INCREASING TEACHER CANDIDATES COGNITIVE LEARNING THROUGH INCREASING INSTRUCTOR'S TEACHING IMMEDIACY

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Abstract

The purpose of the study is to investigate the impacts of two teacher immediacy methods on students' immediate and long-term evaluation of teacher immediacy, state of motivation and cognitive learning. The first method is to memorize students' names in the first lecture and start calling them by their names at the end of it and the second method is to welcome students at the entrance of the classroom by their names. Throughout the semester, the teacher met the students at the entrance of the classroom before lectures and welcomed each student by his or her name. At the end of the semester, the students responded to the scales and sat the test again. The results revealed that the first method significantly increased teacher immediacy. The posttest results revealed that teacher immediacy directly and state motivation through teacher immediacy significantly affected cognitive learning.

Key Words: Memorizing students' names, welcoming students before lectures, teacher immediacy, state motivation, cognitive learning.

Introduction

Beside deep content knowledge and knowledge of effective instruction, effective teachers should be able to build effective personal communication with their students

(Frymeir, & Houser, 2000). The type, content and quality of this communication would affect the quality of education. This relationship is conceptualized as immediacy by Mehrabian (1969). Immediacy is defined as a set of behaviors creating a perception of physical or psychological closeness between communicators (Mehrabian, 1969). Teacher immediacy can be defined as teachers' verbal actions such as calling students by their names, asking students about themselves, asking for students' opinions and non-verbal actions such as moving about the class during class, using facial expressions, gestures, and voice effectively, smiling, and establishing eye contact. This study recruited two methods to increase teacher immediacy, therefore, the study consisted of two phases. The first phase involved the allocation of the first lecture for an acquaintance meeting for the treatment group. At the end of the lecture, the teacher memorized the students' names and called each student by his or her name. The impact of this application on the students' teacher immediacy evaluation and state motivation was assessed. The second phase lasted through the whole semester. Each week, the teacher met the treatment group at the entrance of the classroom and welcomed them to the class by their names before the lecture. At the end of the semester, both groups' evaluations of teacher immediacy, course (state) motivation and academic achievement (academic learning) were compared. Thus, the purpose of the study is to investigate the impact of these applications on teacher immediacy, students' state motivation for the course and cognitive learning.

First Impression and Teacher Immediacy

The study of Ambady and Rosental (1993) highlighted the importance of first impression for teachers. They have found that seeing teachers in a 30-second videotape is enough for students to generate a judgment on their teacher's effectiveness. A recent study has revealed that students find teachers with a good first impression more confident, dominant, likable and professional compared to teachers with a bad first impression (Samudra, Min, Cortina & Miller, 2016). These studies have revealed the importance of the first impression. For a good first impression, they focused on teachers' behaviors such as a strong and positive tone of voice, enthusiastic and relevant gestures and facial expressions. Besides these, we assume that teachers' demonstration of personal interest to students such as trying to learn their names at the first lecture can also create a good first impression and increase students' evaluations of teacher immediacy. To the author's

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knowledge, such an attempt demonstrated by a teacher has not been studied with an experimental design. Therefore, the study may serve as an enrichment of teachers' behavioral repertoire for creating a good first impression and, thus, increase teacher immediacy.

Teacher Immediacy and Motivation

Teacher immediacy would be one of the aspects that can increase students' motivational tendencies (Christophel, 1990; Frymeir and Houser 2000). Christophel (1990) stated that "it was believed that students would be motivated to move towards (approach) classes they like and unmotivated or move away from (avoid) classes they dislike" (Christophel, 1990, p. 325). Acordingly, Frymier and Houser (2000) have stressed that teachers recruit interpersonal communication methods to motive their students. Establishing a good rapport with students could positively affect students' motivation for the course and learning.

In many ways, teacher immediacy is related to and sometimes overlaps with teacher enthusiasm (Keller, Goetz, Woolfolk Hoy, & Frenzel, 2016). Several studies have revealed the positive impact of teacher enthusiasm on students' intrinsic motivation, recall performance (Moè, 2016), higher quality of teaching (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011). Since teacher enthusiasm and teacher immediacy are related concepts, a display of teacher immediacy may be perceived as a sign of teacher enthusiasm and intrinsic motivation. Therefore, it may positively affect students' motivation and cognitive development (Keller, Goetz, Woolfolk Hoy, & Frenzel, 2016). These claims are reasonable under the theorization of self-determination theory (STD).

Self-determination points out that people are intrinsically motivated to learn and improve (Deci & Ryan, 2000). The acts of teacher immediacy can be seen as signs of intrinsic motivation because they resemble the eagerness of a teacher to be in class. Therefore, teacher immediacy may be related to state motivation, too.

Brophy (1983) defined state motivation as "students' purposeful engagement in classroom tasks by trying to master the concepts or skills involved (p. 200)." Comadena, Hunt and Simonds (2007) have found that non-verbal teacher immediacy increases students' state motivation and students' affective evaluations of the course and the instructor. In another study, Zhang and Oetzel (2006) reached similar findings with Chinese students. They have found that teacher immediacy increases students' state motivation and,

in return, state motivation works as a mediator between immediacy and cognitive learning.

Consequently, increasing state motivation may positively affect cognitive learning. Zhang and Oetzel (2006) investigated the path between teacher immediacy, students' learning motivation and cognitive learning. They have stated that "teacher immediacy first increases students' effect for the course and the instructor, affect then motivates students to learn; motivation finally leads to increased cognitive learning (p. 326)." Therefore, the study investigated the impact of instructor's applications (memorizing students' names at the first lecture and welcoming students throughout the semester) on students' state motivation. Thus, the interaction of state motivation, teacher immediacy and cognitive learning was also investigated.

Teacher Immediacy and Cognitive Learning

Several studies have revealed a positive correlation between verbal and nonverbal teacher immediacy and affective (Chesebro 2003; McCluskey, Dwyer, & Sherrod 2017), perceived (King & Witt 2009) and cognitive learning (Witt, Wheeless & Allen, 2004). Cognitive learning can be defined as recalling, recognizing and understanding the course content (Huges, 20014). Limited experimental studies are investigating the impact of teacher immediacy on cognitive learning that recruits recall or/and conceptual tests to measure cognitive learning (Witt & Wheeless 2001). These studies revealed mixed results on the issue.

In their experimental study, Witt & Wheeless (2001) examined the impact of teachers' verbal and nonverbal immediacy on students' affective and cognitive learning. The students were randomly assigned to a control group and four experimental groups. In each condition, a guest lecturer that performed on videotape exhibited different verbal and nonverbal immediacy behaviors. The students assessed the guest instructor's short videotape lecture. The students' cognitive learning was measured with a 31-item recall test. Their findings revealed that higher nonverbal immediacy by the teacher produced greater recall, less learning loss, and greater effect than lower nonverbal immediacy. In two consecutive meta-analyses, the impact of nonverbal and verbal teacher immediacy on students' perceived, affective and cognitive learning was documented (Witt, Wheeless & Allen, 2004; Allen, Witt, & Wheeless 2006). Although these studies emphasized the

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positive impact of teacher immediacy on students' cognitive learning, some studies reached different findings (Gorham, Cohen, & Morris, 1997; King and Witt, 2009).

Gorham, Cohen and Morris (1997) investigated the impact of instructor immediacy and attire on students' cognitive learning. They could not detect a significant impact of instructor immediacy on students' cognitive learning that was measured by student performances on the quiz items following the lectures. In a more recent study, King and Witt (2009) could not find a significant relationship between perceived teacher immediacy and students' final course grades. Therefore, the impact of teacher immediacy is still a debatable issue. The current study examines the effects of teacher immediacy on students' cognitive outcomes which are measured through standardized test items. Thus, the study aims to reach longitudinal experimental findings on the effects of new methods that would increase teacher immediacy.

Importance and Purpose of the Study

To the author's knowledge, this is the first experimental study recruiting two methods to increase teacher immediacy (creating a positive first impression through memorizing students' names). The experimental studies conducted in authentic classroom environments which investigate the direct and indirect (through state motivation) impact of teacher immediacy on cognitive learning are rare. Also, the experimental studies on teacher immediacy recruited posttest-only design, and this study is pretest-posttest design. Thus, it would enhance our understanding of the impact of teacher immediacy on state motivation and cognitive learning. Except for Gorham, Cohen and Morris (1997), all the above-mentioned studies tested the impact of teacher immediacy on one-session short videotape (15-20 min) instructions with guest instructors. Gorham, Cohen and Morris (1997) also recruited a similar approach without live instructions. The current study targets these gaps and aims to contribute to the field by providing information on the long-term authentic functional value of teacher immediacy for learning.

The study was conducted in a non-western country. Turkey is placed in the middle of the east and the west; therefore, it holds cultural values that are compatible with both cultures (Geçer & Gümüş, 2010). Geçer and Gümüş (2010) emphasized that, in terms of collectivism, Turkish culture is similar to Japanese and Chinese cultures. However, global

economic, political and cultural factors caused prominent changes in its social structure and values. Therefore, Turkey is in a transition phase in which the traditional authoritarian approach used in Turkish schools is replaced with more democratic approaches (Geçer & Gümüş, 2010). Our study recruited religion teacher candidates from the south-east region of Turkey where feudal values such as obedience to higher authorities and expecting teachers as a higher authority are more widely accepted compared to the western side of Turkey. Therefore, the findings of the study would contribute to the universality of the effect of teacher immediacy.

The purpose of the study is to investigate the impacts of two teacher immediacy methods, the first of which is to memorize students' names in the first lecture and start calling their names at the end of the first lecture and the second of which is to meet students at the entrance of the classroom and welcome them by calling their names on students' immediate and long-term evaluations of teacher immediacy, state motivation and cognitive learning. Accordingly, the null hypotheses of the study are a) allocating the first lecture for an acquaintance meeting and memorizing students' names will not affect students' evaluations of teacher immediacy and state motivation and, therefore, academic achievement. b) Meeting students at the entrance of the classroom and welcoming them by calling their names throughout the semester will not affect students' evaluations of teacher immediacy, state motivation and, therefore, cognitive learning performance.

Participants

The study was conducted with religion education teacher candidates who were second-grade university students. There are daytime and evening education classes in the religion teacher education department, which provides an opportunity for pretest-posttest experimental design with a control group. The evening group was randomly determined as the treatment group. There were 50 and 39 teacher candidates in the control and treatment groups respectively. Of the 39 participants in the treatment group, two were male and the rest was female; mean age 21. All of the control group participants were female; mean age 20.54.

Procedures

The study was conducted in an educational psychology course in the 2018 spring semester. For the treatment group, the instructor used the first lecture for acquaintance. He gave the following instruction: "Teaching is a human process which involves mutual interaction and communication. Therefore, I want to know your names. Please introduce yourself to me. Please try to come up with a creative introduction that would enable me to remember your name." After the instruction, teacher candidates introduced themselves. Then, the instructor provided the following explanation: "In time, I will try to learn your names. Now, I will try to see how many of your names I can remember. If I cannot remember your names, please do not take it personally." He called the teacher candidates' names and recalled all the names but six. Then, he provided another explanation: "I am researching motivation and teacher immediacy. If you want to participate in the study, I will ask you to respond to questionnaires about motivation, teacher immediacy and a test on educational psychology. The test on educational psychology is composed of questions of the central officer election test. If you respond to all questionnaires now and at the end of the semester, you will receive extra 5 points for your final examination. You do not have to write your names. In the questionnaires, some items are questioning your experiences such as 'My instructor trusts me and makes me feel that trust.' When you respond to such items, please provide your estimation about the future such as 'I believe the instructor will trust me and make me feel that trust' in your responses." The instructor greeted each teacher candidate at the classroom's door one by one by calling their names and saying "Welcome! How are you?" thorough 13 weeks. He actively showed an effort to learn the name of each teacher candidate in the treatment group by asking their names if he couldn't recall at that moment. According to Islam, women cannot shake hands with men. Therefore, he did not attempt to shake hands with teacher candidates. However, he did shake hands when some male students wanted to shake hands during the greeting.

For the control group, the instructor did not arrange an acquaintance lecture and he did not call teacher candidates' names one by one. He provided the same instructions with the treatment group. During the semester, he didn't greet the control group at the classroom door or attempt to learn the teacher candidates' names. However, at the end of each lecture, he learned some of the teacher candidates' names and called those by their names.

Measures

Test for Educational Psychology: Since 2003, teacher candidates have to pass the Examination for Selecting Government Officers (ESGO) in Turkey. ESGO is a central examination, with 80 educational sciences questions, 22-24 of educational psychology. The investigator randomly selected five educational psychology questions from six previous ESGO and created a 30-question test for educational psychology.

Teacher Immediacy Behavior Scale: The participants responded to the Teacher Immediacy Behavior Scale for Higher Education (TIBS) that was developed by Geçer and Deryakulu (2004). The TIBS is a reliable and valid instrument containing 48 items that determine verbal (e.g. Teacher calls me with my name) and nonverbal (e.g. Teacher smiles to class while he/she is lecturing) teacher immediacy behaviors. The TIBS is measured on a 5-point Likert scale. Cronbach alpha was 0.95, the coefficient was 0.848.

State Motivation for Class Scale: The participants' state motivation for the class was measured with Christophel's (1990) state motivation scale for the class which was adapted to Turkish by Kurt and Kurt (1999). IT contains 12 items such as 'I felt motivated', 'I felt interested', 'I felt involved', etc. The adapted scale used five points whereas Christophel used seven points. The Cronbach alpha coefficient was 0.765. These Cronbach's coefficients are considered indicative of sound reliabilities for education (Issac & Michael, 1995)

Results

First, we examined the impact of memorizing and calling students by their names on students' teacher immediacy evaluations, state motivation and academic achievement by MANOVA analysis. Further, we examined the impact of calling students by their names and welcoming them throughout the semester on students' academic achievement with the effect of state motivation and teacher immediacy. We investigated the role of teacher immediacy in this construct as a mediator between motivation and academic achievement. The aim was to recognize whether the treatment directly affected teacher immediacy, which, in turn, affected academic achievement. *(AA=Academic Achievement, TI=Teacher Immediacy, SM=State Motivation)

Table 1. Descriptives

Variables	Groups	Pre-test		Post-test		Δ	
		Mean	SD	Mean	SD	Mean	SD
SM	Treatment	33.10	6.468	45.97	9.158	12.87	2.903
	Control	33.30	7.731	47.80	8.081	14.50	8.697
TI	Treatment	131.62	19.214	179.00	22.113	47.38	28.085
	Control	119.30	17.037	168.56	22.860	49.26	23.304
AA	Treatment	9.21	3.302	12.46	2.644	3.26	3.470
	Control	11.50	2.533	13.14	3.084	1.64	3.122

The result was significant for the treatment effect with the Wilks' Lambda value of 0.856 and the F value of 7.237 (p= .001).

Table 2. Treatment effect

Variables	MS	B	SE	t	F	p
TI	3323.078	12.315	3.850	3.199	10.233	.002
SM	73.026	1.826	1.372	0.997	0.995	.321
AA	79.909	1.910	0.858	2.227	4.958	.029

Second, we tested the effects of teacher immediacy as a mediator. The design depicted a mediation model with a single mediator, Teacher immediacy, through which State motivation exerted its effect on Academic achievement. The models were composed to investigate the direct, indirect and relatively indirect effects on the academic achievement of the students. The first model examines the effect of state motivation and teacher immediacy on academic achievement when teacher immediacy as a covariate. The following models test the single direct effects on each other with the assigned path names (Hayes and Preacher, 2014). The results indicate that path-a and path-b were significant.
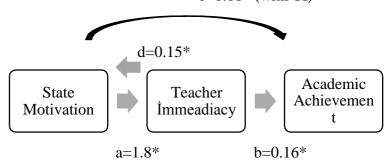
It implies that we can conclude academic achievement's association with teacher immediacy and state motivation combined (B_1=0.16, t_1=2.06, p=.047, B_2=0.06, t_2=2.65, p=.012). Consequently, teacher immediacy was positively associated with state motivation (B=1.8 t=3.7, p=.001). However, academic achievement's association with state motivation could not be concluded (B=0.05, t=0.742, p=0.463), which means that path-c in the model was not significant.

Mediation analysis was tested using the bootstrapping method with bias-corrected estimates (MacKinnon, Lockwood, Hoffman, West, and Sheets, 2002; MacKinnon, Lockwood, and Williams 2004; Williams and MacKinnon, 2008; Biesanz, Falk, and Savalei, 2010; Hayes and Scharkow, 2013). The %95 confidence interval of indirect effect was obtained with 5000 bootstraps resamples. Results of the mediation analysis confirmed the mediating role of teacher immediacy in the relationship between academic achievement and state motivation (B-B_1=1.40, CI=[1.261, 1.539]).

Table 4. Mediation analysis

Model		B	Std.error	Beta	t	Sig
1	SM	0.156	0.076	0.364	2.058	**.047**
	TI	0.058	0.022	0.469	2.648	**.012**
2	SM	0.052	0.070	-0.121	0.742	.463
3	SM	1.794	0.486	0.519	3.692	**.001**
4	TI	0.150	0.041	0.519	3.692	**.001**

c=0.05 (non-significant direct effect without TI)

c=0.16* (with TI)

d=0.15*

State Motivation — Teacher İmmeadiacy — Academic Achievement

a=1.8*   b=0.16*

indirect effect=1.40, CI=[1.261, 1.539].

Figure a. Proposed model final results.

Discussion

The purpose of this study was to examine the impact of two methods about teacher immediacy on students' state motivation, teacher immediacy evaluations and cognitive learning. The first method was to allocate the first lecture with the treatment group for an acquaintance meeting at the beginning of the semester, asking students to introduce themselves, memorizing their names and calling them at the end of the lecture. We have examined the impact of this first method on the students' state motivation and teacher immediacy evaluations. The second method was to welcome the students in the treatment group at the entrance of the classroom every week before the lecture by calling their names. This method lasted throughout the semester. Through the posttests, we have examined the impact of these methods on the students' state motivation, teacher immediacy and cognitive learning outcomes by comparing the treatment group's scores with the control group's scores.

First Phase

The findings revealed that the first method worked for increasing the students' teacher immediacy evaluations. The students' evaluations of teacher immediacy in the treatment group were significantly higher than the students in the control group. Teacher immediacy is about building physical or psychological closeness in the relationships with students (Mehrabian, 1969). Although calling students by their names is one of verbal teacher immediacy behavior (Comadena, Hunt, & Simonds, 2007), a faculty member trying to memorize students' names from the first lecture of the semester may have sent a strong message to the students about how much he valued and cared them. This message would be even stronger for this population because the students were prospective religion teachers from the faculty of theology in the southeastern region of Turkey. These factors fostered a traditional student-faculty relationship, which cannot be characterized with psychological closeness (Geçer & Gümüş, 2010). Some students in the treatment group personally stated that they had never seen such an effort from a faculty member before. Therefore, it can be asserted that even in a classroom where students are used to traditional relationships, an attempt to establish psychological closeness with students by

memorizing their names in the first lecture of the semester contributes positively to teacher immediacy.

Although the findings revealed a significant difference between the groups after the application of the first method, a similar outcome did not occur for state motivation. Therefore, it can be asserted that memorizing and calling students by their names does not contribute to state motivation at the beginning of the year. This finding seems inconsistent with previous studies (Comadena, Hunt & Simonds 2007; Zhang & Oetzel (2006). The reason for inconsistency may be a difference in research procedures. In previous studies, instructional tasks and activities such as listening to a subject from the teacher were involved. In our study, the first lecture did not contain anything about the concepts and skills that would be learned in the classroom. The first lecture was not about instruction. State motivation is about classroom tasks, concepts and skills (Brophy, 1983). Therefore, the students in the current study may not have data to connect state motivation and teacher immediacy.

Second Phase

The analyses revealed teacher immediacy was a mediator between state motivation and cognitive learning. State motivation made its positive contribution to cognitive learning through teacher immediacy. Teacher immediacy was found to be related to both concepts. As was mentioned above, the findings on teacher immediacy and cognitive learning were mixed. This finding is in line with the studies that have found a direct positive relationship between teacher immediacy and cognitive learning (Witt & Wheeless 2001; Allen, Witt, & Wheeless 2006). The differences in study designs may be the reason for the inconsistency of the findings with the studies that did not find a relationship between teacher immediacy and cognitive learning. Both cognitive learning and building solid relationships required time. Teacher immediacy is about building a close relationship with students and it is easier to build a close relationship when you have the whole semester. Therefore, it is reasonable to claim that the current study might have higher ecological validity in terms of teacher immediacy compared to the others that recruited artificial instructors (who were not the actual instructors of the courses), short-term lectures or video clips to build teacher immediacy (Gorham, Cohen, & Morris, 1997; King & Witt 2009). In the current study, the teacher and the students met every week, which

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provided them time to know each other. In return, this would increase the genuineness and deepness of the relationship between the teacher and the students which might have contributed to positive cognitive outcomes.

The findings also yielded that, besides the direct effect on cognitive learning, teacher immediacy worked as a mediator for state motivation. Zhang and Oetzel (2006) found that teacher immediacy directly and indirectly through motivation affected cognitive learning. Immediacy has a greater impact on motivation than on cognitive learning. Therefore, they have claimed that teacher immediacy fosters state motivation and an increase in state motivation positively affects students' cognitive learning. In our study, we have found that teacher immediacy directly affects cognitive learning and it has a significant reciprocal relationship with state motivation. State motivation indirectly through teacher immediacy affects cognitive learning. The participating students for the first time (some students expressed this fact) witnessed such an effort from a faculty member for their improvement. Experiencing such an effort on a personal level might cause taking faculty as a role model (Rotgans, & Schmidt, 2012), which would increase the importance of the teacher and make it more important than state motivation.

In summary, the current study contributes to the teacher immediacy literature on several aspects. The study has revealed that memorizing students' names in the first lecture of the semester increases students' teacher immediacy evaluations. Thus, it would provide a positive start for teachers. The study has also yielded that teacher's purposeful efforts such as welcoming each student at the entrance of the classroom before a lecture to improve relationships with students positively contribute to student's state motivation, teacher immediacy evaluations and cognitive learning. The longitudinal experimental design that was used in an authentic classroom setting strengthens the teacher immediacy literature by providing ecological validity. The study was conducted in an environment where students would be exposed to traditional values. Thus, the findings of the study contribute to the generalizability of the positive effects of teacher immediacy in educational settings.

Limitations

Paradoxically, the characteristics of the study that increased its ecological validity are also the main limitation of the study. The teacher was aware of the purpose of the

study. This may be a concern for the equality of instruction between groups. The scores of the control groups of state motivation, teacher immediacy, cognitive learning were statistically significant. These data can support the quality of the control groups' instruction. However, in the future, all lectures can be video recorded and three pairs can be randomly selected among these lectures. The selected lectures can be sent to a panel of experts (consisting of two or three experts). The experts can evaluate the equality of content knowledge and teacher performance for two groups. Future experimental studies can also target populations that are more familiar with modern teacher-student relationships than prospective religion teachers from the faculty of theology. Seeing a teacher who tries to establish psychological and communicational closeness the first time might increase the impact of the application. Future studies should also analyze, in more detail, the factors that are effective on students' evaluations such as being called by their names or being remembered for their uniqueness to make a difference. Almost all the participants were female. Therefore, the study did not provide much about male students. Gorham and Cohen (1997) found that female students were more responsive to immediacy.

Educational Implications

Since the findings have revealed the positive impact of memorizing student's names on students' teacher immediacy evaluations, it is reasonable to suggest teachers design the first lecture as an acquaintance lecture and try to memorize their students' names. Memorizing students' names in one lecture would be difficult for some teachers. Therefore, during registration, teachers would want an attendance list with pictures of students. Thus, before the first lecture, teachers can work on memorizing their students' names. Also, teachers can meet their students at the entrance of the classroom before lectures and establish a one-to-one interaction with them.

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