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A Model to Explain Teacher Leadership: The Effects of Distributed Leadership, Organizational Learning and Teachers' Sense of Self-Efficacy on Teacher Leadership

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Abstract

This study aims to analyze a model to explain teacher leadership. In this conceptual model, distributed leadership, organizational learning and self-efficacy perceptions of teachers were treated as the variables accounting for the three sub-dimensions of teacher leadership; namely organizational development, professional development and collaboration among colleagues. The model was set on the foundation of Social Cognitive Theory (Bandura, 1986) and administrative, organizational and personal attributes that account for teacher leadership were treated in unison. The study was conducted with the participation of 360 teachers posted in the elementary schools within seven districts of Ankara city. In the collection of data, Teacher Leadership Scale (Beycioğlu & Aslan, 2010), Dimensions of the Learning Organization Questionnaire (Marsick & Watkins, 2003), Scale for Leadership Capacity in Schools (Lambert, 2003) and Teacher's Sense of Efficacy Scale (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998) were utilized. The data collected within the scope of this research were tested via path analysis technique with the observed variables. The findings of the analysis manifested that the model proved to have good fitness values and thus validated. These findings prove that distributed leadership directly affects teacher leadership whereas it also has an indirect effect on organizational learning and self-efficacy perception of teacher. The results of the research evidence that to ensure the development of teacher leadership at schools administrative, organizational and personal components demand to be holistically treated and organizational and personal components are equally vital as the leadership itself.

Keywords

Teacher leadership
Distributed leadership
Learning organization
Teacher's self-efficacy
Education reform
Social Cognitive Theory

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Introduction

The ever-increasing expectations from education and schools forces educators to follow a challenging mission as meeting the rising demands. To meet rising demands and also to accomplish their missions in a more sophisticated way, education systems and schools have launched a set of reform attempts. It may be claimed that one of the significant focal points that reform attempts have emphasized is the teachers.

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The cause that has driven education reforms to attach importance to teachers is that success of reforms is vitally bound to teachers' efforts and beyond that some of these reforms are directly geared towards teachers themselves (Darling-Hammond, 1994; Evans, 1996; Frost ve Roberts, 2013; Heller & Firestone, 1995; Mangin, 2005). It is feasible to claim that the highest demands of reforms are placed upon teachers. A vast portion of expectations from teachers is dominantly related to be more student-centered while accomplishing their duties, to apply state-of-the-art teaching approaches in class and to take on greater number of responsibilities at schools (Darling-Hammond, 1994; Evans, 1996; Mangin, 2005). Within that scope, one of the most emphasized concepts is teacher leadership currently (Bangs & Frost, 2012; Barth, 2001; Beachum & Dentith, 2004; Beycioğlu, 2009; Beycioğlu & Aslan, 2010, 2012; Blase & Blase, 2000; Bolat, 2013; Can, 2007, Can, 2006a, 2006b; Frost, 2003, 2014; Harris, 2008; Helterbran, 2010; Katzenmeyer & Moller, 2013; Mangin, 2005). Teacher leadership concept, which originally came to the fore in 1947 by Bahn, was treated as a critical tool for reform; particularly in the education reforms launched during the 1980s and 1990s. Albeit the emergence of an extensive literature on the concept of teacher leadership in the subsequent decades, it is reported that the concept has not yet been digested well by teachers or it has hardly been put into effective use in their professional life (Helterbran, 2010).

Much as a plethora of prominent roles are expected from the teachers in relation with educational reforms regarding the context of Turkey, a variety of factors associated with the realization of these novel teacher leadership roles which hinder the emergence and development of teacher leadership can also be counted. These factors can be listed under two subcategories which can be counted as the ones stemming from the structure of educational system and the ones occurring at school level. As Duyar, Gümüş and Bellibaş (2013) state, the former of these factors are the ones arising from the the centralized structure of the system. All the reform initiatives in Turkish education system are stated to be mainly planned and developed and presented to the schools with the *top-down* approach by Ministry of National Education (Duyar et al., 2013). As a result of this, the teachers and the school managers are either unable to attend at all or provide little or no input to the planning and development studies in the center. These *one-fits-all* kinds of programs can little address to the teachers and the school managers (Duyar et al., 2013). The second group factors preventing teacher leadership are the ones occurring at school level. In this context, factors preventing teacher leadership according to the results of the research conducted by Can (2006b) are listed as the incompetency in the professional development process, the incompetency of management support, time limitation, the teacher's formal charge, the insufficient support of other teachers, the incompetency of growth and development environment, failure in the assessment of additional efforts, the lack of environment in which democratic trust and participation take place. Özdemir and Devecioğlu (2014) also stressed that the bureaucratic structure at schools and the problems such as making decisions according to the legislation are among the obstacles to the development of leadership qualities of all stakeholders at schools. It may be argued that these factors listed both in system and school level can be claimed to be obstacle for teachers' exhibiting leadership behaviors. Therefore, the examination of teacher leadership that can be effective in success of the innovation attempts in Turkish education system is very important.

Teacher leadership, on a broad sense, can be defined as assuming leadership and additional roles and providing contribution in addition to accomplishing in-class teaching duties (Beachum & Dentith, 2004; Fullan & Hargreaves, 1996). The volunteer participation that teachers take in formal and informal educational activities and processes organized in and outside classroom; devising independent projects; affecting the surrounding people; supporting development of colleagues and the ability to maintain trust are among the inherent components of teacher leadership (Can, 2007). Likewise teacher leaders act as leaders in and outside the class. Accordingly, teachers view school as a community of learning where such teachers constantly motivates themselves as well as their colleagues to achieve state-of-the-art instructional practices (Katzenmeyer & Moller, 2013). Having underscored that the ultimate aim of teacher leadership is to climb student success via developing

education, Mangin (2005) reported that although the roots of teacher leadership reach back to instructional leadership, the concept managed to progress far beyond its confines.

A number of formal roles and duties such as group leadership, membership to the board teachers and board of disciplinary corrections, and guiding trainee teachers present favorable settings for teachers to perform their leadership behaviors (Helterbran, 2010; Surana & Moss, 2000). On the other hand teacher leadership should not be confused with any given administrative or bureaucratic form of leadership (Surana & Moss, 2000). Teacher leadership does not merely entail formal roles and duties in the school or classroom; it includes, but not limited to these terms, and it is a phenomenon reaching far beyond such limits (Beycioğlu & Aslan, 2012). In teacher leadership, the mere focus point of teacher is not education alone (IEL, 2011). Leader teachers actively participate and get involved in decision-making stages at school and in any kind of out-of-class activities (Blase & Blase, 2000; Fullan & Hargreaves, 1996). Berry, Daughtry, and Wieder (2010) stated that teachers are on a broad scale in favor of seeking leadership opportunities but also in need of motivation to realize their leadership efforts. Within that scope, it is emphasized that in schools where leadership is integrated into formal roles it is quite probable that teachers can succeed in rising as accomplished leaders in contrast to the likelihood of experiencing negative feelings such as disillusionment or burnout, provided that sufficient time and relevant sources are given to teachers to manage their additional duties. Teacher leadership that allows the teachers to accomplish roles like peer assessor, data inclusion coordinator and education policy guide is defined as a hybrid role. Such new roles do not hamper teachers' teaching activities in class and present them a favorable setting for leadership (Berry et al., 2010).

It has been claimed that teacher leadership is much likely to provide vital contributions on the effects of education reforms at schools (Evans, 1996) and renovation of schools (Beachum & Dentith, 2004). On the basis of teacher leadership thesis lies the attempt to transform schools into communities in continuous professional learning; to make teachers more equipped to enable close participation in such processes which would in effect contribute to transforming the schools into more democratic environments (Beycioğlu & Aslan, 2012). From the basis of teaching profession as well, it is reported that teacher leadership concept is presently the key term in educational effectiveness and beyond that it holds vital role to secure a healthy prospect for teaching profession (Berry et al. 2010). Accordingly, it can be argued that with the contributions that teacher leadership can provide for educational change and reform attempts it can, on the system base, lead the teacher to take on additional school-wide roles and responsibilities beyond teaching in class to achieve a school-wide contribution and by motivating teachers to focus on professional development and be inquisitive of teaching development methods it can act as an effective reform tool that can also contribute on class level. Thus, a better understanding of teacher leadership and exhibiting the effective factors hold great value in providing a contribution towards the development of teacher leadership.

In present research geared at explaining teacher leadership, the hypotheses concerning social cognitive theory led the current initiative. Social cognitive theory is the major theory that provides a foundation for understanding, predicting and changing human behavior. Wood and Bandura (1989) underpinned that this theory also offers a vital perspective to explaining human behaviors inside any organization. Bandura's (1986) social cognitive theory attests that three factors play determinant role in human behaviors. These factors are personal factors, environmental factors and behavior itself. As can be seen in Figure 1 as well, it is suggested that in the psycho-social functioning of human beings those three factors are interactively related (Pajares, 2002). Since social cognitive theory holistically deals with environment, human and behavior factors in unison, it provides a favorable foundation to investigate the factors effective on perceptions and behaviors of teachers (Kurt, Duyar, & Çalık, 2012).

Due to the principle on reciprocal causality puts forth in Social Cognitive Theory (Bandura, 1986) personal factors and organizational factors operate by bidirectionally affecting each other in the organizational environment (Wood & Bandura, 1989). However, the principle of mutual causality does not mean that the interaction between the factors which are influential in behaviors should always be in the same level or synchronous. Besides, it has been argued that though one is under the influence of his/her environment, he/she also influences his/her environment no matter how little it is (Bandura, 1995). In addition to the reciprocal causality, Social Cognitive Theory assumes that the mechanisms like indirect, observational and model learning are effective in human learning (Bandura, 1986). When thought in the context of this research, in the schools where organizational learning processes are lived and leadership became the phenomenon undertaken by a great number of people, the teachers can be said to witness a lot of direct and indirect observations and models which will prompt them to exhibit leadership behaviors. In other words, organizational learning and distributed leadership practices can create an environment which strengthens teachers' self-efficacy perceptions and which supports their performing teacher leadership behaviors.

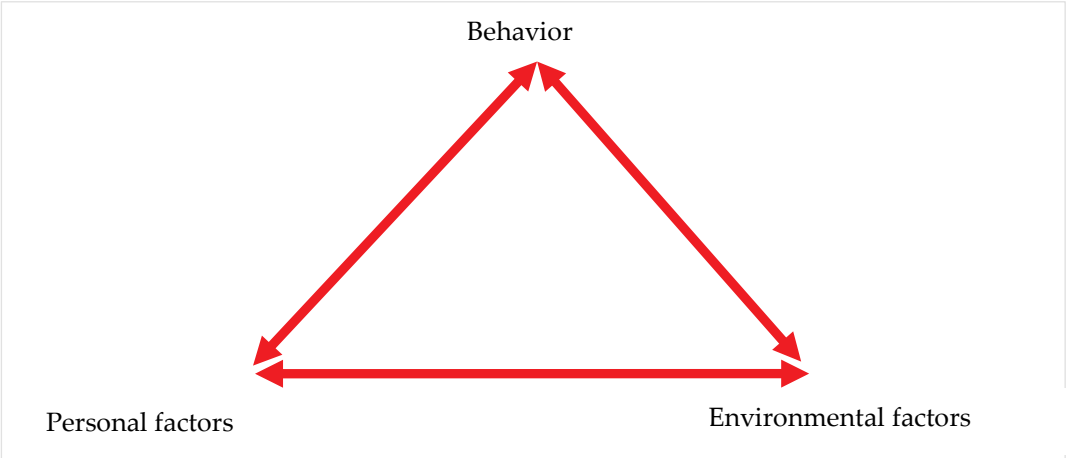

Figure 1. Basic Variables of Social Cognitive Theory (Pajares, 2002).

If we are to explain the teacher leadership model analyzed in this research by associating with the concepts of social cognitive theory, we can state that *environment* is distributed leadership practices and organizational learning status of the school; *personal attributes* relate to the self-efficacy perceptions of teachers and; *behavior* is teacher leadership. Within that scope, on organization level distributed leadership in schools and the state of school as a learning organization stand while on personal level self-efficacy perception of teachers are projected as the variables explaining teacher leadership. In current research, the conceptual model is as seen in Figure 2.

The hypothesis that social cognitive theory shapes social effect's self-efficacy (Bandura, 1997) created a sound basis in the determination of precedence relation of the variables in model since this particular hypotheses underlines that the social thing is the antecedent relation of the personal thing and is very effective in its configuration. Once evaluated from the scope of this study, variables that could have social dimensions such as distributed leadership and organizational learning can be the antecedents of variables like teacher leadership and teacher's self-efficacy in which personal aspect is dominant. Hence in this study conceptual model's variables named as distributed leadership and school organization's learning stand out as the variables that could be the antecedents of teacher leadership and self-efficacy perceptions of teachers.

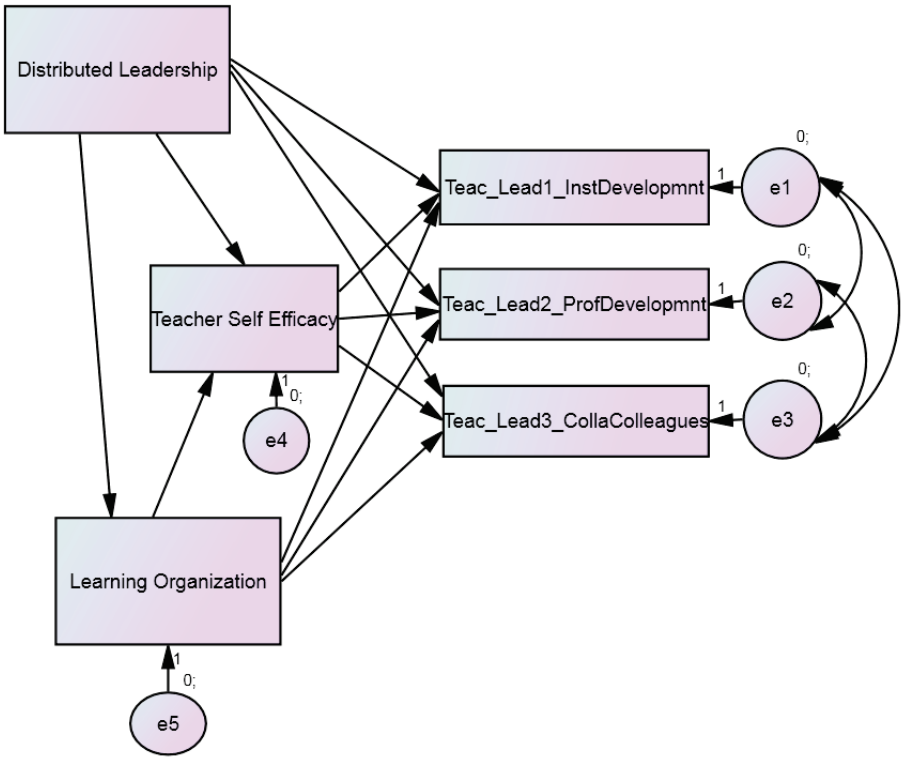

Figure 2. Conceptual (Hypothetical) Model

Teacher Leadership and Distributed Leadership

In the investigated model, the primary variable of which relation with teacher leadership is examined, is distributed leadership claiming that in a school environment responsibilities, duties and actions need to be shared among school principals and teachers (Sergiovanni, 2005). According to this novel leadership approach leadership roles and responsibilities must be equally shared and distributed among all the members of school. *Distribution* is not the equivalent of *empowerment* and leadership capacity of all the members is given priority (Portin, Alejano, Knapp, & Marzolf, 2006). It is recognized that distributed leadership perspective entails the collaborative and interactive behaviors geared towards enabling the functioning of organization, solving the problems, improving the practices (Gronn, 2003; Spillane, 2006; Spillane, Halverson, & Diamond, 2001). Gronn (2003) pointed out that leader-viewer dualism is no longer sufficient to describe the latest reality at schools and that leadership is far from being a fixed phenomenon but rather stands out as an interactive, fluid, emergent and open phenomenon. In Dispersed Leadership Approach, leadership is defined as a praxis which is shared among the leaders, followers, situations and contexts rather than assuming it just as a function of individual's ability, skill, charisma or cognition (Spillane et al., 2004 as cited in Şahin, Uğur, Dinçel, Balıkçı, & Karadağ, 2014). Today, leaders stopped being perceived as superior people creating miracles; instead, having evolved from the cumulative phases like the traditional leadership approaches built on the great man theory, trait theory, behavioral theory, contingency approach, a new understanding of leadership which is identified with individuals working together in partnership has been revealed (Özer & Beycioğlu, 2013). Yavuz (2015) states that distributed leadership model is moving a step further than situational leadership approaches by putting forth the approach underlying the belief when the conditions change and the leadership scopes differentiate, the leaders should change as well. Thus stating that the distributor's leadership will allow all experiences and creativity of the stakeholders in the school to be benefited from (Yavuz, 2015). In terms of distributing the leadership to all people in the organization, Hoy and Miskel (2012) used the terms *shared leadership* and *organizational leadership*, as synonymous with the term, *distributed leadership*.

A number of concepts clarifying the distributed leadership has been listed as unity, institutionalization and fluidity (Bennett, Wise, Woods, & Harvey, 2003 and Gronn, 2002 as cited in Tian, 2011). Unity concept signifies the expansion of leadership concept beyond its position. Accordingly school principals, teachers, students, parents and other members of groups can legitimately be a leader. Institutionalization is integrating distributed leadership into school culture and daily routines. Fluidity on the other hand is laying less obscure borders between leaders and viewers. In that case leadership is not restricted with formal position or specific roles but deemed as an emergent role out of daily practices (Tian, 2011).

There are substantial reasons accounting for the cause distributed leadership has currently turned into a critical concept for all schools. Ever-increasing expectations from education leaders leave no choice for school principals and relevant administrators in school rather than allocating the climbing responsibilities among other members of the school (Fulllan & Hargreaves, 1996). In that sense school leaders are led to offer collaborative and democratic arrangements in school environment in order to meet the rising demands and a vast multitude of student needs (Beachum & Dentith, 2004). It is reported that in any information-based society the days when a solo charismatic school principle would singly shoulder the role of school leadership are long past (Katzenmeyer & Moller, 2013) and there is not any chance for any school to be successful if it keeps on remaining as an isolated kingdom governed by a heroic principal (Spillane, 2006). In this context, it is suggested that leadership should, regardless of the hierarchy and position, be distributed and shared through formal and informal means among all the members in the organization (Baloğlu, 2011). In this new age of accountability school leadership is evaluated as a relational phenomenon rather than a personal one (Katzenmeyer & Moller, 2013). The new insight on leadership advocates that alone and solo leader would fail to cope with the chaos modern schools face; hence leadership should not be vested upon one person but distributed among school members (Storey, 2007). Therefore it is underpinned that leadership model and practices at schools should provide means for anyone to refine their leadership capacities and leadership should turn into a unity of behaviors spreading to all school members (Beachum & Dentith, 2004; Fullan, 2002). In this respect, distributed leadership should not be described as a different version of the former leadership approaches or as a so-called innovation; but as a leadership approach that schools truly require (Storey, 2007). Traditionally in the organizations a single and strong leader was like the first aid band in times of chaos. Nonetheless with distributed leadership it has been announced that the situation is now the opposite and in order for organizations to handle turmoil days, leadership should be shared with all the other members in the organization, which in effect laid the foundation for a new leadership model.

It is stated that distributed leadership exists in a variety of forms at schools. By assigning different tasks to teachers on personal or group levels school principals transfer their powers to the teachers formally or informally (Tian, 2011). During this process, distributed leaders create a professional school culture in which leadership capacity of teachers is developed (Bangs & Frost, 2012). Such vital role undertake in developing teacher leadership via distributed leadership practices makes it a critical component of school reform because teacher leadership, as a constituent of school reform, has been valued as the most substantial tool of education development and the consequential climb in students' success (Mangin, 2005).

Distributed leadership and teacher leadership are inextricably intertwined concepts. Decision-making process, school development process and improvement plans, teaching and evaluation, relationship among teachers, guiding trainee teachers, relationship with parents and community, professional development and contributing to school policies are a few of the most frequently emphasized concepts in teacher leadership (Greenlee, 2007 as cited in Kıranlı, 2013). These are the concepts that are directly related to distributed leadership; hence literature on teacher leadership is basically conceptualized around distributed leadership theory and teacher leadership has been equated with distributed leadership (Gronn, 2000 as cited in Kıranlı, 2013). As also pointed out by Naicker and Mestry (2013) expansion in the confines of distributed leadership also enabled the emergence of teacher leadership concept.

It was predicted that with distributed leadership the workload of school principals or expectations from school principals would lower but the actual results of relevant studies put forth that the reality is quite the opposite in practice. Coordinating teacher leaders, supervision, developing the leadership capacities of all school members, giving constructive feedback to teachers for their efforts and similar roles are among the new roles borne by distributed leaders (Leithwood et al., 2007). Another concern is that since there is still ambiguity concerning the way how leadership will be distributed in practice, the actual practice could pose serious problems for school principals (Storey, 2007). Some of these potential problems are to what extent of leadership roles of school principals would be distributed; who could be assigned with which leadership duties; and who would designate the goals of distributed leadership roles. It has also been remarked that a rivalry among the leaders is inevitable where there are more than one leader, yet it is uncertain to what extent the school principal would allow the others to take the lead and how the situations emerged within this scope would be handled (Storey, 2007). All these problems are at the same time the essential concerns for teacher leadership since once leadership is distributed, teachers themselves stand out as the people assuming a leadership role.

The new trend of teacher leadership requires a new focus on the role of school administration. It is stated that throughout years teaching has been regarded as a highly individualized and autonomous profession and likewise schools have been viewed as slow in change (Cuban, 1990; Lortie, 1975 as cited in Mangin, 2005). It is also reported that in certain organizations the employees have long been used to comfort and rule of a dominant leader (Storey, 2007). As opposed to that common practice teacher leadership, by assigning teachers with more active roles, creates situations that conflict with existing school culture and teacher norms (Mangin, 2005). In cases when teachers act as the leaders, the powers and effects vested upon them increase which might pose threat for the traditional roles of administration. The enhanced collaboration among teachers and differentiation of roles may trigger unforeseen changes in the professional lives of teachers and disturb the micro-political nature of school (Ann Weaver, 1993 as cited in Lashway, 1998). That is because the transmission of teachers from an isolated workstyle to a more participatory style makes teachers a part of the power structure by letting them work not under the control of school administration but as equal participants of power structure in school. Accordingly it is attested that teacher leadership pushes the boundaries of power structure and make it infeasible for school principal to continue his/her traditional or transactional leadership approaches (Ann Weaver, 1993 as cited in Lashway, 1998). It is also argued that valuing only the principal as leader and treating the teachers as merely viewers put a barrier in front of numerous contributions that teachers could provide to schools and even more than that it can lower teaching profession to the rank of a sub-profession (Helterbran, 2010). In effect parallel to the development in teachers' professional lives school principals will also be obliged to develop their own behaviors and knowledge repertory. Unless school principals made a pact with the extended professional competencies of teachers they would feel as if their powers were under threat since the only feasible way to improve teacher leadership is not through hierarchy but through professional expertise (Lashway, 1998). School principals should change the way they view teachers, treat them as colleagues and support their inherent potential to provide contribution outside of class environment (Beachum & Dentith, 2004).

Many researchers have stated that the head teachers affect the teacher leadership positively or negatively but at high levels. (Barth, 2001; Leithwood et al., 2007; Mangin, 2007; Sheppard, Hurley, & Dibbon, 2010; Suranna and Moss, 2000). School principals, who give support to teachers' duties, act as a facilitator in enhancing their leadership capacity. On the other hand in cases when school principal favors a hierarchic and bureaucratic administration style and ignores teachers' suggestions and remarks, teacher leadership may face a great threat (Suranna & Moss, 2000). Naicker and Mestry (2013) in their research covering the elementary schools in Soweto region within South Africa concluded that an orthodox leadership practice is still common in schools and non-participatory decision making practices in which authoritarian leadership style, hierarchical structures and domination of school administrators are evident pose. All together they threatened the emergence of distributed leadership. In a China-based research examining the relationship between leadership

practices of school principals and teacher leadership it was claimed that authorization strategies of school principals and school concept in China are the two significant factors impacting the development of teacher leadership (Tian, 2011). The second one relates that Chinese school principals are not sufficiently prepared to effectively authorize teachers. The second one also points out that rigid bureaucracy and hierarchy in schools hamper teachers from taking on further responsibilities. These problems drive the school principals to administrative duties rather than assuming leadership role. School principals sticking to administrative style pay extreme attention to administrative and formal duties and essentially deal with tasks such as welcoming the visitors to school, preparing paperwork and contacting the shareholders. Thus such practices of traditional leadership offer no means to develop teacher leadership (Tian, 2011). Sheppard et al. (2010) in their study concluded that distributed leadership, by promoting the morale and motivation of teachers, strengthened their teacher leadership capacity. It has been reported that there is an evident relationship between the knowledge, interaction and support level of school principals and leadership level of teachers and that teaching leadership roles of school principals would not be sufficient on its own (Mangin, 2007). In that case a solo-leader form of school administration that serves as education leader or a school administration practice that bans the participation of other members, teachers primarily, is no longer widely appreciated (Pate, James, & Leech, 2005). Within the new approach the role of school principal is defined as guiding the leaders (Harris & Lambert, 2003) and facilitating the means to blossom new leaders. On the basis of these findings put forth via such theoretical and practical researches the first hypothesis of present study has been as defined below:

H1: Distributed leadership is positively related with professional development, organizational development and collaboration among colleagues dimensions of teacher leadership.

Teacher Leadership and Teacher's Self-Efficacy

In this research one of the variables analyzed in relation to teacher leadership is teacher's self-efficacy which is a concept manifested previously in Bandura's (1986) social cognitive theory. Self-efficacy belief is described as the faith towards one's capacity to organize the imperative activities and successfully achieve a specific performance (Bandura, 1986, 1997). Raudenbush, Rowan and Cheong (1992) described perceived self-efficacy as a cognition that mediates between knowledge and action (as cited in Goddard, Hoy, & Woolfolk Hoy, 2004). In a different saying, when an individual is supposed to perform any given action that individual's efficacy beliefs come to the fore and affect the resulting performance in a positive or negative direction (Kurt, 2012).

It has been stated that high level of self-efficacy perception provides a list of positive results for teachers (Tschannen-Moran et al., 1998). By elevating persistence and decisiveness self-efficacy faith fuels the emergence of a better performance level. Teachers with high level of efficacy perception, once faced with challenges, are resolved to overcome the problems without forsaking their goals and persevere even after they fail. High self-efficacy level of teachers also provides a good number of positive teaching results. It has been noted that such teachers are more inclined to make use of better organized and planned, student-centered and humanitarian classroom strategies in their teaching practices (Goddard et al., 2004).

A vast number of researchers point to the relationship between teacher's self-efficacy and teacher leadership. Katzenmeyer and Moller (2013) claimed that teachers who reach success with their students and who believe to have created a difference prove to be more effective in their professional life. This feeling of effectiveness motivates teachers to taking on further responsibilities in students' learning activities (Katzenmeyer & Moller, 2013). Zinn (1997) underlined that the most evident personal attributes of leader teachers are strong motivation, trust and sense of commitment. These are the teachers who, when challenged with obstacles, strive hard to overcome the threats and activate their leadership skills in this process (Zinn, 1997).

Considering that teacher leadership is closely related to a teacher's will to assume further roles in the school besides teaching it can be argued that to assist them in accomplishing the new roles the foremost requirement is to be endowed with a high level of teaching self-efficacy perception. The kind of competencies such as organizing classroom activities by devising an educational vision and

assuming different roles in school activities (Can, 2006a), which are attributed to teacher leadership, can only be accomplished by teachers endowed with high level of teaching efficacy. Harris (2008) underlined that teachers of modern day should no longer consider themselves as teachers only but as leaders simultaneously. Goddard et al. (2004) attested that self-efficacy perceptions act as a mediator in identifying the preset targets and controlling the experienced environment. It is thus safe to argue that in the emergence of teacher leadership Teacher's Sense of Self-efficacy offers a solid foundation. On the basis of these findings the second hypothesis has been as defined below:

H2: Teacher's self-efficacy is positively related with professional development, organizational development and collaboration among colleagues dimensions of teacher leadership.

Distributed Leadership and Teacher's Self-Efficacy

Teachers work at an interactive social system rather than an isolated one at school environment while doing their jobs (Bandura, 1995, p. 243). Teachers, as the members of school organization, share among themselves the beliefs that affect school's social environment. At schools teaching generally takes place in group settings and a long list of problems faced by teachers force them to collaborate (Tschannen-Moran et al., 1998). Though teachers frequently give lectures on their own, this cannot stop the social impact of the organizational culture on them. Bandura (1997, p. 469) argued that individuals who work independently within a group structure cannot function properly if completely separated from the other employees and socially isolated from the rest. The resources, opportunities and barriers put by a specific system designate how effective individuals can be. It is thus safe to argue that social environment and means offered in a school not only affect teachers' self-efficacy but could also influence leadership behaviors of teachers.

Within the scope of the effects of school's social factors on teacher leadership, Berry et al. (2010) focused on two substantial factors. The first factor claimed that historically speaking teachers who are inclined to perform teaching profession in a more innovative way that also entails leadership roles have traditionally been barricaded with professional norms or organizational body of the school. Contributing factors are personal unwillingness of teachers to engage in additional tasks (Zinn, 1997) and negative attitude and even resistance of colleagues towards teacher leadership (Mangin, 2005). If teachers regard teacher leadership as a way to occupy them with an extra and unpaid task, they may show resistance against it (Helterbran, 2010). Second factor is that the resistance of school culture or school administrators is also likely to limit teachers' leadership potential (Berry et al., 2010). It is also acknowledged that recognition of teachers as "simply teachers" accounts for one of the most liable reasons behind the failure of even the most latest educational reforms (Helterbran, 2010). All in all these factors put forth that there is essentially a wide range of factors that weaken teachers' self-efficacy perceptions at schools.

As a prerequisite of developing teacher leadership one other element that came to the fore in strengthening self-efficacy perception of teachers and motivating to assume additional roles are distributed leadership. A long list of studies point out that distributed leadership is linked to teachers' self-efficacy perceptions. Tian (2011) found out that distributed leadership enhances teachers' self-efficacy. Tian (2011) claimed that the reason why teachers show high level of self-efficacy is that in schools with distributed leadership practices there is the authorization of teachers, peer recognition, a democratic culture and solid ethical pillars (Tian, 2011). On the other hand some of the most important barriers against teacher leadership are reluctance to be an undertaker, timidity and stress (Zinn, 1997). Therefore, it may be suggested that in order to increase teachers' inclination to perform leadership behaviors it might prove to be useful to empower their self-efficacy perceptions. Sheppard et al., (2010) in their study concluded that the variance behind the willingness and motivation of teachers is extensively explained via distributed leadership. Mayrowetz (2008 cited in Sheppard et al., 2010) claimed that the biggest potential of distributed leadership is its potential to develop human capacity. Indeed Tian (2011) also declared that in schools where distributed leadership is practiced teachers exhibit higher levels of self-efficacy in decision-making stages throughout school, in interpersonal relations, collaboration, in research and training and in contribution to school culture. Such findings that evidence the positive effect of distributed leadership on teachers' self-efficacy

perceptions and previously analyzed findings that point to the close link between teachers' self-efficacy and teacher leadership mean that it is feasible to propose two new hypotheses:

H3: Distributed leadership and teacher's self-efficacy are related.

H4: Teacher's self-efficacy acts as a mediator in the effect of distributed leadership on the professional development, organizational development and collaboration among colleagues dimensions of teacher leadership.

Teacher Leadership and Learning Organization

Cultural and structural attributes of a school are effective on teacher leadership (Jakson et al., 2010). Focusing on learning within the scope of school is one of the most frequently mentioned factor by the researchers (Barth, 2001; IEL, 2011; Jackson et al., 2010).

Organizational learning is defined as the attempts of a group of committed people united around collective goals to periodically revise their goals, make required alterations if necessity arises and continuously devise further effective and practical methods towards the aim of realizing their collective goals (Leithwood, Jantzi, and Steinbach, 1995). In a different definition, organizational learning is defined as a process which, by directly and systematically bettering an organization's performance and outputs, improves an organization's capacity to actualize effective actions (Kurland and Hasson-Gilad, 2015).

In schools learning is no longer limited to kids or even adults but beyond that it is regarded as a socially collaborative process that requires joint action and shared intelligence (NCSL, 2004). The schools which function as learning organizations are not schools that are bound by external regulations but rather they are the kind of institutions that regulate their own learning system and continuously engage in researches to improve their authentic practices (Kurland and Hasson-Gilad, 2015). Thus schools, as community of learners, save themselves from repeating the past mistakes by taking power from learning and change (NCSL, 2004). In this instance learning capacity is recognized as the key indicator of schools' performance, potential for innovation and development (Fullan, 2002; Kurland and Hasson-Gilad, 2015; Leithwood et al., 1995).

A large number of studies indicate that organizational learning of which contribution to schools' organizational development also renders remarkable effects for teachers' development. Bearing in mind the scope of present study the main focus hereby has been directed to the contributions of organizational learning processes, teacher leadership in particular. Once teachers are integrated into organizational learning process of the schools, their professional knowledge competency and capacity also swell which in effect means greater contribution to students' and school's success (DuFour, DuFour, Eaker, & Karhanek, 2004). Once teachers, in professional learning communities, accomplish an active function in affecting students' learning, contributing to school's development, searching for perfection in practices and encouraging the contribution of shareholders to school activities then they can rise as leaders (Jackson et al., 2010, Eaker, Dufour, & Dufour, 2002). Pate et al. (2005) noted that in schools where learning and leadership are blended with professional practices teachers can demonstrate higher level of leadership capacity. As reciprocal learners and leaders principals, teachers, parents and students take active roles in school activities. Teachers, principals, students and parents collectively analyze the data to figure out answers and forge new questions. As a result of continuously created research, discussion and reflection activities collaborative actions in schools climb up. The roles and actions in such schools indicate that there is a wider participation, collaboration and collective responsibility within the school (Pate et al., 2005). Since the main focus is on learning, research and reflective processes in these schools; school environment is supportive of teacher leadership (IEL, 2011). Such findings that indicate the relation and inextricably intertwined link between learning organization and teacher leadership enabled the suggestion of the fifth hypothesis:

H5: Learning organization is positively related with professional development, organizational development and collaboration among colleagues dimensions of teacher leadership.

Distributed Leadership and Learning Organization

It is doubtless that leadership, which affects all dimensions of organizational life, is closely related with organizational learning. Accordingly to develop organizational learning process became one of the top priorities of leaders (Slater & Narver 1995 as cited in Özdemir, Karadağ, & Kılınç, 2013). In this process where expectations from leaders are varied the traditional leadership concept that stands for one single man above hierarchical system and bodies has been replaced with collective activities of coworkers and leadership phenomenon turned into a collection of behaviors shared among the participants (Beycioğlu & Aslan, 2010). In this process learning organization and distributed leadership concepts have become two very closely linked terms (Gronn, 2003; NCSL, 2004; Spillane et al., 2001).

In studies related to school principals, researchers are currently analyzing schools as a professional learning community and establishing school leadership approach on this foundation (Katzenmeyer & Moller, 2013). It is reported that the only way to truly actualize organizational learning process is by assigning the kind of leaders capable of realizing this transformation (Senge, 1990). It is also acknowledged that school leaders are expected to create an organizational body which always favors organizational learning, collects and shares findings on school performance and devises governance forms that are supportive of collective research (Leithwood et al., 1995). In line with that remark it is expected from school leaders not to offer ready-made solutions for school problems but include all members in solution-seeking process, eliminate the obstacles before collaboration and give democratic, not bureaucratic, decisions (Leithwood et al., 1995). This more transparent and equalitarian interaction setting that emerges with distributed leadership can offer quite a favorable environment for organizational learning. Leadership turns into a reciprocal responsibility that is shouldered not merely by school principal but demanding partial responsibility from all members. Finally in such a school that would frequently demand teachers' leadership skills, teachers are liable to engage in more learning and collaboration in order to develop their personal effectiveness (Helterbran, 2010).

In schools, a setting in which administrative and miscellaneous duties are shared by all members and where innovative and creative approaches are exposed is highly recommended. This approach entails researching, creating and sharing of new ideas; performing collaborative activities in the light of new and innovative ideas that were previously exposed via shared knowledge and insights; and it also encompasses continuous development of creative ideas (Beycioğlu & Aslan, 2010; Muijs & Harris, 2005). At the very center of this approach lies a climate in which teachers' actions are motivated toward teacher leadership or teachers are authorized or encouraged to take leadership roles (Beycioğlu & Aslan, 2010). In a different saying in a school where leadership is shared, organizational learning increases which in effect could create a school environment that is supportive of teaching. Forst (2010) described this school as an environment that accomplished multilevel learning. These levels are; students' learning, teachers' learning, school's learning and system's learning. It is also noted that the primary factor enabling all these layers is leadership (Frost, 2010). These findings indicating that leadership is the primary factor in the emergence of learning process in schools enabled the proposal of two new hypotheses:

H6: Distributed leadership and organizational learning are linked.

H7: Organizational learning acts as a mediator in the effect of distributed leadership on the professional development, organizational development and collaboration among colleagues dimensions of teacher leadership.

Organizational Learning and Teacher's Self-Efficacy

Current theoretical or practical researches offer a list of evidences on the connection between teachers' self-efficacy perceptions and schools' organizational learning. Schools are interactive social systems in which teachers collect, analyze and share data as such activities leave effect on the social environment of schools (Schechter & Qadach, 2012). In that regard once schools form their information-process mechanisms and intensely utilize them, only then can they forge and utilize a collective memory. This in effect nourishes a teacher's joint efficacy perception (Schechter & Qadach, 2012). DuFour et al. (2004) argue that when teachers partake organizational learning process in schools their professional knowledge efficacy also climbs since in any school organizational learning can create a kind of environment that enables reciprocal collaboration, emotional support and personal development which would not be easily attainable once teachers were left on their own (DuFour et al., 2004). As noted by Helterbran (2010) learning is a social activity and organizational learning is the impeccable and nonthreatening way to develop professional knowledge efficacy of teachers. Learning offers trust and motivation that can improve teachers' practices (Helterbran, 2010). Toplu and Akça (2013) argued that employees in learning organizations are more motivated for personal development and feel themselves more psychologically confident. Accordingly in any school with learning organization attributes, teachers will take wider roles in school activities, collaborate more frequently with co-workers and take on greater responsibilities. In that way, by allowing the teachers to develop their in-class educational activities, their self-efficacy perception can be empowered and even beyond the scope of teaching alone, it can be possible to forge a school environment that enables the emergence and development of teacher leadership roles that pay attention to school matters and partake in decision-making processes. Aforementioned evidences underlining the close link between organizational learning and teacher efficacy enabled the emergence of the last two hypotheses of present research:

H8: Organizational learning and teacher's self-efficacy are linked.

H9: Teacher's self-efficacy acts as a mediator in the effect of organizational learning on the professional development, organizational development and collaboration among colleagues dimensions of teacher leadership.

H10: Organizational learning acts as a mediator in the effect of distributed leadership on teacher's self-efficacy.

The hypothetic connections between the variables in the research model which was set on the basis of theoretical discussions were illustrated as a graphic in Figure 2.

Method

Population and Sampling

Research population covers the teachers that were employed in central districts of Ankara city in 2014-2015 academic term. According to the National Education Directorate of Ankara statistics, 2014-2015 education term, 23.163 teachers work in the 551 middle schools (National Education Directorate of Ankara, 2015). Sampling of the research was designated via convenience sampling method since it offered easy access to participants (Creswell, 2015). In that aspect, 360 teachers working in 16 secondary schools in seven districts (Altındağ, Çankaya, Etimesgut, Keçiören, Mamak, Sincan, Yenimahalle) of Ankara city constituted the sampling of research. Of all the participating teachers 213 were female (59.2%) and 146 were male (40.6%). One participant teacher specified no gender choice. Seniority of participants varied from 1 to 37 years. Mean rank of tenure was 11 years (S=7.65).

Data Collection Tools

Within the scope of this research Teacher Leadership Scale (Beycioğlu & Aslan, 2010), Learning Organization Dimensions Questionnaire (Marsick & Watkins, 2003), Scale for Leadership Capacity in Schools (Lambert, 2003), and Teacher's Sense of Efficacy Scale (Tschannen-Moran et al., 1998) have been utilized. Information on these data collection tools is as listed respectively hereinafter.

Teacher Leadership Scale

Teacher Leadership Scale was developed by Beycioğlu and Aslan (2010). This 5-Likert type scale consisting of 25 items had three sub-dimensions namely organizational development (α=.87), professional development (α=.87) and teacher collaboration (α=.92). Total variance that was explained by the three dimensions was 57.23%. Cronbach's Alpha internal consistency coefficient was computed as .87 for organizational development dimension, .87 for professional development dimension and .92 for collaboration among colleagues dimension. Higher score received from scale indicated that perceptions towards teaching leadership were high while low score pointed that perceptions towards teaching leadership were correspondingly low (Beycioğlu & Aslan, 2010).

Teacher Leadership Scale consists of three sub-dimensions. These dimensions were defined as follows (Beycioğlu & Aslan, 2010):

1. Institutional development: This is emphasized as the most important dimension separating leadership of teachers from traditional approaches of leadership. This dimension includes statements about leadership of teachers, which consists of several administrative activities that teachers are supposed to be responsible as leadership responsibilities of the principals changed. The sample theme for this dimension is the following: *to take part in activities that would enable more participation of student custodians to education process.*
2. Professional development: This dimension contains vanguard and exemplary behaviors of leader teachers for their students and colleagues when they improve themselves professionally. The sample theme concerning this dimension is the following: *To be open to learn new things from their colleagues.*
3. Collaboration with colleagues: This dimension includes activities of leader teachers towards the formation of collaboration-based mutual study groups in line with the emerging professional and institutional needs. The sample theme about this dimension is: *to provide feedback by sharing their observations and experiences.*

Within the scope of present study Cronbach's Alpha internal consistency coefficients were recalculated to validate re-measurement reliability of Teacher Leadership Scale. According to the results of the analysis, Cronbach's Alpha coefficients of the scale were measured as .83 for organizational development dimension, .82 for professional development dimension and .77 for collaboration among colleagues dimension.

Dimensions of Learning Organization Questionnaire

In order to designate organizational learning, Dimensions of the Learning Organization Questionnaire prepared by Marsick and Watkins (2003) and adapted into Turkish by Karabağ Köse (2013) was used. The original form of the questionnaire consisting of 21 items and graded in 5 Likert type is composed of three dimensions named as personal learning, organization-level learning and team-level learning. At the end of analyses conducted by Karabağ Köse (2013) it was concluded that the questionnaire had single-factor structure. The variance explained by single-factor scale was measured as 59.5%. Cronbach's Alpha internal consistency coefficient was computed as (α) .97. One sample item from Dimensions of the Learning Organization Questionnaire is: *Employees in our school are supportive of each other in gaining new insight and skills.*

In order to determine measurement reliability of Dimensions of the Learning Organization Questionnaire within the scope of this research, Cronbach's Alpha internal consistency coefficient was computed and the analysis resulted that Cronbach's Alpha coefficient is .96.

Scale for Leadership Capacity in Schools

In order to designate teacher perceptions towards distributed leadership roles, within the context of this research, Scale for Leadership Capacity in Schools Scale devised by Lambert (2003) and adapted into Turkish by Kılınç (2013) was employed. The original form of the scale consists of four Likert type 30 items that measure five sub-dimensions. The analyses conducted by Kılınç indicated that the scale consisted of four sub-dimensions named as (1) distributed leadership, (2) shared school vision, (3) collaboration and collective responsibility (4) perceived student success. Distributed leadership dimension explains 51,9% of the variance explained by the scale. The reliability analysis related to this dimension pointed that Cronbach's Alpha internal consistency coefficient is .91. One sample item from the scale is: *In our school we all act in a way to create leadership opportunities for each one of us.*

Within the scope of this research, distributed leadership dimension of the scale adapted into Turkish by Kılınç (2013) was used. This dimension includes seven items. Internal consistency coefficient of this subscale was measured as .87.

Teacher's Sense of Efficacy Scale

Teacher's Sense of Efficacy Scale-TSES was developed by Tschannen-Moran et al. (1998). The scale consists of three factors; (1) sense of self-efficacy towards student participation (8 items), (2) sense of self-efficacy towards employing teaching strategies (8 items), and (3) sense of self-efficacy towards classroom management (8 items) (24 items in total). Turkish adaptation of the scale was initially conducted by Çapa, Çakıroğlu and Sarıkaya (2005) on a sampling group consisting of 628 students from the faculties of education. However, since in this research this scale will not be applied on prospective teachers but in-service teachers in elementary schools, it was resolved to utilize the findings of a subsequent adaptation work (Kurt, 2009) that included in-service teachers' participation. Kurt (2009)'s analysis manifested that the scale had single-factor structure. The variance analyzed by single factor is 44.76%. Cronbach's Alpha internal consistency coefficient (α) of self-efficacy scale was reported as .95. One sample item from the scale is: *To what extent can you make students believe that they can achieve success in school?*

Within the scope of this research, measurement reliability of Teacher's Sense of Efficacy Scale was computed as .96.

Data Collection

The researcher implemented data collection tools with teachers, who work in the schools that were included in the research sample. In this context, the research directly delivered questionnaire to the teachers and then they were recollected. Before data collecting tools were applied, teachers were informed in teachers' lounge and the participation of the volunteers was secured.

Data Analysis

In the analysis of data obtained within the scope of research, SPSS 18.0 and AMOS 20.0 package programs were employed.

In the conceptual model devised within the context of current research (Figure 2), variables that explained teacher leadership were listed as distributed leadership, organizational learning and teachers' self-efficacy perception. The model was established on the hypothesis that in the emergence of teacher leadership, organizational, administrative and personal factors work interactively and mutually. *Distributed leadership* and *learning organization* variables in the hypothetical model for teacher leadership are school level variables. These variables were included into the model as the ones forging teachers' social environment. *Teacher's self-efficacy* on the other hand is a personal variable of teachers. In this concept, the relevant data were merely collected from teachers. Hence, in addition to teachers' sense of self-efficacy and teacher leadership perceptions, the school's level as a teacher organization and distributed leadership level of school principal were also determined on the basis of teacher perceptions.

In this model, it was predicted that distributed leadership affected teacher leadership both directly and also indirectly via organizational learning and teacher's self-efficacy. Organizational learning variable also took place in this model as a variable that not only directly but also indirectly affected teacher leadership via self-efficacy. In this model, distributed leadership is independent variable (exogenous), organizational learning and teacher's self-efficacy variables are (mediator) and teacher leadership is the outcome variable (endogenous). Thus, there are direct and indirect relations among the variables in hypothetical model. Therefore in order to test the hypothetical model within the scope of Structural Equation Modeling, a path analysis has been conducted with the observed variables.

Structural equation model is a comprehensive statistical approach that is used to test the "causal" relations between measured and latent variables. Structural equation model combines with a comprehensive analysis the predictive structural relation in the variables in regression model and latent factor structures in factor analysis. At the same time it is a study that demonstrates the intensity of relations among variables (Jöreskog & Sörbom, 1993; Sümer, 2000; Şimşek, 2007).

Prior to launching path analysis the hypotheses of SEM analysis were checked. Towards this end data were examined with respect to missing value, outlier, multi-collinearity and normality. Within that context, data compiled from six participants exhibiting outliers were excluded from the study. Also Mahallonobis distances of the variables were computed and data compiled from five participants exhibiting multivariable nonconformist/extreme value were excluded from the analysis. Last of all, multi-collinearity, variance inflation (VIF), and tolerance values were examined. Amongst the variables, it was not witnessed any tolerance close to zero, any VIF higher than 5, or a condition index higher than 30, and accompanied by two variances above 0.50. As a result of conducted missing value and outlier analyses, 360 observations were left in the data set and in order to analyze the data required hypotheses were provided.

In order to test the hypothetical model of the research, firstly Pearson correlation coefficients amongst the variables in the model were computed. Next research model was tested by following path analysis method with observed variables. In the analysis of mediator effects in the model, Sobel test was employed. Sobel test is used in testing to see whether the effect of an independent variable on a dependent variable was carried significantly by a mediator variable (Preacher & Hayes, 2008). In that way not only the indirect relations amongst variables but whether these are significant or insignificant relations were also statistically proven.

Findings

The relations among the variables in hypothetical model on teacher leadership and mean and standard deviation values of variables are as given in Table 1.

Table 1. Pearson Correlation Coefficients, Mean and Standard Deviation Values of the Variables in the Conceptual Model of Teacher Leadership

Variables	$\overline{X}$	***S***	**1**	**2**	**3**	**4**	**5**
1. Organizational development	3.35	.68	1				
2. Professional development	4.02	.63	.55**	1			
3. Teacher collaboration	3.77	.70	.72**	.62**	1		
4. Distributed leadership	2,41	.68	.40**	.23**	.33**	1	
5. Learning organization	2,43	.77	.42**	.43**	.38**	.65**	1
6. Teacher's self-efficacy	6,67	1.06	.45**	.45**	.38**	.29**	.30**

**p< 0.01, n= 360

Table 8 indicates that variables within the scope of research model are significantly and positively related. Organizational development, professional development and collaboration among colleagues, which are amongst the three sub-dimensions of teacher leadership, are highly interconnected (r=.55 - .72). The three sub-dimensions of teacher leadership are in a low level of relationship with distributed leadership (r= .23) but middle level of relation with the rest of variables in the model (r= .33 - .45). There is a high level of relation between distributed leadership and organizational learning (r=.65). The variables in which there is high relationship with teacher's self-efficacy are organizational development (r=.45) and professional development (r=.45) dimensions of teacher leadership. Correlation analysis results validate all the nine hypotheses in research model.

Following the correlation analysis path, another analysis was conducted to test conceptual model and demonstrate direct and indirect relations amongst the variables. Path diagram of the results of analysis is as seen in Figure 3.

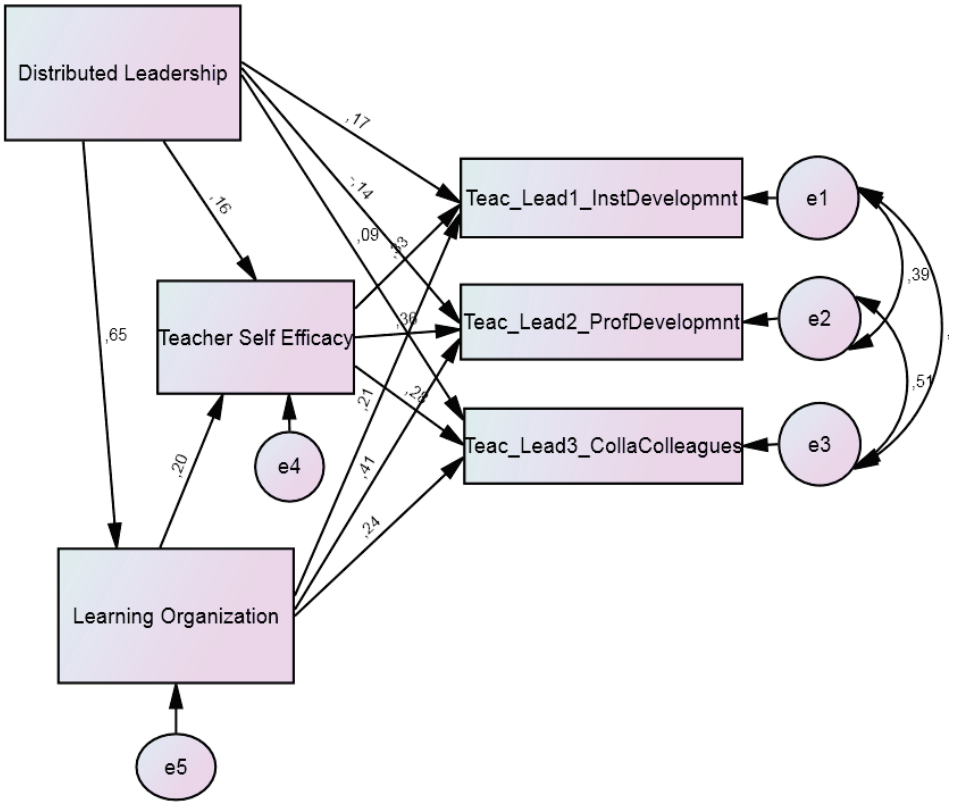

Figure 3. Standard Path Diagram for Conceptual Model

As seen in Figure 3, research model is just identified. Since in just identified model's number of predicted parameters (12 paths, 3 correlations) equals to the number of elements in data matrix (6*5/2=15), sampling covariance matrix creates predicted parameters perfectly. Because this condition makes it impossible to test the hypotheses on the adequacy of model (=0.00; P=1.00) it is not preferred. However in just identified models hypotheses on specific paths can reasonably be tested (Tabachnick & Fidell, 2007. On the basis of this explanation the size of the parameters in the model were contrasted. Accordingly, distributed leadership significantly predicted organizational development (β=.17; t=2.42, p<0.05) and professional development (β=-.14; t=-2.388, p<0.05) dimensions of teacher leadership while it did not significantly predict collaboration among colleagues (β=.09; t=1.534, p>0.05) dimension. Distributed leadership predicted learning organization (β=.65; t=16.14) in a highly significant level but predicted self-efficacy in a low significant level. Learning organization predicted teacher's self-efficacy in a low yet significant level (β=.20; t=3.03, p<0.05), but predicted organizational development (β=.21; t=3.646, p<0.05), professional development (β=.41; t=6.924, p<0.05), and collaboration among colleagues (β=.24; t=3.857, p<0.05) dimensions of teacher leadership in a

significant level. Since the path identifying the relationship between distributed leadership and collaboration among colleagues dimension of teacher leadership is insignificant, it was removed from conceptual model and an alternative model was created. The results of alternative model are as given in Figure 4.

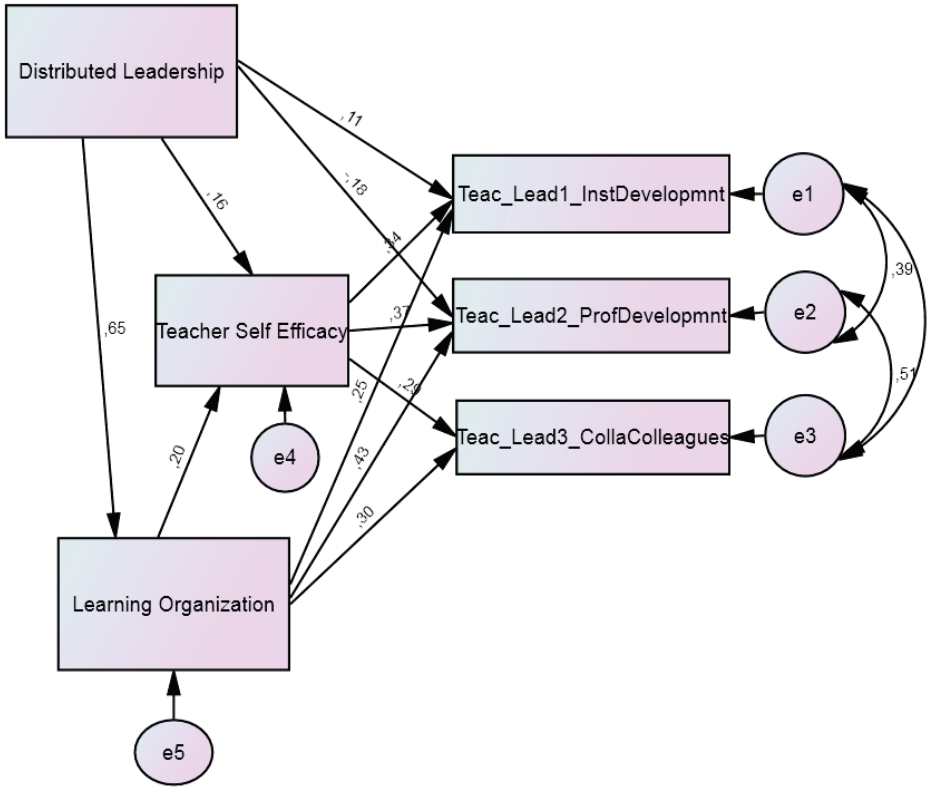

Figure 4. Standardized Path Coefficients of the Confirmed (Final) Model

Overall fitness coefficient of alternative model is =2.347; TLI=.99; CFI=.99, RMSEA=0.62. These findings prove that alternative model has excellent fitness values, which also means that the model has been validated.

In the research model there are six hypotheses that demonstrate the direct relations amongst variables (*H1, H2, H3, H5, H6, H8*). Firstly findings of the hypotheses on the direct relations shall be presented. In this model distributed leadership significantly predicts teacher leadership's organizational development (β=.11; t=2.503, p<0.05) and professional development (β=.-18; t=-3.664, p<0.05) dimensions. This finding partially validates the first hypothesis of the research since in the first hypothesis of research it was predicted that distributed leadership was a significant predictor of the three sub-dimensions of teacher leadership. On the other hand, while distributed leadership significantly predicts organizational development and professional development dimensions of teacher leadership, it does not predict teacher collaboration. As predicted in the second hypothesis of research teacher's self-efficacy significantly predicted organizational development (β=.34; t=7.289, p<0.05), professional development (β=.37; t=7.911, p<0.05) and collaboration among colleagues (β=.29; t=5.903, p<0.05) dimensions of teacher leadership. Organizational learning variable is a significant predictor of organizational development (β=.25; t=4.572, p<0.05), professional development (β=.43; t=7.782, p<0.05) and collaboration among colleagues (β=.30; t=6.07, p<0.05) dimensions of teacher leadership. This finding validates the fifth hypothesis of the research. Organizational learning's significant prediction of teacher's self-efficacy (β=.20; t=3.03, p<0.05) validates the eighth hypothesis of the research. In the model it is seen that distributed leadership, which is an independent variable, significantly predicts the mediator variables namely teacher's self-efficacy (β=.16; t=2.42, p<0.05) and learning organization (β=.65; t=16.14, p<0.05). These findings validate the third and sixth hypotheses.

The fourth, seventh, ninth and tenth hypotheses of the research (*H4, H7, H9, H10*) are related to mediator effects. There is a three-step procedure to test for mediation. The three sub-requirements are as follows (Baron & Kenny, 1986):

- the predictor variable should be significantly related to the mediator variable;
- the predictor variable should be related to the criterion variable;
- the mediating variable should be related to the criterion variable with the predictor variable in the equation.

As regards the requirements listed above, it is seen that in the model both organizational learning and teacher's self-efficacy variables which are the mediator variables in the model are directly and significantly related with the three sub-dimensions of teacher leadership, which is the dependent variable (criterion variable) of the model. Organizational learning variable and teacher's self-efficacy variable is significantly related with the distributed leadership, which is the independent variable (predictor variable) of the model as well. This finding evidences that the model provides the requirements demanded to analyze the mediator effects of organizational learning and teacher's self-efficacy. In this case, indirect effects and the significance level, if any, of these effects were calculated. The results of Sobel test that was conducted to measure indirect effects and potential significance of these effects are as given below.

The direct relationship of distributed leadership with teacher's self-efficacy is .16. Teacher's self-efficacy's relationship with organizational development dimension of teacher leadership is .34, its relation to professional development is .37 and its relation to collaboration among colleagues is. 29. Accordingly .05 of the relations between distributed leadership and organizational development (.16*.34), .06 of the relations between distributed leadership and professional development (.16*.37), .05 of the relations between distributed leadership and collaboration among colleagues (.16*.29) stem from indirect relations. The results of Sobel test conducted to see if self-efficacy mediator effects are significant manifested that mediator effect of self-efficacy is significant for teacher leadership's organizational development (t_{sobel}=2.31; P<0.01), professional development (t_{sobel}=2.32; P<0.01) and collaboration among colleagues (t_{sobel}=2.24; P<0.01) dimensions. In the model, direct relationship between distributed leadership and collaboration among colleagues dimension of teacher leadership is insignificant. On the other hand, teacher's self-efficacy's indirect effect on distributed leadership and collaboration among colleagues dimension of teacher leadership is significant. This finding determines that in the relationship between distributed leadership and collaboration among colleagues dimension of teacher leadership, teacher's self-efficacy acts as a full mediator variable. Distributed leadership has direct and significant relationship with the other two dimensions of teacher leadership which are organizational development and professional development. Similarly, the indirect effect of teacher's self-efficacy on the relation between two is also in significant level. Hence, in the relation between distributed leadership and teacher leadership's organizational development and professional development dimensions, teacher's self-efficacy acts as partial mediator variable. This finding validates the fourth hypothesis of research.

In the model, learning organization's mediator effect was also tested. The relationship of learning organization variable with teacher leadership's organizational development dimension is .25, relation with professional development is .43 and relation with collaboration dimension is. 30. In that case, .16 of the relations between distributed leadership and organizational development (.65*.25), .28 of the relations between distributed leadership and professional development (.65*.43), .20 of the relations between distributed leadership and teacher collaboration among colleagues (.65*.30) stem from indirect relations. The results of Sobel test conducted to see if self-efficacy mediator effects are significant showed that organizational learning variable's mediator effect is significant for organizational development dimension of teacher leadership (t_{sobel}=4.43; P=0.00), significant for professional development dimension (t_{sobel}=7.13; P=0.00), and significant for collaboration among colleagues (t_{sobel}=5.67; P=0.00) dimension. Since direct relation between distributed leadership and sub-dimensions of teacher leadership is in significant level, organizational learning acts as a partial mediator for the relations amongst these variables. These findings validate seventh hypothesis of the research.

In the ninth hypothesis of research, it was predicted that teacher's self-efficacy acts as a mediator variable between organizational learning and dimensions of teacher leadership. Organizational learning is related to teacher's self-efficacy in .20 level. Accordingly .07 of the relations between organizational learning and organizational development (.20*.34), .07 of the relations between distributed leadership and professional development (.20*.37), .06 of the relations between distributed leadership and collaboration among colleagues (.20*.29) stem from indirect relations. The results of Sobel test conducted to see if self-efficacy's such mediator effects are significant manifested that mediator effect of self-efficacy is significant for teacher leadership's organizational development showed that organizational learning variable's mediator effect is significant for organizational development dimension of teacher leadership (t_{sobel}=2.81; P=0.00), significant for professional development dimension (t_{sobel}=2.83; P=0.00) and significant for collaboration among colleagues (t_{sobel}=2.72; P=0.00) dimension. Since direct relations between organizational learning and three sub dimensions of teacher leadership are in significant level, teacher's self-efficacy acts as a partial mediator in the relation between organizational learning and teacher leadership. These findings validate the ninth hypothesis of the research.

In the tenth and final hypothesis of research, it was predicted that organizational learning variable is the mediator variable between distributed leadership and teacher's self-efficacy. .13 of the relation between distributed leadership and teacher's self-efficacy (.65*.20) stem from learning organization. Results of Sobel test (t_{sobel}=2.99; P=0.00) manifest that this effect is significant. Therefore, organizational learning acts as the partial mediator in the relation between distributed leadership and teacher's self-efficacy.

Conclusion and Discussion

In the modern age when expectations from education and schools are constantly on the rise, educators are driven to seek or attempt various reforms to meet these new demands. Teachers are, most of the times, the direct and critical addressees of the reform searches and expectations from teachers are also climbing continuously. Within that scope, one of the most frequently mentioned concepts is teacher leadership. Teacher leadership approach argues that during education process, teachers should not act as mere subordinates, and should not only pay attention to their classroom or course units. Instead of acting parallel to 'I am just a teacher' syndrome in the words of Helterbran (2010, p. 363) while executing their profession, teachers of today are expected to go beyond the educational activities in their own classroom and take initiative in school-wide issues, go beyond the borders of preset role definitions and act as real leaders. Principally speaking school administrations, education reforms and senior institutions in education are equally responsible in labeling teachers as 'simply teachers' who are just expected to follow their orders (Cuban, 1990; Darling-Hammond, 1994; Evans, 1996; Frost ve Roberts, 2013; Naicker & Mestry, 2015; Tian, 2011). As pointed out by Helterbran (2010) and Mangin (2005) it is obvious that education reformists have realized this problem since there is an increasing trend in positioning teachers to a more vital and central status in education reforms. In the last 15 years in particular there have been numerous theoretical studies on teacher leadership. However as underlined by Helterbran (2010) the concept has not yet fully integrated into teachers or sufficiently infused into their professional practices. This failure clearly posits that there are certain domains in teacher leadership that demand further researches and this cause has been the propeller of present research.

In this study, a conceptual model that multi-dimensionally analyzes the factors effective on teacher leadership was devised. While forming the model environmental, personal and behavioral factors were collectively treated as a replication of the hypothesis of Bandura's (1997) social cognitive theory. In the conceptual model of teacher leadership, *environment* stands for distributed leadership practices in schools and whether the school bears learning organization attributes; *personal attributes* stands for teachers' self-efficacy perceptions and *behavior* refers to teacher leadership. In the model,

distributed leadership is the independent variable whereas mediator variables are organizational learning and teacher's self-efficacy and dependent variable is teacher leadership. In this model, teacher leadership has been treated three dimensionally as organizational development, professional development and collaboration among colleagues.

Conceptual model was tested via a path analysis with the observed variables. Obtained findings revealed that in the model, direct relation between distributed leadership and collaboration among colleagues dimension of teacher leadership was not significant. By removing the path from the model, an alternative model was created and retested. The findings of this analysis revealed that alternative model proved good fitness values and validation. Upon validating the model holistically indirect relations amongst the variables in the model were examined and next Sobel test was conducted to analyze to see whether or not these effects were significant. At the end of analyses, one hypothesis of the research was partially and the other one was fully validated. According to the results, distributed leadership is positively related with organizational development dimension of teacher leadership, negatively related with professional development dimension of teacher leadership. The fact that distributed leadership is positively related with organizational development dimension of teacher leadership is a finding consistent with previous studies whereas negative relation with professional development and insignificant relation with collaboration among colleagues dimension is inconsistent with some of the previous studies (Duyar et al., 2013; Leithwood et al. 2007; Suranna & Moss, 2000; Sheppard et al., 2010). At the end of studies conducted by Sheppard et al. (2010) it was manifested that distributed leadership, by enhancing the morale and motivation of teachers, strengthened their teacher leadership capacity; Suranna and Moss (2000) concluded that school principals who support teachers facilitated teacher leadership. On the other hand in Storey's (2006) research it was detected that when in schools leadership role is borne by the third parties, certain conflicts are likely to arise due to the incongruities amongst priorities and goals. When a crack emerges in the distribution of leadership roles, contrary to the expectations, distributed leadership may turn into a relation surrounded with mistrust, rivalry and incongruity rather than trustful support (Storey, 2006). Storey (2006) underlined that school principals are not yet fully knowledgeable about the duties to be allocated via distributed leadership. All these findings point out that in reality distributed leadership still has a number of features that demand clarification as regards the theoretical and practical applications. It can thus be argued that there is ambiguity concerning the exact results of distributed leadership or the probability of unexpected or undesired negative or positive outcomes.

In this research, it was detected that while distributed leadership was positively related with organizational development it was negatively related with professional development and insignificantly related with collaboration among colleagues which is a finding consistent with Storey's (2006) findings mentioned previously.

While distributed leadership is positively related with organizational development dimension of teacher leadership, it is being unrelated with collaboration among colleagues dimension and being negatively related with professional development may be connected with teachers' perception of the new roles emerged with distributed leadership. It is possible that teachers may view distributed leadership practices as the attempts and activities mostly geared towards organizational development. Therefore, it is feasible that distributed leadership practices are not regarded by teachers as facilitators of teachers' professional development but as impediments for professional development. On the other hand, when distributed leadership practices allocate various responsibilities to teachers for the development of school, responsible teachers may feel like their professional development has been discarded. This situation might also be related to the negative reaction of teachers towards teacher leadership rather than their attitudes towards distributed leadership. Helterbran (2010) and Mangin

(2005) reported that teachers may react to teacher leadership on the basis of fear that it would trigger peer leadership or extra workload. Therefore although teachers do not react to distributed leadership practices that are related to organizational development dimension which is not direct or personal, they are more likely to stand negative towards more direct and personal situations. This might also be related to teachers' lack of motivation for professional development, unwillingness to abandon their comfort zone, desire to continue orthodox teaching methods and unwillingness to try new methods. Nevertheless, a research conducted in Turkey (Beycioğlu & Aslan, 2010) found out that expectation scores of teachers towards leadership of teachers were higher than their perception scores. This situation suggests that teachers expect more than current behaviors and practices of leadership of teachers at schools. On other hand, one study done once again in Turkey identified that extremely centralist structure of working system excludes teachers from decision-making process (Duyar et al., 2013), while another one put forward the idea that bureaucratic structure of schools and regulation-based administrative behaviors had impacts on distributed leadership at schools (Özdemir & Devecioğlu, 2014). Can (2006b) considered insufficient support of the administration, lack of the assessment of additional efforts and inadequacy of democratic trust and participation environment as obstacles to leadership of teachers. Can's study also revealed obstacles such as limitation of time due to lack of double education at schools, insufficient educational tools and formal burdens of teachers. Consequently it can be said that the obstacles against leadership behaviors of teachers are associated with institutional processes and habits, which do not allow teachers to act as leaders, rather than individual attitudes of teachers.

Teacher's self-efficacy is also a predictor for the three sub-dimensions of teacher leadership. In another saying self-efficacy perception positively affects teacher leadership behaviors of teachers in organizational development, professional development and collaboration among colleagues dimensions. This finding attests that self-efficacy perceptions of teachers should be enhanced to allow them to demonstrate leadership behaviors. This finding echoes the previous researches in relevant literature. Katzenmeyer and Moller (2013) reported that brilliant teachers have high level of efficacy perception which motivates them to take on greater leadership responsibilities. Zinn (1997) noted that the most evident personal attributes of leader teachers are motivation, confidence and commitment. When faced with obstacles these teachers put their best efforts to overcome the challenges and activate their leadership skills. Given that the findings of present research are also in parallel with this deduction, it is reasonable to argue that a teacher's self-efficacy is the pillar that backs up teacher leadership.

Organizational learning variable is a significant predictor for the three sub-dimensions of teacher leadership. This finding claims that provided that a collaborative work atmosphere is set in the school teachers are further inclined to perform leadership behaviors. This finding is also consistent with previous literature studies (Eaker et al., 2002, Jackson et al., 2010, Pate et al., 2005). Schechter and Atarchi (2013) reported that in organizational learning processes teachers share their knowledge and experiences with colleagues and take on active roles in solving the problems that their school faces. Hence, organizational learning processes, by letting the teachers take on more active roles at school, assist them in performing teacher leadership behaviors (Silins & Mulford, 2000).

In the research model, organizational learning and teacher's self-efficacy were treated as mediator variables. Research findings manifested that teacher's self-efficacy acts as a significant mediator between distributed leadership and the three sub-dimensions of teacher leadership. Since the relations between distributed leadership and organizational development & professional development dimensions of teacher leadership are significant, teacher's self-efficacy is the partial mediator variable. Although there is no direct relation between distributed leadership and collaboration among colleagues the fact that mediator effect of teacher's self-efficacy was significant demonstrates that teacher's self-efficacy is a full mediator variable. On the basis of this finding it can

be argued that distributed leadership, by enhancing teachers' self-efficacy, backs up teacher leadership. Tian (2011) identified that distributed leadership promoted teacher's self-efficacy and attributed the reasons to authorization of teachers by distributed leaders, assisting peer recognition at school, creating a democratic culture and maintaining strong ethical pillars. Sheppard et al. (2010) also reported that morale and motivation of teachers are also closely linked to distributed leadership whilst lack of motivation, timidity and stress are the greatest impediments in front of teacher leadership (Zinn, 1997). In addition, Goddard et al. (2004) argued that self-efficacy perception act as a mediator in assisting the people to set their targets and control the environment which is experienced. All these findings provide strong evidences that teacher's self-efficacy supports, both directly and indirectly, teacher leadership.

In this conceptual model, organizational learning variable acted as a mediator variable between distributed leadership and sub-dimensions of teacher leadership. The results of Sobel test proved that organizational learning is a significant mediator variable. In the relationship between distributed leadership and organizational development & professional development dimensions of teacher leadership, organizational learning acted as the partial mediator, and acted as full mediator in the relation with collaboration among colleagues dimension. The relation between organizational learning and teacher leadership proved to be higher than distributed leadership. Research findings however showed that distributed leadership is a strong predictor of organizational learning. As stated earlier, teacher's self-efficacy is also a significant predictor of teacher leadership and distributed leadership is a significant predictor of teacher's self-efficacy. Thus all these findings evidence that in the emergence of teacher leadership the position of school as a learning organization and self-efficacy perceptions of teachers play quite an important role. Both variables are supported once school principal follows distributed leadership role and acts as a mediator on the effects of leadership to the teacher. Based on this conclusion it is reasonable to argue that school principals, by promoting organizational learning activities in school and making relevant changes in school structure, not only empower teachers' self-efficacy perceptions but can also enable teachers to act as leaders.

The findings of this research demonstrated that although teachers positively approach to distributed leadership when it relates to organizational development dimension of teacher leadership, they react negatively when it relates to professional development and collaboration among colleagues dimensions. Taken into account the result that there is a positive relation between teacher leadership and teacher's self-efficacy & organizational learning, it would be safe to suggest that instead of leading or even forcing teachers towards direct professional development and teacher collaboration, empowering their self-efficacy perceptions and transforming the school into an environment that fuels each member's learning capacity could prove to be more motivating in terms of teacher leadership.

The hypothesis model tested in this study was formed on the basis of the principles of social cognitive theory. In this context the research model includes the premises of leadership of teachers such as distributed leadership, learning organization and teachers' self-efficacy. The analyses confirmed the tested model and suggested that the assumptions of social cognitive theory were supported. The research model defined learning organization and distributed leadership as environmental variables and teachers' self-efficacy as personal variable. The impacts of environmental variables on the personal variable are significant. In brief, both school environment and teachers' individual perceptions influence leadership of teachers. This result indicates that teachers should be supported in the individual sense and the processes that enable leadership possibilities for teachers should be included in school life in order to develop leadership of teachers.

This study not only reveals that distributed leadership and organizational learning assist the teacher leadership, but also it shows that further studies especially about the teacher leadership and distributed leadership are needed. In this context, what organizational incentives can also assist the

teacher leadership may be studied. The subjects such as the authorization of the teachers, creating more participative decision-making process, development of the collaborative culture at schools, and organizational support can be studied in relation to the teacher leadership. On the other hand, studies for determining the obstacles to teachers' taking responsibility beyond their job definition and their personal and vocational development may be done. In terms of distributed leadership, the first matter to examine is to determine the new roles which distributed leadership emerge. These new roles should be addressed separately for the head masters, the vice-principals, and teacher leaders. Another point which needs to be clarified due to the emergence of distributed leadership and teacher leaders is how to organize the relationship between the head master, the vice-principals who are the formal leader of the school and the teacher leaders. As the above mentioned relationship can be examined by means of what disagreements may emerge due to distributed leadership, what these disagreements may be, and how they can be solved; it can also be examined as part of theories such as Leader Member Exchange which enables to handle the issue at bilateral relations level.

There can be some suggestions in the light of research results. First of all, it is necessary to prevent teachers from isolation from other colleagues and processes at school that are beyond their own classes and courses. Team works or group activities can be established in order to support professional solidarity, collaboration and mutualisation among teachers. Such efforts might be important for teachers to develop leadership behaviors with the help of natural leaders within the groups without a formal leader. It can also be claimed that expansion of teachers' authority from their classes to the context of school and respect to their professional decision are significant for them to exhibit leadership behaviors. A learning environment at a school can only be established in this way and so that teachers can adopt leadership roles to solve their problems. However, it should be herein noted that the development and proliferation of the teacher leadership applications at schools is not solely related with teachers' and head teachers' tendency and attitudes. Because of the centralized structure of the education system in Turkey, even the head masters' authority is remarkably restricted at schools and they cannot go beyond controlling whether the strict regulations are being applied or not. This situation restricts the teachers and head masters with applying the orders, yet it stops them from taking initiative, finding creative solutions, and go beyond their job definition. In this regard, it may be argued that increasing the authority of the teachers and the school administrators on the basis of school plays a critical role. This is the only way to let the head masters and the teacher take more responsibility and be more efficient at solving the problems the school.

As a final remark, it should be noted that despite presenting vital findings and results concerning teacher leadership and distributed leadership, the research yet has certain limitations in itself. The methodological limitation of the research is that distributed leadership behaviors of school principals were examined on the basis of teachers' perceptions. Another limitation is teachers' leadership behaviors or efficacies were determined merely on the basis of teachers' opinions. Thus prospective researches could be conducted to include multiple data resources in which school principals', teachers' and even students' and parents' opinions were integrated into the analyses. In addition, by conducting multilevel analyses that foreground the differences between school principals or schools, even more elaborate results could be obtained.

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