

# **Evaluation report of the MTAI questionnaires from the Piloting events organized in the frame of the Project “A common language in School”**

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## Section I: Introduction

### 1. General about the project

A common language in school is a project within the Erasmus+ Strategic Partnerships and provides concrete tools for professionals who work with students with developmental difficulties in schools. It introduces ICF as a common language to describe individual learning situation of a child and enables ability-based holistic transdisciplinary assessments and planning processes. 10 different institutions from 4 different countries are jointly implementing the project. The project is focusing on the following outcomes:

- Providing ICF-related materials,
- Providing a family friendly version of ICF Items translated into more easy understandable language,
- Providing ICF based assessment tools for pupils to be able to assess their own strengths and areas of need for support, and
- Linkage of tests with the ICF items and WHO qualifiers for school psychologists.

After the ICF training materials were done, in the period March 2019 until September 2019 there were a few piloting events organized (in Austria, Germany and Turkey) by the project partners as part of their planned activities. Target groups of these piloting events were different professionals and also students which are working or will start working with children with special needs.

The goal behind the organization of the piloting events, as one day training, was to present the project goals and project activities and mainly to disseminate the project outcomes (the modules about ICF) as result of the project implementation in front of the stakeholders working in this field. In total 212 participants (with different professional background) filled completely the MTAI questionnaire at the beginning and at the end of the event. The goal behind the preparation of this report is to see if the ICF training has contributed the participants to change significantly their attitude towards inclusion in the context of the training.

## 2. Method and structure of the used MTAI Questionnaire

The piloting events methodology consisted of presentations, exercises, practical examples, group work and discussions. Before and after the training, the participants received hard copy MTAI (My thinking about inclusion) questionnaire and they were asked to fill the form out.

The MTAI questionnaire comprises 19 questions, some of which are stated in reverse order:

1. Students with special needs have the right to be educated in the same classroom as typically developing students.
2. Inclusion is NOT a desirable practice for educating most typically developing students (reversed).
3. It is difficult to maintain order in a classroom that contains a mix of children with exceptional education needs and children with average abilities (reversed).
4. Inclusion can be beneficial for parents of children with exceptional education needs.
5. Most special education teachers lack an appropriate knowledge base to educate typically developing students effectively (reversed).
6. We must learn more about the effects of inclusive classrooms before inclusive classrooms take place on a large-scale basis (reversed).
7. The best way to begin educating children in inclusive settings is just to do it.
8. Children with special needs will probably develop academic skills more rapidly in a special, separate classroom than in an integrated classroom (reversed).
9. Children with exceptional needs are likely to be isolated by typically developing students in inclusive classrooms (reversed).
10. The presence of children with exceptional education needs promotes acceptance of individual differences on the part of typically developing students.
11. Children with special needs may show better performance in inclusive learning environments.
12. Inclusion promotes self-esteem among children with special needs.
13. The challenge of a regular education classroom promotes academic growth among children with exceptional education needs.
14. Isolation in a special class does NOT have a negative effect on the social and emotional development of students prior to middle school (reversed).
15. People without a need for support are likely to demonstrate better motivation in inclusive learning environments than in other classes.
16. The behaviors of students with special needs require significantly more teacher-directed attention than those of typically developing children (reversed).
17. Parents of children with exceptional education needs require more supportive services from teachers than parents of typically developing children (reversed).
18. Parents of children with exceptional needs present no greater challenge for a classroom teacher than do parents of a regular education student.
19. A good approach to managing inclusive classrooms is to have a special education teacher be responsible for instructing the children with special needs (reversed).

The answer scale offered to the participants in answering the questions was 5-point Likert scale from 1 = don't agree at all to 5 = completely agree. Important to mention here is that in Germany and Austria the German version of the questionnaire was used, and in Turkey a Turkish version of the questionnaire was used. Because the German and the Turkish version of the questionnaire are different and do not contain the same questions, only those questions from the Turkish version were considered which are the same as the German one.

## Section II: Demographical data of the participants

### 1. Origin country

Total Number of participants: 212

- Remark: the responses of 18 participants were deleted, because 17 of them had only filled the questionnaire before the training and not after, and 1 of them had filled the questionnaire only after the training, so their answers are not comparable.

		Country			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	DE	33	15,6	16,1	16,1
	AT	113	53,3	55,1	71,2
	TR	59	27,8	28,8	100,0
	Total	205	96,7	100,0	
Missing	System	7	3,3		
Total		212	100,0		

33 participants are coming from Germany, 113 are from Austria, 59 from Turkey and 7 participants did not stated their origin country.

### 2. Age

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19	2	,9	1,0	1,0
	20	34	16,0	16,3	17,3
	21	39	18,4	18,8	36,1
	22	50	23,6	24,0	60,1
	23	28	13,2	13,5	73,6
	24	17	8,0	8,2	81,7
	25	6	2,8	2,9	84,6
	26	7	3,3	3,4	88,0
	27	1	,5	,5	88,5
	28	7	3,3	3,4	91,8
	29	1	,5	,5	92,3
	30	5	2,4	2,4	94,7
	35	2	,9	1,0	95,7
	37	1	,5	,5	96,2
	39	1	,5	,5	96,6
	44	1	,5	,5	97,1
	53	1	,5	,5	97,6
	54	3	1,4	1,4	99,0
	58	1	,5	,5	99,5
	64	1	,5	,5	100,0
Total		208	98,1	100,0	
Missing	System	4	1,9		
Total		212	100,0		

As the table above is showing the 5 biggest age groups of participants who did take part of the training are the one which are 22, 21, 20, 23 and 24 years old.

### 3. Gender

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	180	84,9	87,0	87,0
	Male	27	12,7	13,0	100,0
	Total	207	97,6	100,0	
Missing	System	5	2,4		
Total		212	100,0		

180 of the participants are female, 27 of them are male and 5 participants did not stated their gender.

### 4. Years of working experience

		Years_Exper			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,0	62	29,2	31,6	31,6
	,5	5	2,4	2,6	34,2
	1,0	4	1,9	2,0	36,2
	1,5	6	2,8	3,1	39,3
	2,0	50	23,6	25,5	64,8
	2,5	5	2,4	2,6	67,3
	3,0	41	19,3	20,9	88,3
	4,0	5	2,4	2,6	90,8
	5,0	1	,5	,5	91,3
	6,0	1	,5	,5	91,8
	7,0	1	,5	,5	92,3
	8,0	3	1,4	1,5	93,9
	11,0	2	,9	1,0	94,9
	12,0	1	,5	,5	95,4
	14,0	1	,5	,5	95,9
	15,0	1	,5	,5	96,4
	20,0	2	,9	1,0	97,4
	23,0	1	,5	,5	98,0
	24,0	1	,5	,5	98,5
	27,0	1	,5	,5	99,0
31,0	1	,5	,5	99,5	
40,0	1	,5	,5	100,0	
Total		196	92,5	100,0	
Missing	System	16	7,5		
Total		212	100,0		

The 3 biggest group according to the stated years of experience by the participants are as follows: 62 of them does not have any working experience, 50 of them have 2 years working experience and 41 of them have 3 years working experience in field of professional practice.

## 5. Occupation

		Occupation			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Teacher	108	50,9	52,9	52,9
	School Psychologist	1	,5	,5	53,4
	Special Educator	9	4,2	4,4	57,8
	Therapist	8	3,8	3,9	61,8
	Other	19	9,0	9,3	71,1
	Child Development Student	59	27,8	28,9	100,0
	Total	204	96,2	100,0	
Missing	System	8	3,8		
Total		212	100,0		

The first biggest group of participants according to their occupation are the teachers as stated in the table above 108, and the second biggest group, which consisted of 59 participants, are students in child development.

### Section III: Analysis of the results for each item separately

1. Students with special needs have the right to be educated in the same classroom as typically developing students.

#### Paired Samples Statistics

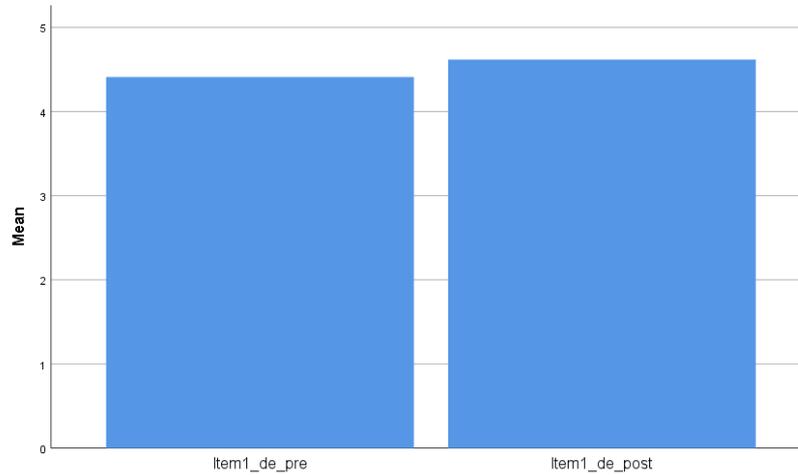
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item1_de_pre	4,41	212	,818	,056
	Item1_de_post	4,62	212	,608	,042

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Item1_de_pre & Item1_de_post	212	,536	,000

#### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Item1_de_pre - Item1_de_post	-,208	,712	,049	-,304	-,111	-4,246	211	,000



The evaluation of this question by the participants had changed in positive direction before and after the training. As we can notice from the first table, which is showing descriptive statistics, we can see that the mean value of Item 1 before the training is 4.41 and after the training, it has increased on 4.62. The believes of the participants that the students with special needs have the right to be educated in the same classroom as typically developing students has been strength in the scope of the training.

This means that after the training the attitude of the participants regarding inclusion has changed and this change is very high statistically significant as  $t = -4,246$ ,  $p = .000$  and  $df = 211$ . This shows that the training has contributed to increase the positive attitude of the participants regarding the right of the students with special needs for inclusive education.

## 2. Inclusion is NOT a desirable practice for educating most typically developing students (reversed).

### Paired Samples Statistics

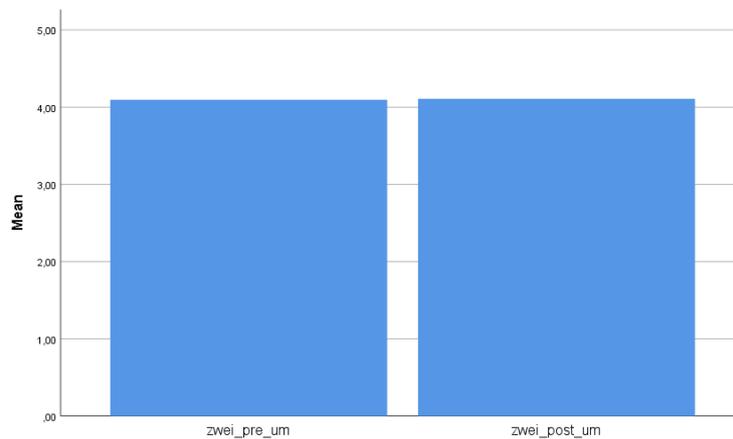
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	zwei_pre_um	4,0946	148	,89851	,07386
	zwei_post_um	4,1081	148	,88167	,07247

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	zwei_pre_um & zwei_post_um	148	,451	,000

### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	zwei_pre_um - zwei_post_um	-,01351	,93304	,07670	-,16508	,13805	-,176	147	,860



148 participant evaluated this question in the two measurement points. The participants had more positively evaluated the question after the training, which is shown by the mean values: before the training, it is 4.09 and after the training, it is 4.10. This shows that after the training the participant are a bit more convinced that the inclusion is desirable practice, as can be also seen in the positive correlation ( $r = .451$ ) between the answers of the participants regarding this question before and after the training. However, the difference and the change in their attitude in the two time points is not statistically significant, as  $t = -.176$ ,  $p = .860$  and  $df = 147$ .

**3. It is difficult to maintain order in a classroom that contains a mix of children with exceptional education needs and children with average abilities (reversed).**

**Paired Samples Statistics**

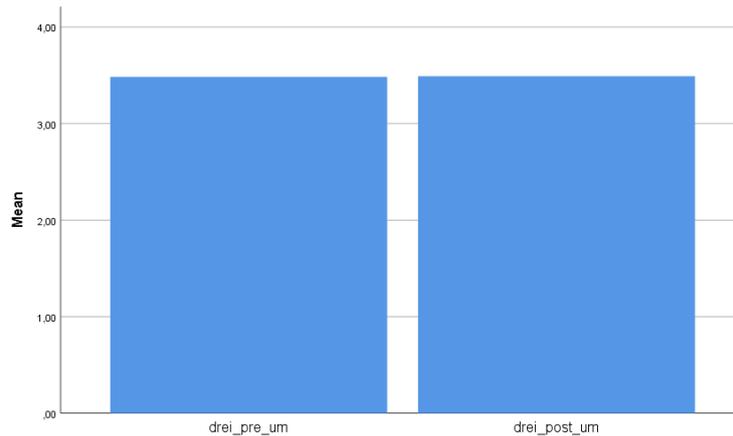
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	drei_pre_um	3,4832	149	,89747	,07352
	drei_post_um	3,4899	149	,74993	,06144

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	drei_pre_um & drei_post_um	149	,359	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	drei_pre_um - drei_post_um	-,00671	,94079	,07707	-,15902	,14559	-,087	148	,931



This item was evaluated by 149 participants in the both measurement times. The mean values are showing that there were almost no change in the believes of the participants regarding this aspect before and after the training, as the mean values are almost the same: before training 3.483 and after the training also 3.489. We can notice that there is also weak but positive correlation ( $r = .355$ ) between the answers of the participants before and after the training, but the attitude of the participants regarding the difficulty to maintain order in a classroom that contains a mix of children with exceptional education needs and children with average abilities before and after the training has not statistically significant changed, as  $t = -.087$ ,  $p = .931$  and  $df = 148$ .

#### 4. Inclusion can be beneficial for parents of children with exceptional education needs.

**Paired Samples Statistics**

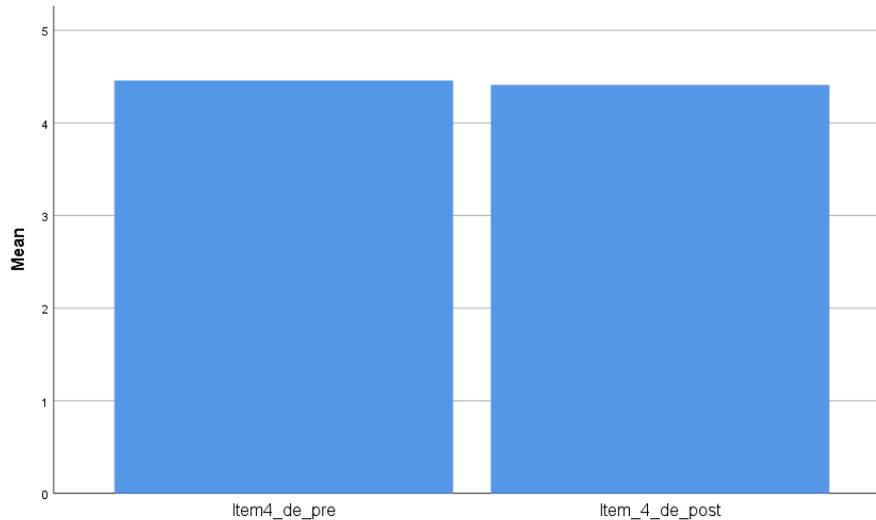
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item4_de_pre	4,46	210	,732	,051
	Item_4_de_post	4,41	210	,687	,047

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	Item4_de_pre & Item_4_de_post	210	,349	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Item4_de_pre - Item_4_de_post	,048	,811	,056	-,063	,158	,851	209	,396



The fourth question was evaluated by 210 participants, and they have evaluated this question in the same way before and after the training, as the mean values before the training is 4.46 and after the training it is 4.41. There is positive correlation ( $r = .349$ ) between the answers of the participants in the two measurement points, but the difference is not statistically significant as  $t = .851$ ,  $p = .396$  and  $df = 209$ . This means that the training has not contributed the participant to change and increase their positive attitude toward the inclusion as beneficial for the parents of children with exceptional education needs.

**5. Most special education teachers lack an appropriate knowledge base to educate typically developing students effectively (reversed).**

**Paired Samples Statistics**

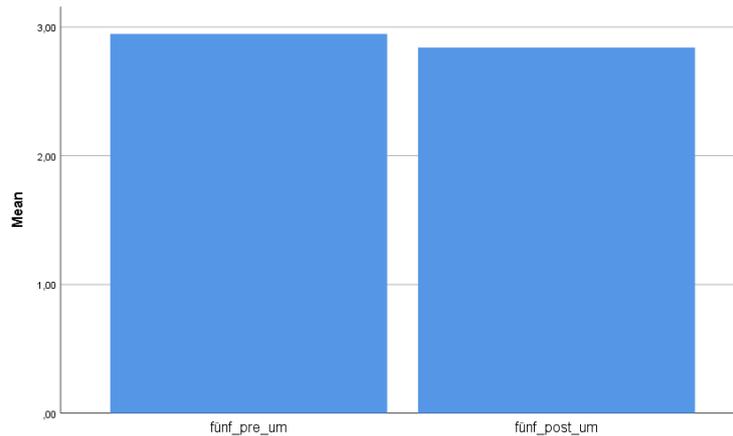
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	fünf_pre_um	2,9467	150	1,05415	,08607
	fünf_post_um	2,8400	150	1,01717	,08305

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	fünf_pre_um & fünf_post_um	150	,418	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	fünf_pre_um - fünf_post_um	,10667	1,11816	,09130	-,07374	,28707	1,168	149	,245



150 participants had answered this question in the two measurement points and after the training they believe slightly less that the most special education teachers lack an appropriate knowledge base to educate typically developing students, as the mean values are showing: before mean: 2.94 and the mean afterwards is: 2.84. Although there is also positive correlation ( $r = .418$ ) between the believes of the participants before and after the training, this change, in their believes regarding the appropriate knowledge of the special education teachers to educate typically developed students, before and after the training is not statistically significant as,  $t = 1.168$ ,  $p = .245$  and  $df = 149$ .

**6. We must learn more about the effects of inclusive classrooms before inclusive classrooms take place on a large-scale basis (reversed).**

**Paired Samples Statistics**

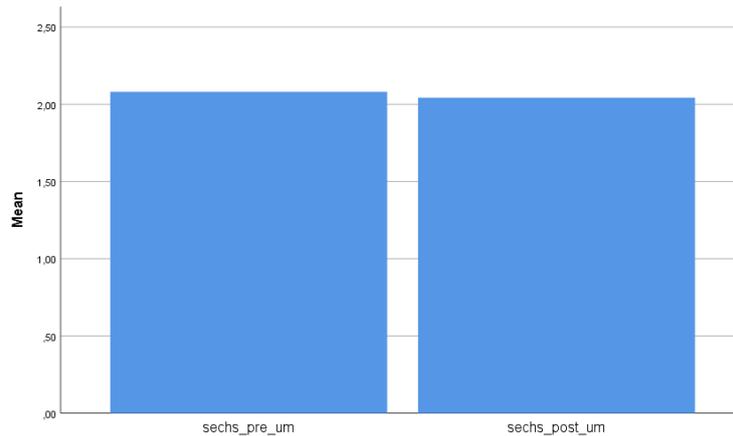
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sechs_pre_um	2,0806	211	1,02732	,07072
	sechs_post_um	2,0427	211	1,06148	,07308

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	sechs_pre_um & sechs_post_um	211	,573	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	sechs_pre_um - sechs_post_um	,03791	,96534	,06646	-,09309	,16892	,571	210	,569



This question was evaluated by 211 participant before and after the training and there is barely a change in their evaluation in the two time points as it can be noticed by the presented mean values in the first table above: mean value before the training is 2.08 and after the training is 2.04. We can notice from the statistics that there is positive correlation ( $r = .573$ ) but no statistically significant difference between the answers of the participants befor and after the training regarding the sixths questions, as  $t = .571$ ,  $p = .569$  and  $df = 210$ .

### 7. The best way to begin educating children in inclusive settings is just to do it.

#### Paired Samples Statistics

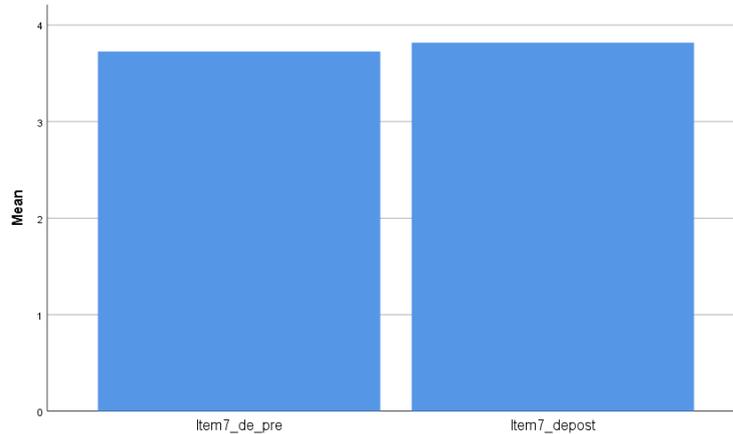
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item7_de_pre	3,73	153	1,125	,091
	Item7_depost	3,82	153	1,150	,093

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Item7_de_pre & Item7_depost	153	,698	,000

#### Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pair 1	Item7_de_pre - Item7_depost	-,092	,884	,071	-,233 ,050	-1,281	152	,202



The believes how to start educating children in inclusive settings bevor the training and after the training of 153 participants had changed positive. The mean value of their evaluation before the training is 3.73 and after the training is 3.82. This positive change is also shown by the demonstrated strong positive correlation ( $r = .698$ ) of their answer in the two measurement points. This means that the participants attitude toward this question has changed in the extend of the training, but this change and the difference in their believes between the two measurement points is not statistically significant,  $t = -1.281$ ,  $p = .202$  and  $df = 152$ .

**8. Children with special needs will probably develop academic skills more rapidly in a special, separate classroom than in an integrated classroom (reversed).**

**Paired Samples Statistics**

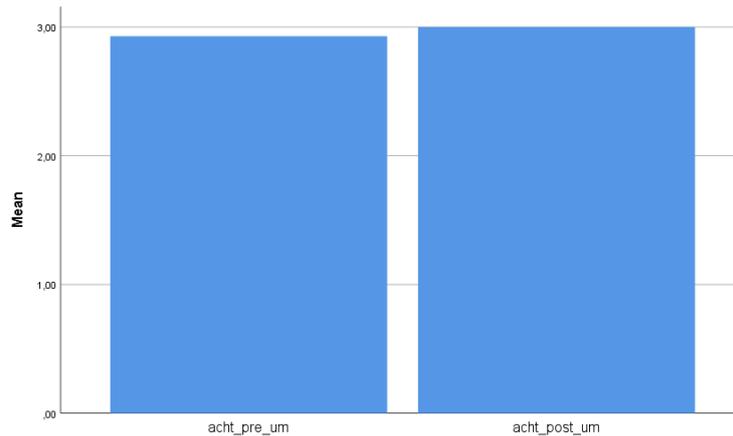
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	acht_pre_um	2,9286	210	,95328	,06578
	acht_post_um	3,0000	210	,94337	,06510

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	acht_pre_um & acht_post_um	210	,255	,000

**Paired Samples Test**

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)	
				Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	acht_pre_um - acht_post_um	-,07143	1,15731	,07986	-,22887	,08601	-,894	209	,372



The evaluation in the two measurement times (before and after the training) of this question by 210 participants had barely changed as it can be noticed from the mean values for the two points: mean before the training is 2.92 and mean after the training is 3.00. There is very weak correlation between the two measurements ( $r = .255$ ), and no statistically significant difference in the believes of the participants in the two measurement points,  $t = -.894$ ,  $p = .372$  and  $df = 209$ . This means that after the training the participants still believe and expect that children with special needs will probably develop their academic skills more rapidly in a special classroom.

**9. Children with exceptional needs are likely to be isolated by typically developing students in inclusive classrooms (reversed).**

**Paired Samples Statistics**

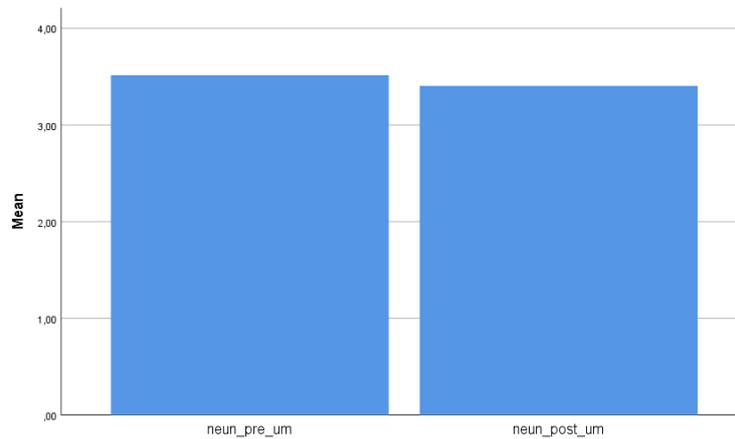
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	neun_pre_um	3,5143	210	1,07707	,07432
	neun_post_um	3,4048	210	1,15040	,07939

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	neun_pre_um & neun_post_um	210	,658	,000

**Paired Samples Test**

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)	
				Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	neun_pre_um - neun_post_um	,10952	,92411	,06377	-,01619	,23524	1,717	209	,087



There is change in the attitude of the participants after the training regarding their believes that children with exceptional needs will probably be isolated by typically developed children in inclusive classroom as the mean values are showing: mean before the training is 3.51 and after the training is 3.40. This change is also shown by the coefficient of correlation, which is positive  $r = .658$ . On the other hand this change in the attitude shows a statistical tendency as,  $t = 1.717$ ,  $p = .087$  and  $df = 209$ .

**10. The presence of children with exceptional education needs promotes acceptance of individual differences on the part of typically developing students.**

**Paired Samples Statistics**

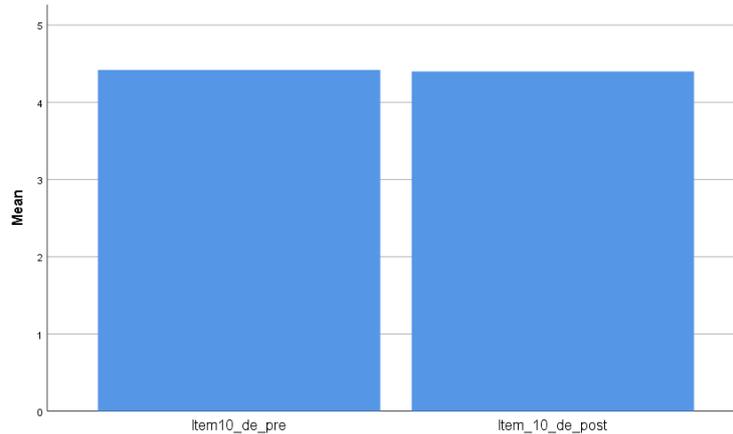
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item10_de_pre	4,42	208	,782	,054
	Item_10_de_post	4,40	208	,722	,050

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	Item10_de_pre & Item_10_de_post	208	,456	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Item10_de_pre - Item_10_de_post	,019	,786	,055	-,088	,127	,353	207	,725



There is barely a change in the evaluation of the participants on the tenth question before and after the training as the mean before the training is 4.42 and after the training is 4.40. We can notice that there is positive correlation between the responses of the participants before and after the training ( $r = .456$ ) but we can also notice that this very small change is not statistically significant, as  $t = .353$ ,  $p = .725$  and  $df = 207$ . This shows that the beliefs of the participants that the presence of children with exceptional education needs promotes acceptance of individual differences by the typically developing students has not significantly changed in the context of the training.

### 11. Children with special needs may show better performance in inclusive learning environments.

**Paired Samples Statistics**

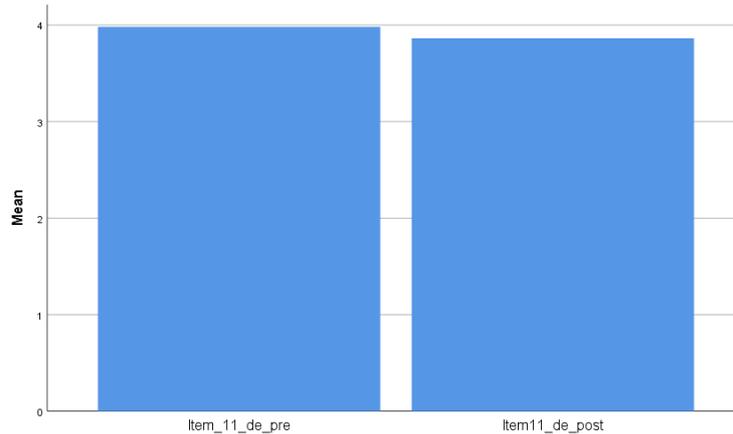
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item_11_de_pre	3,98	153	,702	,057
	Item11_de_post	3,86	153	,689	,056

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	Item_11_de_pre & Item11_de_post	153	,389	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Item_11_de_pre - Item11_de_post	,118	,769	,062	-,005	,240	1,892	152	,060



After the training 153 participants which had evaluated this question think slightly less, that children with special needs may show better performance in inclusive learning environment, as the mean values are showing: mean before the training is 3.98 and after the training is 3.84. The tables above regarding this question are showing that there is positive correlation ( $r = .389$ ) but also a tendency towards inclusion ( $t = 1.892$ ,  $p = .060$  and  $df = 152$ ).

## 12. Inclusion promotes self-esteem among children with special needs.

### Paired Samples Statistics

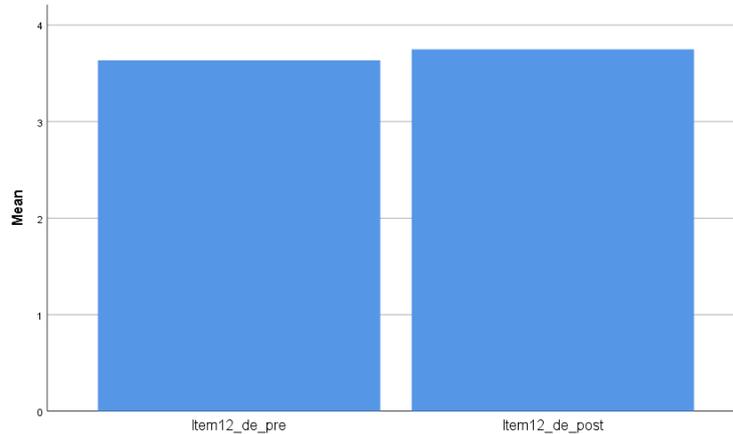
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item12_de_pre	3,63	210	,930	,064
	Item12_de_post	3,75	210	,829	,057

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Item12_de_pre & Item12_de_post	210	,444	,000

### Paired Samples Test

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)	
				Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Item12_de_pre - Item12_de_post	-,114	,931	,064	-,241	,012	-1,778	209	,077



After the training 210 participants had evaluated more positive, the question that inclusion promotes self-esteem among children with special needs as it can be noticed by the mean values: mean value before the training is 3.63 and after the training is 3.75. The expectation of the participants that children with special needs will develop better self-esteem in inclusive schools has increased as there is positive correlation ( $r = .444$ ) of their answers in the two measurement points. Still this change or difference in their expectation and believes before and after the training showed a tendency towards inclusive thinking.,  $t = -1,778$ ,  $p = .077$  and  $df = 209$ .

### 13. The challenge of a regular education classroom promotes academic growth among children with exceptional education needs.

#### Paired Samples Statistics

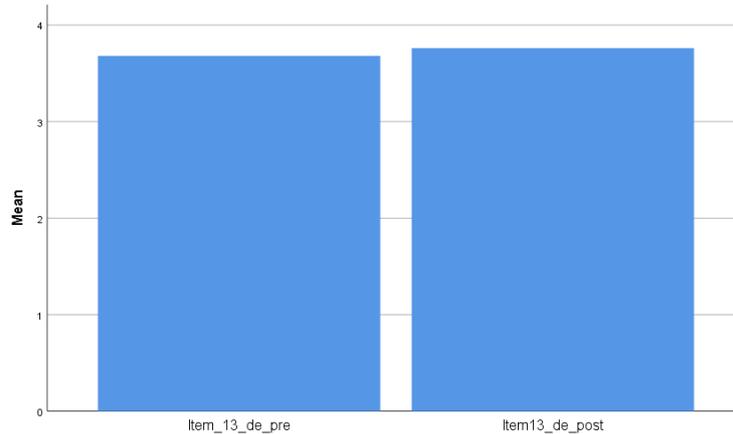
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item_13_de_pre	3,68	150	,805	,066
	Item13_de_post	3,76	150	,721	,059

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Item_13_de_pre & Item13_de_post	150	,283	,000

#### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Item_13_de_pre - Item13_de_post	-,080	,916	,075	-,228	,068	-1,070	149	,287



After the training believe 150 participants that the challenge of a regular education classroom promotes academic growth among children with exceptional education needs, as they have evaluated this question more positive: mean value before the training is 3.68 and after the training is 3.76. There is positive correlation ( $r = .283$ ), which shows that the participant expect to a higher extend after the training that the challenge of a regular education classroom will promote academic growth among children with special needs, but this increase in their expectation is not statistically significant as  $t = -1.070$ ,  $p = .287$  and  $df = 149$ .

**14. Isolation in a special class does NOT have a negative effect on the social and emotional development of students prior to middle school (reversed).**

**Paired Samples Statistics**

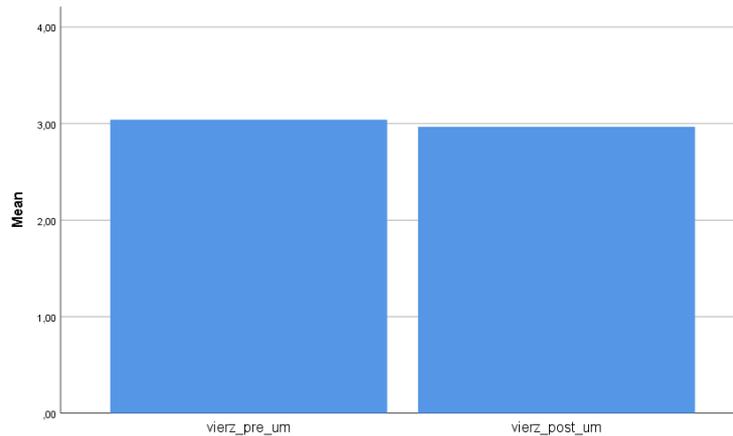
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	vierz_pre_um	3,0400	150	1,13445	,09263
	vierz_post_um	2,9667	150	1,05179	,08588

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	vierz_pre_um & vierz_post_um	150	,496	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	vierz_pre_um - vierz_post_um	,07333	1,09971	,08979	-,10409	,25076	,817	149	,415



After the training the expectations of participants regarding the negative effect of a special class on the social and emotional development on the students had slightly changed as the mean values are showing: mean value before the training is 3.04 and after the training is 2.96. There is correlation ( $r = .496$ ) between their answers in the two measurement times, but this change is not statistical significant, as  $t = .817$ ,  $p = .415$  and  $df = 149$ .

**15. People without a need for support are likely to demonstrate better motivation in inclusive learning environments than in other classes.**

**Paired Samples Statistics**

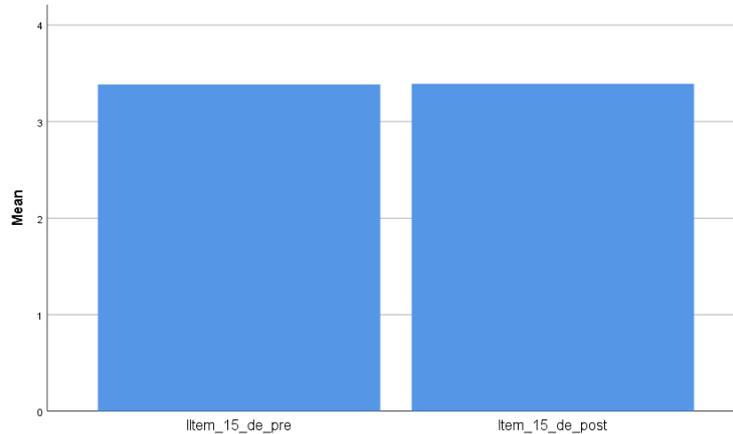
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	litem_15_de_pre	3,38	151	,807	,066
	litem_15_de_post	3,39	151	,791	,064

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	litem_15_de_pre & litem_15_de_post	151	,411	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	litem_15_de_pre - litem_15_de_post	-,007	,868	,071	-,146	,133	-,094	150	,925



The believes of the participants that children without needs for support will have probably better motivation in inclusive environment than in other classrooms has barely changed as the mean values show: 3.38 before the training and 3.39 after the training. We can notice that there is positive correlation ( $r = .411$ ) but this minimal change is not statistically significant as  $t = -.094$ ,  $p = .925$  and  $df = 150$ .

**16. The behaviors of students with special needs require significantly more teacher-directed attention than those of typically developing children (reversed).**

**Paired Samples Statistics**

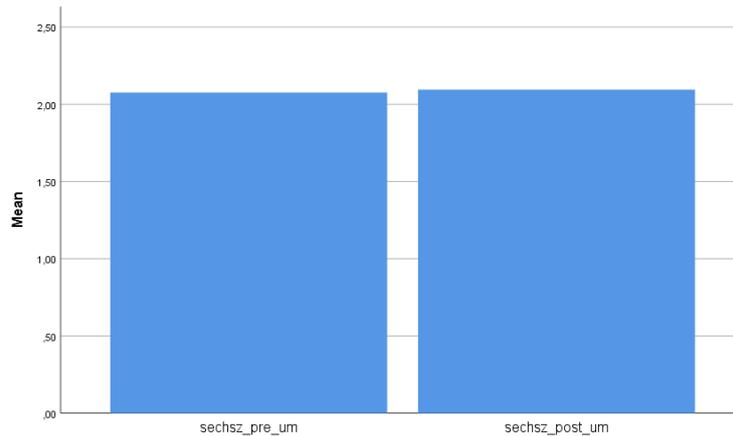
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sechsz_pre_um	2,0758	211	,86956	,05986
	sechsz_post_um	2,0948	211	,84545	,05820

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	sechsz_pre_um & sechsz_post_um	211	,541	,000

**Paired Samples Test**

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)	
				Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	sechsz_pre_um - sechsz_post_um	-,01896	,82209	,05659	-,13052	,09261	-,335	210	,738



The attitude of the participants regarding this question has also barely changed within the training. They have evaluated this question before and after the training almost in the same way as we can see from the mean values before the training = 2.07 and after the training = 2.09. There is positive correlation ( $r = .541$ ), between the answers of the participants in the two measurement times, but the change is also not statistically significant,  $t = -.335$ ,  $p = .738$  and  $df = 210$ .

**17. Parents of children with exceptional education needs require more supportive services from teachers than parents of typically developing children (reversed).**

**Paired Samples Statistics**

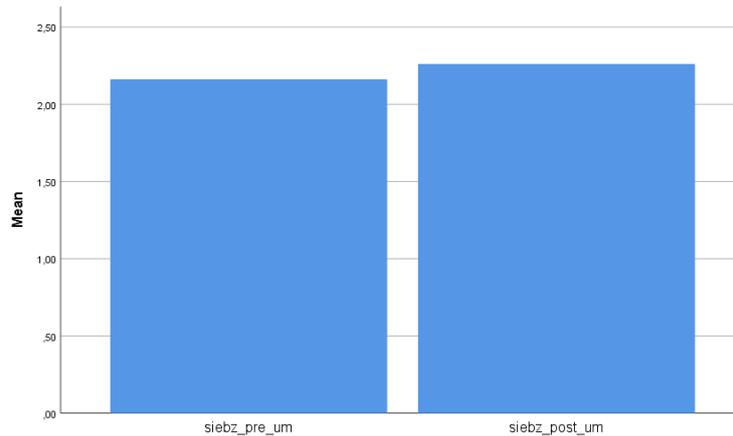
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	siebz_pre_um	2,1611	211	,93228	,06418
	siebz_post_um	2,2607	211	,92752	,06385

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	siebz_pre_um & siebz_post_um	211	,645	,000

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	siebz_pre_um - siebz_post_um	-,09953	,78349	,05394	-,20585	,00680	-1,845	210	,066



After the training 211 participant believe less that the parent of children with special needs require more support services from teachers. This is shown by the difference in the mean values in the two measurement points. Mean value before the training is 2.16 and after the training is 2.26. Also regarding this question there is positive correlation ( $r = .645$ ) between the answers of the participants before and after the training, but this pre- and post-difference tendency towards inclusion  $t = -1.845$ ,  $p = 0.66$  and  $df = 210$ .

**18. Parents of children with exceptional needs present no greater challenge for a classroom teacher than do parents of a regular education student.**

**Paired Samples Statistics**

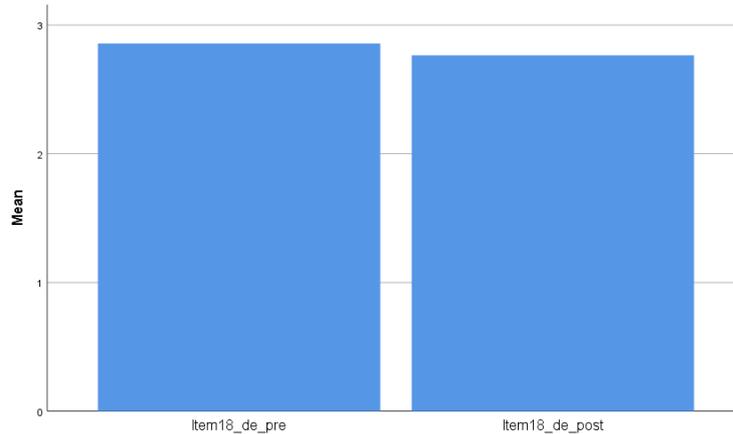
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Item18_de_pre	2,86	153	,949	,077
	Item18_de_post	2,76	153	,923	,075

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	Item18_de_pre & Item18_de_post	153	,344	,000

**Paired Samples Test**

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Item18_de_pre - Item18_de_post	,092	1,072	,087	-,080	,263	1,056	152	,293



There is as change in the participants evaluation regarding the question if parents of children with exceptional needs present no greater challenge for a classroom teacher than do parents of a regular education student, before and after the training as the mean value before the training is 2.86 and after the training is 2.76. There is also positive correlation ( $r = .344$ ), between their answers but no statistically significant difference before and after the training, as  $t = 1.056$ ,  $p = .293$  and  $df = 152$ .

**19. A good approach to managing inclusive classrooms is to have a special education teacher be responsible for instructing the children with special needs (reversed).**

**Paired Samples Statistics**

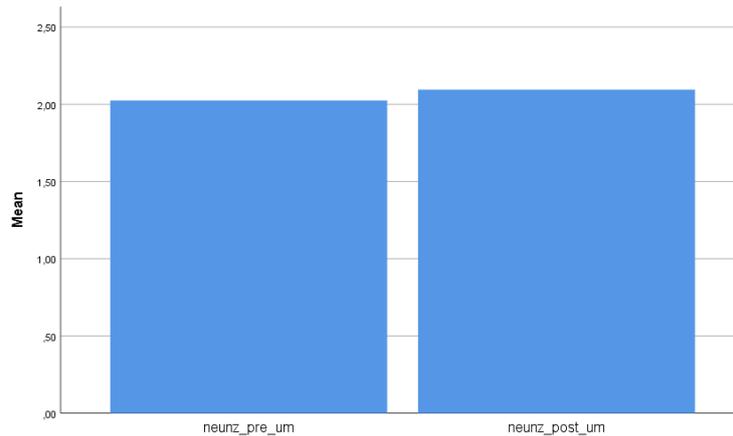
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	neunz_pre_um	2,0237	211	,89144	,06137
	neunz_post_um	2,0948	211	,94643	,06516

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	neunz_pre_um & neunz_post_um	211	,409	,000

**Paired Samples Test**

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)	
				Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	neunz_pre_um - neunz_post_um	-,07109	,99984	,06883	-,20678	,06460	-1,033	210	,303



After the training, the participants believe less that a good approach to managing inclusive classrooms is to have a special education teacher be responsible for instructing the children with special needs, as there is change in the mean values before and after the training: mean before the training is 2.02 and after the training is 2.09. There is also positive correlation ( $r = .409$ ), between their answers in the two time points, but this difference is also not statistically significant  $t = -1.033$ ,  $p = .303$  and  $df = 210$ .

## Section IV: Analysis of the results for the 3 measured factors with the questionnaire

### 1. Core perspectives (contains the questions: 1, 2, 3, 5, 7, 9 and 10)

#### Paired Samples Statistics

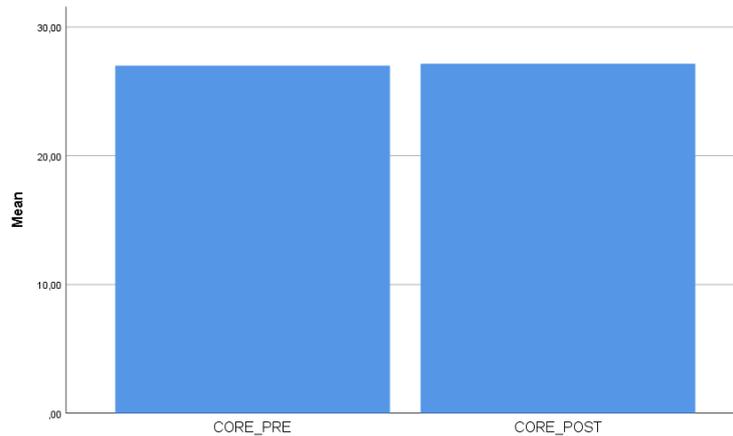
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	CORE_PRE	27,0000	137	3,34971	,28619
	CORE_POST	27,1460	137	3,12142	,26668

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	CORE_PRE & CORE_POST	137	,596	,000

#### Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	CORE_PRE - CORE_POST	-,14599	2,91684	,24920	-,63880	,34683	-,586	136	,559



The basic attitude toward inclusion of the participants had changed positively in the context of the training as the mean values are showing: mean value before the training is 27.00 and after the training is 27.14. There is positive correlation ( $r = .596$ ) between the answers of the participants in the two measurement points, but this change in their attitude before and after the training is not statistically significant as  $t = -.586$ ,  $p = .559$  and  $df = 136$ .

## 2. Expected outcomes (contains the questions: 4, 8, 11, 12, 13 and 14)

### Paired Samples Statistics

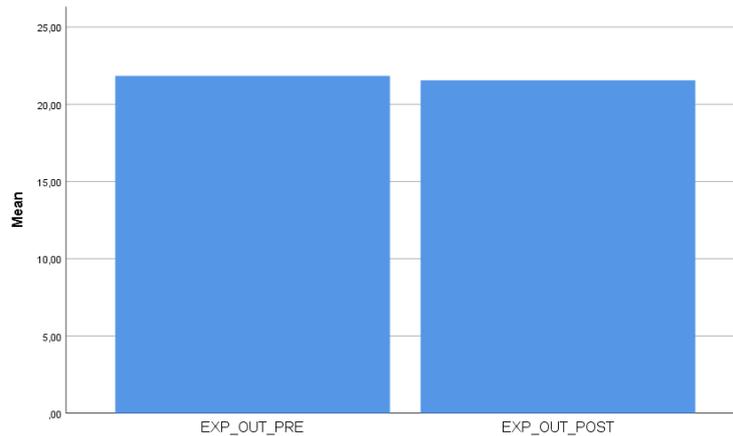
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	EXP_OUT_PRE	21,8322	143	2,96692	,24811
	EXP_OUT_POST	21,5524	143	2,65817	,22229

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	EXP_OUT_PRE & EXP_OUT_POST	143	,640	,000

### Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	EXP_OUT_PRE - EXP_OUT_POST	,27972	2,40424	,20105	-,11772	,67716	1,391	142	,166



The expected outcomes of the participants which are directly influencing their acting toward inclusion has also changed within the training as the mean values are showing: mean value before the training is 21.83 and after the training is 21.55. The coefficient of correlation is showing ( $r = 6.40$ ), that there is correlation but also here this change is not statistically significant  $t = 1.391$ ,  $p = .166$  and  $df = 142$ . This means that after the training the participants are still sceptic about the expected outcomes of inclusion.

### 3. Classroom practice (contains the questions: 6, 15, 16, 17, 18 and 19)

#### Paired Samples Statistics

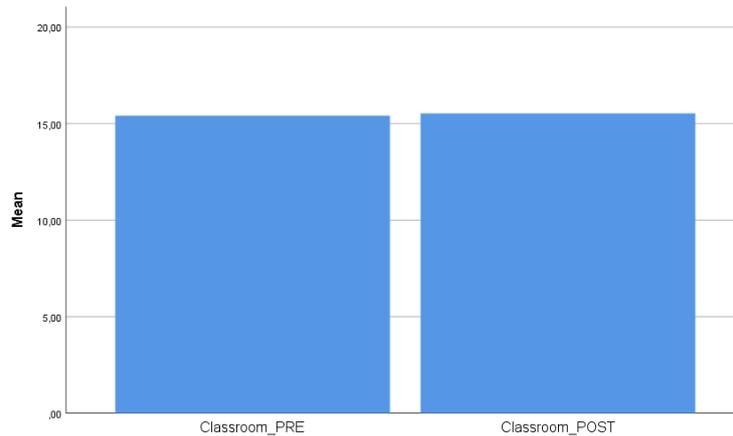
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Classroom_PRE	15,4054	148	2,76970	,22767
	Classroom_POST	15,5270	148	2,77365	,22799

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Classroom_PRE & Classroom_POST	148	,603	,000

#### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Classroom_PRE - Classroom_POST	-,12162	2,46859	,20292	-,52263	,27939	-,599	147	,550



And the factor classroom practice, which describe how are the participants practically dealing in the schools and in teaching with the students with special support needs, has also changed in the scope of the training: mean value before the training is 15.40 and after the training is 15.52. The tables above are showing that there is positive correlation ( $r = .603$ ) between the answers of the participants in the two measurement points, but also here this change in the context of the training is not statistically significant as the last table is showing,  $t = -.599$ ,  $p = .550$  and  $df = 147$ .

## Section V: Analysis of all items together in general

### 1. Pre and post evaluation of all items

#### Paired Samples Statistics

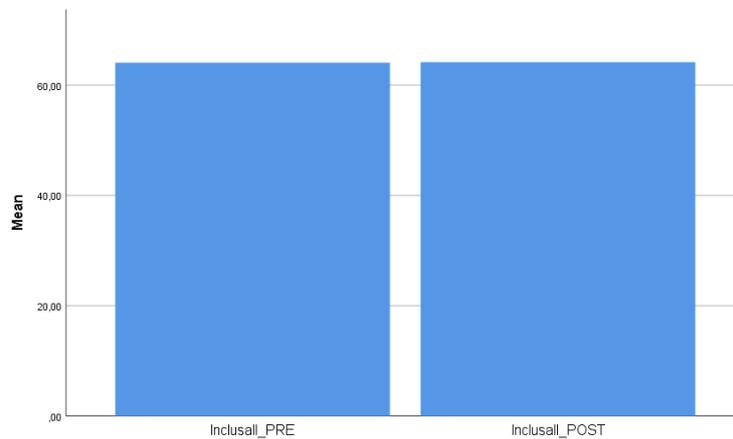
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Inclusall_PRE	64,0458	131	6,35956	,55564
	Inclusall_POST	64,1450	131	5,87056	,51291

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Inclusall_PRE & Inclusall_POST	131	,684	,000

#### Paired Samples Test

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)
				Std. Error Mean	95% Confidence Interval of the Difference			
				Lower	Upper			
Pair 1	Inclusall_PRE - Inclusall_POST	-,09924	4,87830	,42622	Lower: -,94246 Upper: ,74399	-,233	130	,816



Summarizing all the above described and giving a general statement about the influence of the training on the inclusive thinking of the participants which took part in the training, we can conclude from the above presented tables that, as there is positive correlation ( $r = .684$ ), and also change in the mean values before the training: 64.04 and after the training 64.14, that the participants are thinking slightly more inclusive after the training. But in the end effect we cannot say that this increase in their inclusive thinking is statistically significant, as  $t = -.233$ ,  $p = .816$  and  $df = 130$ , as it is stated in tables in this section.

## Section VI: Factor analysis and analysis of the results of the factor analysis

### Factor analysis

After analyzing the results for each items separately and analyzing the three factors, which are measured by the questionnaire, as proposed from the authors who created this questionnaire, a factor analysis was conducted in order to see if the same three factor solution of the author can be found in the data. The factor analysis resulted with three defined and structured factors, which in comparison to the proposed three factors by the authors are grouped in a different way, as follows:

**Factor I: (4, 7, 11, 12, 13) + possible (14, 15) = Initiation and Outcome of Inclusion**

**Factor II: (2, 3, 5, 8, 9) + possible (1, 10) = Social Acceptance and Inclusive learning**

**Factor III: (6, 16, 17) + possible (18, 19) = Workload and Challenges for the Professionals**

### Rotated Factor Matrix<sup>a</sup>

	Factor		
	1	2	3
Item_11_de_pre	,557		,128
Item4_de_pre	,556		-,144
Item_13_de_pre	,554	,119	
Item12_de_pre	,530		
Item7_de_pre	,504		
vierz_pre_um	,334	,244	,106
Item_15_de_pre	,256		,125
neun_pre_um		,571	-,145
zwei_pre_um	,133	,549	
acht_pre_um		,516	,209
fünf_pre_um		,450	
drei_pre_um		,444	,175
Item10_de_pre	,334	,385	-,105
Item1_de_pre	,323	,335	
sechsz_pre_um	,162		,637
siebz_pre_um	,130		,537
sechs_pre_um		,122	,426
Item18_de_pre	-,101		,276
neunz_pre_um	,160		,261

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

### Factor I: Initiation and Outcome of Inclusion

#### Paired Samples Statistics

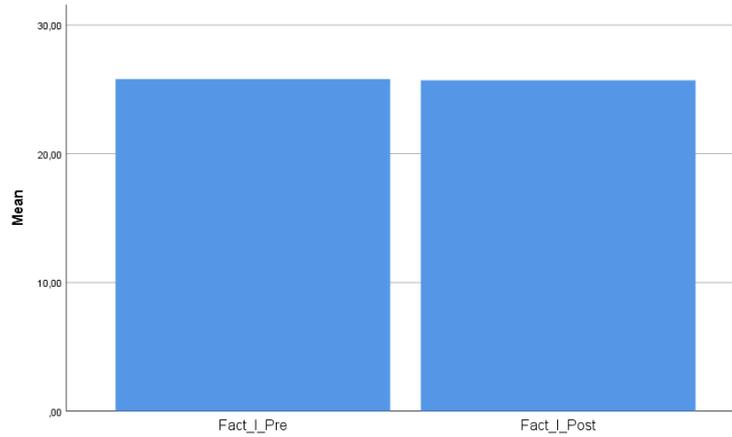
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Fact_I_Pre	25,7986	144	3,57650	,29804
	Fact_I_Post	25,7083	144	3,37592	,28133

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Fact_I_Pre & Fact_I_Post	144	,703	,000

#### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Fact_I_Pre - Fact_I_Post	,09028	2,68618	,22385	-,35220	,53276	,403	143	,687



As we can see from the tables above, also for the new factors which were created with the factors analysis, there is not statistical significant difference in the two measure points. There is change in the answers of the participants before and after the training, which can be seen in the mean values: mean before the training is 25.79 and mean after the training is 25.70, but still this change is not significant as  $t = .403$ ,  $p = .687$  and  $df = 143$ .

#### Factor II: Social Acceptance and Inclusive learning

##### Paired Samples Statistics

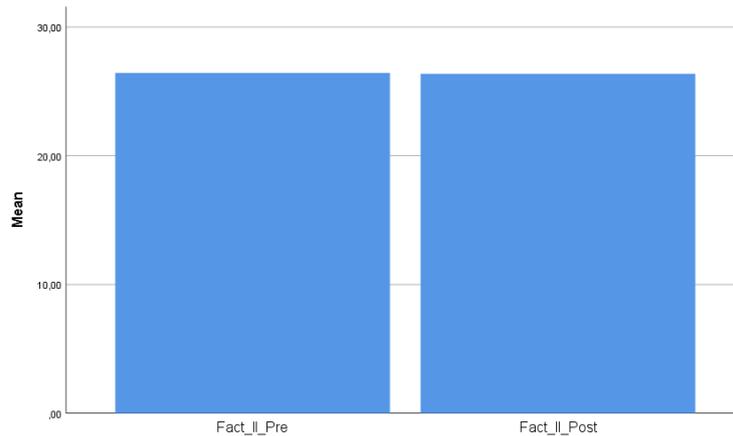
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Fact_II_Pre	26,4338	136	3,40523	,29200
	Fact_II_Post	26,3676	136	2,89779	,24848

##### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Fact_II_Pre & Fact_II_Post	136	,519	,000

##### Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	Fact_II_Pre - Fact_II_Post	,06618	3,12268	,26777	-,46339	,59574	,247	,805



Also here by factor II: Social Acceptance and Inclusive learning, as resulted by the factor analysis, we can notice that there is a change between the two aspects (or measurement points) as the mean values are showing: mean before the training is 26.43 and mean after the training is 26.36, but this change is not statistically significant as  $t = .247$ ,  $p = .805$ , and  $df = 135$ .

### Factor III: Workload and Challenges for the Professionals

#### Paired Samples Statistics

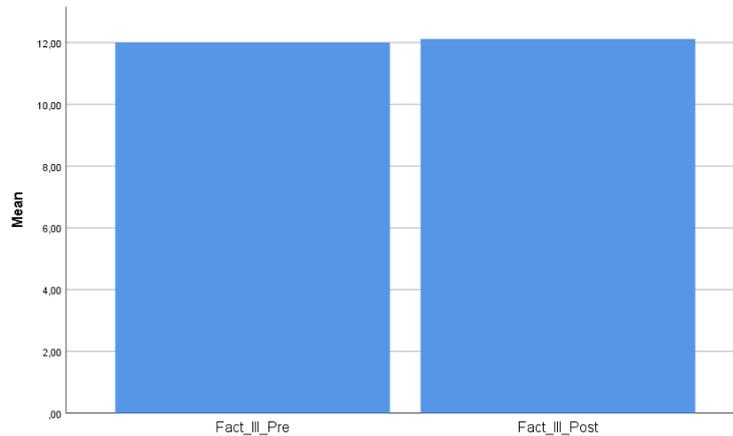
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Fact_III_Pre	11,9933	150	2,66848	,21788
	Fact_III_Post	12,1133	150	2,67862	,21871

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Fact_III_Pre & Fact_III_Post	150	,628	,000

#### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Fact_III_Pre - Fact_III_Post	-,12000	2,30529	,18823	-,49194	,25194	-,638	149	,525



And the third factor: Workload and Challenges for the Professionals, created according to the results of factor analysis, has also no statistical significance in his evaluation before and after the training. The mean values are showing that there is a change, as the mean before the training is 11.99 and after the training is 12.11, but this change is not statistically significant, as  $t = -.638$ ,  $p = .525$  and  $df = 149$ .

## Section VII: Conclusion

As a general conclusion after the conducted statistical analysis on each of the items separately, on the three factor solution proposed by the authors and on the three factor solutions proposed with the conducted factor analysis, we can say that except there few aspects which show statistical relevant or tendencial effects:

A) effects in favor of the hypothesis that icf is increasing inclusive thinking:

### **The finding show an increase in inclusive attitude on an GENERAL LEVEL**

Students with special needs have the right to be educated in the same classroom as typically developing students. ( $p < .05$ )

Inclusion promotes self-esteem among children with special needs  $p < 0,10$  (tendency)

Parents of children with exceptional education needs do not require more supportive services from teachers than parents of typically developing children  $p < 0,10$  (tendency)

On the other hand findings also indicate reverse effects, that based on ICF trainings some items (mainly referring to effects and social isolation) decreased inclusive thinking:

B) Effects against the hypothesis: ICF trainings increase scepticism concerning following aspects:

**Children with exceptional needs are likely to be isolated by typically developing students in inclusive classrooms (reversed).**

**Children with special needs may show better performance in inclusive learning environments.**

C) Factor structure:

Based on indepth analysis also the factor structure, described by Paulus could not be replicated in this sample. The own analysis revealed a 3 factor matrix with slightly different loading:

Factor I: Initiation and Outcome of Inclusion

Factor II: Social Acceptance and Inclusive learning

Factor III: Workload and Challenges for the Professionals

Further research will be necessary to clarify differences and links between the diverse factor structures.

## Section VIII Interpretation

ICF is supposed to increase and support inclusive thinking, measured by the above mentioned instruments. However in this study only mild effects (3 of 19 items) could be observed. The most important finding is, that ICF **is supporting a general inclusive perspective** for the participants of ICF trainings provided within pilot runs of the Erams+ project "A common language in School".

Tendencial supportive effects could also be observed concerning the impact of inclusion on **self esteem** and the assessment of general support needs.

However the trainings also showed a negative impact on some practical implication of inclusion: Participants express higher scepticism concerning social acceptance of children with disabilities in mainstream settings and about outcome parameters. Even though both aspects are only partly replicated in the literature: better outcomes were described by Ekeh & Oladayo, 2013 for disabled and typical children. Based on Pretis (2017) following Spence (2010) some negative impact on math-grades for typical developed boys. Pretis (2017), following (Odom 2002) describes isolating behavior towards children with disability in 33%.

## How to interpret that 14 of 19 items are not showing significant changes?

A possible explanation can be found in the duration of the trainings: in generally the ICF trainings were conducted only for one day. This can mean that one day ICF training might not be enough to initiate significant difference and change in the attitude of the participants towards inclusion. The results are showing that the participants are generally and pro-inclusion-oriented and that more knowledge about the IMPACT of inclusion might be necessary.

Second possible explanation is that although there are no significant differences detectable, the changes between the times of measurement indicate that tendencies towards answering and self-representation in the context of inclusion or tendencies of social desirability decrease until after the end of the training, which means that the participants are evaluating the questions regarding inclusion in more realistic way after the training.

This paper represents interim findings within the external quality management of the Erasmus + project. Further analysis will be performed to obtain a deeper insight into the inclusion processes.

## IX Reference:

Paulus, C. (2013). *Manual des MTAI Fragebogen. Einstellungen zu Inklusion: die deutsche Fassung des MTAI.*

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