

Communication Skills and Classroom Management Competency: The Mediating Role of Problem-Solving Skills

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Abstract

This descriptive, cross-sectional study aims to examine the mediator role of problem-solving skills in the relationship between communication skills and classroom management. The participants were 431 randomly-sampled pre-service teachers who were studying at a university in the central Anatolia region of Turkey. The study data were collected via a classroom management scale, a communication skills scale), and a problem-solving inventory. Results revealed positive and significant relationships among problem-solving, communication skills and classroom management competency. Additionally, the relationship between communication skills and classroom management competency was mediated fully by the problem-solving skills of pre-service teachers.

Key Words: Classroom management competency, communication skills, problem-solving, teacher education, pre-service teachers

Introduction

Teachers have many complex roles. They focus on the personal and academic development of students. Moreover, there are other crucial fields of teaching such as; basic communication skills, good work and study habits, problem-solving and thinking skills, social values, being a subject matter expert (Sigel, 1990). On the other hand, the literature suggests that there is an interactive relationship between instructional effectiveness and classroom management, which can also be regarded as a field of teaching (Gay, 2006). Classrooms are the places where the knowledge and growth of students are constructed. Classrooms should be managed effectively in order to be successful in personal and academic growth of students. Hence, classroom management is a process that provides opportunities for students such as materials, time, physical conditions and motivational factors in order to make them to learn all the things needed for development (Sieberer-Nagler, 2016). According to Jones and Jones (2004), classroom management ensures effective instruction, increases student motivation for learning, minimizes misbehaviours of students, creates positive relationships among the stakeholders of education such as teachers, students and parents. Classroom management has an enduring concern for administrators, teachers, and the public. (Evertson & Weinstein, 2006). Educators, psychologists and scholars from other fields have offered theories on managing classroom (Emmer & Aussiker, 1990). The focuses of

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these theories are the power of communication in influencing the sense of belonging of children (Gordon, 1974); the power of teachers in shaping group and individual behaviour (Redl & Wattenberg, 1959); managing students (Glasser, 1992) and controlling the classroom (Ginott, 1971). On the other hand, Bear (1998) categorizes research on classroom management in three ways. Specifically, teachers should focus on (1) problem-solving which is useful for self-discipline and achieving long term goal, (2) learning strategies which are useful for short-term problems, and (3) creation of effective management and positive classroom climate management research. Besides, the literature shows that classroom management competency is correlated closely with problem-solving skills (Zembar, Tunçeli & Yavuz, 2016) and communication skills (Aküzüm & Özdemir-Gültekin, 2017; Aydın, 2014). Hence, it would be reasonable to claim that teachers who have high levels of problem-solving and communication skills would be more competent in managing classrooms.

Communication skills

Communication is vitally important in sustaining relationships in daily and professional life. It is defined as the process by which opinions, ideas, information, feelings and attitudes are transmitted from person to another. (Duță, 2015). Communication is a competence that can be regarded as the ability to interact appropriately and effectively with others (Chen & Starosta, 1996). Communication, which is a vital skill for all professions, is at the core of the teaching profession in terms of teacher-student relationships (Duță, 2015). The teaching profession requires perfect communication skills, because the potential of teachers to develop students is something related to effective communication. Thus, teachers should both communicate effectively with others and carry out technical tasks to be successful professionals (Ihmeideh, Al-Omari & Al-Dababneh, 2010). Communication skills are also key factors in managing classrooms. Besides, communication competence is among the basic competencies of teachers, because it is regarded as one of the skills required to improve student learning and achieving academic goals in classroom settings. (O’Hair & Wright, 1990). As also remarked by Hurt, Scott, and McCroskey (1978), there is “a difference between knowing and teaching, and that difference is communication in the classroom” (p. 3). Communication styles of teachers help students integrate their self-regulation with their inner motivation in autonomous classroom activities (Reeve, 2006). Research shows that there is positive and statistically significant relationship between classroom management and communication skills (Aküzüm & Özdemir-Gültekin, 2017; Gülbahar & Sivacı, 2018; Yılmaz & Altunbaş, 2012). Communication skills are also important in teacher-parent communication (Battistich et al., 1997). This awareness would help teachers solve problems in the classroom. Because it is one of the most important but generally overlooked part of teacher education period (Hunt, Simonds, & Cooper, 2002), communication skills training, should start in pre-service education.

Problem-solving as a mediator

Problem-solving is a crucial skill that affects all life actions, from simple to complex. It leads individuals to find solutions for the problems with the application of previously gained experiences (Korkut, 2002). Problem-solving skills support individuals' ability to cope with behaviour (Heppner et al., 2002). On the other hand, problem-solving, which is regarded as a challenging process, requires behavioural, affective and cognitive actions to overcome the barriers on the way to the goal (Jonassen, 2000; Funke, 2010). Individuals who have high levels of problem-solving skills tend to have a democratic attitude, show critical and reflective thinking (Demirel, 2004), and build effective communication (Payne, 2001). Problem-solving is a multifaceted process with behavioural, affective and cognitive dimensions, and which is essential in handling critical situations (Heppner & Lee, 2002) and coping with problems (Sadowski & Kelley, 1993). Hence, teachers' problem-solving skills should be developed, because teachers have to provide the best solution for issues that occur in every condition that they face in educational settings (Tok, Tok & Dolapçioğlu, 2014). It can also be asserted that teaching problem-solving to preservice teachers could improve their skills on managing undesirable behaviours in the process of classroom setting. Problem-solving give students and teachers an opportunity to build an appropriate behaviour in classroom settings with the help of effective communication (Emmer & Aussiker, 1990). Effective problem-solving skills of teachers help them to communicate and interact with students and understand their roles in classroom (Nelsen et al., 2000). Researches reveal that removing communication barriers has an effect on developing problem-solving skills (Ertürkler, 2009). Researches also show that there is positive and statistically significant relationship between problem-solving skills and classroom management (Kesicioğlu & Güven, 2014 ; Zembat, Tunçeli & Yavuz, 2016) and between problem-solving skills and communication skills as well (Koç, Terzi & Gül, 2015; Nacar & Tümkaya, 2011; Piji-Küçük, 2012).

Communication skills and problem-solving skills are crucial in today's society and professional life. The same is true for teacher education, and the communication skills of pre-service teachers are correlated with their expertise in managing classrooms and problem-solving skills. According to the literature, it can be expected that problem-solving skills mediate the relationship between communication skills and classroom management. Namely, those who report high levels of communication skills would report more on classroom management competency beliefs, and problem-solving would serve mediating role on the impact of communication skills on classroom management competency. In this sense, the study aims to examine the mediator role of problem-solving skills between communication skills and classroom management competency. Hence, the answer to the following research question was sought:

RQ: Do problem-solving skills mediate the relationship between communication-skills and classroom management competency?

Methodology

Research model and data analysis

This cross-sectional study was designed as a quantitative descriptive survey type in quantitative research paradigm. In cross-sectional studies, is collected at just one point in time the data from a predetermined population (Fraenkel, Wallen & Hyun, 2012). All the analyses for the hypothesized model were run via SPSS 22.0. The mediation analysis and 5,000 bootstrapping iterations were carried out by using PROCESS macro 3.3 for SPSS, and effects of the paths were reported using standardized beta (β). However, before testing the hypothesized model, bivariate correlations were utilized, means and standard deviations were calculated.

Population and sample

The population of the study consisted of 4871 pre-service teachers who were enrolled in the faculty of education of a university in the central Anatolia region of Turkey in 2017-2018 academic year. The participants of the study were 431 pre-service teachers who were randomly selected from this population. According to formula of Cochran (1977), the sample needed for the study should be 356 at least. Hence, 431 participants were adequate to represent the population in the current study. 297 (68.8%) of the participants were female, and 135 (31.3%) of them were male. The age of the participants ranged from 18-34, with a mean age of 20.99 (SD = 1.76). 87 (20.1%) of the participants were freshmen, 117 (27.1%) of them were sophomores, 79 (18.3%) of them were juniors, and 149 (34.5%) of them were seniors. The participants of the study were selected via random sampling technique which enables each participant in the population has an equal probability to be selected for the research (Bordens & Abbott, 2018; Cohen, Manion, & Morrison, 2018). Table 1 presents the demographic information of participants. Before the data collection process, ethical approval was obtained from Scientific Research Ethics Committee of the University involved in the current study.

Table 1.
Demographics of the Participants

Variables		f	%
Gender	Female	297	68,9
	Male	134	31,1
	Freshman	87	20,2
Seniority	Sophomore	117	27,1
	Junior	79	18,3
	Senior	148	34,3
Teaching Experience	Yes	120	27,8
	No	310	71,9
	Missing	1	0,2
Department	Primary School Education	72	16,7
	Primary School Mathematics Teaching	71	16,5
	Special Education	118	27,4
	Foreign Language Teaching	105	24,4
	Arts and Crafts Education	63	14,6
	Missing	2	0,5
Total		431	100

Data collection instruments

Communication skills scale:

The scale developed by Korkut-Owen and Bugay (2014) includes 25 items in the following four factors: “personal expression”, “nonverbal expression”, “communication principles and basic skills”, “willingness to communicate”. The items of the scale are rated on a 5-point rating scale in which 5 indicates ‘strongly agree’ and 1 indicates ‘strongly disagree’. The total score of the scale ranges from 25 to 125. A higher score indicates higher communication skills level. Internal consistency coefficient of the scale ($\alpha = .88$) proves that it is a robust scale to measure communication skills of pre-service teachers (Korkut-Owen & Bugay, 2014). Internal consistency coefficient for the current study was $\alpha = .82$.

Problem-solving inventory:

The inventory includes 32 items. It was developed by Heppner and Petersen (1982) and adapted for use in Turkish contexts by (Şahin, Şahin & Heppner, 1993). The first version of the scale includes three factors: “problem-solving confidence”, “approach–avoidance style”, and “personal control”. The adapted version of the scale revealed six factors: “impulsive style”, “reflective style”, “avoidant style”, “monitor-

ing”, “problem-solving confidence” and “planfulness”. The items of the scale are rated on a 1 to 6-point rating scale. Internal consistency coefficient (α) for the scale was .88 (Şahin, Şahin & Heppner, 1993). Internal consistency coefficient for this study was .86.

Classroom management competency scale:

The scale developed by Gökyer and Özer (2014) includes 16 items and 3 factors. The factors of the scale are “relationship management in classroom”, “management of instruction” and “student / environment recognition”. The items of the scale are rated on a 5 points rating scale ranging from 1 which indicates strongly disagree and 5 which indicates strongly agree. The total score of the scale ranges from 16 to 80. The higher score indicates higher classroom management competency level. Internal consistency coefficient of the scale was $\alpha = .93$ (Gökyer & Özer, 2014). Internal consistency coefficient for this study was $\alpha = .89$.

Findings

Descriptive statistics of the variables are presented in Table 1. The means of the communication skills, problem-solving skills and classroom management competency were 3.82 (SD=.65), 3.38 (SD=.34) and 3.90 (SD=.54). The variables in the study were found to be normally distributed. Bivariate correlations were implemented to explore the relationships between the variables of the study. According to Cohen’s criterion (1988), .10 can be regarded as small correlation, whereas .30 can be regarded as moderate and .50 and higher can be considered as robust correlation. Therefore, as shown in Table 2, the correlations among all three variables can be considered as strong since they are all above .50.

Table 2.

Correlations Among the Variables

Mediation role of problem-solving skills between communication skills and classroom management competency

	M	SD	Skewness	Kurtosis	Communication	Problem-solving	Classroom Management
Communication	3.82	.65	-.012	-.244	-		
Problem-solving	3.38	.34	-.095	-.234	.671*	-	
Classroom Management	3.90	.54	-.186	-.128	.502*	.679*	-

*Correlation is significant at the .01 level.

Mediation analysis emphasizes testing the indirect influence of an independent variable on a dependent variable through a third variable, which functions as a mediator (Preacher & Hayes, 2004). According to Baron and Kenny (1986), a variable

should meet the following conditions to function as a mediator: a) There should be a direct and statistically significant relationship between independent (X) and dependent (Y) variables that hypothesize mediation effect (path c); b) the independent variable should be related to the mediator (path a) significantly; c) the mediator variable should be related to the dependent variable (path b) significantly; and, d) when the mediator variable constant is in the model, there should be a non-significant relationship between the independent and dependent variables (path c). Moreover, Preacher and Hayes (2004) asserted that partial mediation occurs when the effect of the independent variable on the dependent variable with the inclusion of the mediator variable decreases by a non-trivial amount, but not to zero. By taking these conditions into account, the model was hypothesized and displayed as in Figure 1, and tested via PROCESS macro 3.3 for SPSS.

According to results of the analyses, as shown in Figure 1, total effect of communication skills score on classroom management competency was statistically significant [$c = .51$; $t(429) = 12,55$, $p = .001$]; indicating that pre-service teachers scoring higher on communication skills were more likely express higher competencies in classroom management. Second, path (a) from communication skills to problem-solving skills was positive and statistically significant [$a = .67$; $t(429) = 18,75$, $p = .001$]; indicating that pre-service teachers scoring higher on communication skills were more likely have better problem-solving skills. Third, the coefficient between problem-solving skills and classroom management competency in path (b) was statistically significant [$b = .62$; $t(429) = 13,04$, $p = .001$], indicating that pre-service teachers scoring higher on problem-solving skills were more likely have a higher level of classroom management competency. Finally, Figure 1 revealed that the path coefficient between communication skills and classroom management competency [$c' = .08$; $t(428) = 1.77$, $p = .076$] was not statistically significant when problem-solving skills variable was included as a mediator in the model. These findings of the study may be considered as an indicator of a full mediation or perfect mediation model, since the independent variable does not have any effect when the mediator variable is constant (Baron & Kenny, 1986).

In mediation analysis, the procedure of bootstrapping is used to generate an empirically derived representation of the sampling distribution of the indirect effect (Hayes, 2017). It was remarked by Preacher and Hayes (2004) that bootstrapping would prove more appropriate results than the other classical methods. For the model tested in the study, 5,000 bootstrapping iterations were performed to generate 95% confidence intervals using the PROCESS Macro 3.3 for SPSS to determine the indirect effect. Therefore, bootstrapping was employed to test the indirect path from communication skills to classroom management competency within the verified mediation model. The indirect effect of communication skills on classroom management competency mediated by problem-solving skills was statistically significant (bootstrap estimate = .35, 95% CI = .28, .42). Confidence interval (95%), which was proved empirically, did not

consist of zero, proving that communication skills exerted a statistically significant indirect effect on classroom management competency moderating by problem-solving skills (Preacher & Hayes, 2004).

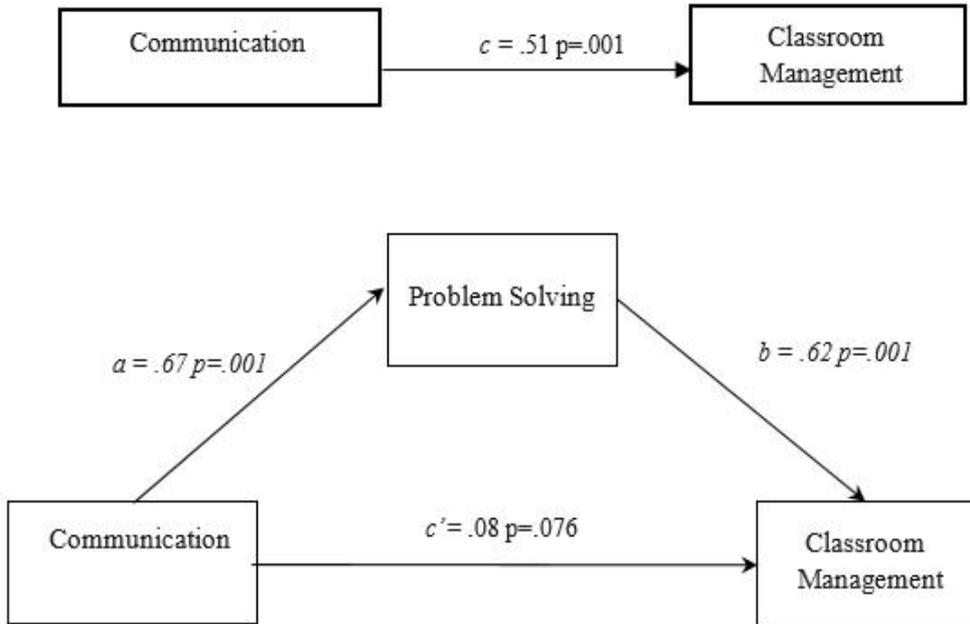


Figure 1. Simple mediation model testing the mediating effect of problem solving skills.

Discussion

The results of the study revealed that the relationship between communication skills and classroom management competency was fully mediated by the problem-solving skills of pre-service teachers. In this sense, it can be interpreted that problem-solving skills of pre-service teachers are a perfect mediator on the relationship between communication skills and classroom management competency. This result of the study revealed that having a high level of communication skills may positively but indirectly affect classroom management competencies of pre-service teachers via problem-solving skills. Throughout the mediating effect of problem-solving skills, higher scores of communication skills may be related to a higher level of classroom management competency.

The fact that the problem-solving skills of pre-service teachers as a mediator in the relationship between communication skills and classroom management competency has not been proved or investigated so far. However, the results of the current study are similar to other studies indicating that the problem-solving skills variable is positively and significantly related to other variables that are closely consistent with communication skills and classroom management competency, such as self-efficacy,

sense of community, and teaching and learning (Behjoo, 2013; Ferreira & Trudel, 2012; Kagan, 1988; Norris, 2003). The literature shows that problem-solving skills are positively correlated with classroom management (Kesicioğlu & Güven, 2014; Zembat, Tunçeli & Yavuz, 2016) and communication skills (Koç, Terzi & Gül, 2015; Piji-Küçük, 2012). The findings of the current study showed similarities with the literature. Specifically, problem-solving skills had statistically significant and positive correlations with communication skills and classroom management competency. The literature also proves that classroom management is positively correlated with communication skills (Aküzüm & Özdemir-Gültekin, 2017; Gülbahar & Sıvacı, 2018; Yılmaz & Altunbaş, 2012). The results of the study showed similarities with the literature revealing that classroom management competency had statistically significant and positive correlations with communication skills.

The limitations of the study should also be considered. One of the prominent limitations of the study is that participants were pre-service teachers from the university located in central Anatolia region of Turkey. To generalize the results for different groups and samples, the study should be carried out in different regions with distinctive samples. Second, data collection tools were constructed as self-reported measures. Therefore, using different data collection tools and different methods would increase the objectivity. Future research may also be designed as a longitudinal study that examines problem-solving skills and communication skills of pre-service teachers during their teacher education. Because the present study was cross-sectional in design, it would be beneficial to organize experimental studies in the future to reach the causal findings and inferences. Apart from problem-solving skills, there might be other mediating variables in the relationship between communication skills and classroom management competency. Hence, the mediating roles of other variables could be a research subject in future studies. Besides, communication and problem-solving skills in educational settings can be tested as a mediator among the relationships of any other important variables in the educational process. This study has considerable contributions to the communication and classroom management literature despite its limitations. It can also be recommended that teacher educators pay particular attention to developing the problem-solving skills of pre-service teachers during the education process and classroom management classes. Having a high level of communication and problem-solving skills would help pre-service teachers establish more effective interaction with their students, enabling them to manage the classroom more effectively.

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