Abstract. The aim of the article is to present results of the research that was performed with 57 second- and third-year Persian students of English Translation. The purpose of the research was to examine how conscious manipulation of facial expressions aids acquisition of foreign vowels by learners, regardless of their native language and the culture they have been brought up in. Taking advantage of achievements derived from such disciplines as psychology of emotions and phonetics depicted as a physical process, an attempt is made to find a tool that improves teaching/learning of foreign vowels, that is to say an effort is put in search of a useful method to make the phonetic process faster and more accurate. Teachers of English are encouraged to put the method, which is described in detail in the paper, into practice with their own mother languages and to share opinions about the method with colleagues. Similarly, it is believed that it can be applied to courses of other languages than just English. Teachers of those languages are encouraged to try to use it, too.

Key words: foreign vowels acquisition, British English vowels, emotions, facial expressions

1. Introduction

In a ground-breaking publication ‘Unmasking the Face: A Guide to Recognizing Emotions from Facial Clues’, Paul Ekman and Wallace V. Friesan (Ekman, Friesan, 1975) describe their own studies of the relationship between emotions and facial expressions, along with the conclusions of their research. They answer questions such as: «How many emotions are there? What are their facial clues? Are emotions universal or have a cultural background?» Ekman and Friesan are pioneers in terms of research on the universality of emotions [earlier studies were arbitrary and subjective (Knapp Hall, 2000: 416)]. The conclusions they have drawn constitute a datum for the given paper, whose objective is to present how useful achievements from the field and psychology of emotions are in the practice of British English vowels pronunciation. One of the first attempted experiments by Ekman and Friesan was conducted in a closed lab. Students from the USA and Japan took part in it. The students were given a piece of stress-inducing film to watch, while their facial expressions were recorded on a videotape during the session. Japanese students tended to repress their expressions more than U.S. students. However, regardless of intensity, both groups revealed the same expressions as indications of emotions triggered by a bit of film. Ekman and Friesan distinguished six of these emotions: happiness, fear, surprise, sadness, anger and disgust. Each of these emotions has their representation observed in facial clues. The clues are:

- happiness – crow’s feet wrinkled, pushed up cheeks, movements from muscles that orbits the eye;
- fear – eyebrows raised and pulled together, raised upper eyelids, tensed lower eyelids, lips slightly stretched horizontally back to ears;
- surprise – eyebrows raised, eyes widened, mouth open;
- sadness – dropping upper eyelids, losing focus in the eyes, slight pulling down of lip corners;
- anger – eyebrows down and together, eyes glare, narrowing of the lips;
- disgust – nose wrinkling, upper lip raised.

The pictures of facial expressions found in the reference only stand for exemplary pictures of emotions. It is palpable that they can be expanded in a number of ways in terms of intensity of the movement and position of facial muscles; on one hand there might be an overreaction and exaggeration of expressions, on the other hand they might to be suppressed and barely noticeable. Thus only the clearest (the most «moderate») illustrations of facial expressions are displayed in the course of the research. Having a «completed» set of emotions, Ekman and Friesan started showing pictures of facial expressions to a greater audience. They expanded

the group of informants to include individuals from countries such as Chile, Argentina and Brazil. It turned out that (apart from a few exceptions - most likely conditioned individually) the ability to recognize emotions ranged from 90% to 100%.

Obviously, there was still a possibility that facial reactions to cinematographic stimuli and the ability to recognize emotions presented in the pictures might have been conditioned culturally. Ekman and Friesan wrote (Ekman, Friesan, 1975: 26):

«All the people studied had some shared visual contact, usually not directly but through mass media. It was still possible that (...) the people might have learned (facial expressions) through movies, television, and picture magazines, what each other’s facial expressions of emotions looked like».

In order to resolve the dispute, the scientists sought to find a culture that seemed to be as «isolated» as possible, meaning that the culture which had a limited or no access to the media, a culture with no previous contact from «the outside world». Such a culture was found in New Guinea, where a series of the same studies (emotional reactions to stimuli, recognizing emotions) was carried out amidst people whose interactions were mainly limited to interpersonal ones. Conclusions from those studies confirmed what had already been assumed and gave conclusive proof: emotions are universal regardless of culture (emotions are atavistic) and have their corresponding facial expressions. Forehead, eyebrows, eyes, nose, mouth, cheeks and chin which are combined with other facial muscles make the total of 54. Facial muscles form unique, yet universal expressions as emotional reactions to specific stimuli. Ekman and Friesan distinguished six basic emotions (Ekman, Friesan, 1975). In the 80’s Ekman set a series of further tests to explore those primary emotions. As a result, he introduced the notion of secondary emotions (derivations), that is to say emotions triggered by primary ones. Ekman expands both of them in ‘Emotions Revealed: Recognizing Faces and Feelings to Improve Communication and Emotions’ (Ekman, 1986) and in ‘The Nature of Emotion: Fundamental Questions’ (Ekman, Davidson, 1994). Due to a vast number of emotions cited in the literature and their intricate nature, only certain emotions are used for the purpose of the research presented subsequently.

The purpose of the present research is to examine how conscious manipulation of facial expressions aids acquisition of foreign vowels by learners, regardless of their native language and the culture they have been brought up in. This paper is organized as follows: in section 2 physicality of vowels and different vowel systems of Persian and British English is introduced. In section 3 the survey description, results and discussions are presented. Sections 4, 5 and 6 include comments on emotional approach and conclusions.

2. Physicality of Vowels

There are plenty of textbooks on teaching English pronunciation, e.g.: Komorowska (Komorowska, 2005: 136-145), Harmer (Harmer, 2001: 183-197), Scrivener (Scrivener 2005: 284-297) or Kelly (Kelly, 2000). Much as the authors strive to put the methodology of phonetics into practice, apart from a few exercises on rhythm or intonation, their approach boils down mainly to a mental process. Underhill believes that constitutes a crucial problem (Underhill, 2012). As he makes his claim, learners need to «make pronunciation physical, visible, audible! Move it out of their head and make it a physical process. While grammar and vocabulary may somehow take place ‘in the head’, pronunciation is the physical aspect of language, it manifests through the body» (Underhill, 2012).

It is somewhat obvious that state schools may not offer a sufficient amount of time for this particular component in regular foreign language classes (Komorowska, 2005: 136) (Harmer, 2001: 183). Nevertheless, at universities, particularly in philology and language faculties, given the resources of space and time, it is vital to make students aware that if they aim at achieving correct British English pronunciation, they have to activate the whole body, which means to make a connection between the muscles and the brain.

To account for the statement, especially in terms of understanding British English vowels, Underhill proposes an exercise. He tells the course participants to first pronounce /iː/, then /ɑː:/, paying attention to the movement of the articulators. When producing /iː/, the lips are stretched and the tip of the tongue is closer to the teeth, during /ɑː/ the tip of the tongue moves backwards, towards the throat and the lips are formed in a solid round. The author of the article recommends a similar exercise, with the sounds /ɪː/ and /ɑː/. Again, the principle governing the task is not only to observe the muscular changes, but to feel them. Putting the tip of the index finger to the tip of the tongue is vital in this case. With /ɪː/ the lips are stretched and the tip of the tongue goes in the direction of the teeth. With /ɑː/ the jaw drops, mouth opens, the tongue moves towards the oesophagus. The author chooses these two sounds on purpose. Firstly, they do not have their Persian equivalents. Secondly, there is a tremendous difference in terms of movement within the area of the oral cavity between the production of British English and Persian vowels. Taking into account the cardinal vowel diagram (Fig.1), pronunciation of a Persian set, that is to say of /ɪː/ and /ɑː/ causes the articulators to cover a
smaller distance and to put less effort by the speaker than pronunciation of English /i:/ and /a:/ 2.

Fig. 1 British English Vowels Diagram.

Comparing the Persian vowel system with that of English reveals some significant differences in the following two areas: 1) The number of vowels and 2) Tense / lax distinctions. In the English vowel system, there are 15 different vowels identified, which include several diphthongs such as /aw //ay/, and /oy/. On the other hand, Persian has only 6 vowels in its vowel inventory, a system quite common among many natural languages in the world (Kenworthy, 1987). Although the number of vowels that can be identified in English and Persian can differ depending on different analysis of linguists or phoneticians, it is obvious that there are considerably more vowels in English than in Persian (see figure 2). Another characteristic that typically differentiates the English vowel system from the Persian vowel system is whether there exists the distinction between lax and tense vowels in either of the two system. The differentiation between tense and lax is made according to how much muscle tension or movement in mouth is involved in producing vowels (Ladefoged, 1982). Thus, vowels produced with extra muscle tension are called tense, and vowels produced without that much tension are called lax vowels. For example, /ɪ/ as in English /ɪt/ «eat» is categorized as a tense vowel as the lips are spread (muscular tension in the mouth) and the tongue moves toward the root of the mouth. On the other hand, /ɪ/ as in English «it» is considered to be a lax vowel as there is little movement of the tongue or muscular tension of the lips involved in its production, compared to the manner in which the tense vowel /ɪ/ as in «eat» is produced.

The tense / lax vowels pairs of English do not exist in the vowel system of Persian as there is no tense/lax differentiation. It should be noted, however, that although long vowels of Persian are sometimes analysed as having the same quality as English tense vowels, this claim is difficult to support, because those vowels of Persian are not always contrastive in nature as English tense /lax vowel pairs (Bakhtiarvand, 2005). What is more, is that if the habit of uttering British English vowels in a Persian way continues, it may lead to greater errors that are difficult to correct in time. Thus, it is mandatory for non-English learners to accept the fact that they must abandon their native habit (Sobkowiak 2004: 210) and incorporate a new one. The method presented in this paper is a suggestion of how exactly vowels of foreign languages can be elicited by taking advantage of an emotional approach.

3. Facial Expressions in British English Vowels Acquisition

This section of the article contains the findings of a survey carried out with 57 second- and third-year Persian students of English Translation. The attempt was made to find universal emotions and facial expressions that would correlate with vowels occurring in a specific culture. The research is something that has grown from the author’s own classroom experience. It is also a suggestion of how teaching sounds of a foreign language can be performed in a phonetic laboratory. It is hoped to receive further and thoughtful consideration.

3.1 Survey Description

Prior to conducting the survey, the notions of basic emotions and secondary emotions were introduced to the students. During a series of short lectures, the students were familiarized with the foundations of emotions. They learnt six basic emotions and what their facial expressions look like. Accordingly, they could strive to grasp the way further emotions are derived, and what changes it triggers in the facial muscles. Unfortunately, due to the lack of time it was impossible to check students’ newly gained skills and knowledge. Thus, a presumption had to be made that the informants

assimilated the material displayed in classes only to a certain. Luckily, it was compensated for by students’ life experience and background knowledge related to emotions. Next, the choice of emotions for the survey was made by the teacher. It was not coincidental and it was determined by two factors. First, the emotions were carefully selected based on the teacher’s observation of the students in a phonetic class so as to choose emotions that seemed to be most frequently used by the learners, but would not be repeated in the survey, either; it allowed respondents to understand better facial expression differences. Second, the author aimed at evoking as many positive emotions as possible to create a comfortable and aided learning class atmosphere, for which the motive is explained in another section. For the purpose of this part of the experiment, the author recommends an exercise developed by Konstantin Stanislavsky. However hilarious or sometimes stressful the experience of the learners might be, the author and students’ classroom practice indicate the accuracy and effectiveness of this method [in literature described as Stanislavsky Method (Chekhov, 2009)]. The goal of the task is simply to recall a past memory or imagine a situation that is highly emotional for the learners. It helps to utter a sound accompanying the emotional state, that is to say the sound which is only seemingly coincidental for a non-English learner. For instance, in the case of /ɑː/, it is suggested to imagine or recall a thought of being taken aback by a situation or an entity. It helps to induce a specific emotion (in this case the emotion of surprise) and consequently stimulates lower facial muscles, along with other speech organs, to form a relevant expression corresponding to a specific British English vowel; the tongue retracts and the lips become fully round due to jaw dropping. Lastly, the participants were asked to respond to a set of pictures (Fig.3.1-3.12) presenting facial expressions of emotions in order to state what kind of British English vowels (Fig. 4.1-4.6) they see in them.

Fig. 3Facial expressions.
It has to be noted that the area of the lips and the tongue position (that could not be seen in a picture for obvious reasons) were of particular interest in the survey. The upper part of the facial expression, meaning the forehead, eyebrows and eyes were of less importance. Yet, they still served the purpose of a facilitator in the process of identifying emotions and made a contribution to teaching/learning vowels.

3.2 Results

The results of the study are presented as follows (see also Fig.5):
Fig. 3.1 - 90% of informants (51 students) were able to identify that the «hidden» vowel in the emotion of happiness is /i:/.

Fig. 3.2 - 84% of informants (47 students) identified /I/ in the emotion of fear. Lips are slightly spread, upper and lower teeth are visible to the same extent.

Fig. 3.3 - 86% of informants (49 students) recognized /ɑ:/ in the emotion of surprise. Mouth is fully open with no clear sign of teeth.

Fig. 3.4 - 85% of informants (48 students) identified /ʌ/ in the emotion of sadness, with a little open-mid position of the lips.

Fig. 3.5 - 71% of informants (40 students) acknowledged that excitement, as a derivation from happiness, combined with surprise shows /ɒ/. Mouth is open quite fully, no teeth can be observed.

Fig. 3.6 - 73% of informants (42 students) agreed that the emotion being a combination of excitement, which originates from happiness and admiration (derived from happiness and surprise), hold the position of a vowel /ɔː/. The lips are quite strongly rounded.

Fig. 3.7, 3.8 - 80% of informants (45 students) decided that the emotion of relief (as a variation of happiness) stand for /ɜː/ and /ə/ sounds, with neutral position of the lips in both.

Fig. 3.9 - 72% of informants (41 students) showed that admiration being derived from happiness and surprise comprises /uː/. The lips are rather closed and moderately rounded.

Fig. 3.10 - 80% of informants (45 students) stated that sadness and sympathy, as a reaction to the basic emotion of sadness, presents /ʊ/. The lips are slightly open and rounded.

Fig. 3.11 - 86% of informants (49 students) claimed that shock, which is derived from fear, shows a sign of /æ/.

Fig. 3.12 - 83% of informants (46 students) attributed the emotion of disgust to /e/, with the lips spread and the upper teeth slightly raised.

Fig. 5. Facial Expressions to Identify British English Vowels.
<table>
<thead>
<tr>
<th>Emotion</th>
<th>Vowel</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sadness</td>
<td>/ʌ/</td>
<td>85%</td>
</tr>
<tr>
<td>Excitement (derived from happiness) combined with surprise</td>
<td>/ɒ/</td>
<td>71%</td>
</tr>
<tr>
<td>Excitement (derived from happiness) combined with admiration (derived from happiness and</td>
<td>/ɜ:/</td>
<td>73%</td>
</tr>
<tr>
<td>Relief (derived from hapiness)</td>
<td>/ɜ:/</td>
<td>80%</td>
</tr>
<tr>
<td>Relief (derived from hapiness)</td>
<td>/ə/</td>
<td>80%</td>
</tr>
</tbody>
</table>
### 3.3 Discussion

On one hand, the results may appear to be too low. As it turns out, even a group with an experience of more advanced facial expression recognition can encounter difficulty to grasp and identify emotions and their corresponding facial clues, with the ability to identify secondary emotions and combinations of emotions in particular. Despite a series of short lectures on emotional aspects, Stanislavsky Method having been put into practice, and with the training of producing vowels on demand itself, a certain number of students failed to attribute properly the

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Lip Position in a Vowel</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admiration (derived from happiness combined with surprise)</td>
<td>/u:/</td>
<td>72 %</td>
</tr>
<tr>
<td>Sadness combined sympathy (derived from sadness)</td>
<td>/a/</td>
<td>80 %</td>
</tr>
<tr>
<td>Shock (derived from fear)</td>
<td>/æ/</td>
<td>86 %</td>
</tr>
<tr>
<td>Disgust</td>
<td>/e/</td>
<td>83 %</td>
</tr>
</tbody>
</table>


sound they have uttered to the expression they have hold. Some of them admitted that were not able to tell the difference in the set of pictures and consequently did not supply any answer. In this case, it was respondents’ limited ability to understand emotions that prevented them from completing the task.

On the other hand the results may appear to be surprisingly high; the accuracy of identifying emotions and facial expressions with British English vowels gave the total of 81%. It happened so probably on account of the fact that the research was performed in a group that had already worked with the author of the article in a phonetic class. The students might already have a pre-studied knowledge and expectations of facial expressions and vowels that had been based on their earlier classroom experience. Whatever the respondents provided, they might have chosen the vowels by having a prepared answer that had been formulated on what they had learned and suggested by the teacher. It does mean that they were somehow obliged to present the anticipated results. They merely and most likely decided on one, amidst a multitude of others, and the most familiar way enabling and ameliorating proper acquisition of vowels. Another vexed question is the one of vocalization. The students were given the photos without the sounds. It was respondents’ duty to associate the picture and the sound and decide how this sound can be emitted while stretching facial muscles/articulators in a specific way. Hence an illustration of a very precise score (90%) of happiness with the sound /i:/ - a sound that is cross-culturally acknowledged and commonly produced in English when taking photos to evoke an expression of happiness of picture models by means of saying the word ‘cheese’ /tʃi:z/ (or even quite acceptably ‘silent ‘H’ used to exercise pronunciation of /s/ and /æ/). But with /ɒ/ , /ɔ:/ or /u:/, the estimate has generated only 72% since students might have had different sounds in their minds when looking at the pictures. What is more, happiness can be expressed in a number of other ways than only with the sound /i:/ and spread position of the lips ; just like excitement or admiration unnecessarily have to possess the sounds that have been attributed by the students. Both of them, the emotions and the sounds occur to have a vast range of arrangements which are applicable depending on the purpose of their use, for this purpose - of phonetic one. In this sense, when facial clues pile up and the sounds can be uttered in endless ways, the numbers that may be too low because of informants’ lack of practical knowledge or too high because of prior phonetic experience seem to be justified. Thus further studies are recommended.

The very last determinant of the results of the experiment is the quality of the pictures and inability to evoke a specific emotion more vividly in order to provide an exemplary emotion with specific micro expressions, especially in the vicinity of a forehead, eyebrows, eyes and lips. Fortunately, such kind of obstacles can be easily surmounted by developing stronger sense of an emotional attachment by the picture model while expressing emotions and/or an appropriate manipulation of the pictures. There is a series of research that the author intends to undertake in pursuit of what has already been established. A larger number of respondents is expected to participate in an experiment and more time will be devoted to the introduction and understanding the notions of emotions (both – primary and secondary and combinations of those emotions). Such a course of action should confirm the relations between emotions and vowels and specify them. As far as the studies go, the sounds will be added, too. Owing to delving into the field of vocalization, new sets of expressions-vowels links should be revealed, connections that could be successfully used in phonetic classes afterwards. Additionally, assuming that the above goals can be achieved, it would be vital to consider extending the method to involve other languages (e.g. Spanish, Italian or German) than just English. There is a difference between the production of sounds that are culturally conditioned. But it is always possible to find suitable facial expressions of emotions which are universal for all cultures.

4. Why The Emotional Approach?

It has been already stipulated that the process of teaching vowels (and foreign pronunciation in general) should be physical and emotional. Such an approach has profound results. But not only does it allow non-English speakers to learn proper pronunciation faster and more accurately, it also performs two other crucial functions. Firstly, it enhances students’ memory and cognitive abilities. Manfred Spinzter in his book ‘The Mind within the Net: Models of Learning, Thinking, and Acting’ (Spitzer, 2008) cites an experiment in which the relationship between memory and emotional involvement was studied. The experiment involved presenting the story of the same length to two groups. The story was of more or less the same content. The second group heard it with a greater emotional dose, though. After a week, the informants were asked to tell how well they had memorized the story. It was revealed that the details of the story were far better remembered by those
who had heard its more emotional version. The experiment proved that emotional involvement significantly improves learning abilities. As Paula Niedenthal and Marc Setterlund confirm in an academic textbook on general psychology (Strelau [ed], 1999: 378):

«Experiencing a particular emotional state should activate semantic words in memory, should strengthen the relationship between the state and the memory, and consequently facilitate the perception.»

Not only do emotional states aid memory, but cognitive and receptive skills as well.

People perceive and memorize better entities of greater emotional value» (Anglart-Maciejewska, 2012).

Secondly, it increases students’ self-awareness and social competences. The results of the survey show that some students were still unable to recognize emotions – some students could not decide on specific emotions presented in the picture, while others probably unintentionally mistook one emotion for another. It is one of the reasons, which have been provided in section 3 of the paper, of errors constituting a significant problem. As it appears from the outlines of educational standards in Iran (dated 2nd June 2014), the subject of emotions is frequently omitted or covered superficially at state schools or even in academic classes of departments of humanities at universities, including psychology faculties. Therefore, it is believed that steps must be taken to rectify the situation. The more learners are familiarized with aspects of emotions, particularly with aspects such as identifying them, the more emotionally orientated they become. Consequently, it leads to a better understanding of students themselves and more conscious social interactions that students take. Lastly, it turns out that the role of the teacher is not teaching new sounds but merely eliciting sounds that learners already know. Students are often unaware that they indeed know the desired sound and have already used it many times, but deny it. Teacher’s job is to bring out the sounds that students have used in the past unconsciously, and to put them into practice in a conscious way in a language laboratory. It is the author’s preferred approach called «coaching» (Bennewicz, 2011). In coaching the responsibility of gaining skills is handed over to the person being trained - it is learners’ up to them do their utmost. The coach’s duty is only to help the person reach beyond their capabilities (Bennewicz 2011: 23-31), in this case - reach beyond linguistic ones.

5. Comments

The emotional approach in the acquisition of foreign vowels is apparently useful. For instance, when learners encounter problems with the arrangement of speech organs, the teacher prompts with the questions like: «What do you think fear looks like? What about surprise? Do you remember a situation when you were shocked or maybe happy? What is your reaction to something beautiful?» etc., and adds: «Hold this facial expression and make a sound, please, because that’s the sound we’ve been looking for». Articulation varies culturally, facial expressions do not.

Two essential rules have to be observed. The first one applies to teachers. They must control the situation in the classroom at all times. Before provoking a person to express an emotion, the participant has to be informed beforehand, so that the person would not feel intimidated (Grzesiak, 2009: 277-306) and everyone in the class would feel safe. The second one is moderation. Although the methods from the field of psychology of emotions are effective, they should not be overused. If so, the students may get upset or grow tired. It is important to use common sense.

6. Conclusions

• Emotions are universal in all cultures. They have their corresponding facial expressions which are universal, too.
• The process of teaching pronunciation should not be perceived only as a mental process. Teaching pronunciation is a physical process and should be regarded as such.
• Teaching pronunciation is an emotional process. Conscious manipulation of emotions in search of appropriate facial expressions aids acquisition of foreign language vowels.
• Emotions can be triggered for better absorption of phonetic structures; they also serve the purpose of increasing cognition and memory.
• Conscious emotion manipulation increases students’ self-awareness, develops their social competences and perception of the world.
• However the method of teaching foreign vowels with an emotional approach is effective, it should be used reasonably.
• Further studies on the relationship between facial expressions and vowels acquisition of foreign languages, especially in terms of vocalization, are recommended.

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Internet resources


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