# Analyzing the Challenges and Obstacles to the Leadership of Professional Learning Communities in Schools and Identifying Strategies for Addressing the Obstacles: A Mixed Approach

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## Abstract

This research is with a mixed approach. The study population quantitatively consisted of all Urmia's high school principals and assistant principals (n=452). Cochran's formula was used to determine this quantity. 204 subjects were chosen as the study sample through stratified random sampling. Qualitatively, the study population who consisted of the professors of education faculty, school principals and experts of education departments was chosen by a purposive sampling— snowball. That is to say, 13 subjects were chosen by the theoretical saturation technique. To collect the quantitative data, a researcher-made questionnaire ensuring a face and content validity of 0.88 was developed by the experts. The qualitative data were collected according to semi-structured interviews. The data analysis was performed by two software programs—SPSS and MAXQDA. The results of the quantitative findings suggested that the challenges and obstacles to the leadership of professional learning communities are not in satisfactory condition in schools. Furthermore, the results of Friedman's rank test indicated that the highest rank mean relates to the organizational challenges and obstacles, while the lowest rank mean was depicted by the individual challenges and barriers. According to the results of the qualitative findings, four strategies were suggested to address the challenges and obstacles to the leadership of professional learning communities as follows; organizational strategies, educational and selection strategies, cultural strategies, and leadership strategies.

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## Introduction

Today, relying on the solidarity of society, organizations pay considerable attention to human resources by spending most of their time developing it. In prioritizing resources, human resource precedes financial aspects, because the global strategy holds that confidence accrues to work teams possessing solidarity (Criveanu and Carstin, 2018). Among human resources, the role of manager and leader, particularly school manager and leader, is more fundamental and prominent than that of others, in the sense that the success of schools and education systems largely depends on school management and leadership (Mard et al., 2017). When a school environment encompasses principals', teachers', and personnel's sense of cooperation, they will have greater productivity and motivation. Moreover, when a school's operating structure is built on the professional learning community, teachers would learn from each other and get to know one another in this community and see themselves as part of teachers' community where the focus is on the implementation of new practices geared to their strengths and individual capacities (Mundschenk and Fuchs, 2016).

Learning communities would not exist without leadership facilitating teachers' growth. A professional community is one where school teachers and directors are constantly in pursuit of learning, sharing it, and acting accordingly. Principals are required to act as guiding leaders rather than mere leaders, because the whole community of school, i.e., teachers, staff, principal, students, and parents, develop a habit of continuous learning (Zepeda, 2004). Leadership plays a pivotal role in establishing supportive conditions that encourage schools' learning community performance to maintain these conditions (Hairon et al., 2014). According to the definitions of educational leadership, it can be held that one of the leaders' duties is to instruct the leadership of learning communities. Learning-oriented leaders lead teachers into learning that improves their skills of nurturing students' learning. Leaders who are keen on learning-oriented leadership and hold incremental beliefs about teachers' learning can

provide a climate more conducive to learning for everyone, students and teachers (Tirri et al., 2021). If leaders are unaware of their role and influence in professional learning communities, the communities will have difficulty achieving their goals. School leaders provide a structure for professional learning communities but at the same time provide an opening for teachers to address problems within the structure. This sense of shared leadership calls for school principals who can in practice provide constant and effective professional development in a professional learning community (Carpenter, 2014). Hord (1997) asserts that a professional learning community is a community in which both teacher and principal can constantly learn, and share their learning, and act according to their learning. Almost all models and frameworks of professional learning communities vouch for the shared decision between teachers and those who have an official leadership role. They also encourage the deliberate distribution of leadership functions (Gasper, 2010). Leaders can help by attending PLC sessions regularly and receiving learning tips about PLC sessions and adjusting educational practices (Pirtle and Tobia, 2014). Therefore, it is imperative for principals and teachers to recognize professional learning communities as a mechanism for school development (Motehayyerpasand et al., 2020). School teachers and leaders are influential in helping students with learning and in school progress. One of the reasons for the survival of PLC at every operational level is that it is a means of engaging tutors particularly school leaders and teachers in the workplace (Jones et al., 2013).

Leadership is considered as a highly influential attribute in the professional development of schools. The review of literature indicates that the role of managers is of great importance because it directly affects time, conditions and trust. Leaders with democratic responsibilities fulfill educational duties, while cooperating, building consensus, and empowering them to improve teacher-student performance (Mullen & Schunk, 2010). Providing opportunities for effective professional development is one of the ways school leaders

begin to build professional learning communities (Jones et al., 2013). Therefore, leadership is necessary for the success of professional learning communities (Stoll et al., 2017). One of the outcomes of school leadership is the need to promote the quality of PLC activities. This can strengthen the link between PLC activities and classroom teaching and learning (Hairon & Dimmock, 2012). Achieving this requires developing the leadership of school principals in the professional learning communities fields. In order to achieve the educational system goals and progress and development in schools, the present study was performed to analyze the challenges and barriers to leadership of professional learning communities in high schools in Urmia. Under such circumstances, it is necessary to examine the challenges and barriers to leadership of professional learning communities in schools, especially high school principals, which was strongly required in order to take a big step to eliminate these barriers and challenges. In this regard, this study attempts to have a scientific and technical view at the challenges and obstacles of leadership of professional learning communities in schools in a difficult and complex situation that leadership is encountered in professional learning communities and by analyzing the challenges and obstacles of the leadership of the professional learning communities in the schools, provide some solutions and have a great contribution in this regard.

What is the status of the challenges and obstacles to the leadership of professional learning communities in high schools? And what are the important strategies for addressing the challenges and obstacles?

**Theoretical foundation and research background**

Historically speaking, the concept of professional learning society was raised since the early 1990s to rebuild the culture of schools as learning organizations in order to improve teachers' work and bring about change in students' achievement (Addley, 2014). A professional learning community is defined as follows: it is where learners, teachers and managers are involved in learning (Nolan, 2009).

Small groups of teachers come together as a team to help each other improve student learning. Team members share their experiences, reflecting upon them, reviewing one another's practices, doing research, and checking the best methods (Owen, 2014). Professional learning communities are generally referred to as the teacher group supported by leaders (Stoll and Louis, 2014). Professional networks provide teachers with places for using individual scientific knowledge in order to solve common troubles. Learning and development have become growingly popular among peer learners inside and across schools and have been recognized as one of the hallmarks of the most thriving schools around the world (Pang and Wang, 2016). The professional learning community focuses on three dimensions: a) shared and supportive leadership; B) shared perspectives and values; D) Structures, as they are most related to the leadership role (Ho et al, 2019). Thus, the role of the principal in learning communities' field is as follows: - Principals promote and enable continuous and professional development for teachers and themselves. - They enhance the sharing of modern and informed professional knowledge, perform some actions aimed at meeting the different needs of students in a general commitment to school progress and student achievement, the principals are responsible to organize and support the professional growth of their teachers. (Li et al., 2016).

To transform schools into professional learning communities, some forces and factors are required, including: internal forces and factors and external forces and factors. The most important internal forces and factors are the type of school leadership, organizational structure, participation of school staff, quality education and internal learning environment of the school and the information availability and effective school networking systems. External forces and factors are related to the external environment in which the school operates and have a crucial effect on the transformation of the school into a professional

learning community (Alkardam, 2020). Presumably, the development of a professional learning community rests on the interplay of certain processes inside and outside school. It is not simply achieved by providing staff with promotion opportunities, but it is accomplished by supporting two sorts of fundamental conditions; (i) physical or structural arrangement such as a time and place for face-to-face meetings and dialogue, (ii) human characteristics or professional learning capacities (Mahimuang, 2018). School leadership is designed to provide the best conditions for learning and create shared culture. Good leaders instigate serious interactions concerning the matter of reform and improvement. Ironically, they disregard the elaboration of organizational goals by utilizing democratic decision-making processes and applying authoritative leadership (Gasper, 2010).

Now, we set out to review the studies conducted on learning communities, though no research was found about the leadership of learning societies. Thus, we believe it was good enough to look at studies in the field of professional learning, some of which are briefly laid out below;

Concerning principal's problems with the leadership of professional learning communities, Darper (2013) maintains that a principal is often unable to attend PLC sessions owing to his miscellaneous responsibilities, which is the foremost issue. Rittenour (2017), in his research, concluded that school principals and their assistants see the matter of time as the chief and biggest obstacle to participation in professional learning communities. Ho et al., (2019) identified two challenges to the leadership of the professional learning community; the first deals with the level of decentralization and the second was concerned with the size and shape of the school. They also concluded that the leadership of the learning community confronts potential challenges in the context of participatory learning, e.g., level of teachers' professional development, shared values, lack of team spirit among staff, decentralization, etc. Carpinter (2014) carried out a study in US schools under the title "School culture and leadership of professional learning communities". The results indicated that the school leaders are required to provide support structures for teachers so that a positive culture and influencing professional learning communities that affect school progress can be ensured. Leaders should directly work with teachers so as to bring about policies and procedures furnishing teachers with leadership structure so that they can exert an effect on school achievement through the joint effort of the professional learning community.

One of the problems of managers in leading professional learning communities is that the principal is often unable to attend PLC meetings due to his various other responsibilities (Draper, 2014). Limited time availability has been considered as the biggest barrier to learning communities. Having enough time during school days to implement new practices is often difficult for teachers (Hiron and Dimock, 2012). Also, overload sand time conflict, trust to other teachers, conflict with rankings and promotion plans, and lack of understanding of the benefits of participation are some of the challenges of participating in learning communities for participating in these fields (Tayag, 2020). Another challenge and obstacle is the lack of familiarity of participants with participatory and critical processes and the difficulty of having trust to this different quality of communication provided by the professional community. (Hiron et al., 2014).

**Table 1. Influential Challenges In The Causative Model Of School Principals' Professional Learning Community Leadership**

| constituents | Leadership challenges to professional learning community | references |
|---|---|---|
| individual | Uncertain understanding of learning community, principals' poor financial power, school principal's specialty, lack of time, principals' excessive administrative engagement, lack of enough time, teachers' high workload rate, members' wellbeing, teacher's professional difference | Bellibas et al.(2016), Chua et al.(2020), Zhang et al.(2017), Ho et al.(2019), Antinluoma et al.(2021), Rittenour(2017), Antinluoma et al.(2018), Williams et al.(2008), Carpenter(2015), Draper(2014), Dina(2013), Hairon et al.(2014) |
| group | Organizing session time, principal's lack of acceptance, principal's lack among colleagues, reciprocal trust, teachers' interaction and collaboration, communicative problems among school members, participatory decision making processes, group's poor composition | |
| Organizational | Daily educational programs, school buildings, financial issues, structural hierarchy, meetings, school culture, lack of material and human resources, school management and leadership, decentralization, poor accountability policy, lack of team spirit among staff, weakness of educational systems | |

Therefore, the purpose of this research was to investigate the status of leadership challenges to professional learning community in high schools and identify strategies for addressing the challenges and obstacles. This research aims to answer the following questions:

1- What is the status of obstacles to the leadership of learning communities in schools?

2- What is the ranking of the obstacles of professional learning community leadership according to principals' opinions?

3- What are the strategies favored by experts for addressing the challenges and obstacles to the leadership of professional learning communities?

Analyzing the challenges and obstacles to the leadership of professional learning communities in schools and identifying strategies for addressing the obstacles: a mixed approach

This investigation aims to analyze the challenges and obstacles in the way of the leadership of professional learning communities and identify the strategies for removing the challenges and obstacles with a mixed approach.

**Research methodology**

This study is an applied study by purpose with a mixed approach—qualitative and quantitative. The quantitative section is a descriptive-survey investigation in terms of data collection and data analysis. The statistical population of the research in the quantitative section consisted of all high school principals and assistant principals in Urmia. The study sample was chosen based on stratified sampling (two groups of men and women) and by means of Cochran's formula. According to frequency distribution, it was composed Urmia's high school principals and assistant principals. The instrument of the quantitative research section was a researcher-made multidimensional questionnaire about the challenges and obstacles of professional learning community leadership, which was developed by reviewing professional learning communities. It includes three sections, constituents; organizational challenges and obstacles (16 items), group challenges and

obstacles (7 items), and individual challenges and obstacles (13 items). The items were determined through heuristic factor analysis. The 35-item questionnaire was designed and implemented according to five-Likert scale, which was developed in written form and made available to the respondents. The content and face validity of the questionnaire was assessed and confirmed. The reliability of the questionnaire was estimated to be 0.88 by Cronbach's alpha coefficient, which was confirmed. To analyze the quantitative data, SPSS 26, univariate t-test, Friedman's ranking test were used. With regard to data collection method and ANOVA analysis, the qualitative section of the research was completed in qualitative manner and by inductive analysis. The statistical population of the research consisted of the professors of education faculty, school principals and experts of education departments. The number of the study sample was determined by a purposive sampling method—the snowball type—through theoretical saturation, through which thirteen subjects consisted of the six professors of education faculty, five school principals and tow experts of education departments were chosen. The instrument for the qualitative section was a semi-structured interview which was performed by a main question and few subsidiary questions asked verbally and recorded without any intervention. The interview questions based on the research purpose were designed by the researcher and after the questions were approved by two experts, then with the coordination with the university and obtaining an interview permission from the education department to interview the principals and departments, the interview was started. With the prior coordination with the people, the research purposes were explained to the participants, and the interview was conducted by telephone. The voices were reordered after the consent was obtained and then it was transcribed. Attempts were made to interview various groups specializing in education and professors of educational sciences in order to minimize the validity threat during data collection. For the reliability of the research findings, first the coding was done by the researcher himself, then another person was asked to codify a sample of the interviews so that in case of a mistake, the correction is made. The analysis of the qualitative data was performed in three steps—open coding, axial coding and selective coding—by means of MAXQDA 2018.

### Research findings

The statistical population of the research was comprised of all Urmia's high school principals and principal assistants (n=452), and the sample of the research was chosen by the stratified sampling method using Cochran's formula, the number of which was determined to be 204.

**Table 2. Frequency of Demographic Variables**

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| sex | Women | 120 | 58.8 | 58.8 |
|  | Man | 84 | 41.2 | 100.0 |
|  | Total | 204 | 100.0 |  |
| education groups | Bachelor's degree | 96 | 47.1 | 47.1 |
|  | Master's degree | 102 | 50.0 | 97.0 |
|  | phd degree | 6 | 2.9 | 100.0 |
|  | Total | 204 | 100.0 |  |
| service history | Less than 7 years | 8 | 3.9 | 3.9 |
|  | 7-14 | 82 | 40.2 | 44.2 |
|  | 15-22 | 61 | 29.9 | 74.0 |
|  | 23-30 | 45 | 22.1 | 96.1 |
|  | Over 30 years | 8 | 3.9 | 100.0 |
|  | Total | 204 | 100.0 |  |

**Table 3. The Edited Table is Extracted From Statistics Related To Three Factors**

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.663 | 29.591 | 29.591 | 2.452 | 27.244 | 27.244 |
| 2 | 1.977 | 21.963 | 51.554 | 1.933 | 21.482 | 48.726 |
| 3 | 1.176 | 13.069 | 64.623 | 1.431 | 15.897 | 64.623 |

**Table 4. Questionnaire Factor Matrix of The Questionnaire on The Extracted Components**

| Question | Component | | |
|---|---|---|---|
| | ١ | ٢ | ٣ |
| Q35 | .714 | | |
| Q7 | .672 | | |
| Q30 | .661 | | |
| Q18 | .656 | | |
| Q16 | .634 | | -.385 |
| Q17 | .628 | | |
| Q19 | .622 | | |
| Q34 | .574 | | |
| Q27 | .557 | | |
| Q13 | .502 | | |
| Q5 | .483 | | |
| Q21 | .476 | | .392 |
| Q26 | .425 | .418 | |
| Q3 | .419 | | |
| Q31 | .396 | | |
| Q4 | .374 | | |
| Q33 | | .690 | |
| Q22 | | .658 | |
| Q32 | .553 | .550 | |
| Q29 | | .521 | |
| Q14 | | .595 | |
| Q28 | | .487 | |
| Q23 | | .466 | |
| Q8 | .803 | | |
| Q١2 | | | .681 |
| Q1 | | | .576 |
| Q25 | | | .583 |
| Q24 | | .452 | |
| Q١١ | | .435 | |
| Q20 | | | .436 |
| Q6 | | .419 | |
| Q2 | | | .418 |
| Q9 | | -.399 | |
| Q15 | | | .403 |
| Q10 | | .466 | |

Question 1: what is the situation of the challenges and obstacles to the leadership of professional learning communities in schools?

To answer the question, the univariate t-test was used. The hypothetical mean was set to be 3, the results of which are presented in Table 2.

**Table 5. Univariate T-Test (Value=3) For The General Situation of Research Variables**

| Component | t value | Degree of freedom | Significance level | Mean differences | Mean | Standard deviation |
|---|---|---|---|---|---|---|
| leadership | 16.93 | 203 | 00.00 | 0.51 | 3.51 | **0.43** |

According to the results of the multivariate t-test which is shown in Table 2, it can be concluded from the perspective of Urmia's high school principals and assistants that the mean of obstacles to the leadership of professional learning communities was estimated to be 3.51, and standard deviation was 0.43 which is greater than the hypothetical mean (3), and this difference is significant at 0.01 significance level, because (P<0.01). Therefore, it can be stated at 99% confidence level that the

perspective of Urmia high school principals and assistants affirms the effect of challenges and obstacles to the leadership of professional learning communities in schools.

The status quo of the dimensions of challenges and obstacles to the leadership of learning communities according to schools' principals and principal assistants

**Table 6. Multivariate T-Test (Value=3) For Four Dimensions of Research Variables**

| components | t value | Degree of freedom | Significance level | Mean difference | Mean | Standard deviation |
|---|---|---|---|---|---|---|
| Individual obstacles | 11.52 | 203 | 00.00 | 0.47 | 3.47 | 0.59 |
| Group obstacles | 9.05 | 203 | 00.00 | 0.45 | 3.45 | 0.71 |
| Organizational obstacles | 23.00 | 203 | 00.00 | 0.71 | 3.71 | 0.44 |

According to the results gained from the univariate t-test, shown in Table 3, it can be concluded from the perspective of Urmia's high school principals that the mean of individual challenges and obstacles was estimated to be 3.47 and standard deviation was 0.59, but that of group challenges and obstacles was 3.45, and standard deviation was 0.71. Regarding the dimension of organizational challenges and obstacles, the mean was 3.71 and standard deviation was 0.44. The results indicated that the mean of all dimensions of the challenges and obstacles to the leadership of professional learning communities is greater than

the hypothetical average (3), and this difference is significant at 0.01 significance level regarding the dimensions of the challenges and obstacles to professional learning community leadership, because (P<0.01). Therefore, it can be stated at 99% confidence level that the perspective of Urmia high school principals and assistants affirms the crucial effect of all individual, group and organizational obstacles on the leadership of professional learning communities in schools.

The status of threefold dimension of professional learning community leadership

obstacles with respect to a sex separation among
school principals and principal assistants

**Table7. Results Of Independent T-Test For The Comparison of The Respondents' Viewpoints With Respect To Sex**

| Components | T | Df | Sig |
|---|---|---|---|
| Individual | -0.72 | 202 | 0.31 |
| Group | -0.82 | 202 | 0.75 |
| Organizational | -1.90 | 202 | 0.12 |

According to Table 4, the results of the independent t-test indicate that there is no significant difference between female and male principals in terms of sex in any of the dimensions of the challenges and obstacles to the leadership of professional learning community, because significance level between the female and male group is greater than (P<0.05).

The status of the threefold dimensions of professional learning community leadership according to separation by school principals' and principal assistants' education.

**Table8. Results Of One-Way ANOVA Test For Comparing The Respondents' Perspective With Regard To Education Degree**

| variables | | Sum of mean squares | df | Mean squares | F | Sig |
|---|---|---|---|---|---|---|
| individual | Inter-group | 0.07 | 2 | 0.39 | 0.11 | 0.89 |
| | Intra-group | 71.04 | 201 | 0.35 | | |
| | total | 71.12 | 203 | | | |
| group | Inter-group | 1.01 | 2 | 0.50 | 1.00 | 0.36 |
| | Intra-group | 101.70 | 201 | 0.50 | | |
| | total | 102.71 | 203 | | | |
| Organizational | Inter-group | 0.22 | 2 | 0.11 | 0.57 | 0.56 |
| | Intra-group | 39.58 | 201 | 0.19 | | |
| | total | 39.81 | 203 | | | |

According to Table 5, the results of the ANOVA test for the variable, respondents' education, indicate that there is no significant difference between education groups and any of the components (individual, group, and organizational), because the significance level among the education groups is greater than P<0.05.

The status of the threefold dimensions of the challenges and obstacles to professional learning community leadership in schools with regard to schools' service history.

**Table 9. Results of One-Way ANOVA Test For Comparing The Respondents' Perspective With Regard To Service History**

| Variables | | Sum Of Mean Squares | Df | Mean Squares | F | Sig |
|---|---|---|---|---|---|---|
| individual | Inter-group | 1.83 | 4 | 0.45 | 1.31 | 0.26 |
| | Intra-group | 69.29 | 199 | 0.34 | | |
| | total | 71.53 | 203 | | | |
| group | Inter-group | 1.75 | 4 | 0.43 | 0.86 | 0.48 |
| | Intra-group | 100.96 | 199 | 0.50 | | |
| | total | 102.71 | 203 | | | |
| Organizational | Inter-group | 1.34 | 4 | 0.33 | 1.73 | 0.14 |
| | Intra-group | 38.46 | 199 | 0.19 | | |
| | total | 39.81 | 203 | | | |

According to Table 6, the results of the ANOVA test for the variable, school principals and principal assistants, indicate that there is no significant difference between education groups and any of the components (individual, group, and organizational), because the significance level is greater than P<0.05.

Question 2: What is the rank of the obstacles to professional learning community leadership from the perspective of school principals and principal assistants?

Friedman's test is a test, among others, that is used to rank and prioritize multidimensional variables with a ranking scale. In this research, the non-parametric Friedman test was used in this research to rank and prioritize the challenges and obstacles to the leadership of the professional learning community. According to Table 6, the results of the test indicated that the chi-square is 53.71, which is a significance level less than 0.01. That is to say, the significance of Friedman's test suggests that the ranking of the challenges and obstacles to the leadership of the professional learning community is significant from school principals' and assistants' standpoints. Moreover, school principals and principal assistants have different rankings for obstacles as shown in Table 7.

**Table 10. Ranking Mean of Research Variables**

| Components | Ranking mean |
|---|---|
| Individual challenges and obstacles | 1.73 |
| Group challenges and obstacles | 1.86 |
| Organizational challenges and obstacles | 2.41 |
| Chi-square =53/71          df=2          sig= 00.00 | |

According to Table 7 depicting Friedman's ranking test, the top rank according to the respondents is organizational obstacles to professional learning community leadership with a score of 2.41, and the second rank is group challenges of professional learning community leadership with a score of 1.86, and the last rank is individual obstacles to professional learning community leadership with a score of 1.73 as the bottom score.

**Table 11. Mean And Standard Deviation of Research Variables**

| components | No. | Mean | Standard deviation |
|---|---|---|---|
| Individual challenges, obstacles | 204 | 3.56 | **0.60** |
| Group challenges, obstacles | 204 | 3.59 | **0.68** |
| Organizational challenges, obstacles | 204 | 3.92 | **0.48** |

According to the data obtained from Table 8. Regarding the review of the dimensions of the challenges and obstacles to professional learning community leadership in schools, the organizational variable with an average of 3.92 is the highest average compared to other variables, which is ranked first, and individual obstacles with an average of 3.56 have the lowest average compared to other variables of professional learning community leadership in schools, which is placed at the bottom by average.

Question 3: what are the strategies favored by experts for addressing challenges and obstacles to the leadership of professional learning community?

To answer this question, using the findings of the results of the semi-structured interviews conducted with the experts in education, certain strategies for solving the challenges and obstacles to professional learning community leadership in schools were discovered by using conventional qualitative content analysis as well as three steps of coding—open coding, axial coding and selective coding. In this section, using MAXQDA 2018, the texts of all interviews conducted in this research were thoroughly studied, and the basic themes, i.e., open codes (107 open codes), were elicited. In the second phase, by combining and integrating concepts sharing the same sense and meaning, some concepts were integrated, causing codes to be reduced by 16. In the third phase, selective coding was used for the categorization of axial codes in the groups where related codes sit. Four codes were then identified; organizational strategies, education and selection strategies, cultural strategies, and leadership strategies, which are shown in Table 9.

**Table 12. Strategies Identified To Address Challenges And Obstacles To Professional Learning Community Leadership**

| Selective coding | Axial coding | Open coding |
|---|---|---|
| organizational | Material and financial | Support opportunities and conditions, granting material privilege to participants, increasing salary based on participation, solving staff's financial problems, allocating a special budget for building infrastructures, granting financial incentives for participation in the sessions |
| | Attention to rules | Redefinition of rules |
| | Attention to change management | Presenting strategies for change management |
| | Attention to school structure | Building professional structure, semi-centered structure, reducing centralization in schools, level of organization's structure focus based on conditions, promoting school-centered ideas in action |
| Education and selection | Manner of selecting human resource | People with scientific concerns in the communities, employing competent people, meritocracy in staff selection, proper selection and recruitment of teachers, selection of competent principals, selection of qualified principals, recruitment of qualified teachers, people with good empathetic feelings, selection of principal among experienced teachers, selection of principal by teachers, selection of school teachers by school principal |
| | Education and learning | Creating learning culture through media, using cyberspace, professional constant learning, using other schools' experienced teachers, holding conference on communities, acquiring leadership skills by principals, providing an opportunity for principals and schools officials to practice, paying attention to teachers' professional development, participating in public-based learning communities, giving teachers information about accountability, holding educational courses on learning communities, paying attention to principal's learning, creating competency in teachers through education, boosting teachers' scientific associations |
| | Belief in learning control | Time control by principal, principal's self-management, principal's sense of need for learning, invoking the sense of need in teachers for participating in sessions, people's belief in self-development and self-learning |
| cultural | Environmental space and conditions | Building think rooms in schools, providing consensus on session time, holding sessions in the realm of principal's activities, assigning a special environment for sessions, system support for sessions, holding sessions at worktime, principal's physical presence in official manner, non-critical atmosphere of sessions, formalization of communities |
| | Attention to school culture | Building a learning organization in schools, creating interaction culture in schools, providing interaction space by principal, creating a participating culture in schools, creating a support environment, a session support culture, creating participatory culture in schools, support culture |

| | | |
|---|---|---|
| | communications | acceptance by principal from teacher's views, mutual respect among staff, principal's attention to teachers' individual differences, principal acceptance by colleagues, zero discrimination between teachers by the director of free communications, principals' light-hearted manner toward teachers, forming a connecting cycle between school officials and parents, principal's confidentiality toward teacher, |
| leadership | Effective leadership | Paying attention to distributive leadership, choosing leadership style with respect to situation, paying attention to participatory leadership, diversity of principal's leadership style, paying attention to interactive leadership, using collaborative leadership styles |
| | Attention to the matter of power | Leader's use of his influence, delegating power to teacher council, delegating power to school principals, principals' use of his influence |
| | Session evaluation | Effective result of teacher promotion, giving privilege to session participation, determining teachers' expectation from sessions, assigning a score at annual assessment, entrusting teacher assessment to principals, teachers' awareness of session effectiveness, giving the right to reward principals, appraisal of session effectiveness |
| | Participatory decision making | Making decisions in participatory terms, appreciating teachers' opinions, principal's knowledge about different fields, paying attention to members' opinions, leader's understanding and using everyone's information, giving a chance to individuals to express themselves, consensus on objectives |
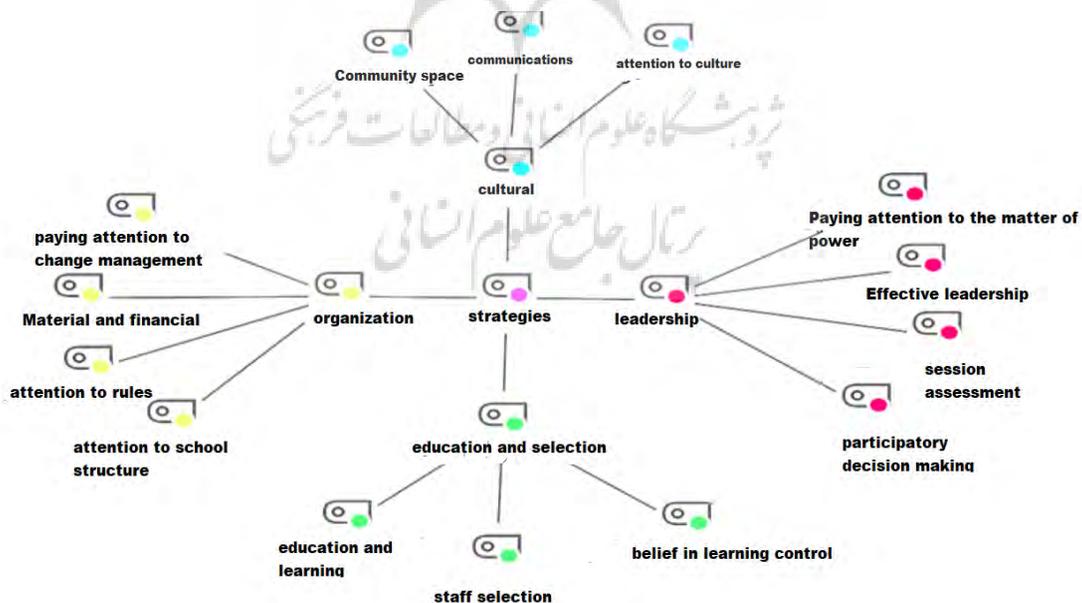


**Fig. 1. Conceptual model of research**

**Discussion and conclusion**

Collaborating with colleagues represents a strong professional learning communities, which will have a great effect on creating a sense of collective responsibility for students' learning. This sense of responsibility is positively associated with higher levels of student achievement (Pang and Wang, 2016). It is important for school leaders to be committed for the participation of teachers in decision-making. (Jones et al., 2013). The extent to which the head of school make participatory decisions, support for delegated leadership, and the distribution and encouragement of teachers' independence to make decisions are influential factors in professional learning communities (Laiten and Bazo, 2019). Professional learning communities need a leadership model, where employees participate in the decision-making and power sharing process. Leaders also attempt to build leadership capacity among their fellow teachers (Alkardam, 2020).

This study was conducted to investigate the challenges and obstacles to the leadership of professional learning communities in schools and present strategies for addressing the challenges and obstacles. In addition to a general review and analysis of the status of challenges and obstacles to professional learning community leadership, the study explored the effect of the variables sex, education, and service history of school principals and their standpoints about the situation of the obstacles to the leadership of learning communities and ranking of the obstacles from the perspective of school principals, at the end of which some strategies are presented to address the challenges and obstacles identified by alert experts. To answer the first research question "what is the status of the challenges and obstacles to the leadership of learning communities in schools?", the results of the univariate t-test indicated that there was a

significant difference between the mean of principals' standpoints (3.51) and the hypothetical mean (3), because the mean obtained from the principals' perspective was greater than the hypothetical mean, which suggests the effect of each challenge and obstacle on the leadership of professional learning communities because the mean was greater than the hypothetical mean (3) in three dimensions of challenges and obstacles. This result suggested that the status of challenges and obstacles is so adverse that one could imagine for the leadership of professional learning communities, which is far from ideal conditions. The result of the research is in agreement with that of Draper (2013), Ho et al., (2019), Dina (2011), Kamkar et al., (2018), Carpenter (2014), Chua et al., (2020), Antinlouma et al., (2021), Bellibas et al., (2016), Zhang et al., (2017), Hyron et al (2014), and Hairon and Dimok (2012).

Regarding sex, education and service history of school principals, no significant difference was seen in the dimensions of the obstacles to learning communities leadership in schools from school principals' point of view.

In answering the second question "What is the ranking of challenges and obstacles to the leadership of professional learning communities from the perspective of principals?", the results of Friedman's ranking test suggested that there is a significant difference in principals' standpoint about the challenges and obstacles to leadership, as principals put in order the dimensions of challenges and obstacles to professional learning leadership; the highest ranking mean was given to organizational challenges and obstacles (2.98), which is followed by individual challenges and obstacles (1.32); and group challenges and obstacles were the last in this list (2.31).

In answering the third question "what are the strategies advocated by experts for removing

challenges and obstacles to professional learning communities leadership?", the results of the qualitative section regarding the strategies for removing challenges and obstacles to professional learning communities leadership were obtained from an interview with alert experts, during which 107 open codes and 16 axil codes were elicited, and the axial codes were combined in the end, and the selected codes were categorized in five sections as follows "organizational strategies, education and selection strategies, cultural strategies, leadership strategies. The four strategies were extracted according to the experts' opinions to remove challenges and obstacles to the leadership of professional learning communities, which all can be used to remove any of the challenges and obstacles to the dimensions of professional learning communities' leadership.

An effective participatory environment will lead to continuous organizational improvement with teacher empowerment, which is closely associated with the student success. Student achievement over time is one of the most important and main aspects of organizational development; therefore, increasing student progress over time through effective teacher solutions leads to an increase in the continuous improvement cycle, which in turn leads to effective and positive school culture (Carpenter, 2014). Leadership includes collaboration, communication skills, consolidation, and teamwork. It is generally believed that school leaders are also an important factor in the change process, because effective leadership may provide the appropriate conditions for a participatory school culture and encourage teachers to develop and improve their skills (Luyten and Bazo, 2019).

Therefore, due to the importance of the subject of leadership in all educational and non-educational organizations, a solution must be taken to remove the obstacles. With the role and significant that it

has in advancing teachers' professional development goals and students' education progress, leadership of professional learning communities should receive a special attention so that chief steps can be taken to remove the obstacles causing trouble in the way of this leadership.

**Practical suggestions**

- Introduce the challenges and obstacles of leadership of professional learning communities to school principals

- School principals use the results of the present study to eliminate the barriers to leadership in learning communities

- Reviewing and revising the rules and letters related to the reward system, evaluating principals and promoting them based on the performance of the comprehensive leadership of professional learning communities in secondary schools.

- Performing more research in leadership of professional learning communities in the country

**Research Limitations**

Lack of cooperation of head of schools and deputies in collecting quantitative data

- Lack of cooperation of professors in participating in interviews for qualitative data collection

Lack of adequate scientific resources in the field of leadership of professional learning communities

**Conflict of interest**

According to the authors of the present article, there was no conflict of interest.

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