INTRODUCTION

Work on a development of speaking skill should be one of basic educational aims in a nursery group. It is important to practice articulation of all voices, wherever it is possible by using method of natural voices, just as it is important to use appropriate contents in the form of tongue twisters and counting rhymes, as an important content in the process of developing auditory perception of speech, therefore a proper articulation of voices in pre-school children. Insight and correction of speaking problems with the children of that age can easily be achieved by using tongue twisters and counting rhymes in the form of game, whereby active speech is developed, a child is tension relieved and learns gradually all elements of correct speaking skills. Tongue twisters and counting rhymes are oral literary creations that entertain and relax child’s spirit, and their text is suitable for discrimination of some voices and consonant’s groups. If they are planned and continuously processed in an educational group they may give significant results in a field of proper voice articulation developing, especially fricatives, affricates and nasals. This information was obtained on the basis of the research that was done in a middle pre-school group by planned drill of children’s articulation using the mentioned content.

Key words: Child, tongue twisters, counting rhymes, articulation, speech, pre-school age.

INTRODUCTION

Work on a development of speaking skill should be one of basic educational aims in a nursery group. It is important to practice articulation of all voices, wherever it is possible by using method of natural voices, just as it is important to use appropriate contents in the form of

The article was made on a base of the research that had been realized within master thesis Shorter literary forms and articulation of pre-school children, presented at the Faculty of Pedagogy in Vranje in 2017.

* Revisional scientific paper
language games. A teacher should teach a child to speak but also to listen, to notice individual distinctive features of mother language phonemes, to pay attention on a correct pronunciation. Not noticing these characteristics leads to incorrect articulation and later even wrong understanding of the words; this produces communication with environment of poor quality. To achieve active perception of proper voices pronunciation the inner motivation of the child is necessary which is hard to provide in this age. The speech is a social category so it is best learnt in active communication and interaction with other people. “A child has a basic need to make a contact and communicate with adults. Speech development mostly depends on quality of communication and interaction between a child and adults”, most often with parents, in the past first of all with a mother, “therefore, keeping in mind tight connection between speaking and thinking, overall mental development of a child,” (Vigotski, 1977). One of convenient ways for inner motivation of a child to pronounce voices properly is a game, more precisely a language game which is defined as “thought and spiritual witticism of an individual based on sound and meaningful contrasts and similarities, and it is in the base of short literary forms” (Lexicon of educational terms, 2014: 289). Within these games a special place is taken by short folk proverbs, to be precise tongue twisters and counting rhymes which are a strong incentive for words’ games so they contribute to proper articulation significantly.

Precondition for proper pronunciation of voices is ability to discriminate voices. European data show that in average 25% of pre-school children have smaller or bigger speaking disorders, half of them easier, a quarter medium or more difficult disorders (Heinemann, Velički toward Šimić, 2015: 44). Chepishevska and Trajkovski (2012) discovered, by researching voice pronunciation, variations of articulation disorders and most often deviations of 4 to 6-year-old children, that at the age of 4 sigmatism appears in 28.76% of cases (more often with girls), and rhotacism in 23.29% of cases.

Using Global articulation test by an author Dj. Kostić and S. Vladisavljević, Tasić (2012) has researched frequency and types of articulation disorders in children who were just about to start school. Results show that in the population of boys articulation disorders registered in 43% of cases (distortion is present in 20%, disorders in pronouncing fricatives, affricates and laterals in 80% with preponderance fricatives and bad pronunciation of voices l, č, š, t, s and z ). In population of girls, articulation disorders are present in 35%, voice disorders of fricatives and affricates, pronunciation disorders of č, š, s, c, z and l dominate with preponderance of distortion.

A child articulation disorders lower number of voices that is used in speech, so they also lower comprehensibility of speech, which can have serious consequences on overall development of an individual. Speech-lingual disorders imply “the absence or lack of ability to understand or produce language or communicational content” (Lexicon of educational terms, 2014: 119). Articulation disorders “manifest during the time of speech development as inability to form and pronounce some voices causing them to be totally omitted from words or replaced by those voices that are already available to a child, that have acoustic similarity with voices that should be pronounced…” (Pedagogical Encyclopedia 1, 1989: 33). Incorrect use of one phoneme indicates as an articulation deviation. Inaccuracies are shown “as inaccurate work of speech organs and inadequate direction of air currents during the pronunciation of critical voices. The most often are: s, z, c, š, č, dž, č, d, r, l and lj, since their pronunciation requires developed skill and clarity of aural performance about their acoustic characteristics”… (Pedagogical Encyclopedia 1, 1989: 33).

The children’s speech in the earliest period shows three characteristic deviations: substitution, distortion and omission. Of all speech deviations, substitution is the most often examined. The voices are usually substituted – replaced by phonemic similarity. According to the
way of formation a group of voices that are most often substituted are those that have the most complicated way of formation: laterals, then affricates, nasals, fricatives and plosives. As regards a position of the voice in a word, the substitution is occurred the least in initial, then medial, and the most in a final position. In all vocal groups, except in the group of affricates, frequency declines with the age.

Distortions are articulation deviations which frequency rises with the age. They signify voice which is nearest, according to its acoustic image, to the wanted voice but still it’s not the standard voice. Many children, during their articulation development, dwell on this way of vocal articulation. They never reach perfection in correct pronunciation of that voice. The highest percent of distortion frequency is in a group of fricatives, then vocals and at the end plosives, laterals, affricates and at the end nasals. While in all vocal groups the percent of distortion frequency rises with the age, in a group of affricates it declines.

The fact that parallel work on the development of speech and musical education supports speaking ability of a child in the best way, starting from height, strength, through melody, rhythms, dynamics of speech, to the eliminating speech disorders (Matić, 1980), led us to research the possibility of using tongue twisters and counting rhymes with the aim of proper vocal articulation with the pre-school children.

THEORETICAL APPROACH TO THE PROBLEM

Articulation represents “producing consonant voices by changing air current using movements of tongue, lips and soft palate; forming words in this way, producing speech voices; pronunciation” (Stevanović, 1972). By using articulation “we don’t mark only movements of some organs and the voice, which is formed by modification of air current from lungs and larynx, but also acoustic impression, respectively perspicuity of speech voices” (Vasić, 1971: 6). These are (ling.) “movements and position of speech organs during pronunciation of some voices, formation of sounds”, but also “distinct and clear pronunciation of words” (Serbo-Croatian dictionary of literary language 1967: 99). To articulate means “phonation clear, distinctive pronunciation of words, voices and syllables” (Serbo-Croatian dictionary of literary language 1967: 147).

A child obtains a total articulation when he or she is around eight year old, although at that age you can meet incorrect pronunciation of some voices. Development of articulation is a continuous process. So far researches showed that, when it comes to articulation, even in the youngest age, during one year the noticeable changes don’t happen but they become noticeable and significant during years. “The pace of articulation development is different in different ages. It’s quite equal till the fifth year, very slow between fifth and sixth and reinforced after the sixth year.”(Vasić towards Kostić, 2004: 16). Every child develops in his or her own pace. The speed of going through certain phase is individual, just as the duration of the phase.

The order of vowels appearance and first consonants and their combination is similar within all the authors. According to M. Pavlović, the most difficult are noisy and complex voices: š, ž, č, ď, č, dž, as well as the voice r which stabilizes rather late, especially if it’s at the beginning of the syllable. “For a three-year-old child, the most difficult groups of voices to pronounce are laterals, then affricatives and fricatives.” (Vasić, 1971: 28). For proper formation of fricatives (f, v, s, z, š, ž, h, r, j) longer air streaming is necessary throughout different gorges, which are formed during their articulation. Penetrating through the gorge air current produces friction making characteristic noise of fricatives. “This way of producing voices is harder than the other ways and
that is one of the reasons that more mistakes are made in articulation of these voices. “(Vasić, 1971: 29).

The developing order of a voice adoption isn’t noticed only in an order of a voice adopting according to the place of formation, but also to the place of appearing of some voices in the words. Firstly, the proper pronunciation of the voices at the beginning is adopted, then in the middle and the last, at the end of the word. Nature and range of children’s acoustic memory just as possibility of acoustic analysis and synthesis condition this phenomenon. “Distinctive features are also adopted by a certain order” (Milatović, 2009: 162).

Observation of proper pronunciation, the exact sound image of voices and evaluation of proper pronunciation precede the correct articulation. When it comes to the weight of articulation of some voices and groups of voices, the order remains the same at the beginning of learning, in a period of stabilization of habits articulation and in the time of mature articulation. Incorrect pronunciation at all ages appears, the most often, with laterals, affricates and fricatives.

Smiljka Vasić (1971) states that by the end of the third year a child has already reached 75% mature of articulation. It has been determined that boys adopt voices of mother language a little bit earlier than girls. In their case the ability of imitation is lost earlier and they sooner automate formed articulation habits. The developing order of adopting voices is same for boys and girls. The differences are not statistically important.

All researches of child’s speech development show that except a good genetic code and proper model, the correct development of speech depends of the number of incentives that a child gets during the days, months, years of its development...“A child learns to speak in an environment which surrounds it“ (Lewis towards Kostić, 2004: 21).

Articulation should be developed in following order: vocals, plosives, nasals, fricatives, affricates and at the end laterals. As a means to correct articulation in this period speech i.e. a language game is recommended.

“It is necessary to practice voices through songs, stories, tongue twisters, counting rhymes and in organized and planned conversations, not individual“(Matić, 1980: 13). That kind of conversations may be applied in a relation child-teacher, child-child and child-group, by using a method of game as a basic form of activity in speech correction.

Folk literature is abundant of models that will help a child to learn to speak intelligibly, clearly, easily and expressively. Gifted folk singer knew for critical voices in a speaking development, so he gave them a special attention through tongue twisters and counting rhymes. “Our folk singers had a great roll as phoneticians, so they transferred their experience on the whole generations by using oral folk lyrics. “ (Vasić toward Kostić, 2004: 26).

Short literary forms include those literary forms that originally belong to folk literature. When it comes to genre interests of pre-school children, from the early stage they are interested in, known in Serbian as: tašunaljke, uspavanke, redalice, brzalice, razbrajalice, zagonetke, rugalice. A pre-school child listens gladly the short oral forms while it enjoys in melody, rhythm, memorizes and reproduces especially comic elements.

Tašunaljke are clapping games that are sung to a child while it is sitting in someone’s lap. The person, who holds the kid in the lap, also holds the child’s hands and claps, following it by a rhyme; Uspavanke=lullabies; Redalice are such kind of children’s speech games in the context of oral literature, which are based on cumulation, which occurs in the form of linking and multiple repetition of the same elements that form the story; the subject of the story is unimportant, but with the accumulation process, it gets hyperbolized dimensions, which is why it dominates a humorous effect; Brzalice=tongue twisters; Razbrajalice=counting-out games; Zagonetke=riddles. Rugalice are children’s songs in which children or some natural phenomena are exposed to a mild subtle mockery. They are not wicked and discover the naive criticality of the child, but also the first, the truth painless, crash with life.
A period between the 4th and 5th age of life represents a golden age of tongue twisters. We find there more complex forms of speech. Since they don’t have textual content and message, their value is right on melody and rhythm that initiates emotional experience of a game in a child. Counting rhymes represent verse listing of words and that way they encourage pronunciation of voices, both comprehensible and incomprehensible words (more with Stojanović, 2015: 45-46). They consist of random, mostly incomprehensible words – nonsense. By using alliteration, assonance and rhymes voiced effects of counting rhymes are intensified. The important thing in them is rhythm of the syllables that are pronounced chanting and that’s the way children memorize them easily, without thinking of their meaning. With the younger children it is desirable to do counting rhymes where words don’t have particular meaning, Manasterioti (1978) highlights, the children of older ages prefer counting rhymes with content, especially funny one. It’s the best to do counting rhyme with a use of illustrations. They encourage them on speaking activity, release children’s speech, motivate, enrich children’s vocabulary, contribute to proper pronunciation of some voices (č, ć, d, đ, ž, dž, r, š), they reduce speaking disorders, develop diction, accent, intonation. For example, counting rhymes in Serbian Киша и мрав: in English Rain and ant:

Киша пала на травицу, Rain fell on the grass which is small,
Мрав се скрио под гљивицу. An ant hid the little mushroom below.
Поручује киши мрав: The ant says to the rain:
„Падај кишо сваки дан, “Fall rain every day,
купио сам кишобран”; I bought an umbrella to hide away”

It is suitable for practice correct pronunciation of voices from the group of fricatives (š, r, v and s), plosives (p, k), laterals (lj) and nasals (m).

Tongue twisters are special word games where voices and vocal groups which are difficult to pronounce dominate. They are “a suitable means for practicing hearing, for overcoming rhythmical obstacles and get a tongue around the word “. They represent an aspect of children’s game and children’s language folklore. “Those are the games of words and sounds, associations in which voice repetition has a role of memorizing development, respectively they are used for pronouncing listing words without a mistake” (Ognjenović towards Matić, 1990: 54). By playing the game children try to repeat them without a mistake so that way they sharpen their ability of observation. The game consists of children giving each other certain phrases that they should pronounce quickly and correctly, even several times (usually three times). That is a special game word where “voices and vocal groups that are hard to pronounce dominate. They can be used as articulation - logopedic exercises” (Stojanović 2015: 45). Unusually difficult to pronounce word order, voices and syllables and sound similarity lead to mistakes in pronunciation, and often to comical situations. They are based on frequent use of assonance and alterations (more in Stojanović, 2015: 45-46).

For teaching and practice of tongue twisters, so called dice – tongue twister is often used in a kindergarten, where each of the side is illustrated by one. At the bottom of the picture you can mark as many dots as many times a child should repeat the tongue twister.
“Speech complex of these forms can be used by parents and teachers in phases of children’s vocal proper pronunciation automation and differentiation” (Herljević, Posokhova toward Šimić, 2015). Thereby you should know that it’s not only to form proper articulation of a voice but it’s also necessary automate it on a special chosen spoken material where a new voice often shows in different positions as it is the case with tongue twisters. Having in mind a value of short folk wisdoms, first of all tongue twisters and counting rhymes, as well as an importance of a good prevention of removing noticed speech disorders, it is important to check their effectiveness empirically.

**METHODOLOGICAL FRAME OF RESEARCH**

Within this research we have dealt with a problem of pre-school children's vocal articulation, more precisely we researched their articulation status and determined an effect which contents, such as short literary forms (tounge twisters and counting rhymes) used through games, can have on the development of articulation abilities. In two medium educational groups of the kindergarten *Slavuj PU Pčelica* in Niš from the beginning of a school year 2016/17. programmed drill articulation of voices was realized. Except predicted speaking, dramatic, phonological and lexical games and texts of children’s literature, special attention was given to tongue twisters and counting rhymes. We were interested if the use of additional, continued drill program of vocal articulation through the use of these literary forms would contribute articulation ability of children.

*The aim of research* was to determine the frequency and types of deviations before and after the use of additional drill program by using tongue twisters and counting rhymes. One of the *tasks* was to determine if there are statistically important differences between results of initial and final measurements in children’s articulation. The starting point was hypothesis that statistically important differences exist in articulation abilities of children before and after the use of additional drill program, i.e. articulation status of children is improved by using the additional drill treatment.

Appropriate sample was made of two medium educational groups which consisted of 60 children born in 2012/13. (age 4 to 5), 35 boys and 25 girls out of it. The research started in September 2016. when the initial measurement was done, and finished in June 2017. with final measurement. Testing articulation status of children was done by using the articulation test made by author Smiljka Vasić, which is still in use because of its simplicity. The test consists of object pictures which in their vocal composition have certain voice at the beginning, in the middle and
at the end of a word. The research of these abilities was realized through individual work with children.

For processing of data the suitable program package was used. The results were arranged by calculating the arithmetical middle (M), standard deviation (SD), standard error difference between arithmetical middle (SE), T-test, as well as estimation (P) and proportion (p).

**ANALYSIS AND DISCUSSION OF RESULTS**

During determination of the initial condition in a middle educational group they came up to the conclusion that the majority of children of this age wrongly articulate voices: č, đž, ž, r, s, c, lj, š, z, d. Except daily speaking activities the children were offered a bigger number of shorter folk wisdoms, primarily counting rhymes and tongue twisters, so they could improve vocal status and develop listening concentration. In practical work with children we did following counting rhymes and tongue twisters:

a) **tongue twisters:**

- *Mouse goes up the rifle (pear tree), mouse goes down the rifle (pear tree)* - Миш уз н(кр)ушику, миш низ п(кр)ушику - for development of vocal articulation: fricatives (š and z), nasals (m and n), plosives (k) and vowels (i and u);
- *On the top of the hill the willow wiggles* - На врх брда врба мрда – for development of articulation vocals from the group of fricatives за (r and v), plosives (b and d) and nasals (m and n);
- *Four jackdaws squatting on the little shuttle peep* - Четири чавчића чучећи на чуччићу пчјучу - for development of vocal articulation of voices from the group of affricates (c, Ć and Ć);
- *Red blood from the heart spurt* - Црвена крвца из срца врца – for development of vocal articulation from the group of affricates (c, Ć and Ć);
- *Every magpie jumps in two steps* - for development of vocal articulation from the group of plosives (k) and fricatives (s and r);
- *Sleeper sleeps in the nightgown and pupil in a sack* - Спавачица спава у спавачици а ћак у маку – for development of vocal articulation from the group of fricatives (s and v) and affricates (č, Ć and đž).

b) **counting rhymes:**

- *One crow cawed* - Једна врана гакала - for practicing correct articulation of plosives (d and p) laterals (l), fricatives (r) and nasals (n);
- *Swallow* - Ластавица - for development of vocal articulation from the group of laterals (l) and fricatives (s and r);
- *En Den Dino* - Ен, ден, дино - for development of vocal articulation from the group of plosives (d and k), nasals (m and n) and fricatives (r and f);
- *Little snail, little snail* - Пухчићу, пухчићу - for development of vocal articulation from the group of plosives (p), fricatives (ž and r) and affricates (č);
- *A clock* - Cam - for development of vocal articulation from the group of plosives (t and k), than vocals, affricates (c), fricatives (s) and nasals (m and nj).
- **The Sea – Mope** - for development of vocal articulation from the group of nasals (m and n), plosives (p) and fricatives (r);
- **Enci, menci - Енци, менци** - for development of vocal articulation ъ and ы, as carriers of groups of affricates and nasals: m, n and nj;
- **Rain and ant - Киша и мрав** - for practicing correct articulation of fricatives (š, r, v and s), plosives (p, k), laterals (lj) and nasals (m);
- **Rain – Киша** - for development of vocal articulation from the group plosives (p, t, k, b), fricatives (š and r), as well as for practicing articulation and auditory discrimination of vocals.

In positive and relaxed atmosphere, children were released of fear to perform in front of a group or public speech, fortify their confidence and group cohesion. During performing of counting rhymes we took care of:

- introduction children into counting rhymes processing through motivation exercises of auditory attention;
- compatibility of rhythmic measures of counting rhymes with the children’s age and abilities;
- counting rhyme’s content which should be educational or nonsensical character, inwrought with humor and repeating of voices that are problematic at this age;
- introduction of musical means – instruments in processing counting rhymes, since the rhythm is, except for music, also important characteristic of a good speech;
- providing obvious means such as rhythmical pictures that make memorizing and understanding of text’s content easier to the children;
- correlation with physical education during performance of counting rhymes.

In work on performance of counting rhymes we began with following requirements:

- that children repeat counting rhymes without any mistakes how many times it’s possible, at the beginning in a slow pace, and during fortification to three times in a moderate pace;
- that voices and vocal groups that are often problematic for children to pronounce dominate in them;
- that the activity itself is based on a competitive game;
- that for processing we use obvious means such as pictures and dice-counting rhymes, in order to children do auditory discrimination and properly pronounce voices from visual through plan relating to thinking, thus to adopt new words and widen vocabulary,
- that phases of automation and differentiation are turned into something what a child accepts, loves and has a good fun with, while at the same time it`s not aware of doing a painstaking job of improving the articulation of voices,
- to encourage children to creative narration – making new counting rhymes.

Through practical work with children of medium educational groups it was shown that by using these articulation exercises with the help of short literary forms and fulfilling mentioned requirements we achieve better discrimination and articulation of the voices, and children are more motivated for further work.
Analyzing final state on the articulation test we can conclude that the range of voices, which children properly pronounce, is bigger, especially in a group of fricatives, which you can see in the table 1 and from the graphic 1 that follow.

**Table no. 1: The range of voices, especially fricatives, which children pronounce at the beginning and final measuring of articulation in initial, medial and final position in a word.**

<table>
<thead>
<tr>
<th>Voice rank</th>
<th>The beginning state of voice in all three positions in a word</th>
<th>The final state of voice in all three positions in a word</th>
<th>The difference at the beginning and final measurement of articulation f%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>i</td>
<td>m</td>
<td>f</td>
</tr>
<tr>
<td>NJ 6</td>
<td>58 (96)</td>
<td>59 (98)</td>
<td>57 (95)</td>
</tr>
<tr>
<td>L 9</td>
<td>56 (93)</td>
<td>57 (95)</td>
<td>57 (95)</td>
</tr>
<tr>
<td>LJ 8</td>
<td>55 (91.7)</td>
<td>55 (91.7)</td>
<td>54 (90)</td>
</tr>
<tr>
<td>C 11</td>
<td>55 (9.7)</td>
<td>56 (93)</td>
<td>57 (95)</td>
</tr>
<tr>
<td>C 13</td>
<td>58 (96)</td>
<td>58 (96)</td>
<td>57 (95)</td>
</tr>
<tr>
<td>D 10</td>
<td>55 (91.7)</td>
<td>56 (93)</td>
<td>53 (88)</td>
</tr>
<tr>
<td>C 3</td>
<td>47 (.7,3)</td>
<td>47 (.7,3)</td>
<td>43 (71.7)</td>
</tr>
<tr>
<td>D – Z 7</td>
<td>51 (85)</td>
<td>47 (78.3)</td>
<td>44 (73.3)</td>
</tr>
<tr>
<td>Z 2</td>
<td>55 (91.7)</td>
<td>56 (93)</td>
<td>56 (93)</td>
</tr>
<tr>
<td>S 5</td>
<td>55 (91.7)</td>
<td>54 (90)</td>
<td>53 (88)</td>
</tr>
<tr>
<td>Z 4</td>
<td>52 (86.7)</td>
<td>52 (86.7)</td>
<td>49 (81.7)</td>
</tr>
<tr>
<td>R 12</td>
<td>55 (91.7)</td>
<td>53 (88)</td>
<td>55 (91.7)</td>
</tr>
<tr>
<td>C 1</td>
<td>54 (90)</td>
<td>54 (90)</td>
<td>54 (90)</td>
</tr>
</tbody>
</table>

*i- initial position
m- medial
f- final position

Out of obtained data, which are given in the table 1, we can conclude that vocal articulation, comparing to initial measurement, significantly improved with following voices:

- at voice ęż, which pronunciation improved for total 28% (10% in initial, 10% in medial and 8% in final position in a word);
- voice ẓ, which pronunciation is better for total 16.3% (6.3% in initial, 5% in medial and 5% in final position in a word);
- voice ĺ, which pronunciation is improved for total 15% (out of which 3.4% in initial, 5% in medial and 6.6% in final position in a word);
By analyzing and interpreting of obtained results we can conclude that additional training program which includes frequent use of tongue twisters and counting rhymes in everyday work with children significantly contributes better pronunciation of voices from the group of fricatives (graphic 1).

Graphic no. 1: Development of vocal articulation after additional training program

It comes out of obtained data that the range of voices, that children pronounce properly, increased – especially voices from the group of fricatives (s, z, ŷ...), then affricates (č, dž, c and đ), nasals (nj), and at the end laterals (lj and l). The biggest rise of articulation score voice s recorded. After analyzing and interpreting presented data we can conclude that the use of articulation exercises of tongue twisters and counting rhymes in everyday work gave expected
results and significantly improved articulation status of children from the medium educational
group. That can be seen in the table 2 which follows.

**Table no. 2 Research results of improving children`s articulation status**

<table>
<thead>
<tr>
<th>group</th>
<th>testing</th>
<th>N</th>
<th>M (AS)</th>
<th>SD</th>
<th>t test</th>
<th>df</th>
<th>N-1</th>
<th>Level of importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (i)</td>
<td>initial</td>
<td>60</td>
<td>66.37</td>
<td>7.149651</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A (f)</td>
<td>final</td>
<td>60</td>
<td>6.35</td>
<td>6.76187</td>
<td>12.4049</td>
<td>59</td>
<td>2.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

The difference between medium values realized on initial and final measurement is 1.98
points in favor of the final measurement and statistically is important because the value of t-test
(t=12.4049) is higher, on a level of importance, from limit values (2.01 and 2.68), p<0.01, with
59 degrees of freedom. Therefore, the obtained data are results of experimental factor in groups
operation where teachers used program of articulation training by using tongue twisters and
counting rhymes which positively affected on a development of children`s vocal proper
pronunciation. According to determined results (table 1) we can say that children significantly
improved comparing to the initial results.

**Graphic no.2 Difference between arithmetic means results of initial and final
measurement on the articulation test**

During the work with pre-school children teachers often meet deviations in pronouncing
of some voices which is confirmed by data obtained in this research. It is determined that there is
statistically important difference in articulation abilities of children after using additional training
treatment of tongue twisters and counting rhymes use, which confirmed determined hypothesis.
Therefore, tongue twisters and counting rhymes, to a large degree, contribute to the quality of
pre-school children`s articulation which is of great importance for their speaking development,
but also for the quality of communication and success in later education, especially while
learning reading in the first grade.
CONCLUSION

Pre-school period represent the most turbulent period in entire development of a child’s personality. Speech development as a precondition of intellectual, emotional, moral and every other one deserves special attention. Preconditions of smooth speaking development are good articulation and distinct speech. With a good speech role model and positive incentives in the environment it comes to the proper vocal articulation. Good and bad articulation habits in vocal pronunciation acquired in a pre-school period remain for the rest of life and it’s hard to correct them later. That’s why it’s necessary to define levels of a child’s articulation and speaking development in time, perceive positive and negative facts that influence on articulation and choose the contents so the proper work on a speech development is enabled. Researches show that speech disorders of pre-school children are more often. Those deviations are especially explicit in pronouncing of some voices, which can be disturbance of a later communication quality.

Within this research we have dealt with the problem of pre-school children’s vocal articulation, to be more precise we researched their articulation status in determining effect which contents can have on a development of articulation abilities, such as short literary forms (tongue twisters and counting rhymes) used through game. In pleasant to children and relaxed working atmosphere, use of proper teaching resources, good choice and adequate methodological realization of mentioned contents we tried the phonation to be soft, and child to speak peacefully and steadily but also precisely.

By analyzing obtained data statistically important difference between results of initial and final measurement was determined, based on what we conclude that achievements on a final measurement are statistically significantly better comparing to initial measurement, thanks to continuing training by using tongue twisters and counting rhymes in a work with the children. We remind that many authors point out that improvement of articulation in a short period, even during one year (how long our research took place) is slightly, which in our case confirms that selected tongues twisters and counting rhymes significantly contributed this improvement. The results of research\(^3\) show that processing of short literary forms (tongue twisters, counting rhymes, riddles, clapping games, action songs, lullabies…) in medium pre-school groups can significantly improve articulation abilities of children.

Further researches could be done on a bigger sample, using newer articulation tests and contemporary teaching technology which would help a teacher to achieve bigger productivity in work on a development of children’s speech and that would contribute significantly to proper articulation but also well-timed diagnosing and removal of possible pre-school children’s speech deviations.

LITERATURE


\(^3\) See more in Mitić, T.: Shorter literary forms and articulation of a pre-school child, master thesis uphold on Pedagogical University in Vranje 2017. mentoring by prof. Dr. B. Stojanović, Vranje, Library of Pedagogical University in Vranje.
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