problematic two-letters graphemes .....	33
<b>Table 7</b> Problematic one-letter graphemes.....	34
<b>Table 8</b> Progressive assimilation of voice.....	36
<b>Table 9</b> Mistakes tested in the diagnostic test .....	43
<b>Table 10</b> Mistakes elements and attributes in words .....	44
<b>Table 11</b> Attributes of problematic graphemes and digraphs .....	45
<b>Table 12</b> Mistakes included in the PA-based exercises .....	45
<b>Table 13</b> Exercise 1.....	47
<b>Table 14</b> Exercise 2.....	49
<b>Table 15</b> Exercise 3.....	50
<b>Table 16</b> Exercise 4.....	52
<b>Table 17</b> Exercise 5.....	54
<b>Table 18</b> Exercise 6.....	55
<b>Table 19</b> Exercise 7.....	57
<b>Table 20</b> Final transcription test .....	58
<b>Table 21</b> Typical mistakes in the diagnostic test.....	59
<b>Table 22</b> Results in the diagnostic and final transcription tests .....	60
<b>Table 23</b> Results in PA-based exercises .....	62
<b>Table 24</b> Decrease in mistakes frequency .....	63
<b>Table 25</b> The effect of PA-based exercises on transcription mistakes .....	64
<b>Table 26</b> Mistakes patterns.....	66

## **List of Abbreviations**

EFL – English as a Foreign Language

NRP – National Reading Panel

L1 – first language

PA – phonemic awareness

TUL – Technical University of Liberec

## **Introduction**

Phonemic awareness-based training has been traditionally used as a teaching tool in reading and pronunciation enhancement-oriented courses. In recent years, research also proved phonemic awareness-based practice to be an effective teaching tool in transcription training. In particular, the research showed that by means of phonemic awareness-based practice, it is possible to measure proficiency in transcribing (Robinson, Mahurin and Justus 2011, 87). What is more, the research also offered an argument that through phonemic awareness-based practice, it is also possible to determine whether learners are likely to develop difficulties in mastering the transcribing skill or not. These arguments seem to suggest that phonemic awareness-based training has a teaching potential in transcription training. For this reason, an initiative was taken to examine how phonemic awareness affects the frequency of transcription mistakes. Concretely, to examine the hypothesis that phonemic awareness-based practice helps to reduce transcription mistakes. Having taken the initiative led to the formation of three research objectives this diploma paper endeavours to achieve. Firstly, the paper seeks to identify to what extent the frequency of transcription mistakes alters under the influence of phonemic awareness-based exercises. Secondly, the paper attempts to determine the types of phonemic awareness-based exercises which reduce the transcription mistakes made by Czech EFL learners. Thirdly, the paper aims to design phonemic awareness-based exercises that help Czech EFL learners to reduce their transcription mistakes.

The rationale for carrying out this research emerges from the necessity of the transcribing skill in university programmes including Phonetics and Phonology courses. This is because the Phonetics and Phonology courses require transcription of speech in order to analyse its production, which is a key predisposition for a career of

a linguist. What is more, transcription is also crucial for the career of a language teacher who is expected to use transcription in his or her lessons so as to convey the pronunciation of words. Moreover, the teacher should feature as a pronunciation model for the students to acquire correct pronunciation. This suggests that transcription is required not only in university programmes focused on scientific linguistics but also in programmes oriented on EFL teaching. According to Robinson, Mahurin and Justus (2011, 87), some students who study either of these programmes manage to learn to transcribe easily, whereas others have difficulties with it. In their view, these students can be recognized through phonemic awareness-based practice, as already foreshadowed. This adds to the rationale for conducting the research into the effect of phonemic awareness-based practice on transcription mistakes frequency.

The research will make an attempt to prove the hypothesis that phonemic awareness-based practice helps to reduce transcription mistakes, thus, has a teaching potential in transcription training. The findings of this paper might inspire Phonetics and Phonology lecturers to incorporate the phonemic awareness-based practice into the course syllabus. Presumably, to help the students who developed difficulties with transcription to reduce the frequency of mistakes they make. Last but not least, the findings will provide a foundation for future research into related topics dealing with the teaching potential of phonemic awareness.

# 1 Literature review

## 1.1 Definition of a phoneme

To understand the phenomenon discussed in this diploma paper, it is necessary to introduce the term *phoneme*. It is because the term features a key role in phonemic awareness, which is the main focus of this paper. There are several concepts that explain the phoneme from various perspectives. The generally accepted perspective was introduced by a Russian linguist named L. V. Shcherba. Shcherba defined a phoneme as “a minimal abstract linguistic unit realized in a speech in the form of speech sounds opposable to other phonemes of the same language to distinguish the meaning of words” (Sokolova 2010, 18). Shcherba developed his theory by saying that a phoneme consists of three aspects. These aspects are functional, material and abstract.

Firstly, the phoneme is functional. This aspect refers to the function phonemes fulfil. As the definition mentioned above foreshadows, the meaning of words can be distinguished through phonemes. To take a concrete example, if the /b/ in the word *bath* was replaced by /p/, the word *path* would be produced. Furthermore, one phoneme can also change the message of whole sentences. Such an occurrence can be seen in the following sentences: “*He was heard badly. – He was hurt badly.*” (Sokolova 2010, 18). In these sentences, the phoneme /d/ was in the word *heard* replaced by the phoneme /t/ which changed the meaning of *heard* into *hurt*. As a result, the message of both sentences is modified. The first sentence delivers the message that the man was not audible enough, whereas the second conveys the message that the man had been seriously injured. What this implies is that the function of a phoneme can be recognized as distinctive. That is the reason why the functional aspect is applied when transcribing. When a student expected to transcribe a word confuses one

phoneme for another, there is a risk of transcribing a different word. For example, provided that the student confuses the phoneme /æ/ in the word *bad* for the phoneme /e/, the word *bed* is produced instead.

Secondly, the phoneme is material. The material aspect is also known as real or objective. The material aspect refers to the form the phonemes are actually realized in. The realization is mediated through speech sounds. These speech sounds are called *allophones* when standing for phonemes. There are two kinds of allophones – *principal* and *subsidiary*. Principal allophones are sounds that “do not undergo any distinguishable changes in speech” (Sokolova 2010, 19). A *principal* allophone is the sound /d/ in words like *door*, *darn* or *down*. In these words, the /d/ is produced in the same manner, place and voice regardless of neighbouring sounds. Consequently, no vocalic modifications are present when such words are pronounced. On the contrary, the phoneme /d/ undergoes vocalic modifications in the place and manner in words like *bedtime*, *sudden* or *admit* because of its neighbouring sounds. The neighbouring sounds affect the articulation of the phoneme /d/. Provided that the phoneme allophones undergo such vocalic modifications, they are called *subsidiary*. Nevertheless, speakers do not notice the vocalic modifications in real-life conversation immediately. Despite the vocalic changes, the allophones denote the same phoneme which has one meaning. The meaning does not change in spite of the modifications in the allophones.

In the speech, the meaning of a phoneme is isolated from its material form as the speakers focus on the meaning rather than the articulatory form. That is why the phoneme is understood to have an abstract aspect. The abstract aspect of a phoneme marks the process of isolating its meaning from the allophones. For that reason, the phoneme could be regarded as an abstract unit, not a material one. However, phonemes

are material since they are realized in the speech by means of speech sounds (i.e. allophones). What this implies is that a phoneme is an abstract as well as a material unit. Thus, a phoneme can be studied from both of these viewpoints. Two types of transcription are used to specify the aspect a phoneme is studied from. The transcription expressing the abstract aspect is called *phonemic* or *broad*. In this type of transcription, the emphasis is primarily put on the meaning. That is why phonemic transcription is used as a teaching tool in EFL teaching. The transcription denoting vocalic modifications of a phoneme is known as *allophonic*. This type of transcription is also referred to as *narrow* or *phonetic*. Because phonetic transcription provides in-depth information about articulatory features of speech sounds, it is employed in scientific research (Sokolova 2010, 24-25). In this field of research, phonetic transcription is mainly used in studies that require a detailed analysis of speech. The focus of this research is placed on the meaning of the phonemes, not their allophones. For this reason, phonemic transcription was employed.

In written discourse, phonemes are symbolized by characters called *graphemes*. As a *grapheme* is regarded a letter or a group of letters that represent phonemes in given words. To differentiate graphemes from other linguistics units, they are depicted in enclosed angle brackets. As an example of a grapheme is the letter <a> in *bad*, where it represents the phoneme /æ/. Yet, when a grapheme comprises of two letters which represent one phoneme, it is called a *digraph*. A digraph is, therefore, the <oo> in the word *loose* where it represents the phoneme /u:/.

## **1.2 Phonemic awareness**

The ability to separate the graphemes in a word into phonemes and manipulate these phonemes is called *phonemic awareness* (Krashen 1999, 412). This means that phonemic awareness marks the ability to identify which graphemes represent which



phonemes in a word and vice versa. In practice, it defines the ability to recognise that each of the graphemes in the word *ox* represents one of the three phonemes /b/,/k/ and /s/ (Krashen 1999, 412). On taking into consideration the aspects of a phoneme discussed in the previous chapter, it appears that in phonemic awareness, the functional and abstract aspects are employed. It is because phonemes are recognized to symbolize a certain meaning (the functional aspect) which involves distancing the phonemes from their material form (the abstract aspect). This is important for the diploma paper as phonemic awareness is applied in transcribing. Transcribing requires the identification of phonemes represented by particular graphemes, which in fact, means that the functional and abstract aspects of the phonemes are employed.

Phonemic awareness is often considered to be the final level of so-called *phonological awareness*. Phonological awareness stands for a general term that denotes “a continuum of abilities” (McShane 2005) to understand that spoken language can be manipulated and divided into separate sound units (Kibby in Alhums and Awwad 2020, 815). For example, it marks the ability to segment a sentence into words, divide words into syllables or identify which of them rhyme (McShane 2005). Chard and Dickson (in Alhums and Awwad 2020, 816) believe that phonological awareness can be classified into three levels. The first level involves the ability to segment a sentence into words. Chard and Dickson consider this level to be the easiest. The more complex level, defined as the second level, marks the ability to divide a word into syllables. The second level also stands for understanding that syllables can be combined into words. After the second level follows the third level. The third level is referred to as phonemic awareness. In the view of Chard and Dickson (in Alhums and Awwad 2020, 816) the third level is the most complex since it involves segmenting phonemes in a word. Segmenting a word into component phonemes requires a precise

perception of speech sounds. The third level, or phonemic awareness, stands for those phonological awareness abilities in which manipulation with individual speech sounds is applied, which has been mentioned earlier in this chapter. Such operations might include deleting or substituting sounds in a word to see whether it causes changes in its meaning and so forth. On the basis of these operations, Adams (1990, 80) defined five levels of phonemic awareness. The first level is characteristic by the ability to recognize words that rhyme. At the second level, this ability is broadened to the recognition of components that make the sounds in words similar or different. By these components are meant the allophones of the speech sounds and their meaning. The third level marks the notion that words can be divided into phonemes. The third level also involves comprehension of the ways sounds are produced in. Adams (1990, 80) urges that the ability to produce phonemes should develop at least to this level. The fourth level denotes the ability to analyse phonemes in a word meanwhile, the fifth level refers to the ability to manipulate these phonemes. Such manipulation stands for deleting or moving a phoneme to another position where it creates a different (or a non-existent) word. The abilities typical for the fifth level were recognised by the National Reading Panel as phoneme tasks nowadays used to enhance the development of phonemic awareness. These tasks are further described in Chapter 1.2.3.

The phoneme manipulation abilities are the reason why phonemic awareness is considered to be a predisposition for mastering so-called sound-spelling rules. It is because of the necessity to divide spoken language into separate units and recognise segments representing them (Bassetti 2012, 5312). Ideally, the recognition appears in the format of one-to-one correspondence between a phoneme and a grapheme (Bassetti 2012, 5313). That is to say that one phoneme should always be represented by the same grapheme and vice versa. Unfortunately, few languages follow such a phoneme-

to-grapheme correspondence in terms of sound-spelling rules. What is more, in some languages, one grapheme can represent a series of phonemes. Similarly, in these languages, a phoneme can also be represented by various graphemes. English belongs to such languages. For example, the grapheme <a> can represent the phoneme /æ/ (as in the word *cat*), /e/ (in the word *bed*) or /ɔ:/ (in the word *tall*). On the other hand, the phoneme /b/ can be represented by the grapheme <b> (e.g. in *bear*) or the grapheme <bb> (e.g. in *rubber*) (Bassetti 2012, 5313). What this suggests is that sound-spelling rules in English are relatively complex to understand. The following chapter will attempt to explain the key attributes that make these rules complex.

### **1.2.1 Problematic aspects of sound-spelling rules in English**

To illuminate the complexity of English sound-spelling rules, it is necessary to explain the mutual influence between English spelling and pronunciation. Khansir (2015) believes that “English spelling and English pronunciation are hostile and strangers to each other; hostile, because neither accepts without a quarrel the usage of the other; strangers, because very often one does not recognize the other” (in Khansir and Tajeri 2015, 58). The reason behind the “hostility” lies in the historical development of the English language. English has borrowed many words from other languages, such as Latin, Greek or French. That is why the pronunciation of such words differs from their spelling. Khansir and Tajeri (2015) state that there are two kinds of the discrepancy between spelling and pronunciation. The first kind is typical for words in which the pronunciation is the same, but the spelling is different. Khansir and Tajeri (2015) take the sequence of phonemes /si:/ as an example. They enlist six words in which the sequence is pronounced alike but spelled differently. The words are depicted in Table 1. As the table shows, the same sequence can be spelled as *see* and *sea*, <sce>, <cei> or <ce>.

Word	Pronunciation
See	/si:/
Senile	/si:nai/
Sea	/si:/
Scenic	/si:nɪk/
Ceiling	/si:lɪŋ/
Cedar	/si:də/

**Table 1** Same pronunciation but different spelling (Khansir and Tajeri 2015, 63)

Khansir (in Krashir and Tajeri 2015, 62) mentions that this type of discrepancy also concerns words known as *homophones*. Homophones are words with “unrelated meanings, such as *pray* and *prey*, that are pronounced the same (/preɪ/) but spelled differently” (Brown 2014, 298). In the six words enlisted by Krashir, homophones are the words *see* and *sea*.

The second type of the discrepancy Krashir and Tajeri (2015) mention is characteristic for words in which the spelling is the same, but the pronunciation is different. This type of discrepancy can be seen in words that include the series of graphemes <ough>. Table 2 shows these graphemes in six words, enlisted by Khansir and Tajeri (2015), where the series is pronounced differently. The series can be pronounced, for example, as /ɒf/, /ʌf/ or /aʊ/.

Word	Pronunciation
Cough	/kɒf/
Tough	/tʌf/
Bough	/baʊ/
Through	/θru:/
Though	/ðəʊ/
Thoroughfare	/θʌrəfeə/

**Table 2** The same spelling/different pronunciation (Khansir and Tajeri 2015, 63)

Bassetti (2012) refers to these occurrences of the discrepancy between pronunciation and spelling as “one-to-many phoneme-grapheme correspondences” (Bassetti 2012, 5313). According to Moats and Tolman (2009), these correspondences might seem confusing to EFL learners in whose L1 there is the one-to-one

correspondence between graphemes and phonemes. Moats and Tolman (2009) urge that even native speakers find these correspondences difficult to understand.

Kenworthy (in Khansir and Tajeri 2015) believes there are several reasons why these correspondences seem confusing to EFL learners with the one-to-one correspondence between phonemes and graphemes in their L1. The reasons are the following:

- “Among learners whose native languages use the Roman alphabet, as English does, problems may be caused by confusion between the sound value of a particular letter in the native language and its value in English.” (Kensworthy in Khansir and Tajeri 2015, 62)
- “Learners whose native language uses a non-alphabetic system will have to adjust to alphabetic conventions.” (Kensworthy in Khansir and Tajeri 2015, 62)
- “Another source of difficulty is the English spelling system itself. As soon as learners are exposed to written English, they start to make generalizations about how the system works. Since English is an alphabetic system, this means basically sorting out which letter corresponds to which sound.” (Kensworthy in Khansir and Tajeri 2015, 62)
- “Last item is that there is the pronunciation of the learner. If a learner has difficulty in distinguishing English /p/ as in 'pet' from English /b/ as in *bet*, then, in doing a dictation, he or she may spell *pill* as *bill*.” (Kensworthy in Khansir and Tajeri 2015, 62)

As a result, the learners fail to determine which phonemes are represented by graphemes in words given and vice versa. This means that they fail to master the sound spelling rules. Moats and Tolman (2009) believe that developed phonemic awareness helps to prevent learners from failing to master these rules.

Mastering the sound spelling rules is necessary for developing word decoding and identification ability. For this reason, Moats and Tolman (2009) recommend phonemic awareness-based material to be used as a teaching tool in word decoding and word identification training. This argument was supported by Djiguimkoudre (2021, 62) who proved that developed phoneme awareness enhances *phoneme manipulation*, *phoneme identification* and *phoneme representation*. These phoneme operations are needed for the successful development of word decoding and word identification ability as well. What this implies is that phonemic awareness fosters the ability to attend to phonemes. According to Djiguimkoudre (2021, 62), this is the reason why phoneme awareness should be considered as a predisposition for the development of word decoding and word identification. Nevertheless, in order to develop these abilities to the full extent, it is necessary to adopt a high level of phonemic awareness.

### **1.2.2 Phonemic awareness teaching**

Phonemic awareness is not adopted naturally like other language skills like speaking (McShane 2005). Instead, phonemic awareness is learnt. This usually happens during the process of learning to read and write (McShane 2005). It is because the ability to decode how graphemes represent phonemes is required in reading and writing. The decoding results in creating mental images about the orthographic (graphemes) and phonological (phonemes) representation of words. These mental images are employed in transcribing (McShane 2005). Reading and writing are not the

only possibilities of how phonemic awareness can be learnt. In language teaching methodology, there are several implications for teaching phonemic awareness.

### **1.2.3 Methodological implications on teaching phonemic awareness**

Such implications can be found in Tieperman (2020). Tieperman (2020) mentions three procedures for interactive phonemic awareness teaching. The first procedure involves instructing the students to isolate individual phonemes. At the beginning, a simple word is written on the board. The teacher pronounces that word and asks the students to repeat it. Once they are familiar with its pronunciation, they try to separate the word into its component phonemes. Tieperman (2020) recommends separating the word gradually. This means that the teacher should first ask for the first phoneme and then proceed to the others. In other sources devoted language learning methodology, this type of activity is referred to as *phoneme isolation* (McShane 2005). Tieperman (2020) urges that teachers should demonstrate the isolation on their own before asking the students to do so. Afterwards, the students are instructed to count the number of phonemes the word consists of. In literature, the task involving counting the phonemes in a word is referred to as *phoneme segmentation* or *phoneme counting* (Kochaksaraie and Makiabadi 2017, 106). Tieperman (2020) believes that at this stage, the students should also be familiarized with the fact that a couple of graphemes can represent only one phoneme. At the end of the stage, the teacher should encourage the students to think of other words including the phoneme. It is because through this activity, the diversity in grapheme-to-phoneme representation can be demonstrated. Tieperman (2020) also mentions a follow-up for this exercise. The teacher instructs the students to find words that include various phonemes. To illustrate: the teacher asks the students to think of words that include at least one of the phonemes /ð/, /tʃ/, /æ/ or /ɒ/. According to Tieperman (2020), doing so is supposed to help the students

better understand the grapheme-to-phoneme relation. Also, the teacher could instruct the students to separate words that sound similar, like the words *shoe* and *shock*. Similarly, the teacher could ask the students to separate minimal pairs and stress out the difference between them. Tieperman (2020) advises the teacher to discuss the differences in minimal pairs with the students. Again, the purpose of the discussion is to enhance students' understanding of grapheme-to-phoneme correspondence. When the students are able to operate with the words at the level described above, Tieperman (2020) recommends instructing the students to create words out of the phonemes given. At first, the students should be asked to create simple words. Later on, they are asked to create more complex words. Tieperman (2020) suggests closing the procedure through an activity in which the teacher gives the students words and asks them to remove one phoneme to see whether they still make sense. Nonetheless, such words must be chosen carefully so that the words created after the removal are real. One example of such a word is *smile*. Provided that the /s/ is removed, the word *mile* is produced in return (Tieperman 2020). In other methodology-oriented resources, this activity is also referred to as *phoneme deletion*.

The second procedure, Tieperman (2020) mentions, includes an activity that can be used at the beginning of a phonemic awareness-oriented lesson. Tieperman (2020) believes that the teacher who decides to use the activity should choose target phonemes on which the lesson will primarily focus. Prior to the lesson, Tieperman (2020) recommends preparing a chart with two columns. Then, at the beginning of the lesson, the teacher should write a word at the top of each column. Then the teacher should encourage the students to fill the chart with words that rhyme with them. This activity should be followed by reciting short rhymes that include the words written in



the columns. According to Tieperman (2020), this procedure could be altered by using short sentences including the same words.

The third procedure Tieperman (2020) introduced is suitable for EFL classrooms. It is because the procedure takes the advantage of L1 phonological system on the background of the L2 phonological system. The procedure begins with revising how grapheme-to-phoneme correspondence works in L1. From this stage, the focus should be moved to contrasting between L1 and L2 grapheme-to-phoneme correspondence. Tieperman (2020) believes that explaining L2 grapheme-to-phoneme correspondence on the background of L1 grapheme-to-phoneme correspondence might help the students to understand it better. That is why Tieperman also recommends bringing lexical cognates into the procedure. Concretely, those cognates that are identical or very similar in both languages. Taking Czech and English as examples, the words *pistol* and *robot* could be taken and eventually contrasted from both phonological perspectives. It is possible that doing so could enhance students' awareness of differences in grapheme-to-phoneme correspondence between both languages (Tieperman 2020).

In addition to Tieperman, McShane (2005) suggests six phoneme tasks that enhance the development of phonemic awareness even in foreign language learning. This view is shared by the National Reading Panel, which recognized these tasks to enhance the development of phonemic awareness. The phoneme tasks both McShane and the NRP recommend are the following: *phoneme isolation*, *phoneme identity*, *phoneme categorization*, *phoneme blending*, *phoneme segmentation* and *phoneme deletion*. Each of the tasks involves operating with a phoneme from a different angle of view. Phoneme isolation, phoneme segmentation and phoneme deletion have been described earlier in this chapter. In the *phoneme identity* task it is necessary to

recognize a phoneme common to a series of words given. A concrete example of such a task is “*Tell the phoneme that is the same in bike, boy and bell*” (McShane 2005). In this case, the students’ answer should be /b/. Similarly, the *phoneme categorization* task stands for recognizing a word that includes an odd phoneme in comparison to other words given. This type of task is also referred to as *odd-one-out*. An example of this task could be the following: “Which word does not belong? *Bus, bun, rug*” (McShane 2005). On the contrary, the *phoneme blending* task involves listening to a sequence of individually spoken phonemes in order to derive the word they form. One such example could be the following: “What word is /s/ /k/ /u/ /l/ (school)?” (McShane 2005).

#### **1.2.4 Phonemic awareness as a teaching tool**

As already foreshadowed, phonemic awareness is developed in the process of reading, which means that there is a correlation between them. For the sake of this connection, phonemic awareness is traditionally used as a teaching tool at the primary level of education, where the reading skill is acquired (Alhumsy and Awwad 2020). Phonemic awareness is also helpful in programmes aiming to foster the reader’s proficiency. Especially in programmes dealing with reading problems. In such programmes, phonemic awareness proved to be an effective teaching tool because it requires operation at the phoneme level. Phoneme operation is essential for developing proficiency in reading. Moreover, phonemic awareness helps to automatize phonemes, which is also essential for successful reading development. For this reason, the National Reading Panel concluded phonemic awareness to have a direct impact on reading development (MacPhee 2018). Similarly, Moats and Tolman (2009) regard proficiency in phonemic awareness to be a predictor for reading fluency. Unlike National Reading Panel, Moats and Tolman (2009) supported their belief in the

hypothesis that phonemic awareness is a foundation for reading development. Moats and Tolman (2009) believe that it is because proficiency in phonemic awareness enables the reader to divide a word into its constituent sounds, recognize these sounds and determine them to represent the meaning of the word. Particularly, it stands for recognizing that the word *ox* consists of three sounds (/ɒ/,/k/ and /s/) and symbolizes a male cow people harness to pull heavy objects. Low phonemic awareness proficiency can be then defined as an inability to make such a recognition. Moats and Tolman (2009) argue that the level of proficiency in this recognition indicates how successful a pupil will be in reading.

Reading is not the only field in which phonemic awareness is used as a teaching tool. Phonemic awareness is also used in programmes oriented on other language-related aspects. An example of this aspect is pronunciation training. In training programmes oriented on pronunciation, phonemic awareness appears in the form of classroom activities used to enhance the perception of phoneme-to-grapheme correspondence. These activities are usually based on two tasks recommended by the National Reading Panel. Namely, the tasks are *phoneme segmenting* and *phoneme blending*. In addition to these tasks, other phonemes tasks, which the NRP does not mention, are used. These tasks are *phoneme addition* and *phoneme substitution*. *Phoneme addition* involves adding a phoneme to create a new word. On the other hand, *phoneme substitution* requires replacing a phoneme with another one so as to create a new word. Occasionally, phoneme substitution is also called *phoneme reversal*.

### **1.3 Implication of phonemic awareness-oriented training**

In the past years, the focus of phonemic awareness being used as a teaching tool in reading and pronunciation training moved to other areas. One of these areas is transcription training. Not so long ago, Robinson, Mahurin and Justus (2015)

conducted research into the teaching potential of phonemic awareness-based practice in transcription training. In particular, the research aimed to find out if the phonemic awareness-based practice could be used as a predictor for diagnosing students that are likely to develop difficulties with transcription. The main objective was to decide whether the performance in phonemic awareness provides evidence that would indicate proficiency in transcription. The research was implemented within a university course that focused on Phonetics and Phonology training. At the course beginning, the students were given a series of three phonemic awareness-based exercises. These exercises were based on three phoneme tasks introduced by the National Reading Panel introduced earlier in Chapter 1.2.3. Namely, the tasks were *phoneme deletion*, *phoneme reversal* and *phoneme segmentation*. In Table 3, these tasks are described in the context of the exercises.

<b>Exercise</b>	<b>Task</b>	<b>Instructions</b>
<b>Exercise 1</b>	<b>Phoneme deletion</b>	Deleting a phoneme and working out the meaning of what remained. An example being the word <i>mat</i> , in which it was necessary to delete the /m/ sound in order to realise that the word <i>at</i> is given in return (Robinson, Mahurin and Justus 2018, 90).
<b>Exercise 2</b>	<b>Phoneme reversal</b>	Pronouncing a given non-existent word backwards. Pronouncing the non-existent word backward resulted in pronouncing a real word (Robinson, Mahurin and Justus 2018, 90).
<b>Exercise 3</b>	<b>Phoneme segmentation</b>	Listening to a word, pronouncing it, segmenting the word into phonemes and pronouncing these phonemes separately (Robinson, Mahurin and Justus 2018, 90).

**Table 3** Phoneme tasks applied by Robinson, Mahurin and Justus

The purpose of these exercises was to measure students' proficiency in phonemic awareness in order to compare it with transcription performance later on. The exercises were followed by a transcription pre-test. In the test, the students were asked to transcribe sixty-two words. These words were projected on the screen by means of a PowerPoint presentation. So as to prevent the students from transcribing the words hurriedly, an unlimited number of repeating their projecting was allowed

(Robinson, Mahurin and Justus 2018, 91). The pre-test results were compared with the ones gathered in the phonemic awareness-based exercises. The comparison revealed that those students who performed poorly in the phonemic awareness-based exercises were also the ones with poor results in the transcription pre-test. So as to substantiate this finding, a transcription post-test was designed and given to the students. Like the pre-test, the post-test included sixty-two words to transcribe. The post-test procedure was identical to the one applied in the pre-test. The post-test brought results similar to those gained in the pre-test. The post-test results were also compared with the results from the phonemic awareness-based exercises. It revealed that the poor transcribers in the post-test were also the ones with poor performance in phonemic awareness. What is more, the performance of these poor transcribers in both pre-test and post-test was at the same level. This substantiated the earlier finding that the students with low proficiency in phonemic awareness perform poor transcription skill. Based on this, Robinson, Mahurin and Justus concluded that phonemic awareness-based practice has a diagnostic potential in transcription. They also recommended phonemic awareness-based practice to be used as a tool for predicting difficulties in mastering the transcribing skill (Robinson, Mahurin and Justus 2018, 91).

The conclusion reached by Robinson, Mahurin and Justus prompted the idea to conduct this research. Concretely, to identify the extent the frequency of transcription mistakes reduces to under the influence of phonemic awareness-based practice and to determine phoneme awareness-based exercises helpful for Czech EFL learners. The research materials were created on the same principle as the materials designed by Robinson, Mahurin and Justus. This means that a transcription pre-test, a series of phonemic awareness-based exercises and a transcription post-test were used. Yet, for the sake of the purposes the tests were applied for, they were called differently. The

transcription pre-test was referred to as a diagnostic test, meanwhile the transcription post-test as a final transcription test. Like the exercises created by Robinson, Mahurin and Justus, the phonemic awareness-based exercises designed in this research were based on the phoneme tasks introduced by the National Reading Panel. More details on all the research materials are to be found in Chapter 3.1. Additionally, the research also follows up my earlier research into transcription mistakes made by Czech EFL learners. These mistakes served as a basis for designing the diagnostic test used in this research. The following chapter is devoted to a description of the earlier research I conducted.

#### **1.4 Previous research into transcription mistakes**

My earlier research aimed to analyse transcription mistakes and the patterns these mistakes occur in. The tool by means of which the data necessary for the analysis were gathered had the form of a phonemic transcription-based test. The research procedure had five stages (Stejskalová 2021, 30). First of all, copies of the phonemic transcription-based test were collected. In total, five hundred copies were collected. Collecting such a large number of copies ensured the high reliability of the data gained (Stejskalová 2021, 31). Afterwards, each copy was examined, and the mistakes made in transcriptions were recorded. From the mistakes recorded, the most recurring ones were selected. For a mistake to be recognised as recurring, it was necessary to be made at least fifty times (Stejskalová 2021, 31). It means that out of five hundred students, at least fifty had to make such a mistake. Then the copies were studied again so as to check whether the mistakes recognised were indeed the most recurring ones. The final number of recurring mistakes was two thousand four hundred and twenty-seven (Stejskalová 2021, 31). Once the mistakes were recognised, they were categorised. In the year the research was conducted, it appeared that no categorisation of transcription

mistakes based on their relevance to phonemic transcription was designed before. The majority of the categorisation concepts designed before were based on the relevance of the mistakes to pronunciation (Stejskalová 2021, 32). An example being the concept of categorisation created by Trzeciakowska (2016, 168). Trzeciakowska (2016, 168) based the categorisation on the wrong determination of consonant or vowel sounds. What this suggests is that the categorisation needed to be created. The basis for creating the categorisation was the relevance of the mistakes to phonemic transcription. Out of all the recurring mistakes, an element common to a certain number was recognized. The element functioned as a criterion for classifying the mistakes into categories (Stejskalová 2021, 32). The elements were the following: graphemes (one-letter graphemes, digraphs, two-letters graphemes), phonemic symbols, progressive assimilation of voice and silent letters (Stejskalová 2021, 33).

The elements served as a basis for defining groups into which the transcription mistakes were categorised. The groups were as follows: problematic one-letter graphemes, miswritten phonemic symbols, problematic digraphs, problematic two-letter graphemes, lack of familiarity with progressive assimilation of voice and lack of familiarity with silent letters (Stejskalová 2021, 33). After categorising the mistakes, the patterns in which they occurred were identified. By the patterns are meant concrete instances of mistakes in transcription. To illustrate: the miswritten phonemic symbol /ɔɪ/ was found to be miswritten as /oi/, /oɪ/, /əɪ/, /ɒɪ/, /ɒj/ and /ɔi/. All of these forms were identified as the patterns in the mistake in /ɔɪ/ occurred in (Stejskalová 2021, 34). Now, each of the six groups will be described. The description is crucial for understanding the phenomenon discussed in this paper. In the description, the mistakes categorised into the six groups and their patterns will be referred to as well.

### 1.4.1 Most common miswritten phonemic symbols

The first group covers miswritten phonemic symbols. The highest number of mistakes, analysed in my earlier research, was categorised into this group. In total, sixteen mistakes were categorised (Stejskalová 2021, 49). These mistakes and their patterns are enlisted in Table 4.

Miswritten forms	Symbol			
	/əʊ/	/əʊə/	/ɔɪ/	/aɪə/
	/əʊ/	/oʊə/	/oi/	/aɪə/
	/ɔɪ/	/oʊə/	/oi/	
	/ɒʊ/	/oʊə/	/əɪ/	
	/oʊ/	/oʊə/	/oi/	
	/eʊ/	/əʊə/	/ɔɪ/	
	/əʊ/	/əʊə/		
	/oʊ/	/oʊə/		
	/ɔɪ/			
Miswritten forms	Symbol			
	/aʊ/	/ɔɪ/	/ə/	/aɪ/
	/ʌʊ/	/əɪ/	/ə/	/aɪ/
	/oʊ/	/ɛɪ/	/ɒ/	/aɪ/
	/aʊ/			/aɪ/
				/əɪ/
				/aɪ/
				/aɪ/
				/aɪ/
				/aɪ/
Miswritten forms	Symbol			
	/eɪ/	/ɔɪ/	/ʊ/	/aɪ/
	/eɪ/	/oɪ/	/u/	/aɪ/
		/oɪ/		
		/ɔɪ/		
		/ɔɪ/		
Miswritten forms	Symbol			
	/ɒ/	/ɪ/	/ɪ/	/tʃ/
	/o/	/ɪ/	/i/	/tʃ/
	/ɔɪ/	/ɪɪ/	/i/	
	/ɪɪ/	/ɪ/		

Table 4 Miswritten phonemic symbols

### 1.4.2 Problematic digraphs

The second group comprises of problematic digraphs. The number of mistakes categorised into this group was the highest after the miswritten phonemic symbols. On the whole, eleven mistakes were categorised into the group. The digraphs showed to be problematic in terms of determining the phoneme they represented. The phonemes wrongly determined to be represented by the digraphs were recognised as the patterns



(Stejskalová 2021, 51). All of the graphemes and their patterns are to be found in Table

5.

Digraph	Phoneme	Patterns
<th>	/ð/	/θ/
	/θ/	/ð/
<ng>	/ŋ/	/ɟ/, /ŋɟ/, /ŋg/, /dz/
	/ŋ/	/ŋg/, /ŋk/, /ŋ/, /ŋg/, /ŋg/
<ea>	/e/	/æ/, /ə/, /eə/, /ɜ:/
	/ɪə/	/eə/, /i:/
	/ɜ:/	/eə/, /æ/, /ə/
	/ɑ:/	/ʌ/, /ɜ:/, /æ/
<ou>	/i:/	/e/, /ɪ/, /æ/, /eə/, /ə/
	/au/	/əʊ/, /u:/, /ɔ:/, /ɜ:/, /ɜʊ/, /ʌə/
	/ɔ:/	/u:/, /ə/, /ɒ/, /əʊ/, /ʌ/, /ʊ/, /ɜ:/
<oo>	/ʊ/	/ə/
<oo>	/ʊ/	/u:/
<ai>	/eɪ/	/aɪ/, /ej/
<ee>	/i:/	/ɪ/, /ɜ:/
	/ɪə/	/eə/, /i:/, /ɜ:/
<ch>	/tʃ/	/ʃ/
<ie>	/aɪ/	/ɑ:ɪ/, /ɪə/, /i:/, /ɪ/, /eɪ/
	/i:/	/ɪ/
<oa>	/əʊ/	/ɔ:/, /ə/, /aʊ/
<oy>	/ɔɪ/	/ɔ:/, /ɔ:j/, /ɜ:j/

Table 5 Problematic digraphs

### 1.4.3 Problematic two-letter graphemes

The third group covers graphemes consisting of two letters. These letters did not represent one phoneme. Otherwise, they would be called *digraphs*. Instead, the graphemes represented two or more letters. Within the copies studied, only two of such graphemes occurred (Stejskalová 2021, 59). The graphemes together with the patterns they occurred in are depicted in Table 6. As in the case of problematic digraphs, the wrongly determined phonemes were recognised as the patterns (Stejskalová 2021, 59).

Two-letters graphemes	Phonemes	Patterns
<nk>	/ŋk/	/nk/, /ŋ/
<yo>	/jəʊ/	/jɔ:/, /jɒ/

Table 6 Problematic two-letters graphemes

### 1.4.4 Problematic one-letter graphemes

The fourth group includes mistakes typical by wrong determination of phonemes represented by one-letter graphemes. The group is referred to as problematic one-letter graphemes. All in all, eight one-letter graphemes were categorised into the group (Stejskalová 2021, 35). These one-letter graphemes are enlisted in Table 7. In the table, their patterns (i.e. wrongly determined phonemes) are depicted as well.

Grapheme	Phoneme	Patterns
<a>	/æ/	/ʌ/, /ə/, /e/, /ɑ:/, /ɜ:/, /eɪ/, /ɒ/
	/ə/	/e/, /æ/, /ʌ/, /ɜ:/
	/eɪ/	/e/, /æ/, /ə/, /aɪ/, /ɑ:/
	/ɑ:/	/æ/, /ʌ/, /e/
	/ɒ/	/æ/, /ɔ:/, /ʊ/, /ɜ:/, /ʌ/
<o>	/eə/	/ɜ:/, /e/, /æ/
	/əʊ/	/ɔ:/, /ə/, /ɒ/, /æ/, /ʌ/, /ʊ/, /ʊə/, /aʊ/, /u:/
	/ʌ/	/ɒ/, /ɔ:/
	/ɒ/	/ʌ/, /ɔ:/, /ɜ:/
<u>	/u:/	/ʊ/, /ə/, /əʊ/, /ɔ:/, /ɜ:/, /ʌ/
	/ə/	/ʊ/, /ɜ:/, /eə/, /ʌ/, /ʊə/
	/ʌ/	/ʊ/, /ə/, /e/, /ɑ:/, /u:/
<w>	/ʊə/	/ɜ:/, /u:/, /əʊ/, /ɔ:/
	/w/	/v/
<q>	/kw/	/kv/
<i>	/aɪ/	/ʌ/, /ɑ:/, /eɪ/, /ə/, /i:/, /ɪ/, /ɜ:/
<e>	/ɪ/	/ə/, /e/, /i:/
	/ɜ:/	/eə/, /ə/, /ɑ:/, /e/
	/eə/	/e/, /ɜ:/, /ə/
<j>	/dʒ/	/ʒ/, /g/, /j/, /tʃ/

Table 7 Problematic one-letter graphemes

### 1.4.5 Lack of familiarity with progressive assimilation of voice and silent letters

The fifth and sixth of the groups cover mistakes made in the progressive assimilation of voice and silent letters. As stated earlier in this chapter, the basis for designing the groups was the relevance of the mistakes to phonemic transcription. Nevertheless, some of the mistakes did not include elements characteristic for phonemic transcription. Thus, it was necessary to design the groups for such mistakes

on a different basis (Stejskalová 2021, 33). As an optimal solution appeared to be the transcription test by means of which the mistakes were analysed. Pivotaly, the aim of the test was to assess the transcribing skill. Besides the transcription, the test also aimed to assess the ability to identify silent letters and progressive assimilation in the words given. Naturally, mistakes occurred in identifying progressive assimilation as well as silent letters. For this reason, progressive assimilation and silent letters were determined to be the basis for designing groups for these mistakes (Stejskalová 2021, 33). In terms of the group designed for silent letters, the mistakes revealed students' failure to recognise the silent letters *r*, *w*, *b* and *k* (Stejskalová 2021, 62). What this means is that the students considered the letters to be pronounced in the words presented. Thus, the students included the letters in the transcriptions even though they are not pronounced (as well as transcribed) (Stejskalová 2021, 62).

The mistakes categorised into the group of lack of familiarity with progressive assimilation were made in recognizing the correct variation of pronunciation in the suffixes *-(e)s* and *-(e)d* (Stejskalová 2021, 61). The variations of pronunciation for these suffixes are dependent on the consonant sound preceding them. If the suffixes are preceded by a voiceless consonant, the suffix *-(e)s* is pronounced as /s/ and the *-(e)d* as /t/, meanwhile when the preceding consonant is voiced, the *-(e)s* is pronounced as /z/ and the *-(e)d* as /d/. An exception to these rules is the situation when the *-(e)s* is preceded by /s/, /z/, /ʃ/, /ʒ/, /tʃ/ or /dʒ/ and the *-(e)s* by /t/ or /d/. In this situation, the *-(e)s* is pronounced as /ɪz/ whereas the *-(e)d* as /ɪd/ (Brown 2014, 101). In most cases, the mistakes were made in determining a wrong pronunciation variation to represent the suffix given (Stejskalová 2021, 61). The patterns in which the wrong determination appeared are recorded in Table 8.

The suffix	The pronunciation-variation	The patterns
-(e)s	/s/	/z/
	/z/	/s/
	/ɪz/	/ɪs/
-(e)d	/t/	/d/
	/d/	/t/
	/ɪd/	/ɪt/

**Table 8** Progressive assimilation of voice

### 1.4.6 Limitations

It is possible, though, that my previous research into transcription mistakes had a limitation. In the research, only the students of the Technical University of Liberec were used as participants (Stejskalová 2021, 65). Therefore the mistakes analysed may not be typical for Czech EFL learners in general. For that purpose, samples of transcription mistakes from universities and other relevant institutions across the Czech Republic would need to be gathered and compared to decide whether the mistakes are generally typical. Hitherto, no such comparison seems to have been made. Moreover, it appears that no other research into transcription mistakes made by Czech EFL learners was conducted (Stejskalová 2021, 26). Hence, it is not possible to decide whether the mistakes analysed in my previous research are generally typical for Czech EFL learners. This means that the mistakes analysed may not be typical for the participants of the research discussed in this paper. For the sake of such a possibility, it was necessary to create a diagnostic test in order to detect the mistakes and the patterns typical for the participants of this research. What follows now is an analysis of the research methodology.

## 2 Methodology of research

### 2.1 Research method

This chapter is devoted to a description of methods applied in the research. In general, the research employed the method of action research. It investigates the issue

of how the frequency of transcription mistakes alters under the influence of phonemic awareness-based practice. The issue was investigated through the method of practical action research. This means that the research was primarily conducted to find out the answers to the issue investigated. Specifically, the issue the research aimed to answer had the form of the following research questions:

1. To which extent does the frequency of transcription-mistake making alter under the influence of phonemic awareness-based training?
2. Which phonemic awareness-based exercises are the most effective for Czech EFL learners?

The research structure followed the model of operational action research. Firstly, I prepared the research. This step involved planning the research procedure and designing the materials (i.e. the diagnostic test). Then I carried out the research procedure by means of the research materials (the diagnostic test, phonemic awareness-based exercises and the final transcription test). Afterwards, I reflected upon the findings the research brought. That is to say that I analysed the data in order to answer the research questions.

The data collection was realised through the method of systematic observation. The rates of mistakes frequency were continuously monitored to observe the exact extent of their alternation under the influence of phonemic awareness-based practice. The rates were systematically examined to find out the answers to the research questions. Subsequently, an experimental quantitative method was used to assess the rates. Their analysis was implemented by means of the quantitative method. Afterwards, descriptive statistics were applied to process the rates.

## 2.2 Procedure

The research procedure was divided into three stages. At each stage, different steps were taken in order to attain the data needed for answering the research questions. During the first stage, transcription mistakes typical for the participants were identified. These mistakes were identified through the diagnostic test. As foreshadowed in Chapter 1.4.6, the test was based on mistakes that proved to be typical for Czech EFL learners in my earlier research (Stejskalová 2021, 35-62). Copies of the test were distributed in a Phonetics and Phonology seminar conducted at the Technical University of Liberec. That seminar was given at three different times in one week. At each of the seminar times, a different number of students attended the seminar. On the whole, seventy-three students attended one of the seminar times. Thus, the total number of copies collected was seventy-three. Afterwards, the copies were examined. The examination was realised in two steps. The first step included counting how many times each of the mistakes was made. Meanwhile, in the second step, the patterns in which these mistakes occurred were recorded. Having executed this examination resulted in identifying which of the mistakes (and their patterns) were typical for the participants of this research. These mistakes are to be found in Chapter 3.2. Once these mistakes and their patterns had been analysed, the procedure proceeded to the second stage. On the whole, the second stage was focused on designing phonemic awareness-based practice. The stage was initiated by creating phonemic awareness-based exercises. The pivotal purpose of the PA-based exercises was to reveal students' proficiency in phonemic awareness. Based on the number of mistakes recognized as typical, it was possible to create an exercise for each of the mistakes. Each of these exercises was based on a different type of phoneme task recognised by the NRP. These phoneme tasks were described in Chapter 1.2.3. Further information on the exercises

is to be found in Chapter 3.1.2. These exercises were then posted on the course's Moodle platform. On the platform, they were available for the students to take as a part of the preparation for course assessment. More details about the course assessment are to be found in Chapter 2.3, devoted to the Phonetics and Phonology course. Afterwards, students' performance in the exercises was examined so as to be compared with the frequency of mistakes. The comparison is developed further on in Chapter 3.2. It is important to mention that not all of the students who filled in these exercises also took the diagnostic test. Because of that, only the performance of those students who participated in the test as well as the exercises was examined. At this point, the evidence on how the mistakes frequency altered under the influence of the phonemic awareness-based exercises remained to be gained to answer the research questions. The evidence was collected throughout the third stage. The third stage was realised by means of a final transcription test. In that test, the mistakes recognised as typical for the participants of this research were assessed again. The purpose of the assessment was to gather data on the alternation of mistakes frequency under the influence of phonemic awareness-based exercises. The results gathered in the diagnostic and final transcription tests were then compared to determine the extent to which the frequency altered. Concurrently with the comparison, a closer examination of how individual phonemic awareness-based exercises reflected in the alternation of mistakes-frequency was done. Doing so helped to determine the exercises that were the most effective for the participants. These matters are fully discussed in Chapter 3.3.

### **2.3 Phonetics and Phonology course**

The research procedure was realised within a university course dealing with Phonetics and Phonology. The course is divided into two parts. The first part covers Phonology-related aspects (such as the English phonological system); meanwhile, the

second is devoted to Phonetics-related aspects (such as word stress, intonation or weak and strong forms). The research materials were distributed in the interim of the first part. Since this part deals with aspects related to Phonology, it is broad (or phonemic) transcription that is applied in the course. It is because the Phonology-related aspects mostly require employing the functional and abstract aspects of phonemes and do not refer to their phonic (allophonic) features. For these reasons, it was the phonemic transcription that was included in the materials used.

The Phonology-related part incorporates transcription training. As the research materials involve transcribing and phoneme operations associated with transcribing, incorporating them into the course materials helped to facilitate transcription training. What is more, the assessment of the Phonology part has the form of a credit test with a section devoted to transcribing. In particular, the section is devoted to phonemic transcription. This provided an opportunity to include the research materials in the practice for the credit test. Thus, phonemic awareness-based exercises were introduced as a part of the credit test practice. To motivate the students to participate, they were offered extra points towards the credit test provided that they show endeavour in filling in the phonemic awareness-based exercises.

The research materials (i.e. the diagnostic test, phonemic awareness-based exercises and the final transcription test) were introduced in two seminars of the Phonetics and Phonology course. In the first seminar, the diagnostic test was given to the students. This seminar was conducted in the middle of the first part. In the second seminar, the students were given the final transcription test. The second seminar was conducted at the end of the first part. Such a time interval time was presumed to be long enough for the students to improve their transcribing. Between the seminars, the



students were provided with the phonemic awareness-based exercises they could take online during the time devoted to course preparation.

## 2.4 Participants

The participants of this research were first-year students of the academic year 2021/2022 studying the bachelor programme *English for Education* at the Technical University of Liberec. Because the students were in the first year of their studies, they were expected to have received no previous training in transcribing. It is possible, though, that some of the students had received such training. Plausibly, within their previous attempts at university studies. Nonetheless, the statistics of such students were not collected as the research dealt with actual mistakes in transcription and their frequency, not with hitherto achieved proficiency in transcribing.

Of all of the students studying the programme *English for Education*, seventy-three attended the first seminar in which the diagnostic test was given. Yet, only sixty-five of those students attended the second seminar in which the final transcription test was taken. What this implies is that the numbers of students differ by 12% (i.e. nine students). The disproportion in numbers statistically affected the results the research brought. Concretely, the results rates are distorted for 12%. Had the numbers been the same, the results rates would have decreased or increased by 12%. Such a change in the results rates would ensure exact evidence on how the frequency of transcription mistakes alters under the influence of PA-based exercises. The distortion is further discussed in Chapter 3.3. Now, the research materials (the tests and the phonemic awareness-based exercises) will be described.

## **3 Practical part**

### **3.1 Materials**

As foreshadowed in the previous chapter, the research procedure was realised by means of a set of materials. Concretely, through a diagnostic test, a series of phonemic awareness-based exercises and a final transcription test. The scheme of three materials was adopted from research into phonemic awareness and transcription conducted by Robinson, Justus and Mahurin (2011). This research has been described in Chapter 1.3. Each of the materials was developed by me, specially for the new research with a view to answering research questions. What follows now is a closer description of the individual materials and their purposes.

#### **3.1.1 Diagnostic test**

The first material used was a diagnostic test. The test aimed to determine transcription mistakes typical for the participants of this research. These mistakes were operated with later on in the phonemic awareness-based exercises. The main task in the test was to transcribe twenty-four words. Every word included an element of at least one mistake from the six groups created in my earlier research. By the element is meant the criterion which served as the basis for categorising the mistakes in the earlier research. As mentioned earlier in Chapter 1.4, the criterion was the relevance of the mistakes to phonemic transcription (Stejskalová 2021, 33). Including these elements in the test was supposed to reveal which mistakes were typical for the participants of this research. Nevertheless, not all of the mistakes analysed in my previous research were included, as doing so would increase the number of words for transcribing. Such a number could be too high for the participants to stay focused when filling in the test. Thus, it seems appropriate to reduce the number of mistakes tested. For these purposes,

the statistics about the mistakes frequency in the earlier research were taken. These statistics included raw data on how many times the particular mistakes were made. Put another way; the data showed which mistakes were made more frequently than the remaining ones. It seemed logical that the more frequent ones could also be made by the participants of this research. Based on this assumption, the three most frequently made mistakes from each group were incorporated into the diagnostic test (Stejskalová 2021, 35-62). In case the groups incorporated fewer than three mistakes, only these mistakes they contained were taken. All the mistakes included (as well as the groups they belonged to) are enlisted in Table 9.

<b>Group</b>	<b>Mistake</b>
<b>Problematic one-letter graphemes</b>	<a>
	<o>
	<u>
<b>Problematic two-letter graphemes</b>	<nk>
	<yo>
<b>Problematic digraphs</b>	<th>
	<ng>
	<ea>
<b>Miswritten phonemic symbols</b>	/əʊ/
	/əvə/
	/ɔɪ/
<b>Progressive assimilation of voice</b>	-e(d)
	-e(s)
<b>Silent letters</b>	R
	W
	B

**Table 9** Mistakes tested in the diagnostic test

In order to reduce the number of words for transcribing to the maximum, the elements were dispersed so that one word included the highest possible number of them. To illustrate: the word *bathed* included three elements. These elements were the grapheme <a> (belonging to problematic one-letter graphemes), the digraphs <th> (from problematic digraphs) and the suffix *-(e)d* (recognised as lack of familiarity with progressive assimilation of voice). Such dispersion was supposed to retain students'

focus during the test-filling to the full extent. The concrete distribution of the elements in particular words is shown in Table 10.

<b>Words</b>			
<i>bathed</i>	<i>knocks</i>	<i>thank</i>	<i>comb</i>
<a> /eɪ/ <th> /ð/ -e(d) /d/	silent k <o> /ɒ/ -e(s) /s/	<th> /θ/ <a> /æ/ <nk> /ŋk/	<o> /əʊ/ silent b
<i>lure</i>	<i>mocks</i>	<i>rings</i>	<i>choice</i>
<u> /ʊə/	<o> /ɒ/ -e(s)	<ng> /ŋ/ -e(s) /z/	<oi> /ɔɪ/
<i>manages</i>	<i>tears</i>	<i>pointed</i>	<i>wrinkle</i>
<a> /æ/ -e(s)	<ea> /æ/, /ɪ/ Silent r -e(s) /z/	<oi> /ɔɪ/ -e(d) /ɪd/	silent w <nk> /ŋk/
<i>yoke</i>	<i>mower</i>	<i>company</i>	<i>summon</i>
<yo> /jəʊ/	/əʊə/	<o> /ɒ/ <a> /ə/	<u> /ʌ/ <o> /ə/
<i>Bath</i>	<i>monk</i>	<i>surprise</i>	<i>pleasure</i>
<a> /ɑː/ <th> /θ/	<o> /ʌ/ <nk> /ŋk/	<u> /ə/	<ea> /e/
<i>humble</i>	<i>care</i>	<i>breathed</i>	<i>loose</i>
<u> /ʌ/	<a> /eə/	<ea> /iː/ <th> /ð/ -e(d) /d/	<oo> /uː/

**Table 10** Mistakes elements and attributes in words

Moreover, the mistakes belonging to groups of problematic graphemes (one-letter and two-letter) and digraphs were dispersed into several words. It is because of distinct attributes based on which these mistakes were subcategorised in my previous research (Stejskalová 2021, 34). The subcategorization was designed because there were too many patterns these mistakes occurred in. Therefore, it was necessary to assort these patterns. They were assorted according to a trait characteristic for them. As these traits were recognised the phonemes, the graphemes or the digraphs represented in the transcription test used in my previous research (Stejskalová 2021, 34). These attributes are depicted in Table 11 as well. The diagnostic test in full content is to be found in Appendix 1.

Grapheme/Digraph	Attributes
<a>	/æ/, /ə/, /eɪ/, /ɑ:/, /eə/, /ɒ/
<o>	/əʊ/, /ʌ/, /ɒ/, /u:/
<u>	/ə/, /ʌ/, /ʊə/
<th>	/θ/, /ð/
<ng>	/dʒ/, /ŋ/
<ea>	/e/, /i:/, /ɪə/, /eə/

**Table 11** Attributes of problematic graphemes and digraphs

### 3.1.2 Phonemic awareness-based exercises

The second material used was a series of phonemic awareness-based exercises. The series featured as an ongoing practice for later determination of its effect on the frequency of transcription mistakes. The series comprised of seven exercises. These exercises were computer-based. The form of the exercises was based on either of two phoneme tasks identified by the National Reading Panel described in Chapter 1.2.3. Namely, the phoneme tasks were *phoneme isolation* and *phoneme identity*. Each exercise focused on one of the mistakes the diagnostic test proved to be typical for the participants. These mistakes are enlisted in Table 12.

Group	Mistakes
Problematic one-letter graphemes	<a>, <o>, <u>
Problematic digraphs	<th>, <se>, <oo>, <ng>, <nk>, <ea>
Lack of familiarity with silent letters	Silent w
Lack of familiarity with progressive assimilation of voice	-(e)s, -(e)d
Miswritten phonemic symbols	/əʊə/ /əʊ/ /ɔɪ/ /ɒ/ /ɪ/ /ɪə/ /ə/ /ɑ:/

**Table 12** Mistakes included in the PA-based exercises

The questions in the exercises followed the multiple-choice pattern. This means in the exercises, there were prepared answers from which the students were supposed to choose the right one. The answers were the mistakes patterns collected in the diagnostic test. Now, every exercise will be described in greater detail.

### 3.1.2.1 Exercise 1

The first exercise focused on the grapheme <a>. The exercise was based on the phoneme isolation task. As mentioned in Chapter 1.2.3, the phoneme isolation task requires recognizing a concrete phoneme in a word given. The exercise was further divided according to the phonemes the grapheme represented. These phonemes were /eɪ/, /æ/, /ə/, /ɑ:/, /ɪ/, /eə/ and /ɒ/. The reason for this subdivision is the subcategorization of this mistake in my earlier research. As has already been mentioned, the criterion of the subcategorization were the phonemes the grapheme represented in the earlier research (Stejskalová 2021, 34). Yet, the mistakes in the phonemes /eə/ and /ɒ/ occurred sporadically in the diagnostic test. For this reason, these phonemes were excluded from this exercise. On the other hand, a new problematic phoneme occurred in the diagnostic test. It was the phoneme /ɪ/. Thus, the phoneme /ɪ/ and its patterns were added to the ones gathered in the earlier research. To each of the phonemes, five questions were dedicated. In total, there were twenty-five questions. In every question was a word in which the grapheme was highlighted. The students' task was to determine the phoneme the grapheme represented in the given word. Since the exercise was based on a multiple-choice pattern, there were four options. From these answers, the students were asked to choose the corresponding phoneme. Three of these options were incorrect, and the fourth was correct. The incorrect options were taken from the patterns the mistake occurred in. By the patterns are meant the phonemes mistaken in the diagnostic test for the one the question focused on. These phonemes and the words given are depicted in Table 13. It is important to note that the /æ/ proved to be frequently mistaken for /e/; therefore, two questions were added to draw attention to these phonemes the grapheme <a> represents. The whole exercise is to be found in Appendix 2.

Phoneme	Words	Answers offered
/eɪ/	Fatal, radio, fable, raven, apron	/ʌ/ /ɑː/ /æ/
/æ/	Apple, ankle, rabbit, trap, ant	/ə/ /ʌ/ /e/ /ɑː/
/ə/	Animal, naval, cassette, particular, festival	/ɑː/ /e/ /æ/
/ɑː/	Path, spa, gasp, draft, mask	/ʌ/ /ə/ /æ/ /e/
/ɪ/	Orange, coverage, beverage, cabbage, leverage	/ə/ /æ/ /ʌ/ /e/
/æ/ vs. /e/	Any, many	-

**Table 13** Exercise 1

Exercise 1 was worthy of twenty-seven points. The average score achieved in this exercise was nineteen out of twenty-seven. The frequency of mistakes made in the grapheme <a> was reduced by 12% under the influence of the first exercise. Moreover, the numbers of patterns the mistakes occurred in decreased as well. The extent of the decrease in the patterns differed in response to the individual phonemes represented by the grapheme. Nonetheless, on the whole, the decrease in the patterns was significant.

### 3.1.2.2 Exercise 2

The second of the exercises was oriented on the grapheme <o>. Its form is identical with Exercise 1. This means that the exercise was based on the *phoneme isolation* task. The exercise was also subdivided according to the phonemes the <o> represented. Similarly, the questions followed the multiple-choice pattern. Yet, in this exercise, the multiple-choice questions were not provided with answers comprising of patterns the mistakes occurred in. Instead, the choices comprised of words including the grapheme. In these words, the grapheme represented the phonemes according to which the exercise was subdivided. These phonemes were identical with those the

grapheme represented in my earlier research. The phonemes were /əʊ/, /ʌ/, /ɒ/ and /u:/ (Stejskalová 2021, 40-43). Nonetheless, the diagnostic test did not prove the /u:/ to be typical for the participants. As an alternative to this phoneme, the /ə/ was incorporated. The reason for that was its frequent occurrence in the diagnostic test. Therefore, the phonemes included in the questions were the following: /əʊ/, /ʌ/, /ɒ/ and /ə/. Each question was focused on one of these phonemes, which implies that there were five questions in the exercise. Every question comprised of seventeen words. Ten of these words included the phoneme; the remaining ones did not. Instead, the words that included the grapheme <o> as well, but it represented different phonemes. Such words were included with the purpose to enhance students' awareness of how various phonemes the grapheme represents in English. The inspiration to create the exercise on such a basis emerged from Tieperman's belief, discussed in Chapter 1.2.3, that students should also be familiarized with this occurrence. The students' task was to choose all the words that included the phoneme the question focused on and leave the remaining ones. Both types of the words are depicted in Table 14. The whole exercise is enclosed in Appendix 3.

Question	Phoneme	Words
Question 1	/əʊ/	<b>Including phoneme:</b> host, hotel, own, phone, stone, bone, cold, local, gold, focus
		<b>Not including phoneme:</b> choose, lost, cost, solstice, dove, oven, solemn
Question 2	/ʌ/	<b>Including phoneme:</b> some, come, nothing, glove, oven, dove, front, son, won, tongue
		<b>Not including phoneme:</b> hotel, solstice, mole, slot, cost, costume, locket
		<b>Including phoneme:</b> donkey, lorry, common,



Question 3	/ɒ/	solemn, solstice, bottom, hopper, pond, knot, odd
		<b>Not including phoneme:</b> local, host, hotel, cold, won, front, dinosaur
Question 4	/ə/	<b>Including phoneme:</b> lemon, common, carrot, apron, bottom, harmony, dinosaur, freedom, occur, parrot
		<b>Not including phoneme:</b> okey-dokey, tongue, front, donkey, monkey, solstice

**Table 14** Exercise 2

In Exercise 2, forty points were possible to be achieved. The average score achieved was thirty-four. The exercise helped to reduce the frequency of mistakes in the grapheme <o> by 15%. Such an extent of the decrease in the frequency was the highest in comparison to the rest of the exercises. Even though the exercise did not include the actual patterns in which the mistakes occurred, their numbers reduced considerably as well.

### 3.1.2.3 Exercise 3

The third of the exercises focused on the grapheme <u>. This exercise was based on the phoneme identity task. As stated in Chapter 1.2.3., the essence of the phoneme identity task is to recognise the phoneme common to a group of words given. Therefore, in this exercise, the students were instructed to determine the phoneme common to the words provided. Since the exercise focused on the grapheme <u>, the phoneme the students were asked to determine was represented by the <u>. On the whole, there were three phonemes to recognize. Again, as in the preceding exercises, the phonemes were identical with those used for subcategorization of the grapheme <u> in my earlier research this paper follows up. In particular, the phonemes were /ə/, /ʌ/ and /ʊə/ (Stejskalová 2021, 43-45). To each of these phonemes was devoted one

question. In the question, there were five words. Below the words were three different phonemes choices for the students to choose from. Two of them included phonemes mistaken for the corresponding one in the diagnostic test (i.e. the patterns the mistake in the grapheme occurred in). The last choice covered the corresponding phoneme. Because to each phoneme, one question was devoted, there were only three questions in total. Such a number was concluded to be insufficient for the students to practise the grapheme sufficiently. For this reason, three other questions were added to increase the number of questions. In these questions, the students were asked to choose one word in which the grapheme did not represent the phoneme given. Such a word was chosen so that the <u> represented the phoneme confused with the one the question was devoted to. Altogether, the students were given five word options to select from. The concrete words in both types of the questions and the phonemes offered are shown in Table 15. The whole exercise is available in Appendix 4.

Question	Phoneme	Words	Phonemes
Question 1	/ə/	Supply, upon, voluntary, campus, support	/ɜ:/ /ʊ/
Question 2	/ʌ/	Summer, suffer, rush, nun, shut	/ə/ /ɒ/
Question 3	/ʊə/	Cure, azure, sure, secure, pure	/u:ə/ /ɜ:/
Question 4	/ə/	Surprise, submit, <b>surfing</b> , surreal, sustainable	-
Question 5	/ʌ/	Ugly, mud, <b>unique</b> , scrub, cub	-
Question 6	/ʊə/	manure, obscure, insecure, <b>injure</b> , allure	-

*Note: the highlighted word is the one that did not included the corresponding phoneme.*

**Table 15** Exercise 3

Exercise 3 was evaluated by ten points. On average, the achieved score was four points out of ten. The exercise helped to reduce the frequency of mistakes in the

grapheme <u> by 5%, which was the lowest extent of decrease in the frequency. On the other hand, the patterns the mistakes occurred in decreased significantly. In several phonemes represented by the grapheme, the patterns reduced to half.

#### 3.1.2.4 Exercise 4

The fourth exercise focused on the silent letter *w*. Even though the diagnostic test focused on assessing several silent letters (concretely silent *b*, *r* and *w*), only the letter *w* proved to be typical for the participants of this research. Like the hitherto described exercises, this one was based on the *phoneme isolation* and *phoneme identity* task. This is the reason why the exercise was subdivided into two subtasks. The first subtask was based on *phoneme identity*; meanwhile, the second was on *phoneme isolation*. In the first subtask, there were seven words. All of the words included the letter *w*. In six of these words, the *w* was silent, whereas, in the last, it was not. The words were offered by means of the multiple-choice questions. The students were instructed to recognize the word in which the letter was not silent. On the contrary, in the second subtask, there were words in which the letter was silent as well as not silent. However, in this task, the students were asked to decide whether the letter *w* is or is not silent in the words provided. The participants were asked to choose from two multiple-choice options. The first option signified that the *w* is silent, and the second that the letter is not silent. Following these instructions, the students were given ten words to decide on. Since the participants were asked to decide whether the letter was silent or not, the exercise consisted of only two questions. Earlier in this chapter, such a number was found insufficient for an exercise to comprise of. Despite this fact, the number of questions in this exercise remained to such an extent. The reason behind that is the range of words incorporated into the second subtask. Because the range reached the number of ten, it was concluded to be adequate enough for students to

enhance their awareness of the silent letter *w*. The concrete words in both subtasks are depicted in Table 16. The exercise in its full extent is enclosed in Appendix 5.

<b>Question</b>	<b>Instructions</b>	<b>Words</b>
Subtask 1	Choose a word where the <w> is not silent	Answer, wrap, whisper, writing, whole, sword, wrist
Subtask 2	Decide whether the <w> is silent or not	Weather, whether, whimper, wheat, whirl, wrestle, whole, awry, wren, wrong

**Table 16** Exercise 4

Exercise 4 was worthy of eleven points. The average score achieved was six points. The participants failed to recognise the letter *w* to be silent with the frequency of 30% in the diagnostic test. On the contrary, in the final transcription test the participants failed to determine the letter *w* to be silent with the frequency of 18%. This indicates that the exercise helped to reduce the frequency of mistakes made in silent letters by 12%.

### 3.1.2.5 Exercise 5

The fifth of the exercises was devoted to all digraphs the diagnostic test revealed to be problematic for the participants. In general, the digraphs were identical with those recognised in my earlier research. From these digraphs, the graphemes <th>, <ng> and <ea> proved to be the same (Stejskalová 2021, 51-59). In addition to these digraphs, three new digraphs showed to be problematic for the participants. Concretely, the new digraphs were the <oo>, <se> and <nk>. Because of their high frequency, the digraphs were included in the exercise since it seemed necessary to enhance students' awareness about them. As in the case of previous exercises, the digraphs were divided further according to the phonemes they represented in the diagnostic test (or in my previous research) (Stejskalová 2021, 34). An example being the digraph <oo> divided further based on the phonemes /u:/ and /ʊ/ it represented in the diagnostic test.

The exercise was based on the *phoneme isolation* task. It consisted of five questions, each of which was devoted to one of the digraphs. In every question, there was a certain number of offered answers that had the form of the multiple choices. Yet, the multiple-choice form was not the same for all questions. Instead, the form varied depending on the phonemes (and their patterns) in which the mistakes in the particular digraphs occurred. To illustrate: in the questions devoted to the digraphs <th>, <se> and <oo>, the offered answers were the phonemes that represented the digraph but were interchanged with each other. In other words, the students were supposed to decide which of the phonemes the digraphs represented in the words given. An example being the <se> representing the phonemes /s/ and /z/. In the question devoted to this digraph, the students were asked to determine whether it represents the /s/ or the /z/ in the words given. On the other hand, the multiple choices in the questions devoted to <ea> had the form of various phoneme variants the students recognised to be represented by the <ea>. That is to say that the students were asked to determine the correct phoneme variant. These variants are depicted in Table 17. A special situation arose in terms of the digraphs <nk> and <ng>. Typically, the former represents /ŋk/ and the latter /ŋ/. In the diagnostic test, the /ŋk/ was frequently mistaken for /ŋ/ and vice versa. For this reason, the digraphs were put into the same question in order to enhance students' awareness of the difference between the phonemes these digraphs represent. Both digraphs were also mistaken for other phoneme variants. These variants were included in the multiple choices offered as well. All of the just described choices, the phoneme variants they included and the words included in the questions devoted to the digraphs are shown in Table 17. The whole exercise is to be found in Appendix 6.

Digraph	Phonemes	Words	Offered answers
<th>	/ð/	bath, breath, cloth, both, youth, tooth, thief, athlete, north, worth, clothing, northern, worthy, gather,	-
	/θ/	although, thus, feather, clothe, bathe, breathe	
<se>	/s/	oose, sense, purse, mouse, goose chase, course, a use (a noun), house, paradise, lose, pause, noise,	
	/z/	hose, bruise, cause, to use (a verb), abuse, choose, amuse	
<oo>	/u:/	broom, pool, food, spoon, moon boot, fool, noon, hoop, mood	
	/ʊ/	cook, hook, book, wood, wool foot, good, soot, brook, stood	
<nk> and <ng>	/ŋk/, /ŋ/	Ink, clink, blink, prank, monk, chink, wink, crinkle, wrinkle, bang, rang, fang, sing, string, lung, sting, swing, tongs	
<ea>	/eə/	footwear, underwear, pear, bear, swear + tear (in Czech <i>roztrhat</i> ), bearable, forbear, teardown, yeah, beard, shear, earrings, really, fear	/æə/ /e:/
	/ɪə/	clear, gear, dear, year, tear (in Czech <i>slza</i> )	/i:ə/

**Table 17** Exercise 5

Exercise 5 was evaluated by forty points. Out of these points, the participants averagely achieved twenty-nine. The exercise helped to decrease the frequency of mistakes made in the digraphs by 11%. Also, there was a decrease in the patterns the mistakes made in the digraphs occurred. Yet, the patterns of several digraphs did not reduce to any extent. This matter is fully discussed in Chapter 3.2.

### 3.1.2.6 Exercise 6

The sixth exercise focused on enhancing students' awareness of the progressive assimilation of voice. That means the exercise was devoted to the suffixes -(e)s and -(e)d. To each suffix, one subtask was dedicated. The number remained at the level of two even though it was recognized as insufficient in terms of the third exercise. This decision was made based on the number of words and phonological aspects included.

Since there were two phonological aspects (the suffixes *-(e)s* and *-(e)d*) and to each aspect nine words were devoted, the proportion seemed sufficient enough so as to enhance students' awareness of the suffixes. In the subtasks, there were nine words that included the particular suffix. The students were instructed to identify the phoneme the suffixes represented in each of the nine words given. Concretely, the phonemes were the /s/, /z/ and /ɪz/ for the *-(e)s* and the /t/, /d/ and /ɪd/ for the *-(e)d*. What this implies is that the exercise was based on the *phoneme identity* task. The phonemes were facilitated in the form of multiple choices. The phonemes were presented all at once for the diagnostic test proved them to be frequently interchanged for one another. The combinations in which the phonemes were interchanged are as follows: /s/ for /z/ and vice versa or /t/ for /d/ and vice versa. The /ɪz/ and /ɪd/ were usually interchanged for either of the other phonemes. The words included in the subtasks are depicted in Table 18. The full extent of the exercise is to be found in Appendix 7.

<b>Ending</b>	<b>Words</b>
- <i>(e)s</i>	cliffs, myths, graphs crabs, gloves, leaves stitches, dishes, ashes
- <i>(e)d</i>	clipped, tricked, reached framed, smiled, hugged tested, shaded, blended

**Table 18** Exercise 6

In Exercise 6, nine points were possible to be achieved. On average, the participants scored five points out of the nine. The exercise helped to reduce the frequency of mistakes made in the suffix *-(e)s* from 67% to 41% and the frequency in the suffix *-(e)d* from 78% to 63%. In general, the exercise helped to reduce the frequency of mistakes made in the progressive assimilation of voice by 12%.

### 3.1.2.7 Exercise 7

The last of the seven exercises focused on the phonemic symbols the participants had the tendency to miswrite. These phonemic symbols were as follows: /əʊə/, /əʊ/, /ɔɪ/, /ɒ/, /ɪ/, /ɪə/ and /ə/. The first three symbols were identical with those analysed in my earlier research (Stejskalová 2021, 49-50), whereas the remaining four were identified in the diagnostic test. Three questions were devoted to each of these phonemic symbols. Thus, in total, the exercise consisted of twenty-one questions. In these questions, the students were asked to recognise the correct form of the particular phonemic symbol. The students were provided with several multiple choices to choose from. These choices were the miswritten forms of the phonemic symbols that appeared in the diagnostic test. In other words, the forms were the patterns the mistakes made in the phonemic symbols occurred. This indicates that the number of the choices offered with each question differed according to how many miswritten forms appeared in the diagnostic test. The exercise was based on the *phoneme identity* task. It is because the students were given the word including a phoneme represented by a particular symbol. That is to say that the students had to identify the phoneme at first and then recognise its symbol. The concrete words used in the exercise as well as the miswritten forms of the phonemic symbols, are depicted in Table 19. The whole exercise is enclosed in Appendix 8.



Symbol	Miswritten forms	Words
/əʊə/	/oʊə/ /ɔʊə/ /əʊwə/ /ɔwə/	rower, lower, mower
/əʊ/	/θu/ /ou/ /oʊ/ /əʊ/	throw, show, throne
/ɔɪ/	/əɪ/ /oɪ/ /ɔi/ /θɪ/ /ɔj/	coy, voice, noise,
/ɒ/	/o/ /ɔ/	lost, forest, fox
/ɪ/	/i/ /l/	with, split, pit
/ɪə/	/iə/ /lə/ /iə/ /ɪə/	ear, career, material
/ə/	/ə/ /ɛ/	dinosaur, ballon, vessel
/ɑ:/	/ɑ:/	Calm, heart, laugh

**Table 19** Exercise 7

The seventh exercise was worthy of twenty-one points. The average score achieved was thirteen points out of twenty-one. The exercise helped to reduce the frequency of mistakes made in the phonemic symbols by 10%. The numbers of patterns the mistakes in the phonemic symbols occurred decreased as well. In general, the patterns reduced to half. What is more, the patterns of several phonemic symbols reduced to the greatest extent. This proves that the seventh exercise helped to significantly reduce not only the frequency of mistakes but also their patterns.

### 3.1.3 Final transcription test

The third material used together with the just-described phonemic awareness-based exercises and the diagnostic test was a final transcription test. The test was designed with the purpose to reassess the students' frequency of transcription mistakes after taking the phonemic awareness-based exercises. This means the test was focused on the same mistakes the diagnostic test proved to be typical for the participants of this research. These mistakes were divided into twenty-four words. As in the diagnostic test, the words were chosen so that they included the highest possible number of the mistakes elements that were assessed. The transcription mistakes were distributed into several words because of certain attributes based on which they were divided further

in the diagnostic test. The concrete distribution of the transcription mistakes and the words chosen are depicted in Table 20. The whole transcription test is available in Appendix 9.

Words			
<i>maple</i>	<i>animal</i>	<i>math</i>	<i>parrots</i>
<a> /eɪ/ /æ/	<a> /æ/, /ə/ /ə/	<th> /θ/ <a> /æ/	<a> /æ/ -(e)s
<i>gasp</i>	<i>gold</i>	<i>won</i>	<i>Bottom</i>
<a> /ɑː/ /ɑː/ /ɑː/	<o> /əʊ/ /əʊ/ -(e)d	<o> /ʌ/ /ʌ/	<o> /ɒ/ /ɒ/ <o> /ə/ /ɒ/
<i>submit</i>	<i>umbrella</i>	<i>secure</i>	<i>Two</i>
<u> /ə/ /ə/	<u> /ʌ/ /ʌ/	<u> /ʊə/ /ʊə/	silent w
<i>forbear</i>	<i>dear</i>	<i>leather</i>	<i>Dung</i>
<ea> /eə/ /eə/	<ea> /ɪə/ /ɪə/	<th> /ð/ /ð/	<u> /ʌ/ <ng> /ŋ/
<i>pink</i>	<i>witches</i>	<i>spreads</i>	<i>Counted</i>
<nk> /ŋk/ /ɪ/ /ɪ/	/ɪ/ -(e)s	-(e)s	-(e)d
<i>issued</i>	<i>backed</i>	<i>grower</i>	<i>coin</i>
/ɪ/ -(e)d	<a> /æ/ -(e)d	/əʊə/ /əʊə/	/ɔɪ/ /ɔɪ/
<i>luggage</i>	<i>noon</i>	<i>stood</i>	
<u> /ʌ/ <a> /ɪ/ /ɪ/	<u> /uː/ /uː/	<u> /ʊ/ /ʊ/	

**Table 20** Final transcription test

### 3.2 Results analysis

This chapter is devoted to a closer report on the results the research brought and their analysis. As already mentioned in Chapter 1.4, the research follows my earlier study into transcription mistakes typical for Czech EFL learners (Stejskalová 2021). These mistakes served as a basis for creating a diagnostic test. The test was supposed to reveal which of them are typical for the participants of this research. The mistakes that proved to be typical are depicted in Table 21.

Mistakes proved to be the same	Mistakes not proved to be the same
<a>: /æ/, /ə/, /eɪ/, /ɑ:/, /ɒ/ <o>: /əʊ/, /ʌ/, /ɒ/ <u>/ə/, /ʌ/, /ʊə/ <th>/θ/, /ð/ <ng> /ŋ/ <ea> /ɪə/ <nk> /ŋk/ the endings -(e)s and -(e)d /əʊə/ /əʊ/ /ɔɪ/	<a>/eə/ <o> /u:/ <ea>/e/, /i:/ <yo> silent letters <i>r</i> and <i>b</i>
	<b>New mistakes</b>
	<a> /ɪ/ <o> /ə/ <oo> /ʊ/, /u:/ <ea> /eə/ <se> /s/, /z/ phonemic symbols /ɒ/, /ɪə/
	<b>Final test only: /ɔ:/</b>

**Table 21** Typical mistakes in the diagnostic test

As the table shows the diagnostic test revealed that fifteen of the eighteen mistakes included were typical for the participants. Those mistakes that did not prove to be typical were the silent letters *r*, *b* and the digraph <yo>. Additionally, a minor mistake in the phoneme /eə/ belonging to the grapheme <a> did not prove to be the same. Similarly, the phoneme /u:/ in the grapheme <o> did not prove to be the same either. In addition to the minor mistakes in the graphemes <a> and <o>, the phonemes /e/ and /i:/ in the digraph <ea> did not concede as well.

The table also shows that the diagnostic test revealed new mistakes typical for Czech EFL learners. In particular, two of these mistakes occurred in already analysed mistakes. These mistakes were the graphemes <a> (the phoneme /ɪ/) and <o> (the phoneme /ə/). Entirely new mistakes were made in digraphs <oo> (the phonemes /u:/ and /ʊ/) and <se> (the phonemes /s/ and /z/). Similarly, new miswritten phonemic symbols were analysed. The phonemic symbols were the /ɒ/ and the /ɪə/. These mistakes together with those analysed in my earlier research, were included in the final transcription test. In the final transcription test, another new mistake occurred. This mistake was made in the phonemic symbol /ɔ:/, which proved to be miswritten. Now,

students' performance in both the diagnostic and the final test will be analysed in greater detail.

The students' performance in both of the tests is shown in Table 22. The table depicts the frequency with which the individual mistakes were made. The frequency is presented in percentages. In the left column, there are percentages of students making the particular mistakes in the diagnostic test; meanwhile, the right column shows percentages of students who made those mistakes in the final transcription test.

Mistake	Diagnostic test	Final transcription test	Mistake	Diagnostic test	Final transcription test
<a> /eɪ/	71%	52%	<th> /θ/	49%	36%
<a> /æ/	63%	47%	<ng> /ŋ/	56%	44%
<a> /ə/	38%	28%	<nk> /ŋk/	82%	67%
<a> /ɑː/	36%	34%	<oo> /uː/	68%	47%
<a> /ɪ/	38%	24%	<oo> /o/	68%	66%
<o> /əʊ/	73%	44%	<se> /s/ /z/	57%	49%
<o> /ʌ/	80%	66%	-(e)s	67%	41%
<o> /ɒ/	42%	30%	-(e)d	78%	63%
<o> /ə/	30%	22%	/əʊə/	46%	32%
<u> /ʊə/	36%	31%	/əʊ/	58%	39%
<u> /ə/	32%	30%	/ɔɪ/	56%	36%
<u> /ʌ/	42%	32%	/ɒ/	53%	47%
Silent w	30%	18%	/ɪə/	45%	36%
<ea> /eə/	49%	41%	/ə/	39%	33%
<ea> /ɪə/	31%	24%	/ɑː/	34%	26%
<th> /ð/	55%	34%	/ɪ/	36%	32%

**Table 22** Results in the diagnostic and final transcription tests

Based on these percentages, it is possible to determine the extent to which the frequency altered. Generally, it is possible to observe a steady decrease in the frequency of the mistake making. Although, the decrease differs in extent. Particularly, there seem to be two types of the extent. These types are *highly perceptible* and *moderate* extent. The highly perceptible extent concerns those mistakes in which the frequency decreased at least by 13%. Such mistakes were the grapheme <a> ( the phonemes /eɪ/, /æ/ and /ɪ/), the grapheme <o> (the phonemes /əʊ/ and /ʌ/), the silent w, the digraph <th> (the phonemes /ð/ and /θ/), the digraph <nk> (the phoneme /ŋk/),

the digraph <oo> (the phoneme /u:/), progressive assimilation of voice -(e)s and -(e)d and phonemic symbols (/əʊə/, /əʊ/ and /ɔɪ/). Taking into account their extent rates reveals that these mistakes were also the most frequently made in the diagnostic test. Similarly, their frequency decreased the most in the final test. The table shows this is particularly typical for the grapheme <a> (the phoneme /eɪ/), the grapheme <o> (the phoneme /əʊ/), the digraph <th> (the phoneme /ð/), the digraph <oo> (the phoneme /u:/), the suffix -(e)s and the phonemic symbol /əʊ/.

Contrastingly, the moderate extent concerns those mistakes in which the frequency decreased by less than 13%. These mistakes were the grapheme <a> (the phonemes /ə/ and /ɑ:/), the grapheme <o> (the phoneme /ə/), the grapheme <u> (the phonemes /ʊə/, /ə/ and /ʌ/), the digraph <ea> (the phoneme /eə/ and /ɪə/), the digraph <oo> (the phoneme /ʊ/), the digraph <se> and the phonemic symbols (/ɒ/, /ɪə/, /ə/, /ɪ/ and /ɑ:/). The extent rates of these mistakes indicate their frequency in the diagnostic test was not that high, which proves that they were not as problematic for the participants to recognize as those with the frequency decrease higher than 13%. Therefore, it was logical to assume that their frequency would not alter significantly in the final transcription test. Comparing both types of extent suggests that the frequency of highly problematic mistakes (the frequency alternation higher than 13%) decreased to a greater extent than the less problematic ones (the frequency alternation lower than 13%). Nevertheless, both types of extent seem to be high enough to hypothesise that phonemic awareness-based exercises help to reduce the frequency of transcription mistakes. Now, the performance in phonemic awareness-based exercises will be analysed in comparison to the extent rates of frequency alternation.

The performance in phonemic awareness-based exercises is depicted in Table 23. It is shown in the form of average scores achieved by the participants. In the brackets the scores are also depicted in percentages. Next to the scores, there is an average of the extent rates to which the frequency of particular mistakes reduced. The extent average is presented in percentages. In the table, the types of mistakes on which these exercises focused are reminded as well.

Exercise	Mistake	Average score	Extent of alternation in frequency in tests
Exercise 1	Grapheme <a>	19/27 (70%)	12%
Exercise 2	Grapheme <o>	34/40 (85%)	15%
Exercise 3	Grapheme <u>	4/10 (40%)	5%
Exercise 4	Silent w	6/11 (54%)	12%
Exercise 5	Digraphs	29/40 (72%)	11%
Exercise 6	-(e)s, -(e)d	5/9 (55%)	12%
Exercise 7	Phonemic symbols	13/21 (61%)	10%

**Table 23** Results in PA-based exercises

From the table, it is clear that if the average score was higher than 50%, the frequency reduced to a greater extent in comparison to the score below 50%. Concretely, to the extent higher than 10%. Such an extent is not necessarily high, yet it reflects in the decrease in mistake-making. On the contrary, the extent to which the mistakes frequency reduced in the exercises with an average score below 50% is quite low – only 5%. Still, it is possible to observe a decrease in the frequency with which the transcription mistakes in the tests were made. What follows now is a closer examination of how the particular phoneme tasks in the phonemic awareness-based exercises reflect in the extent to which the frequency reduced.

The phonemic awareness-based exercises were based on the following tasks: *phoneme isolation* and *phoneme identity*. These tasks were already referred to in Chapter 1.2.3. In Table 24, these exercises are compared with the rates of the frequency alternation to see which of them had a stronger effect on the alternation.

Exercise	Phoneme-task	Effect on the frequency alternation
Exercise 1	Phoneme-isolation	12%
Exercise 2	Phoneme-isolation	15%
Exercise 3	Phoneme-identity	5%
Exercise 4	Phoneme-identity, phoneme-isolation	12%
Exercise 5	Phoneme-isolation	11%
Exercise 6	Phoneme-identity	12%
Exercise 7	Phoneme-identity	10%

**Table 24** Decrease in mistakes frequency

Table 24 shows that the effect was the strongest (12%-15%) if the exercises were created on the basis of *phoneme isolation* and *phoneme identity* task. Equally, the effect remained relatively strong (11%) provided that there was the *phoneme isolation* task. On the other hand, in some exercises including the *phoneme identity* task, the effect was relatively low (10%). Also, the effect was the lowest (5%) in the exercises that were based on the *phoneme identity* task. On the whole, it is possible to observe that the phonemic awareness-based exercises had the strongest effect on the frequency alternation when they were based on the *phoneme isolation*. The effect gradually declined if the exercises include the *phoneme identity* task.

The ratio between the rates of the extent the frequency reduced to, and the effect of phonemic awareness tasks substantiates the earlier hypothesis that the phonemic awareness-based exercises help to reduce the frequency of mistakes made in transcription. Moreover, it seems that the frequency reduced due to the presence of phonemic awareness-based exercises. Such a finding implies that the phonemic awareness-based exercises have a positive effect in terms of reducing the frequency of transcription mistakes.

The phoneme tasks applied proved to have a different effect on the transcription mistakes in the exercises that were based on these tasks. Put another way, each of the

phoneme tasks showed to help to reduce the frequency of different mistakes. The effect individual phoneme tasks had on the transcription mistakes is depicted in Table 25.

Exercise	Mistake	Task	Effect on the frequency alternation
Exercise 1	Grapheme <a>	Phoneme isolation	12%
Exercise 2	Grapheme <o>	Phoneme isolation	15%
Exercise 3	Grapheme <u>	Phoneme identity	5%
Exercise 4	Silent w	Phoneme identity, phoneme isolation	12%
Exercise 5	Digraphs	Phoneme isolation	11%
Exercise 6	suffixes-(e)s, -(e)d	Phoneme identity	12%
Exercise 7	Phonemic symbols	Phoneme identity	10%

**Table 25** The effect of PA-based exercises on transcription mistakes

The table shows that the *phoneme isolation* task helped to reduce mistakes made in graphemes and digraphs since the decrease in the frequency range from 11% to 15%. The decrease in the frequency proved to be higher in graphemes. In particular, the decrease was the highest in the grapheme <o> (for 15%). The decrease in the remaining graphemes (the <a> and <u>) was medium. The lowest decrease in the frequency was in the digraphs (for 11%).

Contrary to the phoneme isolation, the *phoneme identity* task did not help to reduce the mistakes in graphemes significantly. In fact, the effect of the *phoneme identity* task on the graphemes showed to be the lowest as the frequency in the grapheme <u> decreased by 5%. Such a rate of decrease is also the lowest in comparison to other decrease rates, which implies that the task does not significantly help to reduce mistakes in graphemes.

On the other hand, the *phoneme identity* task helped to reduce the mistakes made in progressive assimilation (i.e., suffixes -(e)s and -(e)d) and phonemic symbols. Moreover, the decrease in the frequency was relatively high. Concretely, it ranged from 10% to 12%. As the results showed, the frequency of mistakes made in the progressive assimilation of voice decreased by 12%. Such a decrease rate is at the



same level like the rate of *phoneme isolation* in terms of graphemes. The same applies for the frequency of mistakes made in phonemic symbols. The *phoneme identity* task helped to reduce the frequency in phonemic symbols by 10%, which is close to the decrease rate of *phoneme isolation* in digraphs. Similarly, the results also indicate that in combination with *phoneme isolation*, the *phoneme identity* task also helped to enhance the recognition of silent letters (i.e., decreased the frequency of mistakes made in silent *w*). In particular, the combination of these tasks helped to reduce the frequency by 12%, which seems to be the usual rate of decrease compared to the rest.

The frequency of transcription mistakes was not the only transcription-related aspect the phonemic awareness-based exercises helped to reduce. The same can be applied to the decrease in the patterns the mistakes occurred in. It is important to note that the decrease in patterns was observed only in the mistakes made in graphemes, digraphs and phonemic symbols. Unlike the remaining mistakes (silent letters and endings *-(e)d* and *-(e)s*), these ones contained attributes (i.e., phonemes) that were possible to be mistaken for in several ways. The ratio between the mistakes patterns that occurred in the diagnostic test and in the final transcription test is portrayed in Table 26. What follows now is an analysis of the ratios portrayed and the effect the phoneme tasks had on the decrease.

Mistake	Phoneme task	Patterns in diagnostic test	Patterns in final test
Grapheme <a> /eɪ/	Phoneme isolation	/ə/ /ʌ/ /æ/	/æ/ /e/
Grapheme <a> /æ/		/ə/ /e/ /ʌ/ /ɑː/	/ə/ /e/
Grapheme <a> /ə/		/e/ /ʌ/ /æ/	/ʌ/
Grapheme <a> /ɑː/		/æ/	/æ/
Grapheme <a> /ɪ/		/ə/	/ə/
Grapheme <o> /ə/	Phoneme isolation	/ʌ/	/ʌ/
Grapheme <o> /ɒ/		/ə/ /ʌ/	/ə/
Grapheme <o> /ʌ/		/ɒ/ /ə/	/ɒ/ /ə/
Grapheme <o> /əʊ/		/ɒ/	/ɒ/
Grapheme <u> /ə/		/ɜː/ /ʊ/	/ɜː/

Grapheme <u> /ʌ/	Phoneme identity	/ə/ /ɒ/ /ʊə/	/ə/ /ʊə/	
Grapheme <u> /ʊə/		/u:ə/ /ɜ:/	/u:ə/	
Digraph <ea> /eə/	Phoneme isolation	/æə/ /e:/	/e:/	
Digraph <ea> /ɪə/		/i:ə/	/i:ə/	
Digraph <th> /θ/		/ð/ /th/	/ð/	
Digraph <th> /ð/		/θ//d/	/θ/	
Digraph <ng> /ŋ/		/ŋk/ /ng/ /nk/	/ŋk/ /ng/	
Digraph <nk> /ŋk/		/nk/ /ŋ/	/nk/	
Digraph <oo> /u:/		/ʊ/	/ʊ/	
Digraph <oo> /ʊ/		/u:/	/u:/	
Digraph <se> /s/		/z/	/z/	
Digraph <se> /z/		/s/	/s/	
/əʊə/		Phoneme identity	/oʊə/ /ɔʊə/ /əʊwə/ /ɔwə/	/oʊə/ /ɔʊə/
/əʊ/			/ɒʊ/ /oʊ/ /oʊ/ /əʊ/	/oʊ/ /əʊ/
/ɔɪ/	/oɪ/ /ɔi/ /ɒɪ/ /ɔj/		/oɪ/ /ɔi/	
/ɒ/	/o/ /ɔ/ /o:/ /ɒ:/		/o/ /ɔ/	
/ɪ/	/i/ /ɪ/ /i:/ /ɪ:/		/i/ /ɪ/	

**Table 26** Mistakes patterns

On the whole, there was a steady decrease in the majority of mistakes patterns. The decrease in these mistakes can be divided into two types – *high* and *moderate*. The high decrease concerned fifteen mistakes (out of twenty-five). The patterns of these mistakes reduced by half at least. Particularly, the mistakes were the graphemes (except for the phonemes /ɑ:/ and /ɪ/ in the <a>, the phonemes /ə/ and /əʊ/ in the <o> and /ʌ/ in the <u>), digraphs (except for the <ng>) and phonemic symbols. From these mistakes, the decrease was the highest in those that occurred in the diagnostic test in four patterns at least. Their patterns reduced to the number of two. These mistakes were the phonemic symbols (/əʊə/, /əʊ/, /ɔɪ/, /ɒ/, /ɪ/) and the phoneme /æ/ in the grapheme <a>. The moderate decrease concerns three mistakes (out of twenty-five). The mistakes were made in the grapheme <a> (the phoneme /eɪ/), the grapheme <u> (the phoneme /ʌ/) and the digraph <ng>. As the table shows, there were three patterns in which these mistakes occurred in the diagnostic test. Their number reduced to two in the final test.

As foreshadowed in Chapter 3.1.2.5, there were also mistakes with no decrease in the patterns. On the whole, there were nine mistakes with no decrease. In particular, these mistakes were the grapheme <a> (the phonemes /ɛɪ/, /ɑ:/ and /ɪ/), the grapheme <o> (the phonemes /ə/, /ʌ/ and /əʊ/), the digraph <ea> (the phoneme /ɪə/), the digraphs <oo> and <se>. Nonetheless, in the diagnostic test, the patterns of these mistakes appeared in the number of one. Therefore, it was logical to assume that there would not be a decrease in the patterns as it would mean that the mistake was not made at all. The exception to these patterns was the phoneme /ʌ/ in the grapheme <o>. In the diagnostic test, the patterns of the phoneme occurred in the number of two (the /v/ and /ə/). This number and patterns remained in the final transcription, which means that the mistakes did not change under the influence of phonemic awareness-based exercises.

The effect the phoneme tasks applied had on the decrease in the patterns differs in its extent. On the whole, the phoneme isolation task reduced the mistakes to a greater extent despite being applied with mistakes in which there was no decrease. As Table 26 shows, the phoneme isolation task was applied with nine mistakes (out of the fifteen) with the high decrease in their patterns. Contrastingly, the phoneme identity task was used with seven mistakes (out of fifteen) in which there was a high decrease in the patterns. Similarly, the phoneme isolation was applied with two mistakes (out of three) with the moderate decrease in the patterns, whereas the phoneme identity was used merely with one of them.

### **3.3 Discussion**

What follows now is a discussion over the findings the research conducted within this diploma paper brought. In particular, the three research objectives the paper

endeavoured to achieve will be discussed. Later, in the Methodology section, these objectives were modified into two research questions the paper aimed to answer. These questions will be discussed as well. The initiative to conduct the research emerged from the hypothesis that phonemic awareness can be used to predict difficulties in mastering the transcribing skill. Such a diagnostic process involves the most complex level of phonemic awareness. This level is characteristic by manipulating phonemes in a word that might require *phoneme reversal* or *phoneme deletion*. Similar phoneme manipulation tasks were used in this research. Namely, these tasks were the *phoneme identity* and *phoneme isolation*. On their basis, phoneme awareness-based exercises were created. These exercises aimed to enhance the participants' awareness of transcription mistakes so as to reduce the mistakes in actual transcription. These exercises proved to have reduced the transcription mistakes. At the same time, the exercises helped to investigate the three research objectives.

The first objective of the paper (later transformed into the first research question) was to identify to what extent the frequency of transcription mistakes alters under the influence of phonemic awareness-based exercises. In general, the phonemic awareness-based exercises proved to have reduced the frequency of transcription mistakes. The results showed that the extent of the decrease in the frequency ranged from 5% to 15%. However, the scope of the extent varied depending on the mistake and the task combined with it. This suggests that the influence of phonemic awareness-based exercises on transcription mistakes is dependent on the choice of the phoneme task and the type of transcription mistake, which is discussed later.

The second objective was to determine which type of phonemic awareness-based exercises helps to reduce the mistakes made by Czech EFL learners. Broadly, both phoneme tasks helped to reduce the frequency of transcription mistakes.

Nonetheless, the exercises based on the phoneme isolation reduced the mistakes to a greater extent. Phoneme isolation task also reduced the mistakes made in graphemes and digraphs to a greater extent. On the other hand, the phoneme identity task proved to be effective in terms of mistakes related to the progressive assimilation of voice and phonemic symbols. This finding proves that individual tasks have a different effect on transcription mistakes than others. Presumably, other phoneme manipulation tasks would have a different effect as well.

In addition to transcription mistakes, the phoneme isolation and phoneme identity tasks helped to reduce the patterns the transcription mistakes occurred in. As discussed in Chapter 3.1.2, the answers offered in the phonemic awareness-based exercises were based on multiple choice. The choices provided had the form of the patterns the transcription mistakes occurred in. In other words, the choices were concrete instances of the signs the participants wrongly determined to represent the elements of the mistakes. These instances were collected in the diagnostic test. For example, one of such instances was the phoneme /e/ mistaken with the phoneme /æ/ represented by the grapheme <a> in the word *thanks*. The results showed that there was a decrease in the ratio of mistakes patterns that occurred in the diagnostic and the final transcription test. What is more, the majority of these patterns reduced considerably. Many of the patterns were even reduced to half. This finding proves that the patterns in which transcription mistakes occur can also be reduced through phoneme awareness-based exercises.

The extent of the decrease in the mistakes patterns showed to be dependent on the phoneme task applied. As in the case of transcription mistakes, each phoneme task proved to reduce the patterns to a different extent. The results revealed that the more effective phoneme task was the phoneme isolation. It is because the decrease in

mistakes patterns was high, provided that there was the phoneme isolation task. Yet, the reason behind this might be the fact that the phoneme isolation majored in the exercises focusing on transcription mistakes in which there was a decrease in the patterns. It was the exercises focusing on the remaining mistakes (silent letters and progressive assimilation of voice) that were based on the phoneme identity task. What is more, the phoneme isolation was applied with the majority of mistakes in which there was no decrease in their patterns. Also, the phoneme identity was applied with phonemic symbols in which the decrease was the highest. What this suggests is that the results about the effect the phoneme tasks have on the mistakes patterns might be obscure. Thus, further research into the effect the phoneme isolation and phoneme identity tasks have on the mistakes patterns is needed. Similarly, there were mistakes whose patterns did not reduce to any rate, which suggests that some mistakes patterns might not be possible to be reduced if the phoneme identity and phoneme isolation tasks are applied.

The third objective was to create phonemic awareness-based exercises that would help Czech EFL learners to reduce transcription mistakes. In the research, a series of seven exercises were created. The exercises were computer-based. As mentioned earlier, they were based on *phoneme isolation* and *phoneme identity* tasks. Each exercise included several questions. In the questions, the attention was drawn to an element of a mistake. The element appeared in a word or a group of words. The task was to recognise and manipulate this element whilst applying phonemic awareness. The structure of questions followed the multiple-choice form. The choices offered were concrete transcription mistakes analysed in the research. The research brought evidence that these exercises indeed helped to reduce the mistakes. What is

more, it appears that including actual transcription mistakes helps Czech EFL learners to realise the risk of making these mistakes.

All in all, these findings provided the evidence needed for answering the two research questions that emerged from the research objectives. To recapitulate: the first question focused on how the frequency of transcription mistakes alters under the influence of phonemic awareness-based exercises. In particular, to what extent the frequency of transcription mistakes alters under the influence of such exercises. The second question targeted to answer which phonemic awareness-based exercises proved to be effective for the Czech EFL learners. The research showed that the phoneme awareness-based exercises reduced the frequency in transcription mistakes averagely by 10%. Also, the research revealed that phoneme tasks applied (phoneme isolation and phoneme identity) in the phonemic awareness-based exercises help the Czech EFL learners to reduce the transcription mistakes. Nevertheless, each phoneme task helps to reduce different mistakes. It is possible, though, that there are two limitations to these findings. Firstly, the words included in the final test could have been familiar to the participants more than the ones in the diagnostic test. As a result, they were fairly acquainted with their pronunciation and made fewer mistakes than in the diagnostic test. This does not apply to the mistakes made in phonemic symbols because the knowledge of pronunciation does not reflect in their recognition. In other words, the symbols remain the same regardless of the phonemes the participants determine to be represented in the words. Secondly, the number of participants who took the final test was lower than in the diagnostic test. Concretely, the number was lower for 12% (i.e. 9 participants). This means that the overall results are slightly distorted. In particular, they alter for 12%. Put another way, the results rates would have decreased or increased for such an extent had the numbers of the participants been the same. On the

other hand, under these circumstances, the results rates might have remained close to those the research brought. This suggests that the distortion does not significantly diminish the validity of the findings. The findings are still conclusive enough because they clearly demonstrate that the frequency of transcription tends to reduce under the influence of phonemic awareness-based exercises.

## **Conclusion**

This diploma paper focused on the effect phonemic awareness-based exercises have on the frequency of transcription mistakes made by Czech EFL learners. The research followed my earlier research into transcription mistakes. Yet, my earlier research did not prove the analysed mistakes to be generally typical for Czech EFL learners (Stejskalová 2021, 64). That is why the diagnostic test was created to find out which of these mistakes were typical for the participants of this research. The majority of the mistakes indeed proved to be typical for the participants, which implies that they are typical for a broader sample of Czech EFL learners. Also, the research revealed new mistakes typical for Czech EFL learners. Namely, the new mistakes were made in the grapheme <a> (the phoneme /ɪ/), the grapheme <o> (the phoneme /ə/), the digraph <oo> (the phonemes /ʊ/ and /u:/), the digraph <ea> (the phoneme /eə/), the digraph <se> (the phonemes /s/ and /z/) and the phonemic symbols /ɸ/ and /ɪə/. These mistakes belong to the groups of problematic graphemes, digraphs and miswritten phonemic symbols. As the mistakes proved to be made with relatively high frequency, a further examination into their typicality for Czech EFL learners might offer stronger evidence. In addition to these mistakes, the final transcription revealed another new mistake. Particularly, the mistake was made in the phonemic symbol /ɔ:/. However, as



the diagnostic test did not reveal this mistake to be typical for the participants, it may not generally be typical for Czech EFL learners.

The research proved that the frequency of transcription mistakes reduced by at least 5% and at most by 15%. On average, it is possible to state that the frequency reduced by 10%. In comparison to the number of participants, it means that out of seventy-three students, 10% of students noticeably improved their transcription. Looking closely on the extent rates, the alternation varied in response to the phoneme task the exercises were based on. This implies that each of the phoneme tasks reduced the transcription mistakes to a different extent than the other one. Namely, the phoneme isolation proved to reduce the frequency (by 12%-15%) more visibly than the phoneme identity task. Also, each of the tasks seems to have a positive effect on different mistakes. Phoneme isolation task positively influences the mistakes made in graphemes and digraphs. Phoneme identity task, on the other hand, is effective in mistakes made in the progressive assimilation of voice and phonemic symbols. Interestingly, combining phoneme identity and phoneme isolation tasks helped to reduce the mistakes made in silent letters. On the whole, it appears that phonemic awareness-based exercises reduce the frequency of transcription mistakes to a noticeable extent. Some of the phoneme tasks applied seem to be more effective in reducing the mistakes than others. Similarly, certain phoneme tasks seem to foster transcription mistakes to a greater extent than others.

In addition to the transcription mistakes, the phoneme awareness-based exercises helped to reduce transcription mistakes patterns if there were any. The majority of these patterns reduced to a high or moderate extent. This means that the patterns of transcription mistakes can be reduced through phonemic awareness-based exercises. Nonetheless, as mentioned in Chapter 3.2, not all of the mistakes patterns

proved to have been reduced. Therefore, further research into the effect of phonemic awareness-based exercises on the transcription mistakes patterns is needed. Moreover, it appears that the results about the influence of the phoneme tasks on the decrease in the patterns are inexact. This means that it is necessary to study the effect in greater detail. Also, the effect of other phoneme tasks, defined by the NRP, on the mistakes patterns needs to be studied to identify their effect on the frequency of transcription mistakes.

In conclusion, the research brought two findings. Firstly, the research revealed that the majority of transcription mistakes analysed in my previous research are typical for a broader sample of Czech EFL learners. This finding could be useful in future research into further analysis of transcription mistakes generally typical for Czech learners. Secondly, the research showed that phonemic awareness-based practice based on the phoneme isolation and phoneme identity tasks helps to reduce transcription mistakes to a limited extent. Therefore, the phoneme isolation and phoneme identity tasks might foster the transcription skill. Nonetheless, the findings offered are slightly distorted because the numbers of participants taking the diagnostic and the final transcription tests differed. This implies that the validity of the findings needs to be studied further in future research into the effect of the phoneme isolation and phoneme identity tasks on transcription mistakes. Similarly, in future research, the effect of other phoneme manipulation tasks on the frequency of transcription mistakes is worthy of investigation. The investigation might bring evidence that other phoneme manipulation tasks help to reduce the frequency of transcription mistakes as well. Perhaps, even to a greater extent than the phoneme isolation and the phoneme identity tasks. Evidence of this type could possibly expand on the hitherto recognized

knowledge about the teaching potential of phonemic awareness-based practice in transcription training.

## Bibliography

1. Adams, M.J. 1998. *Beginning to Read: Thinking and Learning About Print*. 10<sup>th</sup> ed. Massachusetts: MIT Press. ISBN 978-0-2625-1076-9.
2. Alhumsi M.H., Awwad A.A. “Teacher’s Knowledge of Phonological Awareness Levels: A Case of Jordanian EFL Teacher’s Perception.” *International Journal of Innovation, Creativity and Change* 13, no. 11 (2020): 814-832.
3. Bassetti, B. 2012. “Sound and Spelling” In *The Encyclopedia of Applied Linguistics*. Chappelle, C.A. 5312-5316. Oxford: Wiley-Blackwell. ISBN 978-0-2625-1076-9.
4. Brown, Adam. 2014. *Pronunciation And Phonetics: A Practical Guide For English Language Teachers*. 1st ed. New York: Routledge. ISBN 978-0-415-72275-9.
5. Justus, B., Mahurin, S.L., Robinson, G.C. “Predicting Difficulties in Learning Phonetic Transcription: Phonemic Awareness Screening for Beginning Speech-Language Pathology.” *Contemporary Issues in Communication Science and Disorders* 38, (Spring 2011): 87-95.
6. Khansir, A.A., Tajeri, M. “The Relationship between Spelling and Pronunciation in English Language.” *Language in India* 15, no. 12 (December 2015): 57-69. ISSN 1930-2940.
7. Kochaksaraie, M.N., Makiabadi H. “Second Language Learners’ Phonological Awareness and Perception of Foreign Accentedness and Comprehensibility by Native and Non-native English Speaking EFL Teachers.” *Journal of Teaching Language Skills* 36, no. 4 (Winter 2018): 103-140. ISSN: 2008-8191.

8. Krashen, Stephen. "Training in Phonemic Awareness: Greater on Tests of Phonemic Awareness." *Perceptual and Motor Skills* 89, no. 2 (October 1999): 412-416.
9. MacPhee, K. "The Critical Role of Phonemic Awareness in Reading Instruction." EDU Blog. Scholastic. Last modified August 15<sup>th</sup> 2018. <https://edublog.scholastic.com/post/critical-role-phonemic-awareness-reading-instruction>. Accessed October 29<sup>th</sup> 2022.
10. McShane, Susan. "Chapter 4: Alphabetics: Phonemic Awareness Training and Phonics Instruction." *Applying Research in Reading Instruction for Adults: First Steps for Teachers*. National Center Family Literacy. 2005. <https://lincs.ed.gov/publications/html/mcshane/index.html>. Accessed March 14<sup>th</sup> 2023.
11. Moats, L., Tolman, C. "Why Phonological Awareness Is Important for Reading and Spelling." ReadingRockets. WETA. <https://www.readingrockets.org/article/why-phonological-awareness-important-reading-and-spelling>. Accessed October 31<sup>st</sup> 2022.
12. Sokolova M. A., Tichonova I.C and Tichonova R.M. 2010. *Teoreticheskaya Fonetika Angliyskogo Yazyka*. Moscow: Phonenix.dubna.ru. ISBN 978-5-9279-0153-1.
13. Stejskalová, Aneta. "Analysing Mistakes Made by Undergraduates of English in the Transcription of Selected Words" Bachelor's Thesis, Technical University of Liberec, 2021.
14. Tieperman, Janice. "How to Teach Phonemic Awareness to English Language Learners." WikiHow. Last modified June 5<sup>th</sup> 2020. Accessed February 1<sup>st</sup> 2023.

<https://www.wikihow.life/Teach-Phonemic-Awareness-to-English-Language-Learners#aiinfo>.

15. Trzeciakowska, Julia. "Mistakes In Phonemic Transcriptions Made By Polish EFL Teacher Training College Students." *Currents A Journal Of Young English Philology Thought And Review*, no. 2 (2016): 162-183. ISSN 2449-8769.

## List of Appendices

Appendix 1 .....	II
Appendix 2 .....	III
Appendix 3 .....	IX
Appendix 4 .....	XI
Appendix 5 .....	XIII
Appendix 6 .....	XIII
Appendix 7 .....	XIX
Appendix 8 .....	XX
Appendix 9 .....	XXVII

# Appendix 1

Name:

## DIAGNOSTIC TEST

Read the instructions above the task **carefully**.

- You have **10 minutes** to complete the test.
- You must not cooperate with your peers or use any aids such as mobile phones.

**Transcribe** the words below. Think **carefully** about phonemes (and their phonemic symbols) represented by letters.

bathed

knocks

thank

comb

lure

mocks

rings

choice

manages

tears

pointed

wrinkle

yoke

mower

company

summon

bath

monk

surprise

pleasure

humble

care

breathed

loose



## Appendix 2

### Question 1

Not yet answered

Marked out of 1.00

fatal

Select one:

- a. /ʌ/
- b. /eɪ/
- c. /ɑ:/
- d. /æ/

### Question 1

Not yet answered

Marked out of 1.00

apron

Select one:

- a. /ʌ/
- b. /eɪ/
- c. /ɑ:/
- d. /æ/

### Question 1

Not yet answered

Marked out of 1.00

fable

Select one:

- a. /ʌ/
- b. /eɪ/
- c. /ɑ:/
- d. /æ/

### Question 1

Not yet answered

Marked out of 1.00

raven

Select one:

- a. /æ/
- b. /ɑ:/
- c. /eɪ/
- d. /ʌ/

**Question 1**

Not yet answered

Marked out of 1.00

apple

Select one:

- a. /ɑ:/
- b. /e/
- c. /ə/
- d. /ʌ/
- e. /æ/

**Question 1**

Not yet answered

Marked out of 1.00

radio

Select one:

- a. /ɑ:/
- b. /ʌ/
- c. /eɪ/
- d. /æ/

**Question 1**

Not yet answered

Marked out of 1.00

Ankle

Select one:

- a. /ɑ:/
- b. /ʌ/
- c. /e/
- d. /ə/
- e. /æ/

**Question 1**

Not yet answered

Marked out of 1.00

Rabbit

Select one:

- a. /æ/
- b. /ə/
- c. /ʌ/
- d. /ɑ:/
- e. /e/

**Question 1**

Not yet answered

Marked out of 1.00

trap

Select one:

- a. /e/
- b. /æ/
- c. /ə/
- d. /ʌ/
- e. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

ant

Select one:

- a. /ɑ:/
- b. /ə/
- c. /e/
- d. /æ/
- e. /ʌ/

**Question 1**

Not yet answered

Marked out of 1.00

animal

Select one:

- a. /ə/
- b. /æ/
- c. /e/
- d. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

Cassette

Select one:

- a. /æ/
- b. /ə/
- c. /e/

**Question 1**

Not yet answered

Marked out of 1.00

particular

Select one:

- a. /ə/
- b. /æ/
- c. /ɑ:/
- d. /e/

**Question 1**

Not yet answered

Marked out of 1.00

festival

Select one:

- a. /æ/
- b. /ə/
- c. /ɑ:/
- d. /e/

**Question 1**

Not yet answered

Marked out of 1.00

naval

Select one:

- a. /ə/
- b. /e/
- c. /æ/

**Question 1**

Not yet answered

Marked out of 1.00

path

Select one:

- a. /ə/
- b. /e/
- c. /æ/
- d. /ɪ/
- e. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

Spa

Select one:

- a. /ə/
- b. /æ/
- c. /ɪ/
- d. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

gasp

Select one:

- a. /ɪ/
- b. /æ/
- c. /e/
- d. /ə/
- e. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

draft

Select one:

- a. /ɑ:/
- b. /ʌ/
- c. /ə/
- d. /æ/
- e. /e/

**Question 1**

Not yet answered

Marked out of 1.00

orange

Select one:

- a. /ə/
- b. /eɪ/
- c. /ɑ:/
- d. /ɪ/

**Question 1**

Not yet answered

Marked out of 1.00

mask

Select one:

- a. /e/
- b. /ʌ/
- c. /æ/
- d. /ə/
- e. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

coverage

Select one:

- a. /ɪ/
- b. /ə/
- c. /e/

**Question 1**

Not yet answered

Marked out of 1.00

beverage

Select one:

- a. /ɪ/
- b. /ɑ:/
- c. /eɪ/
- d. /ə/

**Question 1**

Not yet answered

Marked out of 1.00

cabbage

Select one:

- a. /eɪ/
- b. /ə/
- c. /ɑː/
- d. /ɪ/

**Question 1**

Not yet answered

Marked out of 1.00

leverage

Select one:

- a. /eɪ/
- b. /ɑː/
- c. /ɪ/
- d. /ə/

**Question 1**

Not yet answered

Marked out of 1.00

many

Select one:

- a. /ɑː/
- b. /ə/
- c. /ɪ/
- d. /e/
- e. /æ/

**Question 1**

Not yet answered

Marked out of 1.00

any

Select one:

- a. /æ/
- b. /ə/
- c. /e/
- d. /ɑː/
- e. /ɪ/

## Appendix 3

### Question 1

Not yet answered

Marked out of 10.00

Choose all the words in which the letter o represents the phoneme /əʊ/.

Select one or more:

- a. hotel
- b. bone
- c. dove
- d. host
- e. stone
- f. focus
- g. solemn
- h. oven
- i. cost
- j. chose
- k. lost
- l. phone
- m. gold
- n. solstice
- o. own
- p. local
- q. cold

### Question 1

Not yet answered

Marked out of 10.00

Choose all the words in which the letter o represents the phoneme /ʌ/.

Select one or more:

- a. hotel
- b. solstice
- c. slot
- d. front
- e. son
- f. costume
- g. come
- h. won
- i. glove
- j. mole
- k. cost
- l. oven
- m. locket
- n. nothing
- o. tongue
- p. some
- q. dove

**Question 1**

Not yet answered

Marked out of 10.00

Choose all the words in which the letter *o* represents the phoneme /ɒ/.

Select one or more:

- a. hopper
- b. odd
- c. lorry
- d. dinosaur
- e. pond
- f. bottom
- g. local
- h. common
- i. host
- j. front
- k. won
- l. donkey
- m. hotel
- n. cold
- o. knot
- p. solemn
- q. solstice

Choose all the words in which the letter *o* represents the phoneme /ə/.

Select one or more:

- a. donkey
- b. front
- c. lemon
- d. apron
- e. common
- f. harmony
- g. carrot
- h. solstice
- i. freedom
- j. monkey
- k. bottom
- l. dinosaur
- m. okey-dokey
- n. occur
- o. tongue
- p. parrot



## Appendix 4

### Question 1

Not yet answered

Marked out of 1.00

Choose **the phoneme** that the words below have **in common**.

**supply, upon, voluntary, campus, support**

Select one:

- a. /ʊ/
- b. /ə/
- c. /s:/

### Question 1

Not yet answered

Marked out of 1.00

Choose **the phoneme** that the words below have **in common**.

**summer, suffer, rush, nun, shut**

Select one:

- a. /s/
- b. /ə/
- c. /ʊə/
- d. /v/

### Question 1

Not yet answered

Marked out of 1.00

Choose the word that **does not** include **the phoneme /ə/**.

Select one:

- a. surprise
- b. submit
- c. surfing
- d. surreal
- e. sustainable

### Question 1

Not yet answered

Marked out of 1.00

Choose **the phoneme** that the words below have **in common**.

**cure, azure, sure, secure, pure**

Select one:

- a. /s:/
- b. /u:ə/
- c. /ʊə/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the word that **does not** include **the phoneme /ʌ/**.

Select one:

- a. ugly
- b. scrub
- c. cub
- d. mud
- e. unique

**Question 1**

Not yet answered

Marked out of 1.00

Choose the word that **does not** include **the phoneme /ʊə/**.

Select one or more:

- a. insecure
- b. injure
- c. obscure
- d. manure
- e. allure

## Appendix 5

### Question 1

Not yet answered

Marked out of 1.00

Choose **the word** in which **the letter w** is **not** silent.

Select one:

- a. sword
- b. wrap
- c. answer
- d. whole
- e. whisper
- f. wrist
- g. writing

### Question 1

Not yet answered

Marked out of 5.00

Decide whether the letter **w** is **silent**.

- whimper
- wheat
- whirl
- wren
- wrong
- whole
- weather
- awry
- whether
- wrestle

## Appendix 6

### Question 1

Not yet  
answered

Marked out of  
5.00

Decide whether the words below **contain the phoneme /θ/** or not.

northern

clothe   
yes  
no

north

thus

thief

worth

both

athlete

gather

bathe

bath

youth

tooth

clothing

feather

although

breath

breathe

cloth

worthy

**Question 1**

Not yet answered

Marked out of 10.00

Decide which phoneme **the letters ea** (like in *wear*) represent.

- dear
- fear   
/æə/  
/eə/  
/ɪə/  
/e:/  
/i:ə/
- underwear
- yeah
- tear (meaning *slza*)
- shear
- pear
- beard
- tear (meaning *roztrhat*)
- footwear
- forbear
- earrings
- bear
- clear
- teardown
- year
- gear
- bearable
- swear
- really

**Question 1**

Not yet answered

Marked out of 10.00

Decide which phoneme **the letters oo** (like in *look*) represent.

- hoop
- broom
- stood
- food
- mood
- brook
- soot
- moon
- foot
- wood
- cook
- wool
- pool
- good
- noon
- boot
- hook
- spoon
- book
- fool

**Question 1**

Not yet answered

Marked out of 10.00

Decide which phoneme **the letters se** (like in *loose*) represent.

a paradise

Choose... ▾

to choose

Choose...  
/s/  
/z/

a house

Choose... ▾

to lose

Choose... ▾

a goose

Choose... ▾

a course

Choose... ▾

to abuse

Choose... ▾

to cause

Choose... ▾

noise

Choose... ▾

to pause

Choose... ▾

a use (a noun)

Choose... ▾

a hose

Choose... ▾

to chase

Choose... ▾

a bruise

Choose... ▾

a purse

Choose... ▾

to use (a verb)

Choose... ▾

to sense

Choose... ▾

loose

Choose... ▾

a mouse

Choose... ▾

to amuse

Choose... ▾

Choose the phonemes represented by *nk* and *ng*.

ink	<input type="text" value="Choose..."/>
bang	<input type="text" value="Choose..."/>
rang	<input type="text" value="/ŋk/"/>
	<input type="text" value="/nk/"/>
	<input type="text" value="/ŋ/"/>
	<input type="text" value="/ng/"/>
dink	<input type="text" value="Choose..."/>
fang	<input type="text" value="Choose..."/>
blink	<input type="text" value="Choose..."/>
sing	<input type="text" value="Choose..."/>
prank	<input type="text" value="Choose..."/>
monk	<input type="text" value="Choose..."/>
string	<input type="text" value="Choose..."/>



## Appendix 7

### Question 1

Not yet answered

Marked out of 3.00

Choose the phoneme **the ending *-(e)s*** represents.

- graphs
- ashes
- dishes
- myths
- gloves
- leaves
- crabs
- stitches
- cliffs

### Question 1

Not yet answered

Marked out of 3.00

Choose the phoneme **the ending *-ed*** represents.

- shaded
- reached
- blended
- framed
- tricked
- hugged
- tested
- clipped
- smiled

## Appendix 8

### Question 1

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**lower**

Select one:

- a. /ɔwə/
- b. /ɔuə/
- c. /ouə/
- d. /əuwə/
- e. /əuə/

### Question 1

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**rower**

Select one:

- a. /ɔuə/
- b. /əuə/
- c. /ɔwə/
- d. /ouə/
- e. /əuwə/

### Question 1

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**mower**

Select one:

- a. /əuə/
- b. /əuwə/
- c. /ɔuə/
- d. /ɔwə/
- e. /ouə/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**throw**

Select one:

- a. əʊ
- b. ʊu
- c. ou
- d. əʊ
- e. ou

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**show**

Select one:

- a. /ʊ/
- b. /ou/
- c. /əʊ/
- d. /əʊ/
- e. /ou/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**throne**

Select one:

- a. /ou/
- b. /əʊ/
- c. /ou/
- d. /ʊu/
- e. /əʊ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**coy**

Select one:

- a. /ɔj/
- b. /oɪ/
- c. /oɪ/
- d. /əɪ/
- e. /ɔi/
- f. /ɔɪ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**voice**

Select one:

- a. /ɔj/
- b. /oɪ/
- c. /ɔɪ/
- d. /əɪ/
- e. /vɪ/
- f. /ɔi/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**noise**

Select one:

- a. /əɪ/
- b. /ɔɪ/
- c. /oɪ/
- d. /ɔi/
- e. /ɔj/
- f. /vɪ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

lost

Select one:

- a. /o/
- b. /ɔ/
- c. /ɒ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

forest

Select one:

- a. /ɒ/
- b. /o/
- c. /ɔ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

fox

Select one:

- a. /ɔ/
- b. /o/
- c. /ɒ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

split

Select one:

- a. ɪ
- b. /i/
- c. /I/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**with**

Select one:

- a. /t/
- b. /i/
- c. /l/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**pit**

Select one:

- a. /i/
- b. /l/
- c. /t/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**ear**

Select one:

- a. /lə/
- b. /iə/
- c. /ɪə/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

**career**

Select one:

- a. /lə/
- b. /ɪə/
- c. /iə/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter.  
material

Select one:

- a. /iə/
- b. /lə/
- c. /ɪə/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter.  
dinosaur

Select one:

- a. /s/
- b. /ʃ/
- c. /θ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter.  
ballon

Select one:

- a. /s/
- b. /ʃ/
- c. /θ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.  
vessel

Select one:

- a. /ə/
- b. /ɜ/
- c. /ɛ/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

calm

Select one:

- a. /a:/
- b. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

heart

Select one:

- a. /a:/
- b. /ɑ:/

**Question 1**

Not yet answered

Marked out of 1.00

Choose the phonemic symbol for the phoneme represented by the highlighted letter/letters.

laugh

Select one:

- a. /a:/
- b. /ɑ:/



## Appendix 9

### DIAGNOSTIC TEST

Name:

Please, read the instructions below carefully.

- Read the instructions above the task **carefully**.
- You have **10 minutes** to complete the test.
- You **cannot** cooperate with other students.

**Transcribe** the words below. Think **carefully** about phonemes (and their phonemic symbols) represented by letters.

maple

umbrella

bottom

counted

won

dear

submit

both

animal

luggage

forbear

two

math

abuse

dung

witches

to use (a verb)

leather

gasp

grower

pink

spreads

goose

issued

parrots

coin

stood

backed

a use (a noun)

gold

secure

noon