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Teachers' Implicit Theories About Giftedness as Multiple Intelligences [1]*

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Abstract

Gifted pupils in school are typically recognized for extraordinary ability or potential in academics, the arts, sports, or leadership. As giftedness can manifest differently, some pupils remain unrecognized. This article explores teachers' implicit theories of giftedness and whether pupils' age influences their implicit theories of giftedness. Data were collected using the Scale for the Assessment of Potential Giftedness of Children and one open-ended question describing the prototype of a gifted child. The scale included 86 items indicating high abilities, motivation, and creativity. This study used items based on Gardner's Theory of Multiple Intelligences. The study included 280 teachers from Montenegro. The results showed which types of intelligence teachers most associated with giftedness. Teachers most frequently recognized linguistic and logical-mathematical intelligence. A factor that is correlated with the teachers' understanding of the nature of giftedness is pupils' age. Primary school teachers valued the indicators of logical-mathematical, bodily-kinesthetic, and artistic intelligence more than secondary school teachers; also, primary school teachers evaluated all intelligences as more significant compared to high school teachers. Secondary school teachers appreciated visual-spatial, bodily-kinesthetic and music intelligence more than high school teachers. The main components of teachers' definitions of giftedness were logical-mathematical and linguistic abilities. Teachers' attitudes are the first step toward creating optimal support, requiring continuous monitoring, multiple assessments of pupils, writing IEPs, and staff training. Therefore, it is important to know how the teachers understand the phenomenon of giftedness.

Keywords: giftedness, implicit theories, teachers, Theory of Multiple Intelligences

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Teachers' Implicit Theories About Giftedness as Multiple Intelligences

Implicit Theories of Giftedness

Bruner and Tagiuri (1954) have assumed that everybody creates their implicit theory of personality that is not based on empirical evidence. One of the pioneers of the investigation of implicit theories of intelligence, creativity, and wisdom is Sternberg (1985). He thought that implicit theories helped understand the opinions of a group of people. Furthermore, they influence the development of explicit theories when explicit theories and constructs are not defined enough. Understanding implicit theories of intelligence, creativity, and wisdom in various populations and the relationships between them, the impact of implicit theories on forming perceptions of oneself and others, and the similarity of those perceptions with psychometric data are some of the basic research hypotheses that Sternberg tended to establish. Guided by that, Sternberg conducted four experiments. Subjects mainly perceived intelligence and wisdom as more similar than intelligence and creativity or wisdom and creativity (Sternberg, 1985).

In order to create optimal conditions for the education of gifted pupils, research is now directed toward the study of implicit theories of giftedness and talents, in addition to assessments of one's own giftedness as well as the giftedness of others. The challenge of re-evaluating previous theoretical conclusions and current instruction is posed by the investigation of teachers' implicit theories of giftedness and their capacity to identify the characteristics of gifted students (Vasić & Drobac Pavićević, 2021).

There is a significant range of perspectives on the concept of *giftedness*. To describe adults three or more standard deviations away from the average, in a positive direction, there are terms such as *creativity production* or *creativity*. For children with above-average abilities, there are phrases like *creativity potential* or *giftedness* (Maksić, 2007). If a child is not recognized as gifted, there is a lack of opportunity to get adequate treatment, so it could be assumed that the achievement would be lower than expected (Walker, 2007). Studies show (Maksić, 1995) that teachers seldom characterize children as gifted compared to parents and children's self-assessment. Teachers have especially high standards when their evaluation is based on the subject they teach. The research conducted in Doboj (Vasić & Drobac Pavićević, 2021) points out that teachers identify a hard-working, obedient, and calm pupil who is in symbiosis with the educational system and achieves remarkable success in school and competitions as gifted. However, gifted pupils do not necessarily achieve excellent results. Moreover, gifted underachievers accomplish lower results than other pupils (Jovanović et al., 2010). Teachers' education and experience in working with gifted children define the success of identifying gifted pupils. On the one hand, the assessment conducted by teachers is sometimes unreliable (Blažić & Stanojević, 2014). On the other hand, research (Russell, 2018) shows that teachers are the most important figures for gifted children.

Multiple Intelligences Theory

Gardner (1993) defined intelligence as the ability to solve a problem or create a product that is valued in one or more cultural environments. He developed a thesis on the existence of seven independent abilities: linguistic, logical-mathematical, musical, visual-spatial, bodily-kinesthetic, interpersonal, and intrapersonal (Chen & Gardner, 1998). Each ability is a combination of hereditary and environmental influences (Kodžopeljić & Pekić, 2017).

The Theory of Multiple Intelligences states that all abilities are equally important. That is the difference from the psychometric approach, where the importance of logical-mathematical and linguistic abilities is emphasized. The purpose of assessment is the identification of strengths and weaknesses, which leads to the ultimate aim - the creation of optimal conditions for the development of the capacities of a certain individual (Chen & Gardner, 1998).

Linguistic ability is the competence to use words adequately. Children whose linguistic abilities are developed love reading and writing, they are interested in word games and vocabulary building, and they often read aloud (Armstrong, 2006; Moro, 2013). Logical-mathematical ability is the skill of using numbers, noticing logical connections, and solving problems. Pupils who demonstrate outstanding logical-mathematical ability tend to experiment, assemble puzzles, calculate, test hypotheses, etc. (Armstrong, 2006). Visual-spatial ability pertains to creating mental images, navigating in space, and having a sense of lines, shapes, and color. Pupils with developed visual intelligence like photography, film, learning, and thinking in pictures. They could be good painters (Posavec, 2010; Moro, 2013). Bodily-kinesthetic ability reflects the use of the body to express thoughts or emotions, the ability to maintain balance, speed, coordination, strength, agility, tactile sensitivity, and to create through hands-on activities. Musical ability is the competence to recognize, differentiate, reproduce, create, and combine tones (Armstrong, 2006). Interpersonal or social ability is the skill of recognizing and understanding the moods, emotions, motives, desires, actions, aspirations, and intentions of others (Armstrong, 2006). It manifests through peacefully resolving conflicts, forming and sustaining friendships, as well as through the acceptance of rejection (Kiss & Vučinić, 2021). Additionally, Gardner describes intrapersonal ability as part of personal abilities. The distinguishing feature of personal abilities is the cultural factor (Gardner, 1993, according to Krnjaić, 2017). Intrapersonal ability means the faculty of understanding oneself, one's thoughts, desires, intentions, skills, etc. (Armstrong, 2006). At higher levels, it implies developed introspection and self-reflection (Krnjaić, 2017).

The success of the theory in the educational system was presented through the Zero project (Kornhaber, 1999), which was accepted as a part of the project SUMIT *(School Using Multiple Intelligence Theory).* The program covered forty-one schools around the world, and it was shown that pupils in those schools achieved higher academic results, and more appropriate governance, as well as those schools, achieved better cooperation with parents compared to schools that were not

included in the program; additionally, the pupils with developmental difficulties had better achievements in schools that were included in SUMIT compared to others (Armstrong, 2006).

Although Gardner's model is not empirically tenable, in this paper, it is viewed as a concept of giftedness, rather than a concept of intelligence (Kodžopeljić & Pekić, 2017; Woolfolk et al., 2014). It was chosen because it is close to the school environment, and the description of abilities largely aligns with school subjects in the educational system of Montenegro. This theory, compared to others, offers much more information to teachers to recognize potential giftedness. For example, information that a child more easily remembers through visual rather than audio material could be important for the child's further progress (Sternberg et al., 2019). Moreover, Gardner (1995) believes that multiple abilities cannot be equal to learning styles. While abilities represent methods of learning and solving problems within a segment, learning style refers to a general approach to any content (Armstrong, 2006). Multiple Intelligences Theory helps teachers recognize what pupils are good at and what they like, examine how to improve existing opportunities, or use developed abilities to influence those less advanced (Armstrong, 2004).

Research data indicates that teachers are unsuccessful in recognizing pupils with advanced musical skills even if they are presented with indicators for identifying giftedness in this area (Svalina et al., 2021). They are a little bit more successful in perceiving artistic giftedness. Research conducted in Croatia shows that only 19.4% of teachers know that a child who is gifted in visual arts draws exceptionally well, and only 35.3% of teachers know that children who are talented in visual arts mostly come from stimulating environments (Ravlić, 2018). The findings of the research (Upadyaya & Eccles, 2014), in which 849 pupils and their teachers took part, show that teachers expect girls would more often possess linguistic giftedness while predicting that boys would be more successful in math problems.

Present Research

The research aim is to determine the main components of teachers' implicit theories of the concept of *giftedness* and indicators based on which teachers recognize a gifted child within the framework of the Multiple Intelligence Theory. It is anticipated that educators will primarily emphasize linguistic and logical-mathematical forms of intelligence in their evaluations. Studies show that it is easier to identify older gifted pupils because they achieve better results than younger children (Letić & Lungulov, 2016). Therefore, we want to examine whether pupils' age is related to the nature of teachers' implicit theories of giftedness.

Method

Sample and Procedure

The study involved 280 teachers employed in 30 schools in Montenegro. The majority of respondents were female ($N = 205$; $f = 73\%$), while the number of male respondents was 75 (27%). A total of 56 respondents were primary school teachers ($f = 20\%$), 118 ($f = 42.14\%$) were secondary school teachers, and 106 were high school teachers ($f = 37.86\%$).

Data collection lasted from December 2022 to May 2023[2]. The schools were selected using a list of random numbers. It was explained that the participation was voluntary and the data would be used for research purposes. The questionnaire was created in two versions - electronic (*Google Forms*) and paper-and-pencil. Respondents could choose the filing method. A total of 101 respondents filled out the questionnaire using an electronic form, and 179 of them chose the other method. The results were processed using the statistical program JASP 17.2.0. The main analyses used in the quantitative part of the study were t-test (i.e., its non-parametric counterpart – the Wilcoxon test) and ANOVA. For the qualitative analysis of questions to describe the prototype of a gifted child, content analysis was used.

Measures

To investigate the teachers' conception of giftedness, **The Scale for Assessing Potential Giftedness of Children (Klarin et al., 2020)** was adopted. The scale was used to measure how much teachers value different abilities as indicators of giftedness and if they equate any specific ability with giftedness itself. The scale has 86 items distributed in 13 subscales: 11 subscales refer to different abilities (linguistic, logical-mathematical, spiritual, musical, bodily-kinesthetic, intrapersonal, interpersonal, technological, dramatic, and attention), one subscale refers to motivation (commitment to the task), and one subscale refers to creativity (Šimić Šašić et al., 2020). Each scale is composed of several indicators designed to represent intelligence, according to Gardner´s theory. For example, item *Possesses an extensive vocabulary* or *Seeks out advanced reading materials* would represent linguistic intelligence. The statement *Demonstrates a more advanced understanding of cause-and-effect connections* is the part of the logical-mathematical scale. An agreement with the items such as *Understands others and their needs* indicates a greater emphasis on interpersonal abilities (Klarin et al., 2020). The change of the scale in this study refers to the modifications of instructions, so the responders had the task of imagining a prototype of a gifted pupil

[2] The research was conducted as a part of a master's thesis. The Committee for Monitoring Master's Studies, at its session held on 28th of June 2022, approved the topic, and in accordance with Article 22 of the Rules in Postgraduate Studies, proposed the continuation of the procedure. Reference number: 01/3-963/3.

and, following that, evaluating individual items such as those mentioned above. In the original version of the scale, questions were directed to a specific pupil. The scale is Likert-type (1- *completely disagree;* 2 - *partially disagree;* 3 - *neither agree nor disagree;* 4 - *partially agree;* 5 - *completely agree*).

The second part of the questionnaire is open-ended - the respondents had the task of imagining a prototype of a gifted child and describing it. A socio-demographic questionnaire was used to collect data about gender, age, city where they work, subject they teach, the class in which they teach, and workplace (teacher in primary/secondary/high school).

Results

The Kolmogorov-Smirnov test established that the distributions of the variables deviated from normality. Still, the scores of Skewness and Kurtosis do not go out of the range ±1.96, indicating that the distribution is symmetrical. However, the respondents tend to give higher grades on all the scales.

Table 1

Descriptive Statistics Related to the Main Variables

	M	*SD*	Min	Max	*K-S*	*Skewness*	*Kurtosis*
L	4.20	0.69	2.14	5.00	.15***	-0.99	0.31
LM	4.11	0.81	1.56	5.00	.14***	-0.96	0.14
VS	3.94	0.88	1.00	5.00	.17***	-1.12	1.16
Ms	3.62	1.18	1.00	5.00	.16***	-0.96	0.02
BK	3.51	1.18	1.00	5.00	.14***	-0.72	-0.42
Intra	3.77	0.79	1.00	5.00	.11**	-0.78	1.15
Inter	3.80	0.90	1.00	5.00	.11**	-0.80	0.30
Art	3.60	1.14	1.00	5.00	.18***	-0.76	-0.30

Note. L – Linguistic intelligence; LM – Logical-mathematical intelligence; VS – Visual-spatial intelligence; Ms – Musical intelligence; BK – Bodily-kinesthetic intelligence; Intra – Intrapersonal intelligence; Inter – Interpersonal intelligence; Art – Artistic intelligence; * $p < .05$, ** $p < .01$, *** $p < .001$

As suggested by the authors, average values higher than three were observed (Šimić Šašić et al., 2020). This was confirmed on all the scales, indicating that teachers are aware of the components of Gardner's theory as the indicators of giftedness. The average values of logical-mathematical and linguistic scales exceed four, and none of the respondents rated them as an unimportant aspect of giftedness (Table 1). These variables (Tables 2 and 3) are rated statistically significantly higher than others' scores ($p < .01$). Therefore, the criteria for linguistic and logical-mathematical intelligence received the highest scores. When it comes to these two components of giftedness, teachers from the sample assigned higher levels of significance to the linguistic ability than to logical-mathematical ($p < .05$).

The Shapiro–Wilk test was used to assess normality, which is a prerequisite for applying the *t*-test aimed at determining whether teachers rate logical-mathematical and linguistic intelligences significantly higher than other types of intelligence. As

the assumption of normality was violated in all comparisons, the Wilcoxon test was employed as a non-parametric alternative.

Table 2

Wilcoxon Signed-Rank – Assessed Importance of Linguistic Intelligence Indicators as a Component of Giftedness in Comparison to Others

M1	M2	Test	Test value	*Z*	Effect size
	LM	Shapiro-Wilk	.955***		
		Wilcoxon	19065.00*	1.73	.12
	VS	Shapiro-Wilk	.97***		
		Wilcoxon	23161.00***	5.10	.36
	Ms	Shapiro-Wilk	.93***		
		Wilcoxon	26358.00***	7.44	.53
L	BK	Shapiro-Wilk	.94***		
		Wilcoxon	28513.50***	9.52	.68
	Intra	Shapiro-Wilk	.98***		
		Wilcoxon	28514.00***	8.56	.61
	Inter	Shapiro-Wilk	.97***		
		Wilcoxon	28130.50***	7.96	.56
	Art	Shapiro-Wilk	.96***		
		Wilcoxon	26637.00***	7.97	.57

Note. M1 – measure 1, M2 – measure 2; L – Linguistic intelligence; VS – Visual-spatial intelligence; Ms – Musical intelligence; BK – Bodily-kinesthetic intelligence; Intra – Intrapersonal intelligence; Inter – Interpersonal intelligence; Art – Artistic intelligence. *p < .05, **p < .01, ***p < .001

Table 3

Wilcoxon Signed-Rank - Assessed Importance of Logical-mathematical Intelligence Indicators as a Component of Giftedness in Comparison to Others

M1	M2	Test	Test value	*Z*	Effect size
	VS	Shapiro-Wilk	.96***		
		Wilcoxon	20112.00***	4.27	.31
	Ms	Shapiro-Wilk	.94***		
		Wilcoxon	23897.00***	7.02	.51
LM	BK	Shapiro-Wilk	.95***		
		Wilcoxon	26025.00***	8.08	.58
	Intra	Shapiro-Wilk	.99***		
		Wilcoxon	24365.00***	5.68	.40
	Inter	Shapiro-Wilk	.98***		
		Wilcoxon	22008.50***	5.24	.38
	Art	Shapiro-Wilk	.95***		
		Wilcoxon	24957.50***	7.63	.55

Note. M1 – measure 1, M2 – measure 2; LM – Logical-mathematical intelligence; VS – Visual-spatial intelligence; Ms – Musical intelligence; BK – Bodily-kinesthetic intelligence; Intra – Intrapersonal intelligence; Inter – Interpersonal intelligence; Art – Artistic intelligence. *p < .05, **p < .01, ***p < .001

Primary school teachers gave the highest rates to all intelligences as the parts of giftedness, while the high school teachers lowest rated all intelligences as the aspects of giftedness (Table 4).

Table 4

Descriptive Statistics Relative to Educational Cycle, i.e., Pupils' Age Teachers Work With

Dependent variable	Educational cycle	*N*	*M*	*SD*
Linguistic intelligence	1	56	4.36	0.62
	2	118	4.22	0.73
	3	106	4.08	0.67
Logical-mathematical intelligence	1	56	4.46	0.54
	2	118	4.10	0.81
	3	106	3.94	0.88
Visual-spatial intelligence	1	56	4.31	0.72
	2	118	4.04	0.77
	3	106	3.65	0.98
Musical intelligence	1	56	4.02	0.86
	2	118	3.71	1.14
	3	106	3.32	1.23
Bodily-kinesthetic intelligence	1	56	4.07	0.87
	2	118	3.66	1.16
	3	106	3.04	1.18
Intrapersonal intelligence	1	56	3.96	0.87
	2	118	3.80	0.79
	3	106	3.63	0.73
Interpersonal intelligence	1	56	3.98	0.91
	2	118	3.85	0.88
	3	106	3.63	0.88
Artistic Intelligence	1	56	4.06	0.79
	2	118	3.66	1.17
	3	106	3.30	1.17

Note. 1 – teachers of primary school; 2 – teachers of secondary school; 3 – teachers of high school.

Homogeneity of the data was tested by Levene's test (Table 5). For some subscales, scores were significant. Therefore, the Brown-Forsythe test was applied as a more robust alternative to ANOVA.

Table 5

Test of Equality of Variances (Levene's) – Variable: Educational Cycle, i.e., Pupils' Age

Dependent variable	*F*	*df1*	*df2*
Linguistic intelligence	1.00	2	277
Logical-mathematical intelligence	8.02***	2	277

Visual-spatial intelligence	4.40*	2	277
Musical intelligence	7.22***	2	277
Bodily-kinesthetic intelligence	3.89*	2	277
Intrapersonal intelligence	0.94	2	277
Interpersonal intelligence	0.11	2	277
Artistic intelligence	7.89***	2	277

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

The data reveal that there are notable differences ($p < .01$) in the conception of giftedness between primary, secondary, and high school teachers in terms of logical-mathematical, musical, and artistic abilities. Furthermore, statistically significant differences were identified on the subscales of visual-spatial intelligence and bodily-kinesthetic intelligence, at the $p < .05$ significance level (Table 6).

Table 6

Differences in Teachers' Rating Particular Intelligences as Aspects of Giftedness in Relation to the Educational Cycle, i.e., Age of Students Those Teachers Work With

Homogeneity Correction	Dependent variable	Cases	The sum of Squares	*df*	*F*	n^2p
None	L	Pupils' age	2.96	2	3.13*	.02
		R	131.04	277		
Brown-Forsythe	LM	Pupils' age	9.83	2	8.92***	.05
		R	175.12	270.33		
Brown-Forsythe	VS	Pupils' age	17.82	2	13.23***	.08
		R	197.64	244.17		
Brown-Forsythe	Ms	Pupils' age	19.54	2	8.25***	.05
		R	365.57	264.03		
Brown-Forsythe	BK	Pupils' age	43.82	2	19.41***	.11
		R	347.29	267.30		
None	Intra	Pupils' age	4.28	2	3.46*	.02
		R	171.23	277		
None	Inter	Pupils' age	5.26	2	3.34*	.02
		R	218,28	277		
Brown-Forsythe	Art	Pupils' age	22.01	2	12.11***	.06
		R	338.13	273.28		

Note. L – Linguistic intelligence, LM – Logical-mathematical intelligence; VS – Visual-spatial intelligence; Ms – Musical intelligence; BK – Bodily-kinesthetic intelligence; Intra – Intrapersonal intelligence; Inter – Interpersonal intelligence; Art – Artistic intelligence, R – residual *p < .05, **p < .01, ***p < .001

Statistically significant differences between groups were observed on all scales (Table 6), therefore post hoc tests were used (Table 7). Tukey's test was implemented when Levene's test indicated homogeneity of variances (Table 5), while the Games-Howell test was applied to subscales where Levene's test pointed out a statistically

significant result. Primary school teachers assess all intelligences as the components of giftedness higher than high school teachers do. All results are statistically significant at the $p < .01$ level, except for the comparisons on the subscales of personal intelligences and linguistic intelligence, where the level of significance is $p < .05$. From the perspective of significance level at $p < .01$, the difference between primary school teachers' standpoint and secondary school teachers' standpoint about logical-mathematical ability is meaningful. At the $p < .05$ level of significance, differences were also observed on the subscales of bodily-kinesthetic intelligence and artistic intelligence. Additionally, greater importance is attributed to bodily-kinesthetic ($p < .001$), visual-spatial ($p < .01$), and musical ability ($p < .05$) by secondary school teachers compared to high school teachers (Table 7).

Table 7

Post Hoc Test: Comparison of Assessment of Particular Intelligences as Components of Giftedness in Relation to Pupils' Ages Teachers Work With (Educational Cycle)

Dependent variable	Post hoc test	Compared groups		Mean difference	*SE*	Test value	*df*
Linguistic intelligence	Turkey	1	2	0.13	0.11	1.18	
		1	3	0.28	0.11	2.43*	
		2	3	0.14	0.09	1.57	
Logical-mathematical intelligence	Games-Howell	1	2	0.36	0.10	3.48**	152.60
		1	3	0.52	0.11	4.60***	156.16
		2	3	0.15	0.11	1.36	214.22
Visual-spatial intelligence	Games-Howell	1	2	0.27	0.12	2.28	115.27
		1	3	0.66	0.14	4.91***	143.17
		2	3	0.39	0.12	3.30**	199.44
Musical intelligence	Games-Howell	1	2	0.31	0.16	2.01	138.91
		1	3	0.70	0.17	4.13***	151.34
		2	3	0.39	0.16	2.39*	210.57
Bodily-kinesthetic intelligence	Games-Howell	1	2	0.40	0.16	2.57*	141.03
		1	3	1.03	0.17	6.31***	143.75
		2	3	0.62	0.16	3.97***	218.63
Intrapersonal intelligence	Turkey	1	2	0.17	0.13	1.13	
		1	3	0.33	0.13	2.57*	
		2	3	0.17	0.10	1.60	
Interpersonal intelligence	Turkey	1	2	0.13	0.14	0.89	
		1	3	0.35	0.15	2.40*	
		2	3	0.22	0.12	1.89	
Artistic intelligence	Games-Howell	1	2	0.99	0.15	2.65*	151.84
		1	3	0.76	0.16	4.92***	150.84
		2	3	0.36	0.16	2.32	219.24

*Note. * p < .05, **p < .01, ***p < .001*

Finally, participants were asked to describe the prototype of a gifted child in order to identify the main abilities and characteristics that a gifted child possesses. Out of 280 respondents, the last question was answered by 226 (f = 80.72%). Two respondents (f = 0.88%) gave answers related to the characteristics of the survey, while ten subjects (f =

4.42%) provided answers that did not correspond to the question posed. Answers given by 214 participants were encompassed by the qualitative analysis K (*f* = 76.43%). In the subsequent statements, the previously mentioned number (214) is regarded as the sample (*f* = 100%). If a subject mentioned more than one item referring to the same component, in this part of the analysis, each item was coded.

The most frequent responses indicate the presence of logical-mathematical abilities. A total of 84 sentences or phrases referring to logical-mathematical abilities were abstracted. The teachers consider that gifted students think quickly (*f* = 15), reason logically (*f* = 27), connect old knowledge with new or with facts from different areas (*f* = 11), solve mathematical problems (*f* = 9), think abstractly (*f* = 6), formulate problems (*f* = 1), and understand cause-effect relationships (*f* = 1). Linguistic abilities are also frequently mentioned (*f* = 41). Explanations assume a rich vocabulary (*f* = 16), the ability to extract information from specific areas of interest (*f* = 9), a love of reading (*f* = 4), the ability to define concepts (*f* = 1), and early development of reading and speech skills (*f* = 1). Comments that refer to social skills are classified under interpersonal (*f* = 49) and intrapersonal (*f* = 14) abilities. The following indicators of developed interpersonal skills were most often mentioned: empathy (*f* = 9), humanity (*f* = 8), sociability (*f* = 7), communicativeness (*f* = 4), team worker, leader, and the favorite child. An expression of intrapersonal abilities includes: striving toward personal goals (*f* = 14), developed introspection (*f* = 3), a well-formed identity (*f* = 2), high emotional intelligence (*f* = 2), and high self-esteem (*f* = 1). Skills in physical activities and sports were abstracted from nine responses. They mostly mentioned energy (*f* = 4), while love for sports, developed sensorimotor abilities, talent for sports, or skills in physical activities were each noted in one response. Less frequently mentioned were indicators of visual-spatial and musical abilities - love for music (*f* = 1) and possession of talent (*f* = 1). Within visual-spatial ability, good spatial orientation and talent for painting were highlighted. Thus, one respondent emphasized that their answer referred to visual arts, while in the remaining responses (*f* = 6), there was no indication whether "art" referred to the arts in general or to a specific segment.

Table 8

The Frequency of Referencing Intelligence Indicators in Responses - Comparative Analysis by Pupils' Age Teachers Work With

		L (41 in 32; 14.95%)	LM (84 in 52; 24.30%)	Ms (8 in 8; 3.74%)	VS (7 in 7; 3.27%)	BK (8 in 6; 2.8%)	Inter (48 in 34; 15.89%)	Intra (18 in 15; 7.01%)
Edu	1	8 (14.29%)	12 (21.43%)	1 (1.79%)	0	0	9 (16.07%)	3 (5.36%)
	2	13 (11.02%)	18 (15.25%)	4 (3.39%)	4 (3.39%)	2 (1.69%)	7 (5.93%)	5 (4.24%)
	3	11 (10.38%)	22 (20.75%)	3 (2.83%)	3 (2.83%)	4 (3.77%)	18 (16.98%)	7 (6.60%)

Note. Edu – Educational cycle; L – Linguistic intelligence; LM – Logical-mathematical intelligence; Ms – Musical intelligence; VS – Visual-spatial intelligence; BK – Bodily-kinesthetic intelligence; Inter – Interpersonal intelligence; Intra – Intrapersonal intelligence. Pupils' age: 1 – teachers of primary school (42/56-75%); 2 – teachers of secondary school (86/118 – 72, 88%); 3 – teachers of high school (86/106 – 81, 13%).

The data (Table 8) show that primary school teachers more frequently cite indicators of linguistic and logical-mathematical abilities compared to other respondents, while they assess interpersonal abilities similarly to high school teachers, but they describe them as more significant than how it is mentioned by secondary school teachers.

Some teachers provided responses that could not be classified under any of Gardner's categories, such as: "The child sometimes feels lonely and as if no one understands them, without knowing the reason why" as well as myths about gifted children *(has difficulty fitting into everyday activities; well-mannered/cultured; a good and honest child; brave; an optimist,* etc.), and descriptions of physical appearance.

Discussion

According to the preceding points, it can be concluded that the possession of linguistic and logical-mathematical abilities are the primary criteria used by educators to nominate students as gifted, which can be linked to the more evident expression of these abilities within the educational system (Chen & Gardner, 1998). When given predefined answers, primary school teachers gave the highest scores across all subscales (different intelligences according to Gardner's model of multiple intelligence) as the aspects of giftedness, followed by slightly lower scores from secondary school teachers, while high school teachers gave the lowest average scores across all subscales. This creates the impression that the younger the students are, the more all groups of indicators are included into the teachers' concept of giftedness. Primary school teachers rated the logical-mathematical ($p < .01$), bodily-kinesthetic, and artistic abilities ($p < .05$), as the part of giftedness higher than secondary school teachers. They also gave more significant evaluations of all abilities compared to high school teachers. Furthermore, visual-spatial ($p < .01$), bodily-kinesthetic ($p < .01$), and musical abilities ($p < .05$) are more highly valued by secondary school teachers than by high school teachers. These differences are opposite to those found in previous research, which showed that teachers are more likely to recognize indicators of giftedness in older students (Blanuša et al., 2019, as cited in Barzut et al., 2020; Nikolić, 2017). It turned out that the amount of time primary school teachers spend with students is more significant, as it is greater than the time spent with students by subject teachers. More time allows for greater freedom in teaching, which also influences their creativity during lessons. These findings are not consistent with the data obtained from the qualitative analysis, which showed that primary school teachers value only linguistic and logical-mathematical abilities more than other respondents. Additionally, primary school teachers and high school instructors mentioned more indicators of interpersonal abilities compared to secondary school teachers. Differences between the groups on the linguistic and interpersonal abilities scales were not confirmed by quantitative analysis.

Quantitative data can create the illusion of a more positive image of teachers' implicit theories of giftedness because of the fact that respondents' answers are influenced by the provided materials. The available indicators offer many options for assessment. The data obtained through qualitative analysis are considered more significant. A total of 214 out of 280 respondents answered the question. Indicators of logical-mathematical abilities appeared in 24.30% of responses, interpersonal in 15.89%, and linguistic in 14.95% of responses. It should be taken into account that the respondents answered the question after completing the section in which they were presented with indicators for all abilities. Maybe it could be considered a thesis that the mere absence of a response indicates a lack of understanding of the topic.

In the respondents' answers, traces of traditional educational values were observed. For example, a gifted student is described as a child who is well-behaved, honest, obedient, neat, and respectful of norms and elders. Some responses also include characteristics of introversion, highlighting it as being closely related to giftedness. Therefore, giftedness is sometimes equated with strict upbringing which is from the perspective of the authors of this paper, scientifically debatable. Nevertheless, it is a fact that giftedness is more easily recognized in quiet and obedient students (Walker, 2007). Teachers often emphasize cooperativeness and excellent academic performance. Similar conclusions are drawn by Altaras (2006). Additionally, some responses describe attitudes toward life, such as optimism, cheerfulness, and courage, reflecting personality traits. Among the unexpected responses are those that reflect physical characteristics. It is assumed that the cause of such misunderstandings may lie in being overwhelmed by bureaucracy and daily responsibilities, which leads to a lack of regular reading of literature and following scientific developments among educators. Some respondents highlight independence as a trait of gifted children, and they frequently use the term "their own" as a descriptor. This suggests the conclusion that an unrealistic level of autonomy is expected from such students, which aligns with the existing myth about the extreme independence of gifted individuals - so much so that they do not need adult support (Walker, 2007).

The integration of qualitative and quantitative analysis in the data processing provides a comprehensive understanding of teachers' implicit theories about giftedness as multiple intelligences. In Gardner's view, intelligence is not defined as abilities, despite the common practice of equalizing these concepts (Armstrong, 2006). Gardner's concept of intelligence is complementary to Montenegrin educational system, which is structured around subjects that could be readily aligned with Gardner's proposed intelligences, such as Math with logical-mathematical intelligence, Music education with musical intelligence, and others of the same kind. In light of the lack of empirical validation, the adoption of this concept was deemed appropriate for addressing various forms of giftedness.

Conclusion

The findings indicate a lack of homogeneity of the implicit theories of giftedness in teachers working with different aged students. Certain responses to the final question indicate a lack of understanding of the concept of giftedness, in contrast with the quantitative data that shows predominantly high scores across all indicators. While in the quantitative analysis primary school teachers always tend to provide higher ratings compared to other teachers, the qualitative analysis does not lead to the same conclusion. The data concerning the level of agreement between secondary and high school teachers also shows inconsistences. For example, in the quantitative part of the test, secondary school teachers tend to assign higher ratings to bodily-kinesthetic intelligence compared to high school teachers, while the analysis of the last question indicates that a greater number of indicators are mentioned by high school teachers. However, some conclusions are consistent. For instance, logical-mathematical and linguistic intelligence are valued the most as indicators of giftedness.

It would be important to identify additional factors that influence teachers' assessments of particular aspects of students' giftedness. One possible factor is the teachers' professional orientation or maybe teachers' expectations regarding students' achievement. Teachers face a demanding task that requires theoretical knowledge, dedication to each student, curriculum monitoring, and the creation of a supportive classroom atmosphere. Therefore, in order to more accurately identify and support gifted students, it would be necessary to implement purposeful teacher training. Identifying gifted students (which is naturally partly based on teachers' implicit theories of giftedness) is only the initial step in guiding their development and providing appropriate support. The ideal solution would involve multiple assessments that are discriminative but not discriminatory, continuous observation of students, data recording, and, based on that, enabling an individualized educational program, differentiated content, and the creation of a stimulating learning environment.

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Implicitne teorije nastavnika o darovitosti kao višestrukim inteligencijama

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Apstrakt

Daroviti učenici u školi obično se prepoznaju kao oni koji pokazuju izvanredne sposobnosti ili potencijal u akademskim predmetima, umjetnosti, sportu ili liderstvu. Darovitost se može ispoljiti na različite načine, što ponekad dovodi do neprepoznavanja kod svih učenika. Cilj ovog rada je ispitati implicitne teorije nastavnika o darovitosti i da li uzrast učenika sa kojima rade ima efekta na implicitne teorije nastavnika o darovitosti. Podaci su prikupljeni *Skalom za procjenu potencijalne darovitosti kod djece* i kroz jedno pitanje otvorenog tipa kojim je zahtijevan opis prototipa darovitog djeteta. Skala se sastoji od 86 tvrdnji koje predstavljaju indikatore visokih sposobnosti, motivacije i kreativnosti. Za potrebe ovog rada koristili smo ajteme koji se odnose na Gardnerovu teoriju višestrukih sposobnosti. U istraživanju je učestvovalo 280 ispitanika iz Crne Gore. Rezultati pokazuju koje vrste inteligencije nastavnici povezuju sa darovitošću. Utvrđeno je da učitelji i nastavnici više vrednuju ligvističku i logičko-matematičku inteligenciju kao komponente darovitosti u poređenju sa ostalim vrstama inteligencije. Faktor koji je povezan sa shvatanjem prirode darovitosti je uzrast učenika sa kojima nastavnici rade. Učitelji kao pokazatelje darovitosti više vrednuju logičko-matematičke, tjelesno-kinestetičke i likovne sposobnosti u poređenju sa nastavnicima osnovnih škola. Takođe, procijenili su kao značajnije sve inteligencije u odnosu na nastavnike srednjih škola. Vizuelno-spacijalnu, tjelesno-kinestetičku i muzičku sposobnost više uvažavaju nastavnici osnovnih od nastavnika srednjih škola. Nastavnici teže da pojedinim vrstama inteligencije kao komponentama darovitosti daju više ocjene na Likertovoj skali u poređenju sa tim kako odgovaraju na pitanja otvorenog tipa. Ipak, glavne komponente njihovih definicija inteligencije su logičko-matematičke i lingvističke sposobnosti u oba slučaja. Procjena stavova nastavnika je tek prvi korak u kreiranju optimalnih uslova koji podrazumijevanju kontinuirano praćenje i višestruku procjenu učenika, pisanje IOP-a, obuke nastavnog kadra. Stoga je važno znati kako nastavnici razumeju koncept darovitosti.

Ključne riječi: darovitost, implicitne teorije, nastavnici, teorija višestrukih sposobnosti

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