

THE ABILITY TO PERCEIVE INITIAL AND FINAL SOUNDS IN A WORD

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Abstract Teachers test the students' ability to perceive initial and final sounds at the beginning of the first grade. They use the findings to create differentiation and individualization in promoting phonological awareness, as individual levels of phonological awareness develops in a specific set. This development does not proceed as quickly with all pupils. They first perceive syllables in words, then the initial sound, followed by the final sound, and, lastly, they develop the ability to divide words into sounds. It is important that teachers carefully plan exercises for the development of phonological awareness, since the reading and writing success depend on successful development of phonological awareness abilities. The focus of this research was on possible differences in the ability to perceive phonological awareness among first grade students led. The study involved two comparable groups of pupils, with a large difference in the ability to perceive initial and final sounds. The results show that the ability to perceive final sounds is approximately equal in both groups, compared to the perception of initial sounds.

Keywords:

initial sound, final sound, first grade, gender, literacy.



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Introduction

Systematic literacy in the first grade is influenced by many factors. These include the perceptual abilities that pupils already develop in their preschool years. This period represents the most intense development of perceived abilities. One of the most important perceived abilities is auditory perception, which includes auditory discernment and auditory parsing. Levels of phonological awareness evolve from less demanding to more demanding in the following order: rhymes, sentence divisions, split/merge of syllables, split/merge of beginnings and endings (including initial and final sounds), and split/merge of individual sounds (Chard & Dickson, 1999).

Research has shown the beneficial impact of promoting phonological awareness in preschool years on the development of the aforementioned ability (Ball & Blachman, 1991; McGee & Ukrainetz, 2009; Rohl, 2000; Strickland, 2011; Venn & Jahn, 2004). The perception of phonological awareness is significantly influenced by frequent exercises which should be diverse and interesting. Teachers should encourage pupils' phonological perceptions before literacy and during systematic literacy, as this is beneficial for pupils. It should be emphasized that pupils need a lot of exercise and training experience in perceiving phonological awareness (Ball & Blachman, 1991; Rohl, 2000; Ropič, 2014, 2016, 2017; Strickland, 2011).

At the beginning of the first grade, teachers accelerate the perception of the initial sound in a word and slightly later, the final sound in a word. Pupils who correctly perceive the initial and the final sound in a word are spelling the words. In regard to perceiving initial and final sounds in a word, some research considers that students are most successful when that sound is a consonant (Ashby et al., 2013). There is no similar research in Slovenia.

It cannot be ignored that some research links the success of perceiving initial and final sounds with word length. Pupils are supposed to be more successful in non-syllabic or monosyllabic words. The difficulty in perceiving the initial and final sounds is enhanced by the choice of longer or multi-syllabic words (Levin, 2007).

The research does not correlate the ability to perceive initial and final sounds in a word with gender. In some screening cases, girls are more successful, in others, boys -sometimes, they even achieve the same averages. Research findings pointed out that differences between boys and girls in their ability to perceive initial sounds in a word and on other levels of phonological awareness were statistically insignificant (Bider Petelin, 2014; Božič et al., 2007).

Method

As research has shown various influences on the development of phonological awareness of children in kindergarten and differently developed phonological awareness of students entering the first grade, I decided to carry out a study examining the ability to perceive the initial and final sounds in words of first grade pupils. 192 pupils were examined individually and divided into two basic groups. The first group included 98 pupils and was named "G1". Typical for this group is that before entering elementary school, these pupils had fewer exercises of phonological awareness and came from a less stimulating environment. The second group contained of 94 pupils and was named "G2". These mostly came from a stimulating environment and from kindergartens where phonological awareness was present.

The research also focused on whether there was a difference between pupils according to gender (boys, girls) in their ability to perceive initial and final sounds.

The study covers two levels of phonological awareness; the first level examines the perception of the initial sound in a word and the second the perception of the final sound in a word. Each set contained sixteen frames. Each pupil named a single frame and named the initial sound of that frame. In the second set, pupils first observed all the frames to get the naming without the diminutives, as that would change the final sound in the word. Pupils then named the final sound in the word of each frame.

In the study, a descriptive and causal non-experimental method of empirical research was used. The obtained data were processed with the SPSS program. To analyze the differences between the groups, a t-test was used to get independent samples in the total number of correctly perceived initial and final sounds in words. The χ^2 -test was

used because I was interested in the differences between pupils -whether there was a connection, and what the frequencies were in the ability to perceive initial and final sounds at the level of a single word.

To analyze differences between students according to gender (boys, girls) in the perception of initial and final sounds in a word, a t-test for independent samples was used. I was also interested in the differences that occurred between pupils in terms of gender at the level of the chosen sixteen cases in the perception of the initial sound in a word and sixteen cases in the perception of the final sound in a word. For the purpose of the latter, the χ^2 -test was used.

Results

Table 1: Results of the t-test among pupils of groups G1 and G2 in ability to perceive initial sounds.

Group	<i>N</i>	\bar{x}	<i>s</i>	<i>F</i>	<i>p</i>	<i>t</i>	<i>p</i>
G 1	98	11.39	4.873	9.134	.000	-3.552	.000
G 2	94	13.60	3.620				

Table 1 shows the differences between the two groups at the beginning of first grade in pupils' ability to perceive the initial sound in a word. The difference is statistically significant ($p = .000$). Pupils of the G2 group perceived on average 13.60 initial sounds per word out of the 16 possible and were therefore more successful than their peers in G1 who perceived an average of 11.39 initial sounds in a word out of the 16 possible. The standard deviation indicated a greater range in the ability to perceive initial sounds among pupils in G1, which means that in this group a greater number of pupils was unable to perceive initial sounds and that there were large differences in the aforementioned ability. Results show that pupils' previous knowledge in the perception of initial sounds in G2 is higher, as they have been earlier and more frequently stimulated in promoting phonological awareness.

Comparing research in the ability of perceiving initial sounds in a word of first grade pupils with that of children in the preschool period just before first grade (June) shows that there is no statistically significant difference in the ability to perceive initial sounds among preschool children, but there is a tendency in the difference in favor of those children whose perception of initial sounds was stimulated early, in

kindergarten; these children were exposed to phonological awareness exercises for a longer time (Ropič, 2017). The positive impact of systematic exercises to promote the perception of the initial sound is also emphasized by other authors (Mesmer & Griffith, 2005; Ropič, 2016; Strickland, 2011).

Promoting phonological awareness during preschool and in early years of primary school has an impact on successful development of phonological awareness (Ball & Blachman, 1991; Cardoso-Martins et al., 2010).

Table 2: Results of the t-test among pupils of groups G1 and G2 in ability to perceive final sounds.

Group	<i>N</i>	\bar{x}	<i>s</i>	<i>F</i>	<i>p</i>	<i>t</i>	<i>p</i>
G 1	98	7.07	5.449	0.000	.987	-2.464	.015
G 2	94	9.03	5.572				

Upon comparing the obtained results with the results of similar research of preschool children just before attending the first grade, the findings highlight that both studies show a statistically significant difference between the two groups. More successful were those who were more stimulated to promote phonological awareness or have previously started performing exercises to develop phonological awareness, which is highlighted in the following research as well (Graaff et al., 2007).

The ability to perceive final sounds in a word, compared to perceiving initial sounds in a word, presents a more challenging activity or level of phonological awareness. A child develops those levels gradually and slowly, requiring the educator/teacher to properly plan work and integrate differentiation through individualization.

Table 3. Results of the χ^2 -test between the two groups of children in the perception of the initial sound.

Initial sound	No. of child	Group 1		Group 2		Total		Result of χ^2 -test
		Points		Points				
		0	1	0	1	0	1	$\chi^2 p$
i	f	28	70	16	78	44	148	$\chi^2 = 3.623 \quad p = .057$
	f %	28.6	71.4	17.0	83.0	22.9	77.1	
m	f	25	73	5	89	30	162	$\chi^2 = 14.837 \quad p = .000$
	f %	25.5	74.5	5.3	94.7	15.6	84.4	
j	f	45	53	26	68	71	121	$\chi^2 = 6.864 \quad p = .009$
	f %	45.9	54.1	27.3	72.3	37.0	63.0	
e	f	31	67	14	80	45	147	$\chi^2 = 7.492 \quad p = .006$
	f %	31.6	68.4	14.9	85.1	23.4	76.6	
v	f	31	67	17	77	48	144	$\chi^2 = 4.696 \quad p = .030$
	f %	31.6	68.4	18.1	81.9	25.0	75.0	
k	f	21	77	13	81	34	158	$\chi^2 = 1.901 \quad p = .168$
	f %	21.4	78.6	13.8	86.2	17.7	82.3	
u	f	17	81	12	82	29	163	$\chi^2 = 0.785 \quad p = .376$
	f %	17.3	82.7	12.8	87.2	15.1	84.9	
d	f	23	75	9	85	32	160	$\chi^2 = 6.670 \quad p = .010$
	f %	23.5	76.5	9.6	90.4	16.7	83.3	
c	f	29	69	16	78	45	147	$\chi^2 = 4.225 \quad p = .040$
	f %	29.6	70.4	17.0	83.0	23.4	76.6	
r	f	22	76	7	87	29	163	$\chi^2 = 8.421 \quad p = .004$
	f %	22.4	77.6	7.4	92.6	15.1	84.9	
š	f	34	64	15	79	49	143	$\chi^2 = 8.861 \quad p = .003$
	f %	34.7	65.3	16.0	84.0	25.5	74.5	
p	f	21	77	4	90	25	167	$\chi^2 = 12.494 \quad p = .000$
	f %	21.4	78.6	4.3	95.7	13.0	87.0	
h	f	29	69	9	85	38	154	$\chi^2 = 12.111 \quad p = .001$
	f %	29.6	70.4	9.6	90.4	19.8	80.2	
g	f	28	70	17	77	45	147	$\chi^2 = 2.940 \quad p = .086$
	f %	28.6	71.4	18.1	81.9	23.4	76.6	
ž	f	18	80	11	83	29	163	$\chi^2 = 1.662 \quad p = .197$
	f %	18.4	81.6	11.7	88.3	15.1	84.9	
f	f	47	51	24	69	71	120	$\chi^2 = 9.343 \quad p = .002$
	f %	48.0	52	25.8	74.2	37.2	62.8	

Table 3 shows a statistically significant difference ($p = .000$) in the ability to perceive initial sounds in a word with an initial sound “m” and an initial sound “p”. In G1, a quarter of pupils did not perceive the initial sound “m”, while in G2, they perceived that initial sound in 94.7 %. The initial sound “p” also caused problems for pupils in G1 in 21.4 %, while in G2 only 4.3 % of pupils did not perceive it. A statistically significant difference between the groups shows in the perception of the initial sound “h”. Almost 30 % of pupils in G1 did not detect the initial voice “h”, and

only 9.6 % had difficulty perceiving it, including the pupils of G2. A significant difference ($p = .002$) between the groups also occurred when the initial sound “P” is perceived. In G1 only 52 % perceived this sound, and 74.2 % in G2. A statistically significant difference ($p = .003$) in the ability to perceive the initial sound “š” should be noted as well -in G2 84 % and in G1 only 65.3 %. Table 3 shows a statistically significant difference in the perception of initial sounds “r” ($p = .004$), “e” ($p = .006$), “j” ($p = .009$), “d” ($p = .010$), “v” ($p = .30$) and “c” ($p = .040$). In G2 pupils showed a greater ability to perceive the aforementioned initial sounds.

The tendency indicates a higher performance in G2 in the perception of the initial sound “i”, which was successfully perceived in 83 %, and in the perception of the initial sound “g”, which was correctly perceived in 81.9 %.

There are no statistically significant differences in other tests of initial sounds between G1 and G2. The differences were smaller in the perception of the initial sound “k”, even smaller in “ž” and the smallest in “u”.

Some authors have found that initial sounds that are consonants enable children to perceive sounds more successfully (Ashby et al., 2013). In this study, that prediction is only partially realized within G2. Pupils in this group successfully perceived the initial sound of six words, where the initial sound is a consonant (p, m, r, d, h, ž). In the following initial sounds, words beginning with the vowel (u), consonant (k), vowel (e), consonant (š) and vowel (i) were perceived. The final third of the performance in G2 includes words beginning with the initial sound of consonants (e, g, v, f, j). Pupils in G1 who were less successful in perceiving initial sounds than pupils in G2 ($p = .000$) most successfully perceived the initial “u” and had been successful in perceiving initial sounds in the words that begin with the initial consonant only in the next six places of successful perception (ž, p, k, r, d, m). These results correlate with the findings of other studies (Levin, 2007), as the pupils of both groups were more successful in perceiving initial sounds in shorter or easier words. There is no similar research in the Slovenian language.

Table 4. Results of the χ^2 -test between the two groups of children in the perception of the final sound.

Final sound	No. of child	Group 1		Group 2		Total		Result of χ^2 -test
		Points	Points	Points	Points	Points	Points	
		0	1	0	1	0	1	$\chi^2 p$
a	f	52	46	45	49	97	95	$\chi^2 = 0.517 \quad p = .472$
	f %	53.1	46.9	47.9	52.1	50.5	49.5	
š	f	53	45	39	55	92	100	$\chi^2 = 3.048 \quad p = .081$
	f %	54.1	45.9	41.5	58.5	47.9	52.1	
e	f	77	21	65	29	142	50	$\chi^2 = 2.212 \quad p = .137$
	f %	78.6	21.4	69.1	30.9	74.0	26.0	
a	f	54	44	41	53	95	97	$\chi^2 = 2.532 \quad p = .112$
	f %	55.1	44.9	43.6	56.4	49.5	50.5	
a	f	52	46	44	50	96	96	$\chi^2 = 0.750 \quad p = .386$
	f %	53.1	46.9	46.8	53.2	50.0	50.0	
š	f	55	43	39	55	94	98	$\chi^2 = 4.111 \quad p = .043$
	f %	56.1	43.9	41.5	58.5	49.0	51.0	
a	f	50	48	29	65	79	113	$\chi^2 = 8.060 \quad p = .005$
	f %	51.0	49.0	30.9	69.1	41.1	58.9	
o	f	57	41	41	53	98	94	$\chi^2 = 4.063 \quad p = .044$
	f %	58.2	41.8	43.6	56.4	51.0	49.0	
a	f	45	53	37	57	82	110	$\chi^2 = 0.843 \quad p = .359$
	f %	45.9	54.1	39.4	60.6	42.7	57.3	
a	f	41	57	33	61	74	118	$\chi^2 = 0.918 \quad p = .338$
	f %	41.8	58.2	35.1	64.9	38.5	61.5	
e	f	64	34	47	47	111	81	$\chi^2 = 4.609 \quad p = .032$
	f %	65.3	34.7	50.0	50.0	57.8	42.2	
o	f	45	53	37	57	82	110	$\chi^2 = 0.843 \quad p = .359$
	f %	45.9	54.1	39.4	60.6	42.7	57.3	
a	f	43.	55	33	61	76	116	$\chi^2 = 1.543 \quad p = .214$
	f %	43.9	56.1	35.1	64.9	39.6	60.4	
b	f	81	17	61	33	142	50	$\chi^2 = 7.857 \quad p = .005$
	f %	82.7	17.3	64.9	35.1	74.0	26.0	
a	f	44	54	32	62	76	116	$\chi^2 = 2.364 \quad p = .124$
	f %	44.9	55.1	34.0	66.0	39.6	60.4	
a	f	60	38	49	45	109	83	$\chi^2 = 1.618 \quad p = .203$
	f %	61.2	38.8	52.1	47.9	56.8	43.2	

Table 4 shows the performance of first grade pupils in the perception of final sounds. The biggest difference -also a statistically significant difference ($p = .005$) between groups in the perception of final sounds -was reflected in the perception of “b” and “a”. The results show that 82.7 % of pupils in G1 were unsuccessful in the perception of the final sound “b”. Their peers in G2 were unsuccessful in 64.9 %. The difficulty in perceiving the final sound “b” might have increased because it appeared in the consonant cluster “mb”. The results point to a heavier perception

of final sounds when they are part of a consonant cluster. In the second case of large group differences, the perception of the final sound “a” emerged from the syllable “ra”. In this case, 51 % of pupils in G1 and 30.9 % in G2 were unsuccessful.

There is also a statistically significant difference between the groups ($p = .032$) in the perception of the final sound “e” when that sound appeared in the syllable “je”. In G2, the final sound “e” was correctly recognized by half the pupils, and only 34.7 % in G1. There is a statistically significant difference between the groups in the perception of the final sound “š” ($p = .043$) and “o” ($p = .044$). In both cases, the pupils of G2 were more successful in perceiving the final sound, as they have correctly perceived “š”, which was in the syllable “oš”.

Furthermore, these pupils were more successful in perceiving the final sound “o” which, in this case, appeared in the syllable “vo”.

In one case, there was a tendency to perceive the final sound “š” which was in the syllable “iš”. In this particular case, pupils of G2 were more successful.

In all the other cases of the perception of final sounds, there are no statistically significant differences between the groups. The results show the following sequence in the differences between the groups: “a” (na), “a” (iba), “e” (ce), “a” (ca), “a” (ša), “a” (aba), “a” (ta), “o” (ro), “a” (ja) and “a” (la). The results of the syllable “la” came closest to the ability to perceive the final sound “a”. The peculiarity of this word is that it begins with a vowel, followed by a consonant, another consonant and ends with a vowel. This word contains two syllables (vowel and consonant, consonant and vowel).

When looking at the ability to perceive final sounds from another point of view, it should be noted that the pupils in G2 were most successful in perceiving the final sound “a” when it appeared in the syllable “ra”. Their peers were only sixth in determining final sounds in this word. The pupils of G1 were most successful in perceiving “a” in the word that appeared in the “iba” sequence. In this case of successful determination of the final sound, the pupils of G2 came in third place.

According to some authors (Ashby et al., 2013), consonants as initial or final sounds in a word make perception easier. The results of this study do not fully confirm this. This research indicates difficulties in detecting final sounds in longer words with two-syllable consonant clusters and three-syllable words (Levin, 2007).

Table 5: The results of the t-test among pupils in the perception of initial sounds according to gender

Gender	<i>N</i>	\bar{x}	<i>s</i>	<i>F</i>	<i>p</i>	<i>t</i>	<i>p</i>
Boys	100	12,33	4,780	4,035	,046	-0,623	,534
Girls	92	12,73	4,000				

Table 5 shows the results of the t-test -the difference between pupils according to gender in the perception of initial sounds in a word is not statistically significant. The arithmetic mean shows that girls were slightly more successful in perceiving the initial sound. Also, the standard deviation indicates large differences between them. Boys perceived an average of 0.4 less of initial sounds per word than girls. The standard deviation indicates even greater individual differences among boys compared to girls. Some pupils among boys and girls have been given different amounts of exercises to promote phonological awareness.

Comparing this research with a study (Bider Petelin, 2014) conducted with students of the same age in different stages of reading and writing basics which presents children's prior knowledge of systematic literacy in first grade, both studies refute the importance of gender in the abilities of phonological awareness. No similar research was found on an international scale; therefore, no comparison is possible.

Table 6: The results of t-test among pupils according to gender in the ability to perceive final sounds

Gender	<i>N</i>	\bar{x}	<i>s</i>	<i>F</i>	<i>p</i>	<i>t</i>	<i>p</i>
Boys	100	8,17	5,920	5,918	,016	0,345	,730
Girls	92	7,89	5,207				

The results in Table 6 show that all pupils, boys and girls, had significantly more difficulties in perceiving final sounds in a word than in perceiving initial sounds in a word. Furthermore, the differences in the perception of final sounds in a word between boys and girls are not statistically significant. Out of sixteen points, they reached around eight points. On the level of phonological awareness, namely the

perception of the final sounds in a word, boys are slightly better (the arithmetic mean is 8.17) compared to girls (the arithmetic mean is 7.89). The standard deviation indicates large individual differences among boys and girls. There are slightly greater differences among boys in the perception of final sounds in a word compared to girls.

Table 7: The results of the χ^2 -test according to gender in the perception of the initial sound

Initial sound in a word	No. of child	Boys		Girls		Total		Result of χ^2 -test	
		Points	Points	Points	Points	Points	Points		
		0	1	0	1	0	1	χ^2	p
i	f	24	76	20	72	44	148	$\chi^2 = 0.139$	$p = .710$
	$f\%$	24.0	76.0	21.7	78.3	22.9	77.1		
m	f	17	83	13	79	30	162	$\chi^2 = 0.299$	$p = .584$
	$f\%$	17.0	83.0	14.1	85.9	15.6	84.4		
j	f	39	61	32	60	71	121	$\chi^2 = 0.366$	$p = .545$
	$f\%$	39.0	61.0	34.8	65.2	37.0	63.0		
e	f	24	76	21	71	45	147	$\chi^2 = 0.037$	$p = .848$
	$f\%$	24.0	76.0	22.8	77.2	23.4	76.6		
v	f	25	75	23	69	48	144	$\chi^2 = 0.000$	$p = .000$
	$f\%$	25.0	75.0	25.0	75.0	25.0	75.0		
k	f	19	81	15	77	34	158	$\chi^2 = 0.239$	$p = .625$
	$f\%$	19.0	81.0	16.3	83.7	17.7	82.3		
u	f	17	83	12	80	29	163	$\chi^2 = 0.585$	$p = .444$
	$f\%$	17.0	83.0	13.0	87.0	15.1	84.9		
d	f	17	83	15	77	32	160	$\chi^2 = 0.017$	$p = .897$
	$f\%$	17.0	83.0	16.3	83.7	16.7	83.3		
c	f	23	77	22	70	45	147	$\chi^2 = 0.022$	$p = .881$
	$f\%$	23.0	77.0	23.9	76.1	23.4	76.6		
r	f	14	86	15	77	29	163	$\chi^2 = 0.198$	$p = .656$
	$f\%$	14.0	86.0	16.3	83.7	15.1	84.9		
š	f	25	75	24	68	49	143	$\chi^2 = 0.030$	$p = .863$
	$f\%$	25.0	75.0	26.1	73.9	25.5	74.5		
p	f	13	87	12	80	25	167	$\chi^2 = 0.000$	$p = .993$
	$f\%$	13.0	87.0	13.0	87.0	13.0	87.0		
h	f	22	78	16	76	38	154	$\chi^2 = 0.641$	$p = .423$
	$f\%$	22.0	78.0	17.4	82.6	19.8	80.2		
g	f	25	75	20	72	45	147	$\chi^2 = 0.284$	$p = .594$
	$f\%$	25.0	75.0	21.7	78.3	23.4	76.6		
ž	f	15	85	14	78	29	163	$\chi^2 = 0.002$	$p = .966$
	$f\%$	15.0	85.0	15.2	84.8	15.1	84.9		
f	f	33	67	39	53	72	120	$\chi^2 = 1.803$	$p = .179$
	$f\%$	33.0	67.0	42.4	57.6	37.5	62.8		

Table 7 shows that the difference in the perception of initial sounds in a word between boys and girls is not statistically significant in any position. Nevertheless, a lot of information can be drawn from it.

Girls were more successful in perceiving nine out of sixteen cases of initial sounds in a word (i, m, j, e, k, u, d, h, g), while boys perceived five cases of initial sounds in words (c, r, š, ž, f). When perceiving the initial sound “v” and “p” in the word, boys and girls achieved the same average.

The results in Table 7 represent the results of boys and girls in the perception of initial sounds in a word, which explicitly point to gender specific facts. Boys and girls had the most difficulties in perceiving the initial sound in a word consisting of three syllables (consonant “P”, consonant, vowel + consonant, vowel + consonant, vowel). Boys were successful in only 67 % and girls in 57.6 %. The table shows that girls were the least successful with this particular word. Slightly worse, they perceived the initial “j” in a word consisting of a consonant, vowel, consonant, consonant and vowel. Boys performed similarly, as they initially perceived the initial sound in the same two words as girls, but in the reversed order. As the third word that caused problems for all participants in perceiving the initial sound in a word, was a word consisting of two syllables (consonant “š”, consonant, vowel + consonant, consonant, vowel). Pupils had more difficulties perceiving initial sounds in words with a consonant cluster. The aforementioned findings of this research confirm the results of other studies, which also conclude that the performance in perceiving initial sounds in a word depends on the composition of the word. Pupils have more difficulties with multi-syllabic words (Levin, 2007; Ropič, 2016).

Boys and girls were most successful in perceiving the initial sound in a two-syllabic word (consonant / "p" /, vowel + consonant, vowel). Pupils are known to be more successful at perceiving initial sounds in a word in the case of shorter words that are non-syllabic or two-syllabic (consonant, vowel + consonant, vowel) (Levin, 2007; Ropič, 2016).

The following does not show the same sequence in the performance of perceiving the initial sound in a word in the same word between boys and girls; there is no significant deviation.

Table 8: The results of the χ^2 -test according to gender in the perception of the final sound

Final sound in a word	No. of child	Boys		Girls		Total		Result of χ^2 -test
		Points	Points	Points	Points	Points	Points	
		0	1	0	1	0	1	χ^2 p
a	f	52	48	45	47	97	95	$\chi^2 = 0.183$ $p = .669$
	f %	52.0	48.0	48.9	51.5	50.5	49.5	
š	f	47	53	45	47	92	100	$\chi^2 = 0.070$ $p = .791$
	f %	47.0	53.0	48.9	51.1	47.9	52.1	
e	f	70	30	72	20	142	50	$\chi^2 = 1.698$ $p = .193$
	f %	70.0	30.0	78.3	21.7	74.0	26.0	
a	f	48	52	47	45	95	97	$\chi^2 = 0.183$ $p = .669$
	f %	48.0	52.0	51.1	48.9	49.5	50.5	
a	f	50	50	46	46	96	96	$\chi^2 = 0,000$ $p = .000$
	f %	50.0	50.0	50.0	50.0	50.0	50.0	
š	f	48	52	46	46	94	98	$\chi^2 = 0,077$ $p = .782$
	f %	48.0	52.0	50.0	50.0	49.0	51.0	
a	f	41	59	38	54	79	113	$\chi^2 = 0,002$ $p = .966$
	f %	41.0	59.0	41.3	58.7	41.1	58.9	
o	f	56	44	42	50	98	94	$\chi^2 = 2,053$ $p = .152$
	f %	56.0	44.0	45.7	54.3	51.0	49.0	
a	f	40	60	42	50	82	110	$\chi^2 = 0,626$ $p = .429$
	f %	40.0	60.0	45.7	54.3	42.7	57.3	
a	f	37	63	37	55	74	118	$\chi^2 = 0,209$ $p = .647$
	f %	37.0	63.0	40.2	59.8	38.5	61.5	
e	f	57	43	54	38	111	81	$\chi^2 = 0,056$ $p = .812$
	f %	57.0	43.0	58.7	41.3	57.8	42.2	
o	f	46	54	36	56	82	110	$\chi^2 = 0,924$ $p = .336$
	f %	46.0	54.0	39.1	60.9	42.7	57.3	
a	f	42	58	34	58	76	116	$\chi^2 = 0,510$ $p = .475$
	f %	42.0	58.0	37.0	63.0	39.6	60.4	
b	f	74	26	68	24	142	50	$\chi^2 = 0,000$ $p = .989$
	f %	74.0	26.0	73.9	26.1	74.0	26.0	
a	f	42	58	34	58	76	116	$\chi^2 = 0,510$ $p = .475$
	f %	42.0	58.0	37.0	63.0	39.6	60.4	
a	f	53	47	56	36	109	83	$\chi^2 = 1,209$ $p = .271$
	f %	53.0	47.0	60.9	39.1	56.8	43.2	

The difference between boys and girls in the perception of final sounds in a word is not statistically significant in any of the sixteen cases of the perception of final sounds. Table 8 shows that boys were slightly more successful in perceiving the following final sounds in words: “w” (s), “e” (ce), “a” (s), “w” (s), “a” (ra), “a” (ta), “a” (ba), “e” (is) and “a” (ca). Girls achieved a better average score in the perception of the final sounds “a” (la), “o” (ro), “a” (sha) and “a” (ba). It should be noted that there were small differences in the average between boys and girls. In the perception of the final sound in words “a” (ja) and “b” (mb), they achieved the same average.

The biggest gender differences were in the perception of the final sound “o” (vo) in favor of the girls; in the case of the final sound “e” (ce) boys were more successful; in the case of “a” (ca) boys were also more successful. The final sound “o” (ro) was better perceived by girls, while the difference in favor of the boys is also in the perception of the final sound in the word “a” (ta).

Boys had the most difficulties in perceiving the final sound “b” (mb) in a word consisting of a consonant cluster (consonant, vowel, consonant, consonant). There are less problems in the perception of the final sound “e” (ce) in a word consisting of a consonant, a vowel, a consonant, a consonant and a vowel. Difficulties were encountered in perceiving the final sound in words with a consonant cluster (word: consonant, consonant, vowel, consonant, consonant, vowel, or word: consonant, consonant, vowel, consonant, vowel, consonant, vowel).

The girls were similarly successful in perceiving final sounds in multi-syllabic words. It should not be overlooked that girls also have most difficulties in perceiving the final sound in a word with the same words as boys, except that the sequence is reversed.

The results show that boys and girls did not successfully perceive the final sound in the same words, although they all were most successful in perceiving the final sound “a” but in different words.

The results show that gender differences are insignificant. The success in perceiving final sounds in a word for both boys and girls is most influenced by the length of words (two-syllable, multi-syllable) and the composition of sounds in the word or a syllable. Similar findings are reported by other studies (Levin, 2007; Ropič, 2016).

It is not crucial to successfully perceive initial sounds in a word where the initial sound is a consonant. As this study shows, the participants’ success is influenced by word length (multiple syllables) and syllable composition (such as, consonant, vowel + consonant, vowel or consonant, consonant, vowel + consonant, vowel + consonant, vowel). In addition, research also indicates that pupils have more difficulties perceiving initial sounds in a word when the initial sound is a vowel (Ashby et al., 2013). In this research, the following sequence was formed: boys and girls are most successful in perceiving the initial sounds “u” (before r), then “i”

(before g) and then “e” (before n). Gender does not significantly affect the perception of initial sounds in a word.

Discussion and Conclusion

I was interested in whether the pupils of both groups were most successful in perceiving the same initial sounds. The results of this study do not confirm this. Pupils in G2 most successfully perceived the initial sound “p”, and their peers in G1 came only in third place in the perception of the sound “p”. In the first third of the results in the performance of perceiving initial sounds, it should be noted that “r” is in third place in G2 and in fifth place in G1. The performance of perceiving the initial “c” sound in both groups can be seen at the beginning of the last third. Perceiving initial sounds “j” and “f” causes the most problems in both groups of pupils. Nevertheless, it cannot be ignored that 48 % of pupils are not yet able to perceive the initial sound “f” and 45.9 % of pupils the initial sound “j”.

There are some similarities in the perception of final sounds of the two groups; both successfully perceived the final sound “a” in the second part of the syllable “aba”, “a” in the final syllable “ta”, and “o” in the final syllable “ro”. Half of the words included in the test measured the ability to perceive the final sound “a” in the syllable “na”, then “o” in the final syllable “vo”. On the 13th and 14th place in the successfulness of both groups is the perception of final sounds in same words, namely “a” in the final syllable of the word, “ca”, and the final sound “e” in the final syllable of the word, “je”. A similar level of ability to perceive the final sound can also be detected in the same two words in the two groups that were most difficult for pupils. This is the final sound “e” in the final syllable “ce” and “b” in the final syllable “mb” in the word. In both cases of the final sound “š”, first in the final syllable “iš” and second in the final syllable “oš” in the word, the pupils of both groups were moderately successful, although some studies say that the students can easily perceive final sounds that are consonants (Ashby et al., 2013). This research cannot confirm that.

Some studies indicate that students can use one-syllable or non-syllable words to perceive final sounds (Levin, 2007). My study confirmed this as well, since the pupils of both groups most easily perceived final sounds of words that are composed of two syllables (consonant–vowel, consonant–vowel). Similarly, pupils of both groups

had significantly greater difficulty in defining the voice in two-syllable (a syllable with consonant set) and three-syllable words.

This study concludes that there is no statistically significant difference in the perception of initial and final sounds between boys and girls. It also indicates that boys and girls have difficulties in perceiving the initial and final sounds in multi-syllabic words and words in which consonant clusters occur.

There are large differences among the first-grade pupils in the ability to perceive initial and final sounds. That makes it imperative to differentiate and individualize lessons. If the teachers perform phonological awareness tests, they will learn the students' abilities and be able to plan individualized exercises for developing phonological awareness.

Although I found a significant difference between the groups of first grade students in their ability to perceive initial and final sounds in a word, they all began the process of systematic literacy at the same time. This raises the further question of whether the pupils of G1 will be able to develop phonological awareness during the literacy period in their education or their reading and writing problems will deepen.

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