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Developing the Scale of Classroom Management Skills*

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Abstract

In general sense, management uses sources of organization voluminously to reach the common goals of the participants of the organization. Classroom management uses the sources of the classroom participant (student, teacher, school management) to be successful. Success at education may be reached if teacher, with the status of classroom manager, can perform management processes effectively. The most important factor at success at education is teacher's level of classroom management skills. Classroom management skills cannot be dissociated from general management skills. Processes such as planning, coordination, organization, communication, making decisions, and prize-reward are also necessary for classroom management. Teacher's success at these processes also determines his success at the teaching conducted with his students.

The study was conducted with 788 students chosen randomly from Trakya University. Varimax rotated exploratory factor analysis was used as scale development statistics to ascertain sub-dimensions. Item-total correlation coefficient and item-remainder correlation coefficient, Cronbach and Rulon coefficient were calculated to determine the reliability. The scale was found to be valid, reliable and available as a result of statistical procedures.

Keywords: classroom management, developing scale, validity, reliability, skill

1. Introduction

It is of utmost importance to ensure and maintain the order determined in the teaching process (Beaty-O'Ferrall, Green & Hanna, 2010) which is a complex process. In this respect, the teacher must be successful in the classroom management, which is seen as the heart of education and teaching in the school environment (Ada, 2005).

The classroom is a private living space where the teacher and children are confronted and educational activities take place. The vast majority of the training period takes place in this area of life and the experiences in the classroom are of great importance in terms of the impact on the child's behavior, so teachers need to be trained not only as educators but also as effective class managers (Sadık, 2016).

According to Turan (2008), classroom management creates a positive learning climate in the classroom, providing the opportunity for students to express themselves freely and to reveal their potential. In other words, classroom management is to carry out teaching activities effectively to bring children to achievements (Çalık, 2012).

The classroom environment is a place of social interaction, so it is not possible to control every event. During the course, a group of students may try to learn as much as possible from the course. However, some students contact with their friends irrelevant to the course, and may have the opportunity to prevent activities planned in line with the purpose of the course. In addition, some students cannot pay their attention to the lesson or participate in learning activities (Korkmaz, 2005). Classroom management, a process that allows teachers to control the learning and management of their classes, enables teachers to advance their classes and prevent disruptions from occurring. By using effective classroom management techniques, teachers can control the direction and learning style of their class so that students can learn in an effective environment without discomfort or distraction. In this context, effective classroom management creates and maintains a regular environment in the classroom, increases meaningful academic learning and facilitates social and emotional growth, reduces negative behaviors and increases academic time (Kratochwill, DeRoos & Blair, 2009). In fact, as Çayak&Ergin (2015) states, while the aim of the teachers in the education process is to bring behavior change in the

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desired direction, the situations expressed as unwanted behaviors in the students may adversely affect the teacher in the teaching-learning process and prevent the learning of other students.

Classroom management is a process that involves different activities carried out by both the teacher and the students, as well as a process that teaches the students both the needs and abilities and the lessons that should be compatible with the pre-determined teaching objectives (Delceva - Dizdarevik, 2014). Evertson and Weinstein (2006) define the actions that teachers take as in order to create a supportive environment for their students' academic and social-emotional learning as classroom management, and explain five types of action in this regard. These are stated below to achieve a high-quality classroom management;

- Teachers should develop care and supportive relationships with students, and among students, and organize and implement training to optimize students' access to learning.
- Teachers should encourage students to participate in academic tasks using group management methods.
- Teachers should encourage students to develop their social skills and self-regulation.
- Teachers should be able to use appropriate interventions to help students with behavior problems.

In some cases, teachers can also be effective in the negative behaviors of students. Not preparing adequately for the lesson, not being fair, showing negative attitudes towards students, not showing enough interest, not using time effectively, showing lack of use of teaching materials, not reacting appropriately to student needs, not being able to understand, not using enough reinforcement, not setting rules and boundaries, not being neutral among students, not seeing some students, keeping some of them more, and similar teacher practices are important factors that lead to negative behaviors of children (Aksoy, 2000). Therefore, preserving the classroom order in achieving education and training objectives is one of the skills and responsibilities teachers should have. In fact, as Şişman (1999) states, classroom management is to provide and maintain appropriate conditions for learning by making necessary physical and other resource arrangements. Teachers who use classroom management effectively, such as teaching effectively, rewarding appropriate behaviors, imposing sanctions on inappropriate student behaviors, adapting courses according to student characteristics, and effectively using the duration of lessons can increase student achievement and desired behavior (Yıldız, 2017). Effiong (2007) proposes that teachers can cope with these destructive behaviors in the classroom and minimize them through effective classroom management in order for effective classroom management to take place.

Classroom management means where and with whom the students should sit; which teaching methods will be followed; how to ensure motivation and student participation; which materials to use; how to deal with wrong behaviors and so on. (Emmer & Gerwels, 2005). Effective class management is the management of class and human life as an orchestra. The role of the teacher is being a conductor who supports democracy and creativity, and then shares this conduct with the students (Başar, 2009). For this reason, more importance should be given to classroom management in teacher training programs, one of the most basic skills that teachers need to have for effective teaching to prepare them to be competent and effective in managing today's classes with various learning groups (Oliver & Reschly, 2007).

2. Method

The aim of this study is to develop a scale to determine teachers' classroom management skills. The study was conducted with 788 students chosen randomly from Trakya University 2015-2016 spring semester Faculty of Education all 4th grade students, and Pedagogical Formation Program Students. "The scale of classroom management skills", prepared by the researcher, has been used as a means of data collection. The scale consists of 33 questions with 4 degrees.

Varimax rotated exploratory factor analysis was used as scale development statistics to ascertain sub-dimensions. For each subscale internal consistency was determined by item-total correlation coefficient and item-remainder correlation coefficient. Similarly, t-test was applied between upper and lower quartiles to ascertain the power of discrimination. Cronbach and Rulon coefficient for scale and sub-dimensions were calculated to determine the reliability. As a result of the statistical operations, it has been proved that the scale consisting of 4 positive, 2 negative attitudes, totally 6 sub dimensions, is valid, reliable, and usable. High points indicate positive classroom management skills.

3. Results

Exploratory factor analysis was used to determine the construct validation of the scale. The suitability of the data for factor analysis was assessed with KMO and Barlett tests and it was detected that they are statistically appropriate (Table 1).

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,918
Bartlett's Test of Sphericity	Approx. Chi-Square	9251,959
	df	528
	Sig.	0,000

6 extraction has been formed where components whose eigen values above 1 to be selected. Principal component analysis was used as an extraction method. 6 components explain 52,690% of the total variance cumulatively (Table 2).

Table 2. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8,740	26,484	26,484	8,740	26,484	26,484	3,679	11,149	11,149
2	3,360	10,183	36,667	3,360	10,183	36,667	3,627	10,991	22,140
3	1,677	5,082	41,749	1,677	5,082	41,749	3,256	9,867	32,007
4	1,366	4,140	45,889	1,366	4,140	45,889	2,944	8,920	40,927
5	1,186	3,594	49,482	1,186	3,594	49,482	2,718	8,238	49,164
6	1,059	3,208	52,690	1,059	3,208	52,690	1,163	3,526	52,690
7	,999	3,029	55,719						

Factors and the items they contain were identified according to varimax rotated factor analysis. It has been ascertained that the scale has 6 factors. (Appendix B Table 6).

The factors determined by factor analysis, including positive and negative skills and their meanings are as follows; Table 3)

Table 3. Factors

F1	Positive	Surprise reward	Surprise reward behaviors that will please the students
F2	Positive	Regular reward	Behaviors that will reward the students according to a system with certain rules.
F3	Positive	Encouragement	Behaviors that are incentive and encouraging
F4	Negative	Punishment	Behaviors that are punitive and preventive
F5	Negative	Arbitrary reward-punishment	Behaviors that are indeterminate to reward or punish when, who and why
F6	Positive	Respect in criticism	Not behaving disrespectfully while criticizing or punishing the students

Item-total correlation and item remainder coefficients were calculated to determine internal consistency between dimensions. Rulon=0.837, and Cronbach α=0.731 were found in order to question the relation between total factors and the sum of the scale. According to these analyses, it was seen that there is an internal consistency between all factors and the sum of the scale (Table 4).

Table 4. The Analysis Of Internal Consistency Between Dimensions

	Item-total correlation coefficient			Item-remainder correlation coefficient		
Factors	rit	df	p	rir	df	p
F1	0,754	786	p<.01	0,582	786	p<.01
F2	0,907	786	p<.01	0,722	786	p<.01
F3	0,868	786	p<.01	0,699	786	p<.01
F4	0,115	786	*	-0,267	786	p<.01
F5	0,047	786	*	-0,328	786	p<.01
F6	0,361	786	p<.01	0,282	786	p<.01
	Rulon			Cronbach		
	0,837			0,731		

For each factor internal consistency was determined by item-total correlation coefficient and item-remainder correlation coefficient, Rulon, Cronbach α coefficients. According to these analyses, it was seen that there is an internal consistency between all items and their factors. (Appendix B Table 7-11).

t- Test was used to analyze the difference between upper and lower quartiles to determine people with high level skills and low level skills. According to results, it was seen that all factors are suitable to distinguish low and high skills levels (Table 5).

Table 5. Discriminant coefficients for Subscales

	Upper Quadrille			Lower Quadrille			Comparison			
Factor	n	Mean	Std.dev.	n	Mean	Std.dev.	t	df	p	
F1	213	2,590	0,587	213	1,572	0,395	20,950	424	p<.01	0,000
F2	213	3,177	0,467	213	2,241	0,493	20,084	424	p<.01	0,000
F3	213	3,047	0,533	213	2,039	0,490	20,292	424	p<.01	0,000
F4	213	1,641	0,556	213	1,546	0,472	1,906	424	p<.05	0,028
F5	213	1,832	0,649	213	1,734	0,533	1,689	424	p<.05	0,046
F6	213	3,146	0,870	213	1,615	0,715	19,786	424	p<.01	0,000

t- test was used to ascertain discrimination power of high and low level skills for everyone. According to results it was seen that all items are suitable for distinguishing between people with high and low level skills (Appendix B Table 12-16).

As a result of the all statistical analyses it has been decided that the scale consisting 6 factors and 33 items is valid, reliable, and useable. 24th items should be assessed reverse, all the other items should be valued straight. In positive content factors (F1, F2, F3, F6) high score indicates positive classroom management skills. In negative content factors (F4, F5) low score indicates positive classroom management skills.

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Appendix A

THE SCALE OF CLASSROOM MANAGEMENT SKILLS (SOME ITEMS)

Below some expressions are given related to one teacher's classroom management skills. Answer the expressions below sincerely by putting ✕ only one of the options according to the conformity degree of you. Do not answer if you are indecisive, or do not have any idea.

		Never	Rarely	Mostly	Always
1)	He makes fun of us.	☐	☐	☐	☐
2)	He shouts.	☐	☐	☐	☐
3)	He provides my friends know my success, too.	☐	☐	☐	☐
4)	He exhibits successful studies on local boards.	☐	☐	☐	☐
5)	He praises success.	☐	☐	☐	☐
6)	He is encouraging.	☐	☐	☐	☐
7)	He is punitive.	☐	☐	☐	☐
8)	He praises work and effort.	☐	☐	☐	☐
9)	He does not criticize or give penalty in a group of friends.	☐	☐	☐	☐

Appendix B

Table 6. Rotated Component Matrix

		Component					
Items	Factor	1	2	3	4	5	6
i1	**4**	-,119	-,134	-,153	**,622**	,189	,005
i2	**4**	-,084	-,003	-,049	**,734**	,037	-,181
i3	3	,304	,105	**,636**	,024	,048	,003
i4	3	,349	,019	**,564**	,022	-,054	-,146
i5	3	,073	,217	**,788**	-,018	-,012	,061
i6	3	,139	,289	**,636**	-,212	-,210	,114
i7	**4**	,093	-,031	,138	**,556**	,177	-,111
i8	3	-,026	,248	**,648**	-,074	-,192	,151
i9	6	,099	,091	,161	-,130	-,148	**,711**
i10	**4**	-,090	-,058	-,116	**,689**	,149	,180
i11	2	,120	**,488**	,319	,009	-,228	-,083
i12	2	-,028	**,478**	,181	-,095	-,131	-,180
i13	**4**	,002	-,164	-,118	**,696**	,243	,080
i14	**5**	-,150	,049	-,083	,204	**,612**	-,187
i15	**5**	-,067	-,100	-,090	,218	**,684**	-,141
i16	**5**	-,084	-,162	-,076	,196	**,681**	-,077
i17	**5**	-,027	-,153	-,151	,239	**,710**	,105
i18	2	,369	**,496**	,320	-,011	-,148	,059
i19	2	,136	**,721**	,024	-,059	-,074	,088
i20	2	,123	**,688**	,082	-,152	-,008	,275
i21	**5**	,090	-,185	-,027	,222	**,496**	,337
i22	2	,416	**,500**	,263	-,121	-,155	,128
i23	2	,434	**,509**	,179	-,047	,049	-,125
i24	**1**	**-,388**	,238	,051	,169	,353	,223
i25	1	**,704**	,248	,207	-,094	-,097	,096
i26	3	,333	,428	**,457**	-,205	-,169	,142
i27	3	,329	,401	**,434**	-,112	-,118	,109
i28	1	**,695**	,104	,169	-,014	-,056	-,121
i29	2	,399	**,457**	,213	,002	,007	-,017
i30	1	**,783**	,259	,129	-,043	-,095	,174
i31	1	**,769**	,213	,102	-,032	-,013	,158
i32	**4**	-,064	-,072	,030	**,521**	,300	-,086
i33	2	,296	**,506**	,235	-,169	-,061	-,034

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations

Table 7. Internal Consistency Analysis For Factor 1

	Item-total correlation coefficient			Item-remainder correlation coefficient		
Item	rit	df	p	rir	df	p
i24	0,488	785	p<.01	0,223	785	p<.05
i25	0,792	785	p<.01	0,641	785	p<.01
i28	0,718	785	p<.01	0,543	785	p<.01
i30	0,831	786	p<.01	0,706	786	p<.01
i31	0,800	786	p<.01	0,666	786	p<.01
	Rulon			Cronbach		
	0,810			0,774		

Table 8. Internal Consistency Analysis For Factor 2

	Item-total correlation coefficient			Item-remainder correlation coefficient		
Item	rit	df	p	rir	df	p
i11	0,624	786	p<.01	0,501	786	p<.01
i12	0,495	784	p<.01	0,366	784	p<.01
i18	0,698	786	p<.01	0,604	786	p<.01
i19	0,661	786	p<.01	0,555	786	p<.01
i20	0,654	786	p<.01	0,547	786	p<.01
i22	0,730	785	p<.01	0,629	785	p<.01
i23	0,690	785	p<.01	0,570	785	p<.01
i29	0,634	786	p<.01	0,512	786	p<.01
i33	0,670	784	p<.01	0,541	784	p<.01
	Rulon			Cronbach		
	0,846			0,831		

Table 9. Internal Consistency Analysis For Factor 3

	Item-total correlation coefficient			Item-remainder correlation coefficient		
Item	rit	df	p	rir	df	p
i3	0,657	785	p<.01	0,517	785	p<.01
i4	0,613	786	p<.01	0,443	786	p<.01
i5	0,749	785	p<.01	0,640	785	p<.01
i6	0,756	786	p<.01	0,647	786	p<.01
i8	0,672	786	p<.01	0,542	786	p<.01
i26	0,753	786	p<.01	0,640	786	p<.01
i27	0,706	786	p<.01	0,574	786	p<.01
	Rulon			Cronbach		
	0,826			0,826		

Table 10. Internal Consistency Analysis For Factor 4

	Item-total correlation coefficient			Item-remainder correlation coefficient		
Item	rit	df	p	rir	df	p
i1	0,668	786	p<.01	0,518	786	p<.01
i2	0,685	785	p<.01	0,527	785	p<.01
i7	0,588	786	p<.01	0,388	786	p<.01
i10	0,686	786	p<.01	0,520	786	p<.01
i13	0,740	786	p<.01	0,594	786	p<.01
i32	0,673	784	p<.01	0,450	784	p<.01
	Rulon			Cronbach		
	0,786			0,754		

Table 11. Internal Consistency Analysis For Factor 5

	Item-total correlation coefficient			Item-remainder correlation coefficient		
Item	rit	df	p	rir	df	p
i14	0,669	786	p<.01	0,460	786	p<.01
i15	0,748	786	p<.01	0,576	786	p<.01
i16	0,715	786	p<.01	0,531	786	p<.01
i17	0,774	786	p<.01	0,614	786	p<.01
i21	0,615	783	p<.01	0,373	783	p<.01
	Rulon			Cronbach		
	0,800			0,745		

Table 12. Discriminant Coefficients For Factor 1

	Upper Quadrille			Lower Quadrille			Comparison			
Item	n	Mean	Std.dev.	n	Mean	Std.dev.	t	df	p	
i24	213	3,089	0,811	212	1,849	0,713	16,712	423	p<.01	0,000
i25	213	2,962	0,719	212	1,208	0,418	30,694	423	p<.01	0,000
i28	213	2,568	0,869	213	1,075	0,281	23,786	424	p<.01	0,000
i30	213	2,836	0,769	213	1,094	0,308	30,626	424	p<.01	0,000
i31	213	2,714	0,763	213	1,089	0,286	29,019	424	p<.01	0,000

Table 13. Discriminant Coefficients For Factor 2

	Upper Quadrille			Lower Quadrille			Comparison			
Item	n	Mean	Std.dev.	n	Mean	Std.dev.	t	df	p	
i11	213	3,282	0,730	213	1,930	0,812	18,020	424	p<.01	0,000
i12	213	3,657	0,583	212	2,656	0,908	13,497	423	p<.01	0,000
i18	213	3,108	0,695	213	1,709	0,558	22,851	424	p<.01	0,000
i19	213	3,502	0,588	213	2,150	0,822	19,484	424	p<.01	0,000
i20	213	3,615	0,593	213	2,310	0,823	18,741	424	p<.01	0,000
i22	213	3,408	0,705	213	1,704	0,681	25,306	424	p<.01	0,000
i23	213	3,263	0,775	213	1,573	0,673	23,973	424	p<.01	0,000
i29	213	3,169	0,707	213	1,676	0,729	21,409	424	p<.01	0,000
i33	213	3,624	0,651	212	1,915	0,935	21,805	423	p<.01	0,000

Table 14. Discriminant Coefficients For Factor 3

	Upper Quadrille			Lower Quadrille			Comparison			
Item	n	Mean	Std.dev.	n	Mean	Std.dev.	t	df	p	
i3	213	2,939	0,772	212	1,538	0,587	21,027	423	p<.01	0,000
i4	213	2,709	0,895	213	1,216	0,514	21,053	424	p<.01	0,000
i5	213	3,502	0,588	212	1,929	0,623	26,704	423	p<.01	0,000
i6	213	3,549	0,569	213	1,939	0,638	27,426	424	p<.01	0,000
i8	213	3,620	0,584	213	2,244	0,769	20,751	424	p<.01	0,000
i26	213	3,329	0,697	213	1,714	0,643	24,805	424	p<.01	0,000
i27	213	3,286	0,719	213	1,742	0,640	23,370	424	p<.01	0,000

Table 15. Discriminant Coefficients For Factor 4

	Upper Quadrille			Lower Quadrille			Comparison			
Item	n	Mean	Std.dev.	n	Mean	Std.dev.	t	df	p	
i1	213	2,094	0,714	213	1,047	0,212	20,463	424	p<.01	0,000
i2	213	2,362	0,677	213	1,146	0,353	23,182	424	p<.01	0,000
i7	213	2,291	0,752	213	1,225	0,419	18,024	424	p<.01	0,000
i10	213	2,174	0,785	213	1,009	0,097	21,439	424	p<.01	0,000
i13	213	2,254	0,790	213	1,019	0,136	22,427	424	p<.01	0,000
i32	213	2,437	0,902	212	1,047	0,213	21,834	423	p<.01	0,000

Table 16. Discriminant Coefficients For Factor 5

	Upper Quadrille			Lower Quadrille			Comparison			
Item	n	Mean	Std.dev.	n	Mean	Std.dev.	t	df	p	
i14	213	2,840	0,785	213	1,484	0,537	20,772	424	p<.01	0,000
i15	213	2,676	0,785	213	1,160	0,367	25,478	424	p<.01	0,000
i16	213	2,587	0,823	213	1,207	0,439	21,540	424	p<.01	0,000
i17	213	2,498	0,899	213	1,038	0,191	23,139	424	p<.01	0,000
i21	213	2,408	0,980	211	1,118	0,338	18,113	422	p<.01	0,000