

# PHONETIC NOTATION IN FOREIGN LANGUAGE TEACHING AND LEARNING: POTENTIAL ADVANTAGES AND LEARNERS' VIEWS

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## **Abstract**

This paper focuses on the use of phonetic notation in foreign language teaching and learning. The aim of the paper is twofold: first, we review some of the potential advantages that the use of phonetic notation seems to have in language teaching and learning; and secondly, the paper reports on learner views obtained with a questionnaire anonymously filled in by EFL (English as a foreign language) learners in tertiary education who followed an English course where an extensive use of phonetic symbols was made for pronunciation work in Finland, France and Spain. The results suggest that learners were relatively familiar with phonetic notation prior to their course although there were differences between countries. Phonetic notation was perceived positively by a majority of learners, particularly in terms of its perceived potential for raising awareness of the target language's pronunciation features and its potential to visually represent sounds. Learners' answers were also mostly positive regarding the potential of phonetic notation for autonomous learning, as well as the perceived ease and usefulness of phonetic notation.

**Key words:** phonetic notation, pronunciation teaching/learning

## **1. Phonetic notation in speech research and language teaching**

Phonetic notation refers to the use of special written symbols to refer to the sounds or sound features of one or several languages. Related to this, phonetic transcription refers to recording words and utterances using phonetic notation. The need for phonetic notation (and transcription) in phonetics research and teaching and learning is unquestioned by phoneticians, linguists and speech researchers in general, who find it very convenient to have an unambiguous notation system to refer to sounds. A different issue is, however, whether phonetic notation is appropriate in foreign language teaching. The issue is relevant as phonetic symbols are often used in learner dictionaries and

activities included in second or foreign language (L2) teaching materials. Even L2 materials writers provide information on phonetic symbols in teacher-oriented materials (e.g. Bailey, 2005; Baker & Westrup, 2003; Seidlhofer, 2001). In this respect, some authors consider that learners can benefit from the use of phonetic symbols in L2 pronunciation learning (e.g. Lintunen, 2005; McMullen, 1988; Newton, 1999; Tench, 1992), while others seem to consider phonetic symbols unnecessary or hardly recommendable (e.g. Cant, 1976; Paikeday, 1993). Given the contradictory views, teachers are often uncertain as to whether to use phonetic notation or not. Their eventual decision is typically based on their own experiences as learners themselves. Individual choices may also be influenced by the aims and objectives in teaching, the nature of the materials used or even previous teacher training.

The purpose of this article is to examine the perceived usefulness of phonetic notation in pronunciation teaching from learners' perspective. The L2 considered here is English. After a review of the potential advantages of phonetic symbols in L2 teaching and learning, we examine learners' views on this issue by means of a questionnaire built around the potential advantages of phonetic notation discussed in the literature. For this, EFL (English as a foreign language) learners from three countries were chosen: Finland, France and Spain (henceforth FI, FR and SP, respectively). By including learners with different linguistic backgrounds, we can also reveal general tendencies irrespective of the learner's native language.

## **2. Pronunciation: An often-neglected skill**

Before discussing the potential advantages of phonetic symbols in L2 teaching and learning, a preliminary word is necessary regarding the importance of pronunciation in language learning and teaching and the view adopted in this study. In this respect, it should be borne in mind that pronunciation is an important skill in learners' L2 competence. However, despite the fact that its importance is seldom questioned, researchers often voice concerns over pronunciation being the neglected element in L2 classrooms (e.g. Derwing, 2009).

There are several reasons for this neglect of pronunciation. One of them is the shift in teaching methods and the different views of the importance of pronunciation or pronunciation teaching techniques at hand. Over the years, the emphasis on pronunciation has varied according to the teaching methods in vogue. The focus on pronunciation in the form of behaviouristic drilling of sound contrasts and word pairs came into disfavour in the late 1970s with the development of communicative methods and the focus on communication and the use of language in authentic, 'meaningful' communicative situations. This approach amounted to the almost complete ignoring or marginalization of pronunciation in language curricula and classrooms (Derwing & Munro, 2005; Fraser 2000; Setter & Jenkins, 2005). This was due both to an increased emphasis on input-based instruction and to the perception that pronunciation issues were more related to accuracy than to communication (Breitkreutz, Derwing & Rossiter, 2001).

A related reason for the neglect of pronunciation in L2 teaching is the scarcity of suitable teaching and learning materials. The rise of the communicative approach

coincided with an increasing interest in a ‘top-down’ approach to pronunciation teaching, in which prosodic aspects such as rhythm, sentence stress and intonation are addressed before segmental features. However, although the increased attention to suprasegmentals was encouraging, by the mid-nineties Jones and Evans (1995) pointed out that most materials still had a long way to go in presenting pronunciation in a truly communicative, integrated and holistic manner, continuing to be essentially atomistic, based on minimal pairs and other rule-based tasks as well as addressed in a scattered way, as an add-on (Gilbert, 2010), which provides little incentive for some teachers to work on pronunciation.

Finally, as far as teacher training is concerned, pronunciation is often ignored due to many teachers’ insufficient training in phonetics, phonology or pronunciation-related content. In this respect, several studies have pointed out that teacher training is often inadequate in areas such as Europe (e.g. Henderson et al., 2015), North America (e.g. Foote, Holtby, & Derwing, 2011) or Australia (MacDonald, 2002). In these areas, prospective teachers’ programmes often lack modules devoted to phonology, and teachers complain about the training they have received. These studies observe that one consequence of teachers’ insufficient training is their frequent lack of confidence, skills and knowledge, leading to the marginalization of pronunciation in their classes.

All the reasons mentioned above may explain why phonetic notation can often be considered to be of little or no use in language teaching. The view held in this paper, however, is that pronunciation is an essential component of any L2 curriculum and that instruction should draw learners’ conscious attention to linguistic elements in the input during lessons whose overriding focus is on meaning or communication; without special attention, learners are likely to ignore these elements. The assumption is that the accuracy-intelligibility dichotomy is not very useful and that pronunciation instruction is not about working on accuracy to attain native-like pronunciation but rather that pronunciation training is essential to a number of intermediate steps that influence spoken intelligibility (Levis & Levelle, 2010).

### **3. Potential advantages of phonetic notation in pronunciation instruction**

As mentioned above, there is no consensus in the literature as to the suitability of phonetic notation for foreign language teaching, with some authors claiming that phonetic symbols are unnecessary or not recommendable (e.g. Cant, 1976; Paikeday, 1993).

This opinion often relies on the assumption that phonetic notation and phonetic symbols may be difficult and unfamiliar to both learners and teachers, or phonetic symbols epitomize the irrelevance of any substantial phonetic theory for the average language learner. These assumptions, combined with teachers’ frequent insufficient training as well as time limitations, other teaching priorities, etc., can lead not only to the avoidance of phonetic notation but also to the neglect of pronunciation. However, the use of phonetic symbols in foreign language teaching does not imply the teaching of phonetic theory.

Gilbert (2010) suggests that even if teachers have some previous training in phonetics or phonology, teacher training programmes often lack ‘practical’ phonology courses representing a bridge between linguistics and pronunciation teaching. Such practical approaches would help prospective teachers understand which pronunciation elements are most crucial so as to prioritize efforts and clarify possible misconceptions about the nature of pronunciation. It may be reasonable, for example, to assume that such practical phonology courses would not require teachers to use extensive phonetic or phonological theory in their classes but to deal instead with practical rules, key sounds, stress and intonation patterns, etc. Additionally, tools for representing these, including phonetic notation and symbols could be used after clarifying the potential advantages of phonetic notation as a teaching and learning tool. In this respect, the rest of this section provides a discussion of at least four of these potential advantages.

### 3.1 Systematicity

The fundamental principle of a phonetic notation set (or alphabet) is that each symbol always stands for one particular distinctive sound feature or unit and that each such unit is always represented by the same grapheme, digraph, diacritic or any other mark.

Ideally, alphabets should follow this principle with no - or at least very few - irregularities. This is essentially the case of languages with phonemic orthography such as Turkish, Finnish, or Spanish, in which the graphemes and phonemes of the language are consistently related. However, many alphabetic systems deviate over time from their first sound/symbol regularity and become less predictable while trying to capture and/or maintain linguistic historical and etymological features. Modern French, Danish, or English still retain major irregularities, including multiple sound-to-grapheme and grapheme-to-sound correspondences and silent letters. Phonetic notation sets, however, are consistent in the ‘one symbol-one value’ principle. Given this feature of phonetic notation and the inconsistencies of the spelling systems of languages such as English, phonetic notation can function as a convenient code with which teachers and learners can discuss issues in pronunciation simply and unambiguously.

Apart from the advantages of phonetic notation over traditional alphabetic systems, the former is also far more systematic than other writing systems and comprehensive in representing allophonic variants subsegmental phonetic features or prosodic features (e.g. stress, rhythm, intonation), despite popular views that phonetic notation is only about representing the vowel and consonant phonemes. At the same time, however, phonetic notation is flexible enough for teachers (and learners) to decide to what degree of phonetic or linguistic detail they wish to represent speech. In this respect, phonetic notation can be used to represent only the phonemes of the language (the so-called ‘phonemic’ or ‘broad’ transcription) and no ‘predictable’ information or the phonetic features and allophonic variation of utterance (the so-called ‘narrow’ or ‘allophonic’ transcription). For language teaching purposes, a phonemic (or at best a partly allophonic transcription representing perceptually salient allophones and connected speech processes) is probably most convenient, depending on the needs of the learners.

### 3.2 Awareness-raising

Alongside a wealth of other strategies such as the use of rhymes, tongue-twisters, beating out the pattern of stress with one's hand or finger, etc., phonetic notation is also useful in raising awareness of pronunciation features that often go unnoticed by learners (Harmer, 2001; Koet, 1990; Taylor, 1990). These include L2 sound inventory and features, differences between L2 accents, canonical vs. connected speech differences in pronunciation, phonological and sound-to-spelling differences between the learners' first language (L1) and their L2, common pronunciation errors, etc. Dufva and Vauras (2002) suggest that raising learners' phonological awareness with phonetic notation can even be beneficial for reading and writing skills.

Raising learners' awareness of pronunciation features exemplifies the *analytic-linguistic* (AL) approach in pronunciation teaching described by Celce-Murcia, Brinton and Goodwin (2010). The AL approach assumes that awareness of many L2 phonological features does not necessarily arise in learners spontaneously. Instead, the approach assumes that this awareness should be fostered with the use of metaphonological tools – tailored to learners' level and interests – for learners to become aware of what exactly is to be learned or practiced. The AL approach is related to the role claimed in the L2 teaching literature for consciousness-raising (Cook, 2008) and noticing (Schmidt, 1990) of language features as well as input enhancement (Sharwood-Smith, 1993), and focus on form (Long, 1991). Long, (1991), for example, draws attention to the distinction between 'focus on forms' and 'focus on form'. Focus on forms is nothing but the traditional structural syllabus. Focus on form, on the other hand, refers to instruction that draws learners' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication. Focus on form re-emphasizes the formal and linguistic aspect of language learning, encouraging learners to pay conscious attention to certain forms in the input they are otherwise likely to ignore.

### 3.3 Visualness and visual support in teaching/learning

By definition, phonetic notation is the visual representation of speech and this visual character of phonetic notation is, in itself, a potential advantage for pronunciation teaching and learning given that visual displays of sounds help develop awareness of pronunciation patterns (Molhort, 1992). Pronunciation work has a strong auditory component, and learners often find sounds elusive and less 'tangible' than written language.

Unless recordings are available for replay or learners go through somewhat intensive periods of ear-training, it is often difficult for them to develop conceptual images of sounds. Given this, phonetic symbols allow teachers and learners to 'freeze' those sounds (and the abstract concepts they instantiate) into a repertoire of visual symbols for reference and further work. In this way, phonetic notation is a visual reminder of real auditory stimuli and/or the concepts they represent (e.g. Brown, 1992; Marks, 1992), helping learners remember the latter (Finocchiaro, 1974; García-Lecumberri, Cooke, &

Maidment, 2001) and providing a model on which to work. Displaying phonetic symbols on a chart, for example, can represent a pronunciation ‘visual’ syllabus for both teachers and learners during most class activities (Bowen & Marks, 1992; Celce-Murcia & Goodwin, 1991; Edge, 1993; Underhill, 2005).

The visual character of phonetic notation is also advantageous for another reason. The visualness of symbols may be exploited in pedagogically attractive ways by teachers when developing or adapting materials for pronunciation work. As a case in point, changes in font size, font weight (from ultra-light to extra-bold or black) or font colour can highlight specific aspects in materials.

### 3.4 Autonomous learning

The awareness-raising potential of phonetic notation and its visualness provide the basis for another potential advantage of phonetic notation, that is, its power for autonomous learning. According to Hedge (2000), autonomous learners learn both inside and outside the classroom, and they know how to use resources independently in both contexts. In the classroom, learners can be told about the pronunciation of words or utterances. For example, phonetic symbols can help learners understand their pronunciation errors better if seen laid out in visual form in teachers’ feedback. Outside the classroom and unsupervised, however, even advanced learners often develop inaccurate impressions of what the native-speaker pronunciation sounds like. A strategy that can be used to mitigate this problem is to help learners understand and use the information on pronunciation in dictionaries or any other EFL materials. On condition that the learners know the values of the phonetic notation employed, dictionaries are widely considered to help learners work out the pronunciation of a lexical item autonomously even without having heard it (Brown, 1992; Edge, 1993; Harmer, 2001; Lu, 2002; Tench, 1992; Underhill, 1985; Wells, 1996).

Another lifelong autonomous learning skill potentially fostered by the knowledge and use of phonetic notation is the ability to refer, in handwriting or typescript, to pronunciation units and features (Kelly, 2000; Underhill, 1985). Learners often resort to the spelling conventions of their L1 to represent the pronunciation of an L2. Finnish, French and Spanish EFL learners, for example, typically transcribe English words such as ‘fill’ and ‘feel’ both with the same letter, that is <i> (i.e. ‘fil’),<sup>1</sup> given that these languages do not have a qualitative distinction between front vowels such as the one found in English. However, L1 spelling-based notation typically masks inappropriate equivalences between the L1 and L2 sound systems, treating the sound system of the L2 as similar or identical to that of the L1 (Wells, 1996). To prevent this, an adequate L1-based notation system would need to be made more elaborate but at the risk of making it rather idiosyncratic. Consequently, a language-independent, widely accepted system of notation seems more recommendable.

Phonetic notation may help learners to be more autonomous by fostering a further skill: self-monitoring and self-correction. This skill has received some attention in

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<sup>1</sup> This system resembles the pronunciation respelling that can be used to convey the pronunciation of words that do not have a phonemic orthography (e.g. ‘pro-nun-see-ay-shon’ for pronunciation) occasionally advocated for monolingual dictionaries (Fraser, 1996, 1997).

pronunciation teaching literature (e.g. Avery & Ehrlich, 1992; Jones, Rusmin, & Evans, 1994), although self-monitoring is typically a challenge for learners not only due to learners' frequent lack of awareness of what is to be corrected but also lack of tools to do so. In this respect, since phonetic symbols allow pronunciation features to be written down and studied, their potential for self-monitoring seems evident. In the classroom, self-monitoring can be fostered by writing utterances on the board alongside phonetic symbol(s) for the mispronounced feature(s), by pointing to phonetic wall charts posted around the class which contain the phonetic symbols relevant for the pronunciation error or by having learners transcribe one portion of a recorded performance. This naturally requires that the learners have acquired an active knowledge of phonetic symbols instead of a mere passive skill that is sufficient for checking pronunciation forms in a dictionary.

#### **4. Learner's views of pronunciation instruction and phonetic notation**

The advantages of the use of phonetic notation discussed above are not shared by all teachers but the discussion exists and the views are relatively clear in the literature. Moreover, data on teachers' use of phonetic notation is available. In this respect, Henderson and colleagues (Henderson et al., 2015) report on data from a European survey among EFL/ESL teachers (N=640) of both young adults and children in seven European countries. The researchers asked participants whether they taught learners how to recognize and write phonetic symbols and why they did or did not. Their results showed that the majority of teachers in all countries (average across countries 82%) taught their learners to recognize symbols while only an average of 40% taught their learners to write them. In connection with these data, the respondents' answers referred to issues like language-specific features (e.g. use symbols with sounds not present in the learners' L1), the age of learners (e.g. mainly with adult learners), lack of self-confidence with symbols and with technology; and the need to prioritize during lessons.

Despite the existence of some literature on teachers' views of pronunciation teaching, relatively little is known about the learners' views on pronunciation teaching and learning, let alone their views on the use of phonetic notation and symbols. Learner views have recently been a common focus of research as they are factors affecting the learning process (Kalaja & Barcelos, 2003, 2013). Some projects have also focused on areas related to pronunciation, for example on model accents (Dalton-Puffer, Kaltenboeck, & Smit, 1997), pronunciation difficulties (Derwing & Rossiter, 2002), amount of earlier pronunciation instruction (Tergujeff, 2013), usefulness of formal instruction (Cenoz & García-Lecumberri, 1999) or views on 'focus on form' instruction (Valeo & Spada, 2015). Derwing and Rossiter (2002), for example, looked at ESL (English as a second language) learners' perceptions of their pronunciation difficulties and strategies they employed when faced with communication breakdown. Tergujeff (2013) reported on an interview study with EFL learners that aimed to explore primary and secondary learners' perceptions and views on English pronunciation teaching. She found that learners do not seem to have aspirations to achieve native-like pronunciation, but rather aim at achieving intelligible and fluent speech. Cenoz & García-Lecumberri (1999) found out that university learners considered explicit phonetic training in both segments and suprasegmentals as useful in pronunciation learning.



What seems to be missing is further knowledge on learner views on pronunciation teaching methods. In an unpublished paper, Hancock (1994) reports on the opinions of 25 Spanish EFL learners (8 aged 14-18; 17 aged 25-35) about their views on pronunciation and the use of IPA symbols in the classroom. Although the study has methodological problems, the results obtained indicated, among other things, that adolescents thought IPA helped to clarify matters when thinking about pronunciation and that they thought it was preferable to ask the teacher for the pronunciation of words, which may reveal that the necessity of being independent in learning is not so obvious for younger learners. Moreover, adults generally thought that phonetic notation is particularly useful for looking up words in the dictionary and for making a note of how to pronounce new words and that it helped them to clarify things when dealing with pronunciation.

Tergujeff (2013) asked primary- and secondary-level subjects (n=11) about the usefulness of phonetic notation in EFL teaching. Her subjects had mixed reactions as they believed that phonetic symbols might be useful when checking words from a dictionary, but on the other hand, the knowledge of phonetic symbols might also negatively affect spelling. These views were also in accordance with those by teachers (Tergujeff, 2012). Phonetic notation is more actively used at university levels, but little is known about the opinions of advanced learners. Lintunen (2004) showed that a clear majority of Finnish university learners of English (n=111) thought that the use of phonetic transcription as a teaching method had had a positive effect on their pronunciation skills, but he did not study learners' views on phonetic notation further. Calvo Benzie (2013) looked at the views of Spanish EFL university learners (n=222) on the teaching of pronunciation. Although she did not address directly the use of phonetic notation in her study, her results showed that as far as error correction was concerned, teachers almost exclusively used 'listen and repeat' while other methods mentioned in her questionnaire (i.e. writing phonetic transcription on the blackboard, making lists with the mispronounced words and using pronunciation dictionaries) were never used.

## 5. Study

The purpose of the empirical part of this study was to examine learners' views on phonetic notation in L2 English teaching and learning. In this study, we compared learner perspectives from three groups of learners (L1 Finnish, French or Spanish) to obtain an overview of opinions across Europe. This also enabled us to reveal more general tendencies in learner opinions than focusing on a single country would have.

The following study addressed two research questions:

RQ1: Do learners have positive or negative opinions regarding phonetic notation?

RQ2: What are, according to learners, the main advantages of phonetic notation?

Given the potential advantages mentioned above, the hypotheses of this study were that learners would have relatively positive views about phonetic notation and that there would be similarities but also differences across subjects regarding the perceived advantages given the different backgrounds of the participants (see below).



## 5.1 Method

### 5.1.1 Participants

The participants in this study were 177 advanced EFL university learners (FI n=52; FR n=59; SP n=66), most of whom were females (FI: 77%, 40/52; FR: 78%, 46/59; SP: 76%, 50/66). The L1 of all participants was the majority language of their respective countries. Their ages ranged in all groups from 18 to 23 years. Two important issues related to the learners deserve consideration: the type and size of the sample.

Given that the views of learners on the use of a very specific tool as is phonetic notation were sought for, pure random sampling was not considered appropriate. Instead, systematic non-random sampling was used, that is, a specific type of learners was chosen from a given context. In this respect, the learners had followed a pronunciation course as part of their English Studies degree and were familiar with phonetic notation. The course made use of phonetic notation based on the International Phonetic Alphabet (IPA, 1999). Learners were required to recognize and produce symbols up to short sentences or passages. Thus, the population chosen was considered to be well-qualified to express opinions on the subject. This was also thought to mitigate the possible risk of learners' misunderstanding or misinterpreting the questions.

Moreover, the population was as homogeneous as possible in terms of their level of English and their academic level. Learners were enrolled in a compulsory course on English pronunciation at the time of the study. Both the French and the Spanish learners were second-year degree learners, whereas the Finns were first-year learners. Although no independent language level test was applied to the learners, their level was considered to lie between B2 and C1 according to the CEFR or Common European Framework of Reference (Council of Europe, 2001). Moreover, learners had little or no previous systematic exposure to phonetic notation before being enrolled in the course during which they were familiarized with phonetic symbols on a weekly basis by their own university lecturer, who introduced symbols individually or in very small groups as they arose over a series of lessons, as recommended by several authors (e.g. Bowen & Marks, 1992; Kelly, 2000; Willis, 1993). Their exposure to phonetic notation lasted from September to December. The learners participated in the study after completing the course and filled in the questionnaire anonymously.

Regarding the sample size, this often depends on the degree of precision or the number of variables investigated. The size was determined by the number of learners attending the courses. The uneven sub-divisions of the student population in terms of gender in all three cases made it unable to analyze the possible role of gender in the results. The proportion of male/female respondents prevented results from being representative in this respect. Moreover, as all subjects were in the same age group (young adults), no differences were expected in this respect either.

### 5.1.2 Materials

Following previous studies on the views and practices of teachers and learners alike regarding pronunciation teaching, learning or related issues such as listening (e.g. Foote

et al., 2011; Graham, 2006; MacDonald, 2002), a questionnaire was designed in order to obtain information about learner views on the use of phonetic notation and symbols.

In order to design a successful questionnaire, certain factors were considered (cf. Dörnyei & Taguchi, 2009, pp. 1-10). An attempt was made, for example, to use simple language in order to convey the meaning of the questions clearly, with an attempt to balance positively and negatively constructed questions, to avoid long and complex questions, ideologically-loaded expressions, excessively technical terms, etc. The expression 'phonetic symbol,' for example, was used instead of phonetic notation or phonological units, because this was considered the most familiar and transparent term.

Only closed questions were provided in this study given time restrictions and also for the objectivity and ease of scoring and analysis. As far as the number of options, a Likert 4-point scale was used (a) *strongly agree*; (b) *moderately agree*; (c) *moderately disagree*; and (d) *strongly disagree*. This was considered as a compromise between a binary (yes/no) option and a proliferation of options. In this respect, the options did not include a neutral category (e.g. 'no opinion'), having then a by-product of forced response. However, in the analysis we decided to combine the positive and negative responses so that the results show a binary answer to a given statement. This was done to avoid possible cultural differences and because we were not interested in whether learners from a particular country agreed more with a given statement than learners from another country. Instead, we were interested in whether learners from one country agreed with a statement that learners from another country disagreed with. Responses to negatively phrased statements were conversed for the analysis. The differences between learner groups and their positive or negative reactions were tested with Pearson's chi-square test.

The actual number of responses was tested, but as the groups were of different size, we report percentages in the discussion of the results.

Questions were thematically grouped, although no such groupings were shown to the learners, who were given a random list of questions. In this respect, five target areas were defined: a) perceived awareness-raising potential; b) perceived visual support potential; c) perceived autonomous learning potential; d) familiarity with phonetic notation; and e) perceived ease and usefulness of phonetic notation. The questionnaire consisted of 20 questions formulated as statements, structured around the five target areas mentioned above. The participants were asked to respond if they agreed with the statement or not. The full questionnaire can be found in Appendix 1.

## 5.2. Results and Discussion

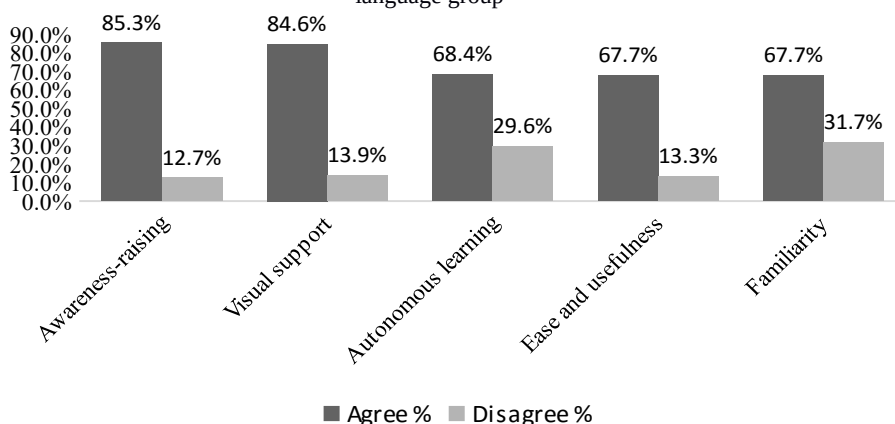
The results section will discuss the five themes. Taken together, these results seem to confirm the hypothesis that the learners that were surveyed have positive views towards phonetic notation. In all five categories, most responses were positive. Table 1 and Figure 1 show the order of the five themes in total and per country. The results indicate that learners agreed most with the awareness-raising potential of phonetic notation, followed by its visual support for learning. In these two categories more than 80% of all reactions were positive. The learners gave somewhat less positive reactions to statements

regarding potential for autonomous learning, the perceived ease and usefulness of notation and familiarity with phonetic notation. There were some differences between learners from different countries although, in general, the different language groups seem to agree in their positive views to the categories as a whole.

The chi-square test revealed a statistical significance ( $\chi^2=40.6-14.7$ ,  $df=2$ ,  $p<.01$ ) between the countries in all categories except for the awareness-raising potential and ease and usefulness. In the following, we will discuss the categories in more detail.

	Agree %	Disagree %	Total	FI	FR	SP
<b>Awareness-raising</b>	85.3%	12.7%	1	1	2	2
<b>Visual support</b>	82.1%	16.7%	2	5	1	1
<b>Autonomous learning</b>	68.4%	29.6%	3	3	5	3
<b>Ease and usefulness</b>	67.7%	31.3%	4	4	4	4
<b>Familiarity</b>	67.7%	31.7%	5	2	3	5

**Table 1.** Average rate of 'agree' and 'disagree' answers per theme and the order of themes per language group

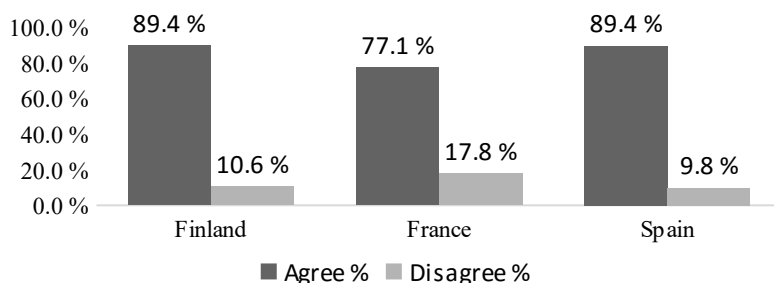


**Figure 1.** Average rate of 'agree' and 'disagree' answers per theme

### 5.2.1 Awareness-raising

The learners from the three countries fairly unanimously agreed that the use of phonetic notation facilitates awareness-raising (see Figure 2). There were two statements on this topic, which caused very similar reactions. Finnish learners in particular reacted positively towards the awareness-raising potential of phonetic notation, whereas among the French and Spanish learners this was the second theme in terms of most positive reactions (see Table 1 above). As mentioned, there was no statistical significance between the countries in the total answers in this category. The learners fairly consistently believed that phonetic symbols had helped them become aware of the discrepancies and correspondences between spelling and pronunciation in English (FI

82.7%, FR 83.1%, SP 89.4%). There was a minor difference with the statement “Phonetic symbols help me become aware of the existence of sounds, sound features and combinations of sounds not found in (Fi/Fr/Sp)”. The Finnish learners seemed to agree with this statement more than the others (FI 96.2%, FR 71.2%, SP 89.4%) ( $\chi^2=8.0$ ,  $df=2$ ,  $p<.02$ ).

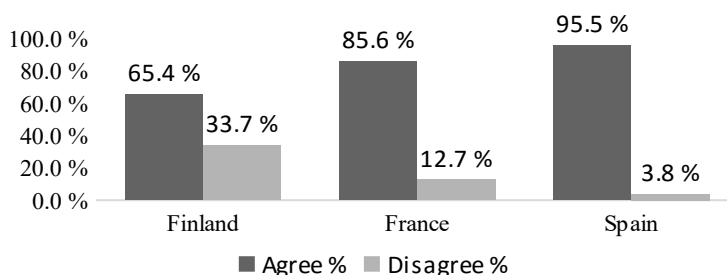


**Figure 2.** Awareness-raising potential per country

## 5.2.2 Visual support

The potential for visual support was found to be very strong according to learner opinions. Overall, responses to these statements were almost equally positive as with awareness-raising potential. Among French and Spanish learners, the statements in this category received the most positive responses. Interestingly, this category received the least positive responses in the Finnish group, although also more than half of their responses were positive. On average, the number of positive responses to these statements was 65.4% for Finnish, 85.6% for French and 95.5% for Spanish learners (see Figure 3). The difference was due to the fact that nearly all Spanish learners believed that phonetic symbols had made the sounds of English less abstract for them, whereas only 63.5% of the Finnish learners agreed with this (FI 63.5%, FR 84.8%, SP 95.5%) ( $\chi^2=20.9$ ,  $df=2$ ,  $p<.01$ ). In a similar manner, almost every Spanish learner thought that phonetic symbols help them to visualize the sounds of English, whereas only 67.3% of the Finnish learners agreed with them (FI 67.3%, FR 86.4%, SP 95.5%) ( $\chi^2=19.9$ ,  $df=2$ ,  $p<.01$ ).

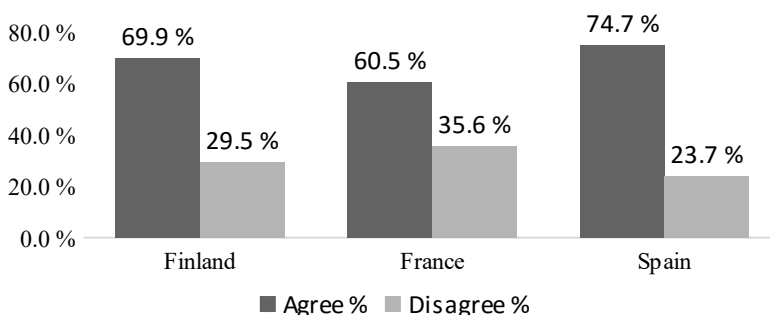
Nevertheless, a clear majority of learners agreed with the visual support provided by phonetic notation throughout the three countries.



**Figure 3.** Potential for visual support per country

### 5.2.3 Autonomous learning

The learners from three countries were quite positive towards the potential that phonetic notation offers for autonomous learning, but this category also provoked more negative responses than the first two categories. Overall, the Spanish learners were the most positive towards this aspect (74.8% of the responses were positive), whereas the French learners were slightly less positive in their responses (60.5% of the responses were positive). The Finnish learners were between these extremes (69.9% of the responses were positive) (see Figure 4). The learners responded most positively towards statements “Phonetic symbols help me check the pronunciation of words in dictionaries” (88.9% of all learners agreed) and “Phonetic symbols help me improve my own pronunciation by myself” (84.1% of all learners agreed).



**Figure 4.** Potential for autonomous learning per country

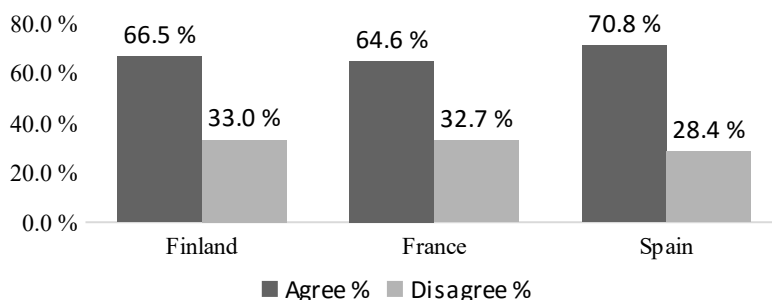
The Spanish learners also clearly agreed with the statement that knowing how to interpret phonetic symbols helped them how words were pronounced even without listening to them, whereas the Finnish and French learners were a bit more hesitant possibly considering that an auditory model from a native speaker is still needed (FI 65.4%, FR 64.4%, SP 89.4%) ( $\chi^2=12.3$ ,  $df=2$ ,  $p<.01$ ). The Finnish learners said that they pay attention to phonetic symbols when they see them in dictionaries and books,

whereas the Spanish learners agreed slightly less with this statement and the French group was mixed and more than half actually disagreed with this statement (FI 80.8%, FR 49.2%, SP 69.7%) ( $\chi^2=12.9$ ,  $df=2$ ,  $p<.01$ ). This difference may also indicate that Finnish learners have more opportunities to see phonetic notation in their textbooks, for example.

Interestingly, despite these positive reactions towards the potential of phonetic notation for supporting autonomous learning, few learners seemed to actively use notation to support their own learning process as they mostly disagreed (78.6%) with the statement “When I hear a new word I sometimes try to write it down with phonetic symbols”. Especially among the Finnish group there were very few learners who seem to use phonetic symbols actively, whereas this was slightly more common among the French and Spanish learners (FI 3.9%, FR 27.1%, SP 31.8%) ( $\chi^2=14.8$ ,  $df=2$ ,  $p<.01$ ). However, it was neither common to use their native spelling to write down words of English (18.3% of all learners said that this was their strategy sometimes), which implies that the learners probably try to guess the correct English spelling when they hear a new word.

#### 5.2.4 Perceived ease and usefulness

There were some differences between the countries in statements dealing with the perceived ease and usefulness of phonetic notation (see Figure 5). Some statements were worded reversely suggesting that the symbols are difficult. It is important to bear in mind, however, that as is the case with the previous categories, learners from all countries responded positively on average. The individual statements caused mixed reactions among the learners. These results may indicate that learners consider that phonetic notation may be more or less difficult depending on who uses it and what uses it is put to.



**Figure 5.** Perceived ease and usefulness per country

The learners mostly agreed (85.0%) with the statement that phonetic symbols help them to see the importance of working on the pronunciation of English. Therefore, the symbols seem to be a useful addition to practical language courses as they emphasize the importance of pronunciation. In addition, the learners also often (73.6%) thought that

they remembered at once what a given phonetic symbols means or refers to. This means that phonetic symbols seem to be relatively easy to use. However, the majority of the Finnish learners disagreed with the statement “Phonetic symbols help me ‘remember’ the sounds of English”, whereas the majority of the French and Spanish learners agreed with this statement (FI 48.1%, FR 74.6%, SP 93.9%) ( $\chi^2=32.2$ ,  $df=2$ ,  $p<.01$ ). Moreover, most Finnish learners did not believe that using their native sound-to-spelling conventions would make them understand dictionaries better, whereas the French and the Spanish learners were more mixed with this statement (FI 82.7%, FR 55.9%, SP 56.1%) ( $\chi^2=9.4$ ,  $df=2$ ,  $p<.01$ ).

On the other hand, the learners were not worried that if they use phonetic symbols too much, they may forget the correct spellings of words. It is worth noticing, however, that while a fairly equal number of the Finnish and Spanish learners agreed with this, the French learners were a bit more doubtful (FI 78.9%, FR 59.3%, SP 80.3%) ( $\chi^2=8.4$ ,  $df=2$ ,  $p<.02$ ). It should be borne in mind that Finnish and Spanish have fairly regular phonetic orthographies while French has major inconsistencies and the French educational system pays a lot of attention to correct spelling, a worry that the French learners may be transferring to their EFL learning. Finally, the advanced learners taking part in this study were not certain that the use of phonetic symbols would be good for younger learners. Most learners thought that phonetic symbols are too difficult for children under 12 (FI 46.2%, FR 69.5%, SP 66.7%) ( $\chi^2=7.3$ ,  $df=2$ ,  $p<.02$ ), which seems to reflect the idea that phonetic notation is best suited to learners capable of intellectualizing the learning process (Hancock, 1994). Interestingly, a slight majority of the Finnish learners were of the opposite opinion. The reason may be that in Finland most textbooks, even at the beginning level, have pronunciation instruction in phonetic notation in word lists, for example. On the other hand, most learners (64.6%) thought that phonetic symbols are not difficult for older (especially over 16) learners. The Finnish learners (55.8%) again agreed slightly less frequently with this statement than the French (72.9%) and Spanish (65.2%) learners.

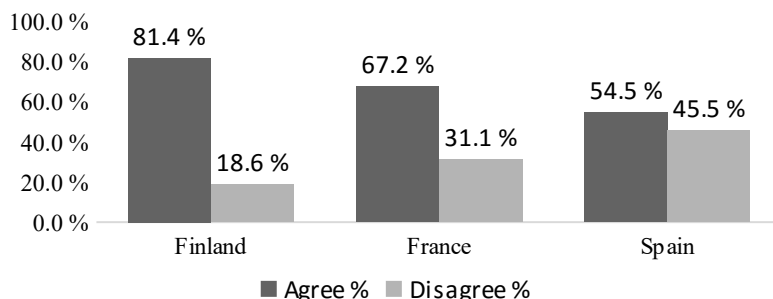
### 5.2.5 Familiarity

The learners responded least positively to statements dealing with the familiarity of phonetic notation. The Finnish group had fairly positive reactions to statements focusing on familiarity (81.4% of the answers were positive), whereas the French (67.2%) and Spanish (54.6%) groups had less positive reactions (see Figure 6). Although this category had fewer positive responses on average than the other categories, for the Finnish participants this category provoked the second most positive responses on average.

This tendency was reflected in the responses to the statement “I have often seen phonetic symbols in dictionaries and textbooks”, in which the majority of the Finnish learners reported greater familiarity with phonetic notation than the others (FI 96.2%, FR 79.7%, SP 75.8%) ( $\chi^2=9.2$ ,  $df=2$ ,  $p<.02$ ). This finding may reveal that most learners who have made any significant use of a dictionary or classroom textbook have probably seen phonetic symbols and that they were fairly common in the materials used by the participants in the study. However, according to the answers, the Finnish subjects



(73.1%) were not as familiar with phonetic symbols and their meaning as the French (86.4%) and Spanish (78.8%) subjects. The former question may refer more to earlier education and the latter to the course they had recently attended.



**Figure 6.** Familiarity per country

The greatest difference of opinions between the three countries was revealed with the statement “I was taught how to read at least some phonetic symbols at school/high school”. The Finnish learners responded positively to this statement, whereas the French and the Spanish learners mostly disagreed with this statement (FI 75.0%, FR 35.6%, SP 9.1%) ( $\chi^2=54.1$ ,  $df=2$ ,  $p<.01$ ). This finding provides further support for the claim that phonetic notation is taken more into account in formal education at lower levels in Finland than in France or Spain.

## 6. Conclusion

This paper has reviewed some of the potential advantages that the use of phonetic notation seems to have in foreign language teaching and learning. The paper also reported on the data obtained from a questionnaire filled in by three groups of advanced EFL university-level learners from three different linguistic backgrounds (Finnish, French, Spanish). The learners had followed an English course where extensive use was made of phonetic symbols to support pronunciation work. In general, phonetic symbols were considered useful by the majority of learners. An analysis of the questionnaires revealed that, in general, the learners had positive views about the use of phonetic notation for pronunciation teaching and learning. Considering all learners independently of their language background, over 82% of the learners agreed that phonetic notation has potential for raising awareness of pronunciation features in the L2 and that it represents a visual support for learning. Moreover, over 67% of learners agreed that phonetic notation facilitates autonomous learning and that phonetic notation is easy and useful. The results also suggested that most Finnish learners (75%) had been already taught some phonetic symbols before tertiary education, whereas this was quite uncommon for the French (36%) and Spanish (9%) learners.

Despite the generally positive views of the learners who participated in this study, the current study has some limitations. One of these is the fact that all participants' L1 writing systems are alphabetic and based on the Latin alphabet. It should be borne in mind that the phonetic notation the learners were exposed to was based on the IPA, itself heavily dependent on the Latin alphabet. Therefore, participants' positive attitudes may have been influenced to some extent by these partial similarities between their writing systems and symbols in the phonetic notation scheme used. Given this, future studies should look into the views of learners whose L1 uses a different writing system (e.g. Greek, Russian) or which are based on phonological units such as syllables (e.g. Korean) or even whole words (e.g. Mandarin). Moreover, the data-gathering technique used (i.e. questionnaires) is less informative regarding learners' actual use or any effects that the use of phonetic notation in language teaching may have on learners' L2 phonology skills, including which pronunciation elements benefit the most from the use of phonetic notation. This suggests directions for future research as it would be interesting to see not only what learners think about phonetic notation but also how they use it (e.g. for autonomous learning). That is, expanding the scope towards the contextual approach towards learner beliefs (Kalaja & Barcelos, 2013).

Apart from the need for further research, the issue of phonetic notation in foreign language teaching and learning is eventually a matter for each teacher and institution to determine in the light of all the circumstances of the learning situation and its participants. The results obtained suggest that teachers could employ (or continue to employ) phonetic notation in explicit pronunciation teaching (at least at tertiary education level). This they can do in both isolated and integrated focus-on-form instruction (in primarily meaning-based communicative classrooms), given that although learners seem to prefer integrated focus-on-form instruction, they also acknowledge the value of isolated focus-on-form instruction (Valeo & Spada, 2015). The use of phonetic notation, however, requires addressing a number of issues that teachers should also bear in mind. These include: a) the choice of specific phonetic notation schemes; b) which pronunciation aspects can be addressed with phonetic notation; and c) how to integrate phonetic notation with other teaching techniques.

To start with, the choice of specific phonetic notation systems is an important issue. As mentioned above, L1 spelling-based notation may seem simple and intuitive, but it can lead to several problems such as inappropriate L1/L2 equivalences or a rather idiosyncratic character. Regarding more conventional systems of notation, one common in the US but slightly dated today is based on the work of linguists Trager and Smith (1951) and was developed specifically for English. Another option is the IPA, which is language-independent. IPA is popular today and widely available in current phonetic/linguistic works as well as many learner dictionaries, printed or online materials, word-processing fonts, smartphone apps, etc. It should be acknowledged, however, that different publishing houses use and adapt the IPA in different ways as the IPA has fixed values for symbols but it does not prescribe how a specific language should be represented. In the case of British English, for example, different IPA-based vowel notation schemes exist that emphasize, respectively, quality differences between vowels, length (quantity) differences, or both - the option now generally adopted in textbooks and pronunciation dictionaries (see Monroy-Casas, 2011 for an account of the

different systems used). All three types of vowel notation schemes conform to the IPA principles but they differ in what they make explicit and what they leave to be inferred.

Secondly, a decision should be made as to what elements can be taught with phonetic notation. As mentioned in section 3, despite popular views that phonetic notation is about vowels and consonants, the tool is systematic and comprehensive enough to deal with both segmental and suprasegmental features, which is essential in view of the current consensus in the literature that both aspects are essential teaching foci for L2 pronunciation (Derwing and Munro 2005). Segmental features not only include phonemes but also allophones, and the latter can also receive some attention. It should be borne in mind that for most EFL learners, the distinction between phonemes and allophones is somewhat irrelevant and learners talk instead of ‘sounds’. According to Rogers (2008), allophony cannot be completely omitted as it helps learners to sound more native-like, it accelerates their ability to understand the spoken language, and it reassures them when they hear unexpected sounds. However, given the extensive set of allophones in any language, the focus could be, in most contexts, on perceptually ‘salient’ allophones. Potential candidates for this in English could be glottal stops (as in *Gatwick*), taps/flaps (as in *city*), aspiration in plosives or clear vs. dark /l/. The representation of perceptually salient elements could also extend to word-boundary (‘connected speech’) processes such as yod coalescence (e.g., ‘*what you*’ or ‘*got you*’, often represented colloquially as ‘*whatcha*’ or ‘*gotcha*’) assimilation (e.g. *give me*, represented colloquially as ‘*gimme*’), or linking /r/ (e.g. *more\_and more*).

Finally, an important issue is how to integrate phonetic notation with other teaching techniques and activities such as games, tongue twisters, etc. (see Mompean, 2005 for an account) in lessons whose overriding focus is on meaning or communication. Related to this is the fact that phonetic notation should always be seen as a means to an end, not an end in itself. Thus, its use can be combined with other potentially useful conventions. As a case in point, labels (H, L, \*, %, -) for pitch accents and boundary tones in the ToBi framework (see Beckman, Hirschberg, & Shattuck-Hufnagel, 2005) and iconic typographic symbols for tones (e.g. (/) for the *rise*, (\) for the *fall*, (V) for the *fall-rise*, etc.) in the traditional British tonetic or nuclear tone approach (Wells, 2006) have both been found pedagogically useful (Toivanen, 2005). Other common conventions include the use of marks such as arrows, circles, etc., and, as mentioned in section 3, changes in font size, font weight and font colour, etc. For instance, primary stress is indicated in the IPA with a superscript stress mark diacritic [ˈ] (e.g. /ˈlʌndən/ although other methods seem to be characterized by a more striking visual impact: boldface (e.g. **London**), underlining (e.g. London), capitals (e.g. LONdon) or a combination of these (e.g. LONdon). Similarly, unstressed vowels can be indicated with ultra-light bold weight.

Therefore, phonetic notation offers a useful and even dynamic tool that can be used to assist foreign language teaching and learning. It can be used in various teaching contexts, and adapted to match the learners, their needs and the learning context. This study has reviewed the potential advantages that the use of phonetic notation can have and shown that learners mostly agree with these. Thus, teachers, learners and teaching material publishers should be aware of this method and use it to facilitate the L2 learning process.

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## Appendix 1

Questionnaire (\* = a negatively phrased statement).

(Awareness-raising)

1. Phonetic symbols help me become aware of discrepancies and correspondences between spelling and pronunciation in English
2. Phonetic symbols help me become aware of the existence of sounds, sound features and combinations of sounds not found in (Fi/Fr/Sp)

(Visual support)

3. Phonetic symbols help me regard the sounds of English less abstract
4. Phonetic symbols help me visualize the sounds of English

(Autonomous learning)

5. Phonetic symbols help me check the pronunciation of words in dictionaries
6. Phonetic symbols help me improve my own pronunciation by myself
7. If I know how to interpret phonetic symbols, I can more or less know how the word is pronounced and it's not essential to listen to the word as pronounced by a native speaker
- 8\*. I don't pay attention to phonetic symbols when I see them in a dictionary/book
- 9\*. When I hear a new word I sometimes use (Fi/Fr/Sp) spelling to write it down
10. When I hear a new word I sometimes try to write it down with phonetic symbols

(Familiarity)

11. I have often seen phonetic symbols in dictionaries and textbooks
12. I was taught how to read at least some phonetic symbols at school/high school
13. I'm familiar with phonetic symbols and what they mean

(Perceived ease and usefulness)

14. Phonetic symbols help me see the importance of working on the pronunciation of English
15. I usually remember at once what a given phonetic symbol means/refers to
16. Phonetic symbols help me 'remember' the sounds of English
- 17\*. I would understand dictionaries better if the spelling conventions of (Fi/Fr/Sp) were used instead of phonetic symbols in their pronunciation guides
- 18\*. If I use phonetic symbols too much, I may forget the correct spellings of words
- 19\*. Phonetic symbols are too difficult for children (under twelve)
20. Phonetic symbols are not difficult for older learners (especially over sixteen)