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Does the speech pathologist elicit sounds?

SUMMARY

The author presents the considerations concerning the problem of phone elicitation. In the subsequent chapters she reflects upon the diverse problems connected with the above-mentioned subject matter. In this paper the situations in which the speech pathologist teaches phones are enumerated as well as the methods of description of nonnormative realizations of a phoneme are analyzed. The conclusion from these deliberation is the statement that the speech pathologist not only elicits a sound but also a phonetic feature which is realized in a non-normative way. The author also raises the issue which may be reduced to the following sentence: *teaching sounds is like the act of building blocks or modifying the architectural structure.*

Key words: elicitation of phones, teaching phones, the improvement of realization of phonemes, the description of realization of phonemes.

Happy children are those ones who reach
the objectives which are accessible to them

PRELIMINARY ASSUMPTIONS

We should notice at the beginning and emphasize with all our might the fact that the development of the phonetic-phonological system is a necessary condition of the development of other levels of language, such as the morphological, lexical and syntactic ones. Without the basic material, by which we mean phones, it is impossible to mend in an active way such structures as morphemes, lexemes, expressions or sentences. During the process of speech development the child simultaneously recognizes the form and meaning of words. However, in the ear-

lier stages the child activates many psychomotor functions which make the child closer to the act of acquiring the knowledge on the unusual relations between the sequences of phones and meaning.

A phone is the embodiment of meaning. We may assume that "the former (with its set of artculatory, acoustic and auditive features) is the representation of the latter and, at the same time, the smallest element of sound form of the utterance, which is produced through a set of movements of the speech organs on the basis of activization of the prototype being its cognitive, neurophysiological pattern" (Pluta-Wojciechowska, 2010: 52).

Thus, a phone with a set of phonetic features, which make it, is a result of, on the one hand, the activisation of prototype (of the phoneme), and, on the other hand, of the movement of the speech organs which lead to the emergence of the specific phonetic features reflecting the traits of the given phoneme. The diagram below presents it in a simplified way.

Activization of a phoneme	→	Movement of the speech organs	→	A phoneme with the particular features corresponding to the activated phoneme

In the current debate the author presumes that each nonnormative realization of the phoneme is its malformation with respect to the standard phonological-phonetic system of the Polish language and therefore, both the realization of the type /sz/ = [s], as well as, for example, the interdental types of realization will be assumed to be among the malformed sounds. We may distinguish the following kinds of such nonnormative realizations relative to the norm due to the various reasons, namely: ontogenetic ones, dialect ones, ones resulting from pathology, and also those associated with errors, lips of the tongue, as well as, those in the case of bilingualism when the phonetic features of one language "are reflected" in the other one. What is relevant for the speech pathologist is the act of describing these nonnormative realizations of phonemes, and subsequently, explaining the reason for them. The pathologist's next step will be connected with taking the decision concerning the adequate procedure.

I also assume that the child goes through the "preparation process" from his or her birth (or even earlier) in order to encounter the phoneme. It happens via the development of receptive and expressive processes as well as via the brain activity and also culture education, which results in one of the most phenomenal achievements of ontogenesis, namely, the phenomenon associated with uttering the first word carrying meaning. The way from a scream to a phoneme should not only be the object of the research in the area of speech therapy, but it should also become the inspiration for the improvement processes of the phonetic facet. Everything that happens with the child during ontogenesis from the scream to the phoneme

(in a word carrying the meaning) is enormously well-organized; it is almost well-planned by nature– if the nature can be personified by us. Nothing can found here to be enhanced and therefore, we should derive benefits from this extraordinary source, that is, the model of development of the phonetic level in children with no dysfunctions in order to help children with impairments of the phonetic-phonological track. However, this model is not always sufficient to overcome the existing problems. It may occur that after the analysis of the pathomechanism of the disorders in the realization of phonemes, we have to use the therapeutic sequence of phonemes and not the developmental one and apply the appropriate methods of their elicitation (Pluta-Wojciechowska, 2008). I am deeply convinced that the effective therapy is based on the reliable diagnosis which starts with the description of speech incorporating its phonetic-phonological level and then the explanation of the pathomechanism.

While writing the further parts of the article the author bears in mind another thesis – each phonetic feature of the sound is the result of operation of specific vocal organs which, additionally, act in a specific way. It means that the specific arrangement, position and movements of vocal organs are responsible for every phonetic feature (obviously, phones consist of the phonetic features) and these factors, depending on the sound, may form various structures or even executive mechanisms. Metaphorically speaking, vocal organs make a complex mechanism, machinery triggered centrally, driven by muscles. They serve people, among others, to create extraordinary things, that is, sounds. It is indispensable to emphasize that eliciting sounds should be connected with showing the child the simple meaning of the uttered sound or the syllable – depending on the structure in which it has been provoked. Hence, designing the methods of sound elicitation is a task of not only linguistic, medical or psychological nature, but it is also a task in which we have to consider physical, mechanical and acoustic phenomena.

Another matter assumed by me is as follows: eliciting sounds is one of the aspects of speech therapy and the treatment of the phonetic problems should be connected with the development of other linguistic subsystems (if necessary). I assume that we have to deal with the child as a subject of our activity which is in contrary, speaking in a metaphorical way, to a person producing speech sounds. I think that each child has the right to utter normative phones and it is essential to facilitate this task for the child, but, at the same time, the speech pathologist has to become acquainted with the child's potential and remember not to face one with the tasks which are above him or her and which ignore the real capabilities. Happy children are those ones who reach the objectives which are accessible to them.

AROUND THE ISSUE OF ELICITING PHONES

The appearing questions. Beyond a doubt, the question included in the title must arouse astonishment and, probably, cause confusion among speech pathologists accustomed by different authors to the expression "phones elicitation". Therefore, is this term to a certain degree a metaphorical or literal one? What does the term "phone elicitation" mean? And is it justified in the context of the action undertaken by speech pathologists as well as in the context of the meaning of this term we may find in dictionaries?

The subsequent new questions appear, for example, "is phoneme elicitation a single action or a process?", "is it a learnt trick not supported by any phonetic knowledge or conscious activities resulting from our knowledge on the normative and wrong phones and the means of producing them?", "Is the list of, so called, methods of phone elicitation closed or is it still being enriched by any new ones?", "Should we connect the specific deficits with the particular methods of phone elicitation, which may cause the confirmation of the rule *a patient to the method*, or is the opposite situation true, *the method is applied to the patient* if we take into consideration his individual potential? The various approaches to the issue of learning sounds presented by the different authors are the result of their experience with speech therapy (which is applied to the certain group of patients). It, on the one hand, may lead to narrowing the analysis of the undertaken problem, but – on the other hand – may allow us to perceive some tendencies in the procedures while treating patients representing certain common features. The following debate is therefore the attempt to analyze the issue of, so called, phone elicitation from the standpoint of the person whose experience embraces the wide experience with people with a range of speech impairments conditioned by various factors.

Another afterthought which is accompanying the author while writing this paper may be formulated as the question - whether the terms: *phone elicitation, learning phones, the therapy of defects of pronunciation and teaching the proper articulation, removing the problems with pronunciation, improvement of realization of phones, reeducation within the phonetic area* are dissimilar, similar or the same? If the terms differ, there is the following question to be asked, "are the treatment performances which are applied during, so called, *phone elicitation, teaching phones, therapy of the defects in speech, removal of impairments in pronunciation, phonetic reeducation,* etc. different and do they exclude one another or are they similar but the different names for the actions of the speech pathologist mentioned above result from some less or more clear motivation? We may therefore ask whether the core of the therapeutic work in the case of, for example, removal of interdental lisp differs in the case of phone [s] or [f] in the child with aphonia, autism or is it the incomplete shaping of speech of aphasia-like type?

While reading the text we will have an opportunity to learn that the essence of work leading to uttering a definite sound and aiming to achieve the specific activity in the child's voice-articulatory track, and more precisely, in his centrally managed respiratory-phonatory-articulatory structures (OFA), is the same. It results from the fact that we teach children the same phones. Therefore, I think that the same means of phone elicitation may be possible to be applied in the case of the child hypoacusia and dysglossia. The method is adjusted to the concrete patient and his capacity, such as the features of symptom, the receptive and expressive conditions, the preferable learning strategy, cooperation possibilities, etc., although, what is essential to be remembered, due to the certain common features of the people with the given disorder, we may find a group of more efficient methods in the case of these patients.

The tradition. If we undertake the issue connected with teaching phones, it is necessary to mention the bases of all the methods within the area of pronunciation outlined by I. Styczek. Their various variants appearing in the subsequent stages of development of the area of speech therapy can be *included* in the categories distinguished by the author. It is worth mentioning that the author describes the problem as *the reduction within the phonetic area*. We may wonder if the term *reduction* is the most appropriate one to describe the core of work on the phonetic level of speech, due to the fact that in the case of plenty of patients teaching the prescriptive articulation does not mean returning to the previous state, but it refers to learning a different ability. In this work I use the terms *teaching the normative articulation, teaching phones, teaching the normative production of a phoneme, elicitation of phones,* since these terms appear to be more justified, although the expression *elicitation of phones* can be treated to a certain degree in the metaphorical way which will be justified in the following considerations.

Nevertheless, the term "phonetic side" used by I. Styczek seems to be the proper one, since it can refer both to the realizations of phonemes as well as to teaching sounds to children. The sounds, due to the fact that there is no language system, are not the realizations of phonemes, but they should be included in the repertoire of the sounds produced by them, for example, during cooing. Such way of reasoning results from the accepted linguistic perspective of the relation phone-sound. A phone is the realization of a phoneme. Hence, in the literature, in order to underline the importance of phonetic development during, so called, prelingual stage, the following terms are used for the sounds produced by the child during this period: *a non-sound or a pre-sound* (Ostaniuk, 2002: 143), vowel-like sounds, sounds similar to vowels, pseudosounds of vowel-like profile (Pluta-Wojciechowska 2011: 188), sounds, vowel formations, vowel-consonant formations (Łada, 2012: 68–69).

Does the elicitation of phones mean initiating a new cognitive path or does it mean repeating the path once activated? In the present considerations,

I apply one of the assumptions of cognitive linguistics connected with the process of habituation (see Rosch, 1878, Fife, 1994), which begins with the first initiation of a new cognitive path in the process of language acquisition. Thus, I discriminate 1. the elicitation of a phone as its first articulation and 2. the renewal of this act during treatment exercises, that is, repeating the path initiated earlier, which makes it easier for the child to remember it, to restructure the experiences and to stabilize it. What follows, it is possible to distinguish the methods of phoneme elicitation in the first-time-act from the different ways thanks to which the child may recall the way a phone is articulated. I mean, for example, the different ways of visualization of the shape and location of the tongue, the presentation of the involvement of the nasal resonator, vocal ligaments, etc. They are rather the means of attracting the child's attention to the necessity of performing a certain movement, to the direction of the airflow, to the activation of vocal cords, etc. They are not the methods of elicitation of this movement in the case when the child is not able do it or even when the functioning of the vocal organs is not physiological. This may happen not only in the case of children with circumferential disorders which are clearly visible but also in the case of other ones. The essence of phone elicitation means the solution of the following problem – 'how to organize the activity of the child in his vocal-articulatory track or, more exactly, in the OFA area, including the engagement of the higher levels of regulation of behavior in order to activate the vocal organs in the particular way so that the effect could be a normative phone. At this point we should underline that sometimes, but not always, the phone elicitation requires much work and is time-consuming, but prepares the patient for this extraordinary ability, that is, the moment when he or she produces a normative phone.

The most important question is as follows: what should be done to make the child activate the vocal organs (including the higher structures than circumferential ones which take part in the activation of the circumferential space together with the orofacial one) in order to articulate the given phone, how to initiate, activate for the first time the cognitive path connected with the respiratory system, the phonatory system and the articulatory system. This path has to lead to the appearance of a normative phone or sounds of the given profile, which are expected in the early stages of phonetic development. As we will see, the elicitation of a normative phone in the place of a nonnormative one is, in fact, the elicitation of the definite phonetic feature or phonetic features. Thus, the question profiling the essence of the speech pathologist's work will be, for example, as follows: how can we achieve the vowel [u] on the basis of the sound profiling the vowel, (or, for example, on the basis of scream, the sound profiling the vowel), or, more exactly, how can we achieve the lengthening of the oral resonator together with the proper place of the tongue and direct the sound wave towards the oral resonator?, how

can we direct the air stream towards the front part of the tongue and achieve vibration or – in the different case – how can we achieve the plosive overcoming of the contact next to the area of teeth and the front part of the tongue?

If we accept this standpoint, the graphic symbols, hand and finger gestures, symbols of certain systems and phonetic features in the form of pictograms and drawings are rather the means of drawing the child's attention to the vocal organs that should be activated. They are rather the means of facilitating the repetition, activation, provocation of the earlier activated receptive and expressive path which constitutes the creation of sounds of speech in the process of habituation, which is associated with revising, restructuring, utilizing and stabilizing the experiences. We may assume another perspective and state that revising the elicited phone during the following classes means also its elicitation. Obviously, this issue may be described in many ways.

If we assume that phone elicitation is connected with such speech pathologist's action that aims at moving the vocal organs in order to achieve the specific phonetic feature/s, we should wonder whether in each case it is enough to apply the methods of presentation using imitation or whether other methods are necessary, meaning the ones based on 1. The mechanical setting of the speech organs or 2. The methods eliciting the given movement of the organs. Our experience shows that what many children need is the real help in gaining 1. the certain setting of the organs and later, 2. the coordinated movement of the organs taking part in the production of the given phone. In this context, the methods based solely on the imitation of the speech organ being observed are not sufficient. In many cases what is necessary is the real help in activating the organs in the way that allows us to achieve the particular phonetic feature/s which, as a result, will result in the normative phone. We would like to stress the fact that the help offered to the child may be connected not only with our will to achieve the proper place of articulation but also with the means of articulation, the engagement of vocal ligaments and the engagement of the nasal resonator. We may talk about the different methods of phone elicitation, that is , for example, the level of the help offered to the child – from the presentation and encouraging the child to imitate, through the different levels of involvement and facilitation of the child's performance of the given task associated with phone elicitation. There may be plenty of criteria of typologies of methods of phone elicitation.

Bearing in mind that a language sign is both form and meaning, the elicited phones in a syllable or in isolation are often joined with the simple meaning, for example, the syllable [pu] means a train and the phone [c] means a chirping fly. The structure in which the phone is elicited depends on the features of the symptom and abilities of the child, the accepted sequence of therapy of phones – the developmental or therapeutic one (Pluta-Wojciechowska 2008, s. 192, 201; 2011, s. 388-389).

Does the phone elicitation refer to the articulation of a phone for the first time or may it also mean the process leading to its articulation? In my opinion, the phone elicitation, learning phones or therapy of disorders of pronunciation, etc. are connected, in many cases, (but not in all of them) with the whole procedure, whose final effect is to be the pronunciation of a normative phone or sounds of specific profile which are expected at the given developmental stage. The phone elicitation may last scarcely a few seconds or it may be the process spread even over a few weeks or longer. It depends on the patient's abilities, which are currently under observation, and the features of symptom, but not on the main type of the speech dysfunction which is diagnosed at the very beginning. It is obvious that the diagnosis should be constantly verified. The similar or even the same methods of therapy of the phonetic problem can be applied in the case of children with aphonia, mental impairment, autism, Asperger syndrome and children with dyslalia. The type of the strategies applied depends every time on individual possibilities of the child.

Is the term *phone elicitation* adequate with the actions of the speech pathologist? The analysis of the term *elicitation* in the dictionaries brings some reflection on it. When reading the definition in the *Universal Dictionary of Polish Language,* we may find out that the verb *elicit* has many different meanings[1]. The main sense of it refers to persuading someone/something to emerge, but, at the same time, this thing or person which/who is being persuaded existed earlier (the meaning 1, 2, 5). If we use the term *phone elicitation*, it may suggest that phones exist/existed somewhere in the child and the speech pathologist's role imposes such actions that are to cause the hidden phonemes to emerge. When we work with the child, for example, with dysglossia or lack of speech, it is necessary to teach him or her the pronunciation of the normative phones in the place of non-normative ones or, in the case of their lack, to teach the child everything from the very beginning by using the skills based on some biochemical matrices, imagined pictures of these phonemes, some functional wholes of orofacial area, the child's experience during his or her contacts with people who can speak, etc. In this situation, phone elicitation means aiming at the synthesis of the existing skills and their creative joining or restructuring. In this sense the term *phone elicitation* is justified. The set of such treatment sessions means the primary activation, the initiation of the new cognitive path.

When I use the expression *biochemical matrices,* I mean the experience which the child has gained from the birth or, in fact, from the prenatal period during the process of activation of different elements of orofacial space which take part in breathing, eating, drinking, orofacial games, autostimulation, auto test,

[1] In *Universal Dictionary of the Polish Language,* we read*:* to elicit – *"1. To call someone to come, to leave a place, 1. Recall, remember, remind, 2. Cause something to happen, 3. Announce, 4. Develop a film"*

mime and others (Pluta-Wojciechowska 2011, p. 121-192). As was written above, the speech pathologist during the process of teaching the phones, we may say in a metaphorical way, carries out the synthesis of different skills, teaches them or restructures the existing skills which brings the results in the form of sounds created in the vocal-articulatory track, also the normative phones. Thus, while teaching normative phones or sounds being expected at the certain developmental stage, we either use *the method of block building* (analytical methods) or *the method of restructuring the architectural object* (synthetic methods) – thus, we apply modifications of some wholeness. The point is that the complete structures may have different characteristics. We are going to talk about it in the further sections of the elaboration.

In the light of what has been written above, the term *phone elicitation*, although sanctioned by the tradition, may be understood in different ways. On the one hand, it may suggest that elicitation of phone is one-time-act during which the speech pathologist, by means of certain techniques, tricks, "elicits a phone which is hidden somewhere" and, one the other hand, it may be associated with the process leading to phone elicitation. If we accept the above comment which concerns the method *of building blocks* or *the method of rebuilding the architectural structure*, then, we also have to assume that in many cases the emergence of a normative phone or phones is connected with learning/teaching taking a long time taking into consideration different levels of action, for example, preparing the body for speaking, breathing, activating some biochemical matrices, moving the lips, moving the tongue, and the palate, all of which are subordinate to the given aims. In the case of other patients it will be necessary to consider their preparation activating their receptive processes and consider their readiness as well as motivation for producing sounds, including speech sounds. This process sometimes lasts a few seconds per session, like in the case of the mechanical setting of an infant's speech organs, or it lasts longer and involves the multidimensional **construction of the foreground of articulation or even the foreground of speech acquisition** (Pluta-Wojciechowska 2008: 191; 2011: 338-394).

The good speech pathologist **is the one who quickly elicits a phone – a myth or reality or the pressure of the community?** The subsequent issue concerning the abovementioned subject is also connected with the thesis which has not been verbalized, namely, that a good speech pathologist is the one who quickly elicits a phone. Speech pathologists often find themselves under the pressure coming from the parents' part expecting them to quickly elicit phones. This may happen in the case of all speech impairments. Unfortunately, in order to show how competent they are, speech pathologists achieve their aims quickly, but that causes that the child learns … nonnormative phones. In spite of the fact that parents happen to be pleased with the result (they can hear the phones similar to the normative ones

in the place of nonnormative ones or in the place where there were no phones), there are cases where we must not elicit phones immediately. The opposite is true. First, we have to prepare the respiratory-phonatory-articulatory apparatus in different ways and to a different degree as well as we have to prepare the other functions, not only those connected with sound production. The necessity of constructing the foreground of articulation should occur not only in the case of children with clefts at some levels of multispecialty treatment, for example, those with open nasalization, production outside the oral cavity, changes in pressure of the vocal-articulatory track, etc., but also in the case of children after the surgery associated with cutting the frenulum of the tongue as well as in the case of plenty of other dysfunctions of conjugate nature.

What is more, there are children who do not exhibit any clear symptoms of production difficulties in the form of circumferential deficits, but during the phone elicitation it turns out that such impairments exist due to the fact that the traditional methods of work are not efficient. I am observing with much concern the extraordinary race of speech pathologists towards fast teaching of phones without any proper reflection and preparation. They simply do not take into consideration the real needs and possibilities of children. In spite of the fact that in many cases the primary objective is teaching phones, this aim cannot cover the truth which results from the analysis of the model development of the articulatory skill in norm. If we could personify nature, we could say that one equipped children with such program of development that prepares them for the encounter with a phone over many months. It is the model that should be followed by us. It does not mean that this preparatory period should be lengthened in the case of every child. What I mean is that the speech pathologist ought to become acquainted with each case, taking into consideration the following issue: whether the child's abilities are sufficient to start eliciting a phone. Thus, the basic question concerns the catalogue of threshold skills which the child should have and perform and which should be analyzed before we initiate the elicitation of the given phone. If we do not stick to it, we will have to elicit a phoneme blindly. In fact, in one case this course of action may turn out to be successful and in other one it may not. On the other hand, in many cases, we will elicit nonnormative phones. Is it our objective? I think that in the case of the children with some speech disorders we will never achieve such phones which are completely normative, but such cases are not the majority.

Is the method adjusted to the impairment or is the method adjusted to the patient? The abovementioned questions are connected with the following thought: whether the methods of, so called, elicitation of phones can and should be associated with the given deficits? I think that the opposite statement is true and I accept the principle that the methods should be matched with the given patient and his abilities. Here we have to apply the rule of indidualization which has been

well known for a long time and the individual paths of healthy children towards the normative phonetic-phonological system make us think that the same developmental principle may be assigned to children with various and similar disorders on their way from a scream to a phoneme in a word carrying meaning. The experience shows that the same efficient method may be applied, for example, during work with the child with Asperger syndrome and with the child with clefts. On the other hand, the method may turn out to be efficient in the case of one patient and insufficient with another patient despite the fact that each of them suffers from the same kind of speech impairment.

As I understand it, there exist only such methods that are successful with one patient and which may be unsuccessful and unreliable with another patient … .The speech pathologist has to have at his or her disposal various methods or knowledge which allow him or her to choose the most appropriate means of speech therapy suitable for the given patient. There is no other way possible.

Learning the strategic thinking or learning the single methods? Many of the effective methods of teaching phones will always be applied only in the shade of speech therapists' surgeries and will never be popularized. However, where do the speech pathologists acquire the knowledge from? This knowledge causes that they have extraordinary ideas about teaching phones. According to the various linguistic theories and the knowledge on the role of language in the discovery of the world, the language cognitive structures generate themselves and the new knowledge starts to exist on the evidence of the knowledge which has existed so far. That is why it is so essential to take advantage of the latter; it becomes the source of inspiration. This is one of the main afterthoughts which comes as a result of the theses associated with language and its role in the discovery of the world and also of speech deficits.

It also means that each speech pathologist may create methods of teaching phones and may be their only author. It is important as many methods are not always effective in the case of the concrete patient. Then it is necessary to introduce a new method on the evidence of the knowledge existing so far, our own experience as well as, at the same time, take into account the patient's individual potential. The question appears: 'how can we generate the new knowledge and skills connected with phone elicitation?'

One of the reasonable solutions is equipping the students of speech pathology with the phonetic and physiological knowledge on the mechanisms responsible for creation of speech sounds, both those normative and nonnormative ones, as well as teaching them the basic means and rules connected with work on articulation as well as encouraging and provoking them to come up with the new ways of achieving normative phones. It may happen that the opposite is true – it may be necessary to start with "brain storm" taking advantage of the phonetic and physi-

ological knowledge, and then, we can go on to present the well-known methods to students. This course of action could initiate students' own invention, creativity, activate them and prevent them from taking on the passive standpoint in the light of the ready knowledge associated with pronunciation. There may come the time when they will treat a patient and the well-known methods will not be efficient in his or her case. Then, it will be the speech pathologist's task to come up with his own method.

Let me draw your attention to the fact that in the abovementioned approach towards the education within speech therapy what is underlined is the importance of development of creativity, because one does not only deal with equipping students with various techniques, but, on the one hand, it offers some options, and, on the other hand, opens some ways for students' own discovery processes. In other words, it presents the foundations on which students may build their new knowledge and skills. Above all, it teaches the strategic way of thinking which is so indispensible during work on phonetic problems. The conscious practical application of designing the means of phone elicitation, the principles resulting from speech development, including articulatory skills, phonetics, pathophonetics, physiology, pathophysiology and the analysis of the pathomechanism of impairments in phone realizations may be called **the strategic approach in the elicitation of/learning phones.** The particular strategies of action connected with aiming at particular phonetic goals (resulting in a phone) depend on the individual receptive and expressive abilities of the patient. They also depend on other features. With respect to the particular phones or groups of phones, their learning is not a single act but it is a process. In many cases we search further and we do not only elicit a phone, meaning an immediate and single act, (which is similar to a trick), as we base our work on preparing the patient's lips, tongue, palate, respiratory system, etc. The speech pathologist through the anticipation of the risk within the phonetic space in the case of the developmental deficiencies, can take certain action connected with constructing the foreground of articulation, or more widely, with constructing the foreground of speech acquisition from the moment of the birth.

The practical experience teaches obedience and teaches how to search for the efficient method which is adjusted to the given patient. If there are no positive results of phone teaching methods, we should look for or discover them. I am deeply convinced that many methods are not well-known and speech pathologists use their own methods of teaching phonemes. Hence, the education in this area, that is, the area of teaching the normative phones, should involve the education within the area of strategic thinking based upon our knowledge of the rules of articulatory development in ontogenesis, our knowledge of normative phonetics and pathophonetics as well as our knowledge of physiology and pathophysiology.

The abovementioned approach should be in opposition to the education based on demonstrating students only those techniques (sometimes effective in the case of some patients with speech defects) which to lead to the production of normative phones. In fact, in the case of one child it will be an effective method, but, in many cases, it will bring no positive effects. Then, what is necessary is not only the knowledge of many methods, but, above all, the ability to activate all the ideas based on the knowledge of normative phonetics and the understanding of the (metaphorical) meaning of the expression: ”phone elicitation”.

Why does it happen that the applied methods of phone elicitation are not always successful? The possible reason for that may be connected with the fact that we do not know and recognize the source of defects of phonetic-phonological area. There may be one more hypothesis: children without speech disorders present some differences in their developmental phonetic paths, but these paths in children with defects look different. The differences may be associated not only with the preferable strategy of learning but also with the order and method of phone acquisition, the individual skills connected with imitation of speech sounds and movement of vocal organs, the preferable media of learning articulation, etc. What is important here is the developmental changes in the OFA, for example, changes in the shape of dental area, shape of palate, the position of pharynx, activation of tongue muscles with age, changes of body position, etc. Unfortunately, such features (and many others), including the development of phonetic skill in norm and in pathology, are not the object of frequent tests in speech therapy. However, they allow us, even partially, understand that the method of phone elicitation may be exceptionally effective for one patient, but not effective for another patient even if he or she has the same impairment.

There is also another aspect of the effects of the abovementioned problem, by which we also mean the problem connected with recognition of threshold skills which make it possible to learn the given phone or phones. There may exist such disorders as, for example, in the case of children with cleft palate after an operation, where the inappropriate teaching of phones will do more harm by not taking advantage of his abilities provided during operation, in the form of delay of the therapy or teaching phones similar to the normative ones.

ABOUT THE PHYSIOLOGICAL-PHONETIC STRATEGIC APPROACH TO PHONEME ELICITATION

We could dare to give the first general definition which is as follows: learning a phone, provoking the production of phones, phone elicitation mean such therapeutic actions that lead to uttering the expected phone 1. in the place of a non-normative one, 2. when there is a lack of phone production, 3. in the case when in

the prelingual stage there were sounds of vowel or consonant profile which were created in different places of vocal-articulatory track and which should have a different form than the present one due to the model development of speech.

Teaching single phones takes place along the structural way, that is, during the speech therapy and runs according to the specific plan. Depending on the patient's, the conditions exhibited by the patient, the period of learning leading to the first uttering of a phone may last a few seconds or the process may be spread over time and the patient is being prepared to utter a phone gradually and in different ways.

The unusual source of knowledge on creation of phones is the natural way of their acquisition in ontogenesis which makes us take advantage of the developmental rules during phone elicitation. On the other hand, the knowledge coming from pathophonetics and the analysis of the mechanisms of faulty production of speech sounds implies using some kinds of treatment which may be treated even like a remedy for the defects, including the defects of anatomical circumferential movement and those connected with functioning not only in the case of children with disglossia but also with hypoaccusia, alalia, etc. Ii should be pointed out that in the course of phonetic development even healthy children present different developmental paths which lead them to the normative phones. The same rule, as it may seem, can exist in children with speaking disorders connected with alalia, hypoaccusia, etc. , although the prime pathogenic factor could suggest that the reasons for all the deficiencies of phonetic nature should be found just in this pathogenic factor. However, it does not always happen, as in the case of many children with the above deficits there are also other factors causing obstacles in the phonetic development which together with the prime factor cause various feedbacks and accumulations. Thus, some of the pathological factors may be perceived to be the prime ones and the other ones as the accompanying ones. However, it may be the latter that modify the course of phonetic development in children and then, the applied methods of phone elicitation in the case of some impairment turn out to be ineffective. What is important is the fact that the developmental changes in the vocal-articulatory track (the changes of the position of body, changes in the shape of dental area and palate, the position of pharynx and tongue), but not only (for example, developmental changes connected with hearing perception) also affect the type of the sounds produced by the child. If these changes are joined by other pathological factors of various nature, we can state that the picture of articulation is an effect of accumulation and conjunction of different factors. Nonnormative production of phones in children is not a simple phenomenon as it could seem to be. We will talk about it in the subsequent sections of the article.

In the context of what has been said so far, we may postulate the strategic physiological-phonetic approach towards learning phones, which means the following:

- applying the developmental principles connected with different stages of speech development, including the development of phonetic-phonological system, also in its aspect of treatment of vocal organs and hearing perception,
- taking advantage of the knowledge on physiology and pathophysiology of production of speech sounds,
- taking into account the following aspects:
  – the knowledge coming from phonology, phonetics and pathophonetics,
  – the analyses of cause and effect factors among positions and movements of vocal organs and the features of the sound in the context of norm and pathology,
  – various media and cognitive paths in learning articulation.

Due to the shortcomings of this paper, the more detailed description of the strategic approach will be presented in the subsequent elaboration.

WHEN DOES THE SPEECH PATHOLOGIST TEACH PHONEMES?

While I. Styczek appreciates the meaning of progress of phonetic ability for the development of other levels of language, one distinguishes two categories of faulty articulation, namely, 1. the distortion of phones, and 2. the faulty articulation, that is, the absence of phones, replacing the given phones with other ones, mistaking some phones, changing the order of phones (Styczek 1981, s. 441-442). The author indicates to their reasons (which differ depending on the category of the impairment) and lists both the disorders of receptive processes and the deficits in productive processes, although she uses the different labels for them. While commenting on the general way of reeducation (the term used by I. Styczek), she lists the first stage which is "based on achieving the new organization of vocal organs, and the second one based on consolidating it in speaking" (Styczek 1981, s. 443).

One more way of ordering of the issue connected with the defective production of phones can be found in the publication by Jerzy Kania. He divides impairments of segmental substance into elisions, substitutions and deformations which corresponds with the perspective characteristic for phoniatry (Kania 2001, s. 14-20). In the further paragraphs, we will discuss the limits of the kind of typology.

In order to undertake the further considerations, it is necessary to have in mind the typology presented by Leon Kaczmarek who describes dyslalia as an anomaly in speaking and equates it with the realization of phones which is not standard (Kaczmarek, 1988, s. 192). He distinguishes ultimate dyslalia (motor dyslalia) when "only prosodic factors are produced (accent, melody, rhythm)" (Kaczmarek, 1988: 192). On the other hand, H. Mierzejewska and D. Emiluta-

Rozya point out that dyslalia means disturbance in speech sounds (Mierzejewska, Emiluta-Rozya 1997: 42).

Let us concentrate on one of the types of dyslalia described by Kaczmarek, namely, motoric alalia. The author says that in this case what is realized is accent, melody and rhythm. What is worth noting is the fact that in order for these prosodic phenomena to appear, the existence of some materialistic substance in the form of any sounds created in the vocal-articulatory track is important. Accent, melody and rhythm cannot be produced without them. The child has to produce some sounds in order to "mark" prosody "on them". They are similar to varying degrees to vowels and consonants. It happens that they often become the basis of learning the normative phones. The process is based, on the one hand, on their restructuring through changes in some phonetic parameters by means of, for example, lengthening of the resonator of the oral cavity by using the speech therapist's hands in the case of learning [o], and, on the other hand, on linking the new sound with its simple meaning. This moment becomes very important as it shows to the child that the power of the link between the form and the meaning.

It happens in a similar yet not identical way, (meaning the production of various sounds similar to different degrees to vowels and consonants) during the progression of the articulatory ability in norm. In the early stages of development, the child produces sounds which resemble vowels and consonants (to a variable extent) in his vocal-articulatory track. Can they be called phones? If we assume that a phone is realization of a phoneme[2], it would be difficult to attribute such a property to a cooing infant. The sounds produced by infants in the first months of their life should also have the definite phonetic features. The description of this type of sounds is difficult, but normative phonetics has the tools which facilitate this task. In such descriptions we can very often see the terms taken from the description of the phonetic area, namely, oral sounds, sounds of half-open nature, fricative sounds, pharyngeal sounds, a sound between [a/e], etc. Therefore, in this type of descriptions the phonetic features which exist in children are indicated, but it is also possible to point such phonetic features which are absent if we would like to compare the analyzed sounds with the normative sounds characteristic for infants in norm or with the normative phones. The changes of the development of the phonetic path in, so called, the prelingual period are visible in children with developmental disorders of the following type: dysglossia, microglossia, clefts, Pierre Robin's sequence, Down's syndrome, but also in children with infantile cerebral palsy as well as with other deficits. In these cases the specialist intervention is necessary and one is to cause that the appearing sounds will be consistent with the model of normative development. However, due to the age of the child and his

[2] The phone is identified with the realization of a phoneme which is seen in the definitions by: B. Rocławski (2001), D. Ostaszewska i J. Tambor (1997), B. Ostapiuk (1997, 2001), L. Konopska (2006), D. Pluta-Wojciechowska (2006, 2010).

or her ability to cooperate, the applied treatment may differ from the treatment in the case of the older child, but the essence of work on the phonetic side, meaning the elicitation of the activity in the vocal-articulatory track in a cooing infant and in a child with the dorsal realization of alveolar dentalized phones, is identical, as it covers the elicitation or the acquisition of the given phonetic feature, which results in a target phoneme or a desirable sound.

Thus, the necessity of teaching of profiling sounds compatible with the development of vowel/s and/or consonant/s, the necessity of teaching the normative phones appears in the speech therapist's work in different situations and with respect to work with children at different ages. The children who need such help may be described in the following simplified way:

- in, so called, the prelingual period (the term may raise some doubt), when an infant utters sounds not complying with the developmental norm in the vocal-articulatory track which plays an important role in the progression of the phonetic-phonological path,
- a child does not speak, which is connected with different reasons of the primordial and secondary nature (Ostapiuk, 1997); in a child there may be no production of any sounds or the production of the sounds profiling vowels and/or consonants to with varying degrees; it may sometimes be only a scream or with time some sounds may mean something, for example, "I want",
- a child produces nonnormative realisations of phonemes.

FROM THE DESCRIPTION OF NONNORMATIVE REALISATIONS OF PHONEMES TO THE COMPLETE DIAGNOSIS AND ANALYSIS

The analytical-phonetic method of examination and description of the phoneme realization. If we could use the metaphor, the examination of the realization of phonemes embodied in speech may be compared to the measurement of phones or, more precisely, to the measurement of the particular phonetic features which occur together, represent the phoneme in the outer world. The comparison of the examination of phoneme realization to the phone measurement is the target treatment as the act of measuring something requires the answer to the question: what should we measure?, how should we measure?, which tools to use to measure something? Despite the fact that the comprehensive opinions on the issue were presented in other publications (Ostapiuk 1997, 2002; Pluta-Wojciechowska 2007; 2011: 252-254), in this article we have to stress the following points:

- the basic aim of the examination of phoneme realization, or, more precisely, of the phonetic features occurring in consonant realizations of phonemes, is

checking whether these features conform to the standards of the adopted phonetic-phonological system,

- the measurement/examination of phones is based on the comparison of the phonetic features of the examined realization of the phoneme to the phonetic features of the phone which is the normative realization of the phoneme and is described in the accepted phonetic-phonological system,
- the examination of phonetic features is based on listening, looking, touching and carrying out some tests and experiments, which are to confirm or exclude the features of the observed phone; the basic tools serving to measure phones, or more precisely, their phonetic features, are: hearing, sight, touch, but we may also take advantage of certain test, for example, Czermak's test, Gutzman's test, and the one checking the direction of the flow of sound wave, etc.,
- the most important thing is the method of examining phones and not the list of pictures (being of the secondary character) to be named by the child; the examination of articulation may be conducted without pictures but just by means of talk which can provide us with some general insight into the problem; what is then recommended is the repetition of words, syllables, and, in some cases, separate phonemes, because the use of the auditory-visual-sensory-experimental method of examination of the realizations of phonemes, which I propose and promote, requires proper conditions and does not only mean listening; in other words, it is based on looking into the oral cavity, checking the tremor of bones and the place of the air flow, and putting the mirror next to the nostrils, etc.

In the similar way, the speech pathologist, to a different extent, examines and analyzes sounds profiling vowels and consonants (which start to exist in the vocal-articulatory track in the prelingual period), adjusting the methods of work to the age and capabilities of the child. These sounds start to exist in the vocal-articulatory track in the prelingual period. We may conclude that the recommended method is of analytical-phonetic nature, which means that the speech pathologist establishes the way the particular phonetic features are reflected in the phone. Generally speaking, the effect of the examination of phoneme realization can be the indication of its absence or the description of 2 categories of the phenomena: the normative phonetic features and the nonnormative phonetic features of the given realization of the phoneme. The identification of these two categories of features is relevant from the point of view of the speech therapy, as it not only reveals the difficulties in the realization of the concrete phonetic features, but also clearly indicates the patient's different strengths. In many cases, the therapy of the phonetic area can be supported by these strong points.

The particular phonetic features can be arranged in the form of some general categories, such as the following ones: location (the place of articulation), modality (the means of articulation), the degree of resonance (the role of vocal liga-

ments) and 'soundness' (the role of vocal ligaments)[3], for instance, the normative realization of the phoneme /p/ requires the achievement of the following features: bilabiality, plosiveness (contact of teeth), orality and voicelessness. Each of these belongs to one of the categories, namely, biliabiality is connected with location, plosiveness is connected with modality, orality is connected with the degree of resonance, voicelessness is connected with 'soundness'.

The research on speech tries to answer the question whether there appear any phonetic features, which create the normative realization of a phoneme and which are connected with the 4 distinguished separate categories. The speech pathologist may state, for example, that instead of bilabiality, there is labiality-dentality, instead of dentality there appears interdentality, and that in another child instead of plosiveness there is fricativeness. Another patient may realize the phoneme /t/ in the dorsal form. However, the practical experience shows that in one patient there may exist more changes in the case of realization of, for example, phoneme /c/, that is, instead of dentality there is interdentality and instead of occlusive clefts, there is only fricativeness. There may also exist such realizations of the phoneme which turn the attention to a completely different phoneme than the expected one, for example, instead of the features of /sz/ in the phone realizations, we can hear the features of the unexpected phoneme, for example, /s/. However, this is not everything. It may happen that instead of the features of phoneme /sz/, we can hear the features of phoneme /s,/ but these features are realized in a nonnormative way, for example, in a lateral form.

The complex relations between the expected realization of the phoneme and the realization achieved in the therapeutic examination may be presented in different ways. Obviously, a few different possibilities can be mentioned. The speech pathologist when diagnosing the realization of the given phoneme should be prepared for them. Taking into consideration the reports of various authors (Kania, 2001, Ostapiuk, 1997, Pluta-Wojciechowska 2006, 2010), it may be stated that most probably during the diagnosis we will find one of the following variants, namely:

- the normative realization of the phoneme,
- the absence of the realization of the phoneme,
- the nonnormative realization of the phoneme, but
  - we recognize the features of the expected phoneme, for example, /s/ is realized in the interdental form, so there appear changes of phonetic character,
  - we do not recognize the features of the expected phoneme as we can hear and observe the features of another phoneme, which:

[3] See the classification by:D. Ostaszewska i J. Tambor (1997, s. 27-28). I used the authors' 4 categories of the description of consonants.

- ✓ is realized in a normative way, for example, the phoneme /sz/ is realized dentally, for example, the popular /sz/=[s], thus, there are changes of phonemic nature, as we do not recognize the features of the examined phoneme,
- ✓ is realized in a nonnormative way, for example, the phoneme /sz/ is realized by means of interdental phone, for example /sz/ = [interdental s][4], thus, there are changes of phonemic-phonetic nature, as we do not recognize the features of the examined phoneme, because we notice the features of another phoneme which is realized in a nonnormative way,

- it is difficult to establish whether we hear the features of the expected phoneme or another one, as the kind of the phoneme does not allow for this, for example, glottal stop. Thus, we have to do with changes of multifaceted character.

I would like to draw the reader's attention to the fact that the above strategy of description of phonetic-phonological facets in the aspect of the phonetic side can be in its general shape used in the analysis of, for example, sounds during cooing.

The means of description of phoneme realization and the possibilities of learning the pathomechanism of impairments. Is the means of description of production of phonemes during the testing of speech relevant? The point that is important in this paper and I intend to emphasize is connected with two ways of description nonnormative realizations of phonemes: the first one presented by J. Kania. He indicates 3 subcategories, namely, elision, substitution and deformation (Kania, 2002: 14-20) and the second one whose authors take into consideration the nonnormative phonetic features (Ostapiuk, 1997, 2002; Konopska, 2006, Pluta-Wojciechowska, 2007, 2008, 2010). Do these two different ways of description of nonnormative realizations of phonemes lead to two different paths of reflection of the existing phenomena? According to the author, they do, as - we may cite J.G. Herder- "language marks out the boundaries and the outline of the whole human cognition" (Grabias, 2001: 41). The way in which the speech deficits are described, as well the deficits in the phonetic-phonological dimension by means of language marks out the scope of building the scholar and practical reflection.

The acceptance of the strategy based on, we may assume in a simple way, the traditional description (the division into elision, substitution and deformation) should be confronted with the one where the description of the phonetic features is taken into consideration. In my opinion, the application of **the traditional strategy** produces the following consequences (see also in: Ostapiuk, 2002; Pluta-Wojciechowska, 2002, 2005):

[4] This way of description is not precise enough.

- the researcher's attitude towards pursuing substitution and deformation [5], which leads to some distance from the principle goal of the first stage of procedure, that is, the description of speech; that is just linguistics, and even more exactly, phonetics and phonology that are indices which should define the form of the treatment and the description of the accepted phonetic-phonological system; in spite of the fact that *substitution and deformation* are also connected with linguistics, phonetics and phonology are, we may state – of the primary nature.
- the application of the term „substitution" is secondary in relation to the primary nature of the phonetic way of phone description; if we assume the traditional convention, then, in order to state whether we have to do with substitution or deformation, the first step the pathologist has to take after hearing the phoneme is carrying out the analysis of it. At the same time, one has to take into account the phonetic features and then, carry out the synthesis. In the case of recognition of substitution, this course of action probably looks as follows: listening to the realization of a phoneme, recognition of the nonnormative realization of the phoneme – deciding that we hear the features of another phoneme than the expected one, but realized in a normative way – stating that it is substitution (compare the cognitive path in the examination when the analytical-phonetic strategy is used); when the term *substitution* is used, we are further in a way from the principle objective of the first stage, that is, the description (the remarks below), which should be done in the simplest linguistic categories and that is just phonetics that should become the pattern for the performance of the tasks connected with the description of phoneme realization, as one is of more primary nature than the theory by J. Kania.
- the risk connected with leaving out the data, which means that the researcher's attitude towards discovering substitution and deformation (besides elision) poses the risk that the whole set of data will be left out, which, can be observed during the examination aiming at answering the question *how are the particular phonetic features produced during the phoneme realization?;* the experience shows that many of, so called, substitutions are only seemingly similar to the normative realizations different from the examined phoneme, and a lot of information can be found through the precise examination of the realizations of phonetic features, and not through treating substitutions as the replacement of the phones; as I understand it, we may only talk about some kind of substitution of phonetic features and not about substitution of phones, although the effect of replacement of a

[5] In the case of elision there is the agreement that this phenomenon may be described as the absence of a phoneme.

phonetic feature is a different phone; by taking into account the functional aspect, we may even say that we mean the replacement of structures, positions and movements of speech organs in the light of the difficulties of various nature; it is presented in the scheme below, where the sign = means replacement (for example, instead of the phone [sz] the child pronounces the phone [s]).

WHEN THE CHILD HAS THE GOOD PHONEMIC HEARING SENSE, IT IS NOT ALWAYS THE CASE THAT IN THE CASE OF, SO CALLED, SUBSTITUTIONS

↓

[sz] = [s]

↓

BUT RATHER

↓

gingivality = dentality

↓

THUS

The movement of the front part of the tongue towards the upper gums = the movement of the front part of the tongue towards the teeth; in other words, instead of the movement of the tongue towards the upper gums, there is the movement of the tongue towards the teeth

↓

HOWEVER, IN MANY CASES **IT MAY SEEM** THAT THESE ARE THE SAME MOVEMENTS OF SPEECH ORGANS

↓

THUS

the movement of the front part of the tongue towards the teeth when /sz/ is realized ≠ the movement of the front part of the tongue characteristic for the phoneme /s/ in the same child

↓

WHY?

Therefore, in the case discussed above (with which we often have to deal), the movement of the front part of the tongue towards the teeth during the realization of the phoneme /sz/ **is often not the same** as in the case when /s/ is realized, but it is similar; our ears are often not able to recognize such minimal sound differences (see Jassem[6]); however, it often happens that the child is conscious of such differences to a variable degree (for example, the child feels the pressure of muscles, minimal changes in the position of the tongue, and the changes of the means of approaching of the vocal organs); the proof of it may often be the following example: *Nie mówi się lyba tylko lyba***,** *Nie mówi się safa tylko safa***,** so

WE do not notice these differences. Hence the precise registartion of the means of realization of phonetic features by means of the treatment with the use of the auditory-visual-sensory-experimental method is a chance for recognizing these nuances of sound and articulatory nature both in norm during, so called, developmental substitutions, as well as in the pathological state.

The reason for such a situation (in the case of children) which presents the phonetic development in norm can be various developmental features of vocal organs which affect the creation of speech sound, for example, the gradual lowering of the larynx, the changing shape of the hard palate, the gradual development of the tongue through intensifying the alimentary activities, the change of the shape of dental arches, etc.

In children with developmental impairments there may appear other factors which, together with developmental tendencies of the vocal organs, create the picture of phoneme realization.

↓

THEREFORE

In the light of some production difficulties (also in the course of the normative development), the child uses certain **compensational strategies connected with movements of vocal organs,** thus, the child does not choose simple phones, but he or she chooses the simpler, more convenient and possible movement of the speech organs which results in the specific phonetic feature and not in a phone.

- the above, so called, substitution, is, in fact, the replacement of the movements of speech organs in the light of the existing difficulties of different nature; at the same time these movements are similar only seemingly to the ones observed in other phones; if the child has a good phonemic hearing sense, he or she does not choose, so called, simple phones, gaining, in this

[6] According to W. Jassem (1973), the human ear has the limited ability to distinguish the speech sounds. We do not know which acoustic and articulatory features In the audible and observed phones of the child's phonetic system are such phones that we May expect the time of the normative realization of phonemes. In other words, we do not know what [l] the phone [r] comes from.

way, so called, substitutions, but chooses the more convenient and possible movement of the speech organs also during the development of the articulatory ability, as well as, in disorders.

- the risk of false qualification, and therefore, the risk of false diagnosis; in the area of speech therapy what is accepted is a certain degree of interference of the criterion of symptom and the criterion of age, which means that if certain substitutions occur at a certain age, there is the following conclusion: *this will stop, this way of pronouncing is of developmental character,* but in many, so called, developmental *substitutions* there are hidden deformations which started as a result of a lack of possibilities of performing certain movements; the application of the interference of the criterion of symptom with the criterion of age may therefore lead to, for example, wrong qualification of the nonnormative realizations of phonemes, which, in turn, leads to the lack of appropriate care and treatment; the only reasonable solution is studying the phonemes and their reliable description in the phonetic categories and then, searching the reasons of the concrete realizations no matter what age the child is.

Another way of thinking and learning about the phonetic-phonological phenomena, meaning another kind of cognitive path, is achieved by means of the description in which we take into account the analytical-phonetic strategy, as the phenomena under the study are ordered in a quite different way. In the remarks presented earlier I stressed that each phonetic feature is a result of the activity of the specific tools, which does not undervalue in any way the thesis that a phone is a certain whole. The analytical description of the realization of phonemes creates a schematic vision of the phonetic-phonological system of the examined person, as well as, enables for some "translation/transmission/redirecting" of this description towards searching the reasons of the deficits within the receptive and expressive processes. From this point, it is quite close to the establishment of the direction of work on the given phone. If we take into consideration in this description – apart from the nonnormative features – the normative ones, which we perceive in the normative realizations of a phoneme and also the normative features in the nonnormative realizations of the given phoneme (for example, the phoneme /d/ is realized in the form of dental, oral, occlusive and voiceless phone, and therefore, certain features are produced in a normative way and one feature is produced in a nonnormative way), we will have a new way of designing the speech therapy in the case of impairments in phoneme realization, because it shows, apart from the weak points of the patient, his or her strengths – the strong characteristics also concerning the function of the vocal organs. **The analytical-phonetic description of phoneme production** carries the special advantages and opportunities:

- the precise analysis of the disturbed phonetic-phonological system in which we take into account the normative and nonnormative features; this analysis allows to focus the attention on the proper and defective speech mechanisms, including the receptive and productive ones which are responsible for the realization of the specific phonetic features;
- taking into account the following course of action: listening to the phone realization – recognizing the nonnormative realization of a phoneme – establishing the main reasons of the abnormality of the phoneme realization in the context of phonetic feature, thus, establishing which phonetic feature is realized in a nonnormative way and how it is realized, which opens the door to the question: ***why is the child unable to realize the given phonetic feature?***
- concentrating on the recognition of the means of realization of the phonetic features of the specific phones during the examination minimizes the risk of leaving out different features of the symptom, which is possible during pursuing, so called, substitutions; for example, **…** during the realization of the phoneme /k/ is often not identical with the nonnormative realization of the phoneme /t/, which may have the form only seemingly similar to the former;
- establishing which features of the realized phoneme are reflected in a phone in a nonnormative manner indicates in a special way specific phenomena which should be examined (depending on the disorders), namely, in particular: 1. physiological hearing system, 2. the specific phonological oppositions, 3. the definite parameters of the phonetic hearing system, 4. the specific features of the productive processes (the build of vocal organs, their mobility and flexibility, the biological functions); the basis of this approach is taking into consideration the basic principle which accepts the union of the features of phoneme realization with the activation of the prototype and the functioning of the vocal organs; hence, the precise description of nonnormative features (as well as normative ones) facilitates the analysis and the therapy of the disorders of phoneme realization,
- taking into consideration in the examination the nonnormative phonetic features which exist in a patient – which allows to use them in the speech therapy.

To summarize the previous considerations, it should be stressed that Kania's typology, which was proposed a few decades ago, was possibly sufficient at that time but, at the same time, it had some limitations which J. Kania also noticed (2001:, 15). Nevertheless, at the present time and in the context of the achievements in the contemporary speech therapy, several drawbacks should be mentioned (see the analysis below, also in Ostapiuk, 1997; 2002; Pluta-Wojciechowska 2002, 2005). The conclusions drawn by D. Pluta-Wojciechowska (2010, s. 196-197) concerning the children with clefts make us develop this reflection. The research carried out by the author shows that, for example, in the case of abovementioned patients, so called, language substitutions are a rarer case compared to the children without clefts, because, in the light of the defected productive mechanisms, it is

difficult to achieve, for example, dentality in the case of the realization of dentalized dental phonemes. The patients are not able to move the tongue towards the teeth in the case of the realization of both dentalized dental and dentalized alveolar phonemes.

This apparently simple division of the speech disorders by J. Kania is connected with the risk of leaving out many pieces of information and, in a way, covers some phenomena which are observed in the development of speech in norm or in the case of disorders. However, the popularity of his typology among young and experienced speech therapists is astonishing. I think that the apparent simplicity of the categorization of the phonetic phenomena may have become one of the reasons for its attractiveness. Nevertheless, it should be emphasized that the world of pathophonetics is not as simple as we can perceive it through the prism of Kania's theory. The results of the latest research and experiment in the area of the phoneme realization provide much evidence for it.

PHONE ELICITATION OR ELICITATION OF PHONETIC FEATURES?

Again, I would like to return to the question asked in the title of this work, namely, whether the speech therapist elicits phones? The therapeutic activities connected with the disorders in the phoneme realizations can be compared to the act of repairing a broken car in which, for example, the brake does not work. We do not exchange the whole vehicle, but only its broken element, namely, the brake. In the case of the disorders in the realization of the given phoneme – we are only required to exchange this nonnormative phonetic feature or nonnormative features. The result of the action will be the normative phone. Thus, the speech therapist, in fact, elicits a phonetic feature or features which are the effect of the specific activity in the OFA structures which are controlled centrally. The conclusion results from the abovementioned analysis. Another issue is connected with the way in which the exchange of the specific phonetic feature or the phonetic features will be carried out, with whether we will be doing it in an analytical or synthetic way, with the patient's consciousness with reference to the introduced changes or without such consciousness, at least at the beginning, with the use of the strategy *I'm teaching a new phone,* which may for some children facilitate the introduction of the new system, positions and movement in the structures OFA or with the usage of the strategy *we speak in a new way,* etc. this kind of exchange can be carried out in different ways.

We should remember that the speech pathologists has at his or her disposal different instruments during teaching phones (Pluta-Wojciechowska 2008, 2011), which should be adjusted to the given child and the child's abilities. It means that one matches the kind of the exercise, the sequence of phones and the means of

their elicitation to the given child and not to the deficit. We know that the children with the same speech disorder are different, similarly to the case of healthy children who differ on their way to the acquisition of the language.

The answer to the question: 'whether the speech therapist elicits phones' is connected with and results from the acceptance of the fact that the wrong phoneme realization results from the nonnormative realization of one or a few phonetic features (as well as the lack of the phone realization). In the therapeutic procedure we apply the rule of syncretism of causes, symptom and the method of therapy. It means that the specific symptoms and the reasons connected with them are correlated with the specific strategy of action. If, therefore, the disturbance in the phoneme realization means the nonnormative realization of one or a few phonetic features, and this is connected with the defected receptive and/or productive processes, then, during the therapy the nonnormative phonetic feature should be changed into the normative phonetic one, and, more precisely, the mechanism of production of the given feature or features should be changed. Thus, we may say that the speech therapist does not elicit a phone, but he or she elicits a phonetic feature, or, more precisely, introduces a normative feature in the place of a nonnormative one, which is connected with the positions and movements of vocal organs coordinated with breathing. Obviously, the effect of this procedure is a phone, but this vision of the issue changes the way in which the therapy is designed. This also makes us ask the question what we should do, how we should activate the organs in order to achieve the given phonetic feature or a set of phonetic features which will allow us to achieve a normative phone, which threshold conditions enabling the phone elicitation should be demonstrated by the patient before the onset of the elicitation procedure.

We could ask about the children who do not speak. We have been addressing the matter in different sections of the present discussion. The analogous abovementioned questions should be formulated by the speech pathologist working with the children whose language system has to be built and who do not speak. The foundation of phone learning can be different sounds achieved by the child in the vocal-articulatory track and which the speech therapist may use and change through the introduction of the specific phonetic features. For example, the oral resonator can be modeled by means of fingers; in this way, we may facilitate the achievement of the phone [o] or even model the position of the tongue to achieve this phone. The achieved sound (in a syllable or in isolation depending on the given strategy of therapy which is connected with the individual features of the child) has to be linked with some meaning, for example, surprise, pointing to something. Another example: the phone [k] (apart from other resources) can be elicited by using the physiological function, that is, snoring or by imitating gargling.

The mechanical interference, the visualization of different phonetic features changing them into the accessible physical phenomena (for instance, the visual-

ization of the airstream, or the visualization of plosiveness, etc.), the transformation of different units through the peculiar implantation of the new, normative phonetic feature are only a few patterns facilitating or even eliciting some skills, which lead to the normative phone. However, we must remember that the key to such transformations is achieving certain threshold conditions connected with the child's activity, the work of the vocal organs which are the tools of creating the phonetic features building phones.

The following example illustrates the previous opinion. The child realizes alveolar phonemes in the form of interdental phones, which means that the dislocation has occurred with respect to the realization of the phonemes /l, r, sz, ż, cz, dż/ and in the case of the phoneme /r/, apart from interdentality, there is also a lack of vibration as there is laterality. During the therapy the speech pathologist teaches the child to set the tongue onto, so called, alveolar ridge, so he or she prepares the child for the achievement of the given phonetic feature – alveolarity, and then, asks the child to pronounce the phone with the proper setting of the tongue – in the alveolar form. Thus, the therapist does not elicit a phone, but a phonetic feature which is consistent with the normative realization of a phoneme which results in a normative phone. The child, in fact, realizes a phoneme but in its wrong form which we know from the dislocation, that is, interdentality. The example of the realization of the phoneme /l/ is characteristic. The presented pathomechanism demonstrates that the place of articulation is defected and the other phonetic categories are realized in the proper way, so there is no necessity to work on them (so the respiratory exercises or the exercises activating the oral cords are unnecessary unless the child has some specific disorders requiring such exercises), but our whole energy should be focused on the elimination of the reasons of the difficulties connected with the tongue; we should also take into consideration the biological functions if they are defected as well as teaching the child to raise the tongue towards the upper alveolar areas during the realization of the phoneme /l/. The effect of this procedure is the appearance of the normative phone.

What I want to say is associated with the problem whether it is necessary to perform the exercises of lips, tongue, palate and breathing exercises?, how long these exercises should be done? My experience shows that there is some minimum of the skills of the vocal organs that is sufficient for learning the given phone. These are threshold conditions. If the child sets the tongue in the vertical position in a proper way (the wide tongue in the oral cavity), we may work on the phone at once, for instance, [l] and it is not essential to prolong the time devoted to the exercises on the phone elicitation. However, if the child is not able to set the tongue in the specific way, for example, in a vertical-horizontal position, which is indispensible in the case of work on the phone [r], then, we have to help the child in it in different ways and lead the exercises until the tongue achieves the desirable setting of the organs, their position and ability. It is important to remember

about the exercises helping the child to achieve vibration. Then, the elicitation of the phone [r] will be easy. In addition, we should notice the fact that not all the children and adults accept the sound which is to be the realization of the phoneme /r/, which is achieved by means of [alveolar d]. Hence, we ought to apply various methods leading to the normative realization of the phoneme /r/ which is connected with vibration in the Polish language.

The systematic and time-consuming exercises of lips and tongue are indispensible when there are the disorders of the rest position of the tongue and swallowing but they are connected with a certain order: the simple exercises (achieving the position) – complex exercises (positional, sequential, with obstacles). These exercises should be repeated to improve the ability of the muscles in the light of the disorders of the physiological functions and of articulation which very often occur together. We may also note that in the case of many articulatory disorders, we often deal with not only low muscle ability but also with the improper position, limited mobility of the organs which create this pathomechanism of the speech disorders. Above all, the positional exercises are essential here before and after the elimination of the reasons of limited mobility.

The acceptance of the fact that the speech therapists elicits a phonetic feature or phonetic features is connected with the analytical-phonetic strategy used in the examination of speech. It, however, changes the approach towards teaching phones in a substantial way. It influences the strategies of the procedure which are used and goes beyond the improvement of the vocal organs (which is often done at random), as it indicates the purposeful preparation of the organs to take part in the given configuration, position and movement in the OFA structures, which is to result in the given phonetic, acoustic and auditory value. I suggest the introduction the purposeful preparation for the realization of the specific phonetic features which is defined by physiology and phonetics (from the birth – in the children in whom there is a risk of the disorder of the phonetic path) and I also suggest the different strategies facilitating or even eliciting the specific movements of the vocal organs leading to elicitation of the given phonetic features; **thus, instead of elicitation of phones - elicitation of phonetic features through elicitation of the specific movements of vocal organs**. Obviously, the effect of this procedure will be a normative phone. The issue in this form is to make young speech therapists aware of the meaning of strategic reasoning. One facilitates this procedure of phone elicitation. Simultaneously, the therapist should be ahead of the current therapy and at the same time design the tasks which are to prepare the child for the subsequent phones.

LEARNING PHONES AS *THE ACT BUILDING BLOCKS OR MODIFYING THE ARCHITECTURAL STRUCTURE*

In the book *Speech disorders in children with cleft palate. Research-Theory-Practice* I presented the catalogue of the main „constituent skills" which are necessary in order to produce normative (Pluta-Wojciechowska, 2006: 139-141). On the one hand, they do not deplete all possibilities and on the other hand, they are connected with one another. They may be called ***the abilities conducive to the achievement of the phonetic features of phones*** or even ***the phonetic abilities.***

The practical observation shows that speech pathologists often teach patients the particular skills at the very beginning, for instance, they teach them to lift the tongue, round up the lips, the oral air exhalation, and they streamline the palate. During the next stage, they try to combine these particular skills which is compared to building blocks and in this way, they gain the given phone. For example, in the case of [sz] the preparatory stage, according to different papers (not mine!), is based on the exercises of making the tongue vertical (it is good if these exercises concern the wide tongue in the oral cavity and do not refer to lifting the pointed tongue towards the nose – this movement is, as we know it, unnecessary), rounding the lips to the position of, so called, little snout and some lifting of the jaw bones and blowing. Putting together these skills is based on asking the child to *Lift the tongue to the upper alveolar area, do a little snout and blow* or *Lift the tongue, make a snout and say [sz].* The speech therapist sometimes uses a small stick to support the tongue. According to the authors of different papers, the strategy is to result in the normative phone [sz]. Unfortunately, we know that does not always happen or rather that it rarely happens. What is more, the 'snout', which was being taught, becomes an obstacle on the way to the proper position and work of the tongue in the case of the dentalized alveolar phones. It occurs that the child – instead of learning the normative phone – passes from one disorder to the other. Why?

We should observe that a phone appears to be a certain integrity which does not only mean location, modality, sonantence and resonance, in spite of the fact that during the examination of it we pay attention to these features. What is more, we describe nonnormative phones in an analytical way according to the model of the description of normative phones. We must, therefore, stress that the particular phonetic features constitute the new quality which is different than a sum of these skills. This may be the explanation of the failures in treating a sum of phonetic skills as an alternative of a phone, although this is not the only explanation of the difficulties which are observed.

The therapeutic treatment based on the metaphor connected with building blocks assumes the belief that by teaching the isolated elements of the activity constituting the target phones, the specific preparation is being carried out. It is

to result in "elicitation" of a normative phone through the principle "the sum of constituent skills". It sometimes happens. If, however, this strategy was always appropriate, it would be enough to create a peculiar algorithm for each phone whose application would guarantee success and the speech therapist would not have to know phonetics. The fact that summing up the skills is not always effective is supported by the speech therapy practice and the constant searching of the new methods of phone elicitation (Pluta-Wojciechowska, 2006: 139-141). The secret of quick learning of phones understood as the elicitation of phonetic feature or phonetic features is not the knowledge of the miraculous recipe, but it is the knowledge of phonetics, pathophonetics, physiology and receptive and productive mechanisms which condition the effective transfer from a scream to a phone in a word carrying meaning.

The difficulties in the application of the method based on summing up the skills (block building) during our work on a phone result from the well-known law that the articulation of phones means the coordinated functioning of the respiratory-phonatory-articulatory system as well as the higher levels of organization of the articulatory activity. Improper articulatory habits, the fixed motory-auditory-articulatory patterns, which are even stereotypes, also make it difficult for patients to cope with the task expressed by the speech therapist in the form: *Lift the tongue to the upper alveolar area, do a little snout and blow* or *Lift the tongue, make a snout and say [sz]*. Thus, when we talk about the preparation process or the elicitation of the specific phone, we should understand it not only as an exercise of the particular constituent elements but also as a certain gradual "sticking the learnt phonetic skills" adjusted to the child which implies the modification of certain integral parts. It means that ***building blocks*** should be based on the gradual joining/adding of the features, thus ***modifying the integral part - modification of the architectural structure.***

The modification of the architectural structure, that is, the manipulation of the existing functional integrities in the orofacial space is a different way of teaching phones or phone elicitation than *building blocks*. The former takes advantage of the child's strengths and gives some support to the patient. Its example may be the phone [t] while eliciting another phone. Thanks to the extraordinary properties of this sound, I called it a queen of consonants, which implies that its features are, in a sense, typical of the Polish phonetic system of proper consonants and they open the way – through the different transformations – to the other consonants (Pluta-Wojciechowska, 2006: 145). This short reconnaissance of the strategies of phone elicitation does not deplete the range of problems but it aims at signaling certain issues.

THE CONCLUSION

The superior objective of this article was to present the reflections connected with the elicitation of phones. The author's vision of the diagnosis and therapy of disorders in phone realization derive from her work with children who suffer from the anatomical-functional disorders within orofacial space. The author also uses this experience in the therapy of the speech disorders whose causes are different than the circumferential ones. This is supported by the fact that all children learn the same sounds and these sounds have the same phonetic features. The children, however, have different instruments, their different mobility, different receptive properties and brain functioning. That is why, in the case of every child the method of phone elicitation should be adopted to his or her present abilities which will facilitate their comparison with the threshold conditions necessary to elicit the given phone.

My afterthoughts are strictly connected with the experience which showed me that a phone is a group of phonetic features which should be not only presented to the child but also the children should be taught how to realize them or even should be helped in discovering them. The beginning of auto-imitating cooing is some activity, some movement in the orofacial space and discovery of the sound effect – it leads the child to the sound repetition on the basis of the circular reaction. Thus, sound production during cooing has some auditory-motor dimension. The natural path of phonetic development is a source of searching for directions of treatment in phone elicitation in all children who need such help.

In the face of the difficulties of my young and older patients which were connected with a short concentration span, difficulties with imitation, the disorders of muscle tension, bad habits, faulty positions, wrong configuration of vocal organs during eating, breathing, articulating, the inability to perform the simple activities (blowing, directing the air towards the front side of the tongue, snorting, etc.), I learnt modesty and I learnt to create some extraordinary methods of sound elicitation by transforming different orofacial activities. For many children I had to devise innovative and special methods. However, each day shows me that we have to deal with each child as a separate case and his difficulties should be treated individually, which means a constant searching process and devising unusual means of work designed ONLY FOR THAT CHILD. Hence, I have no conviction that I know any universal methods of phone elicitation, as there are no two identical children.

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