

Computer competency and leadership skills of school leaders to the school improvement

Jhomar Lyn S. Rosare*

jomz1306@gmail.com

San Antonio, Pila, Laguna 4010, Philippines

Laguna State Polytechnic University, Bubukal Santa Cruz, Laguna 4009 Philippines

Abstract

The development of school education programs and school improvement is the responsibility and of school leaders, who are also held accountable for doing so. DepEd Order no. 44 s.2015 known as the Guidelines on Enhanced School Improvement Plan (SIP) and the School Report Card (SRC) was implemented to guide school leaders on creating systematic approach interventions for the schools' continuous improvement to provide access to quality education. School report card shows data of the school's improvement. This study investigated the relationship of school leaders' leadership skills and their computer competency to the school improvement in the Division of Laguna. Based on the findings and procedures, it was revealed that the school leaders' computer competency in terms of technology operation and concept, ICT social and ethical skills and ICT professional skills were rated as highly competent. The overall mean of leadership skills terms of cognitive skills, interpersonal skills, technical skills, flexibility skills, employee motivation, conflict management, innovation and creativity, critical thinking, decision making were also rated as highly skilled. And school improvement with regards to instructional delivery, teacher effectiveness, school resources, monitoring plan, needs assessment were all rated as very high. School leaders computer competency and leadership skills were found no significant relationship to school improvement in the in the Division of Laguna.

Keywords: computer competency; leadership skills; school improvment

1. Main text

Introduction

Technology is a powerful tool to level up education nowadays. Several studies have proven that the use of technology in school has a great impact on school improvement. Every aspect of our lives has been impacted by technology, but in recent years, the impact on education has been the most obvious. In an effort to keep up with the latest technological developments and better prepare students for the quickly evolving world of technology, schools are introducing more and more technology into the classroom. In many schools, principals have become technology instructional leaders (Warschauer, 2010). Principals' work has been affected through the use of information and communication technology (ICT). Through information communication and technology, the schools aim to collect, analyze, interpret and present data in a shorter

time. With the help of technology, school leaders were able to respond immediately to the school's needs.

However, it is important to remember that while technology can be an aid in education, it can't resolve issues on its own. The effectiveness of educational technology depends on how teachers use it to best serve their students' needs (Bay Atlantic University 2020). Computer competency of school leaders is not enough to achieve school improvement. It also important that they possess leadership skills which they can be used to managed schools to continuously improve teachers' effectiveness by encouraging them to grow professionally and guide them how to use technology as instructional materials.

In order to achieve school improvement school leaders needs time, effort and hard work. In the Philippines, Republic Act No. 9155, also known as the Governance of Basic Education Act of 2001, Chapter I Sec. 7, Letter E, requires each public school or cluster of schools to have a school head who is expected to form a team with the school teachers/learning facilitators to deliver quality educational programs, projects, and services, as well as a core of non-teaching staff who handles the school's administrative, fiscal, and auxiliary services. This specific provision of the law specified how the school leaders were to carry out their duties. Leadership abilities are expected to be used to the greatest extent possible. The act also empowers school leaders to direct teachers and students in order to achieve high-quality learning outcomes.

Background of the Study

The introduction of computers into schools might seem to have a greater impact on school leaders as well as school improvement. Today's principals are expected to be familiar with computing technologies to be able to create data as basis of school improvement. Principals of successful schools are not only teaching leaders, strategic leaders, community leaders, and change leaders, but also technology leaders (Yieng, & Daud, 2017). However, the use of technology for school improvement still depends on school leaders computer competency and leadership skills. This study emphasized computer competency and leadership skills of school leaders and its significant relationship to school improvement.

Statement of the Problem

This study will aim to answer the following research question:

1. What is the level of Computer Competency of school leaders in terms of:
 - a. Technology operation and concepts
 - b. ICT Social and Ethical Skills
 - c. ICT Professional Skills
2. What is the level of Leadership Skills of school leaders in terms of:
 - a. Cognitive skills
 - b. Interpersonal skills
 - c. Technical Skills
 - d. Flexibility Skills
 - e. Employee motivation
 - f. Conflict management
 - g. Innovation and creativity
 - h. Critical Thinking
 - i. Decision Making
3. What is the level of school improvement in terms of:
 - a. Instructional Delivery
 - b. Teacher Effectiveness
 - c. School Resources
 - d. Monitoring Plan

- e. Needs Assessment
- 4. Is there a significant relationship on the computer competency of the school leaders to the school improvement?
- 5. Is there a significant relationship on the leadership skills of school leaders and school improvement?

Scope and Delimitations

This study focuses on school leaders' computer competency in terms of technology operation and concepts, ICT social and ethical skills and professional skills; and leadership skills in terms of cognitive, interpersonal, technical, flexibility, employee motivation, conflict management, innovation and creativity, critical thinking and decision making and their relation to school improvement in the Division of Laguna.

Objective of the Study

The researcher will conduct this study in order to find out if there is a significant relationship on computer competency and leadership skills of school leaders to the school improvement.

Significance of the Study

This study could be beneficial to the following:

- **Department of Education**

Through its result the Department of Education will assess school leaders' strength and weaknesses on computer competency and leadership skills so they can plan and prepare trainings needed for professional growth and development and for schools' continuous improvement.

- **School Principals**

The result of the study will serve as guide to the school principal to identify which of their skills needs improvement. Their leadership skills may be more develop if being assess by identifying their strength and weaknesses. School principals may also share their knowledge to the classroom teachers under their supervision to become future school leaders.

- **ICT Coordinators**

The study will help Information Communication and Technology (ICT) Coordinators to maximize the use of DepEd Computerization Program (DepEd Order No. 78 s. 2010) for school improvement.

- **Classroom Teachers.**

As the future school leaders, this study may be beneficial to all classroom teachers to recognize the relationship of computer competency and leadership skills to lead schools for its continuous improvement.

- **Future Researcher**

It will allow them to continue this study and prove the importance of computer competency and leadership skills in school continuous improvement.

Related Literature

School Improvement

It has been proposed that School Improvement (SI) is a crucial core indicator and a key approach for improving the quality of education and school process improvements (Silins & Mulford, 2002; Hallinger & Hart, 2000). According to Hajisoteriou et al. (2018), Harris et al. (2015), improving schools is a primary goal of educational systems and a key topic in educational literature research.

Computer Competency

School leaders are seen as essential for executing successful policies and reaching external accountability goals because they are school leaders. (Hallinger and walker 2017). Therefore, school principals' leadership has received considerable interest because it is an influential variable in understanding school effectiveness. Moreover, according to some reports, principals have the biggest influence on how schools implement technology for instruction (Sergiovanni, 2019). Administrators should develop a technology plan to assist instructors and learners if administrators want principals to promote technology implementation efficiently (Green, 2019). The functions and responsibilities of school principals have grown as schools have gotten more complicated (NCES, 2018).

Leadership Skills

The importance of school leadership has increased on the global agenda for education policy. It has a significant effect on teachers' motivations and capabilities as well as the culture and environment of the classroom, which helps to improve school outcomes. The efficiency and equality of education must be improved through effective school leadership.

As school leaders, principals are regarded as the key to implementing effective policies and achieving external accountability objectives (Hallinger and Walker 2017; Walker and Qian 2018). Therefore, school principals' leadership has received considerable international interest because it is an influential variable in understanding school effectiveness (Hallinger et al. 2013; Zheng et al. 2017; Lai et al. 2017). The main issue that drives scholars to address this question is that the goal of reducing the persistent disparities among different schools can be achieved by changing school principals (Robinson et al. 2008). By providing more systematic training for principals, their leadership can be strengthened so that the overall quality of school education can be improved (Tang et al. 2014).

Making decisions plays a vital role in and stands out as one of the most important tasks managers must perform (Atsan, 2017). In order to get the intended outcome, it entails selecting the most logical viewpoint or option among a range of viewpoints and alternatives connected to the issue. According to Bursalolu (2013), decision-making is the heart of management and acts as an axis for all other management processes.

Good leadership in schools fosters nurturing learning environments that help children grow and develop. To cultivate such an environment, school heads must navigate and promote collaboration across the often complex network of stakeholders: education authorities, teachers, students, parents and local communities. In a sense, school heads are the glue that holds everyone together (Wang 2021,)

Research Hypothesis

There is no significant relationship between computer competency and leadership skills of school leaders to the school improvement.

Conceptual Framework

The major concept of this study was focused on computer literacy and leadership skills of school leaders and its impact on school improvement. In order to conceptualize the relation variables of the study, research paradigm, was presented.

The framework shows the relationship of school leaders' computer competency and leadership skills to schools improvement.

Research Paradigm

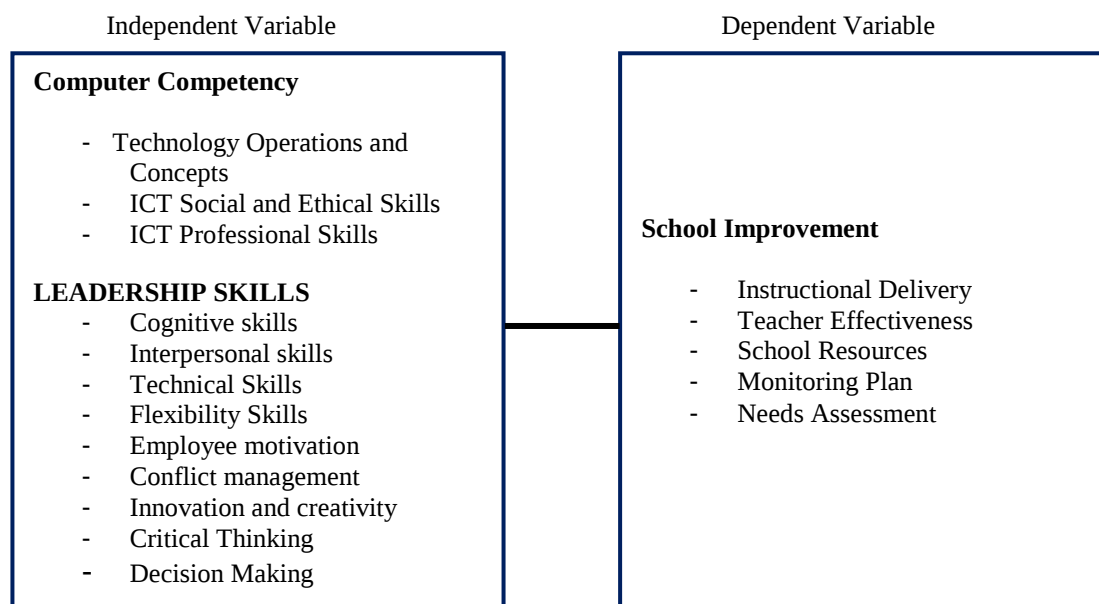


Figure 1: This framework will be used by the researcher in documenting the Computer Competency and the level of Leadership Skills of school leaders and their relationship to School Improvement of the schools in the Division of Laguna. As indicated in the research paradigm School Improvement is the dependent variable while computer competency in terms of technology operations, ICT Social and Ethical Skills and ICT Professional skills are the independent variable

Methodology

This study will document the relationship of Computer Competency and Leadership Skills of School Leaders to the School Improvement in the Division of Laguna.

Respondents of the Study

The respondents of the study were composed of teachers from different schools in the Division of Laguna.

Sampling Technique

The researcher will use cluster sampling technique in choosing the respondents which will be the teachers in the Division of Laguna. The respondents will be randomly selected through random number generator.

Research Instrument

The researcher will develop a questionnaire and will be distributed to the teachers in the Division of Laguna who were randomly selected.

Data Gathering Procedure

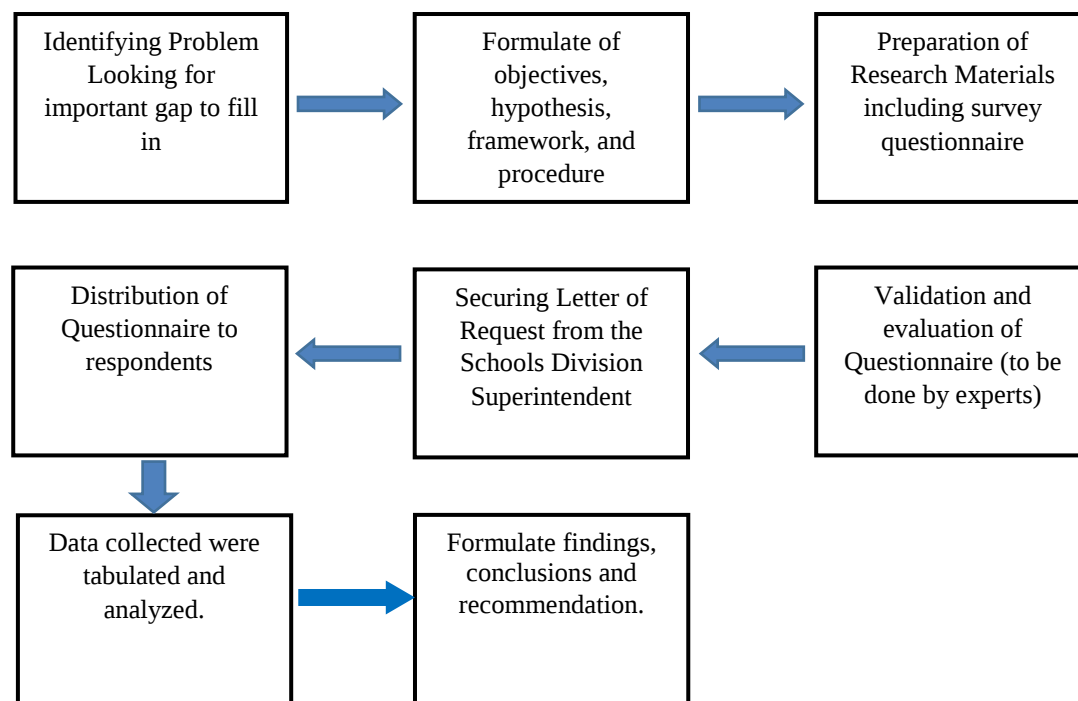


Figure no. 2 shows the steps to be done in gathering data of the researcher.

Statistical Treatment

The researcher used descripted and inferential statistics to highlight the respondents' perception on their school leaders' computer competencies and leadership skills and its relation to school improvement. The descriptive statistics include weighted mean and standard deviation was used to determine the level of school

leaders' computer competencies and leadership skills. ANOVA was used to identify the significant relationship of school leaders' computer competencies and leadership skills to school improvement.

Result Discussion

This chapter provides the findings and analysis of the researcher's data collection process. The collected data are analyzed to provide the responses to the questionnaire. The discussion is about computer competency and leadership skills of school leaders and its relation to the school improvement.

1. What is the level of Computer Competency of school leaders in terms of:

Computer Competency	Weighted Mean	SD	Verbal Interpretation
a. Technology Operations and Concepts	4.20	0.78	Highly Competent
b. ICT Social and Ethical Skills	4.21	0.73	Highly Competent
c. ICT Professional Skills	4.20	0.83	Highly Competent

The table shows the level of Computer Competency of school leaders in the Division of Laguna. The data shows that school leaders in the Division of Laguna were highly competent in terms of Technology Operations with a weighted mean of 4.20, ICT Social and Ethical Skills with 4.21 weighted mean and ICT Professional Skills with 4.20 weighted mean.

2. What is the level of leadership skills of school leaders in terms of:

Leadership Skills	Weighted Mean	SD	Verbal Interpretation
a. Cognitive	4.28	0.66	Highly Skilled
b. Interpersonal	4.43	0.66	Highly Skilled
c. Technical	4.37	0.70	Highly Skilled
d. Flexibility	4.39	0.66	Highly Skilled
e. Employee motivation	4.45	0.63	Highly Skilled
f. Conflict management	4.40	0.65	Highly Skilled
g. Innovation and creativity	4.44	0.67	Highly Skilled
h. Critical thinking	4.41	0.66	Highly Skilled
i. Decision making	4.40	0.73	Highly Skilled

The table shows the level of school leaders' leadership skills in the Division of Laguna. It is revealed the school leaders in the Division of Laguna were rated as Highly Skilled in terms of Cognitive Skills with a weighted mean of 4.28, Interpersonal skills with 4.43, Technical Skills has 4.37, Flexibility got 4.39, Employee motivation with 4.45, conflict management with 4.40, Innovation and Creativity got 4.44, Critical Thinking with 4.41 and Decision Making got a weighted mean of 4.40.

3. What is the level of school improvement in terms of:

School Improvement	Weighted Mean	SD	Verbal Interpretation
a. Instructional Delivery	4.46	0.61	Very High
b. Teacher Effectiveness	4.47	0.59	Very High
c. School Resources	4.32	0.68	Very High
d. Monitoring Plan	4.40	0.65	Very High

e. Needs Assessment 4.39 0.65 Very High

The table presents the level of school improvement in the Division of Laguna. It reveals that school improvement in the Division of Laguna was rated as very high. Instructional Delivery got a weighted mean of 4.46, Teacher Effectiveness has 4.47, School Resources got 4.32, Monitoring Plan has 4.40 and Needs Assessment got 3.39 weighted mean.

4. Is there a significant relationship on the computer competency of the school leaders to the school improvement?

Computer Competency	Safety Procedure	Beta	t-value	p-value	Analysis
Technology operation and concepts	Instructional Delivery	.354	2.473	.015	Significant
	Teacher Effectiveness	.448	3.099	.002	Significant
	School Resources	.111	.697	.487	Not Significant
	Monitoring Plan	.279	1.978	.050	Significant
	Needs Assessment	.344	2.293	.024	Significant
ICT Social and Ethical Skills	Instructional Delivery	.340	2.280	.024	Significant
	Teacher Effectiveness	.406	2.693	.008	Significant
	School Resources	.428	2.589	.011	Significant
	Monitoring Plan	.377	2.561	.012	Significant
	Needs Assessment	.192	1.229	.221	Not Significant
ICT Professional Skills	Instructional Delivery	.049	.363	.717	Not Significant
	Teacher Effectiveness	-.139	-1.03	.306	Not Significant
	School Resources	.116	.785	.434	Not Significant
	Monitoring Plan	.099	.755	.452	Not Significant
	Needs Assessment	.177	1.262	.209	Not Significant

The table presents the relationship of computer competency of school leaders and school improvement. It Shows that Technology operation and concepts, and ICT Professional Skills on the computer competency of the school leaders were not observed to have any significant relationship to the school improvement except for the ICT Social and Ethical Skills. This is based on the computed t values obtained from the tests which were less than the critical t value. Furthermore, majority of the p-values obtained were greater than the significance alpha 0.05, hence there is absence of significance.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant relationship on the computer competency of the school leaders to the school improvement" is partially accepted.

5. Is there a significant relationship on the leadership skills of school leaders and school improvement?

Leadership Skills	Safety Procedure	Beta	t-value	p-value	Analysis
Cognitive skills	Instructional Delivery	.125	1.406	.162	Not Significant
	Teacher Effectiveness	.340	3.192	.002	Significant
	School Resources	.185	1.762	.081	Not Significant
	Monitoring Plan	.215	2.087	.039	Significant
	Needs Assessment	.273	2.556	.012	Significant
	Instructional Delivery	.147	1.612	.110	Not Significant
	Teacher Effectiveness	.247	2.256	.026	Significant

Interpersonal skills	School Resources	.288	2.664	.009	Significant
	Monitoring Plan	.007	.069	.945	Not Significant
	Needs Assessment	.205	1.860	.065	Not Significant
Technical Skills	Instructional Delivery	.086	.804	.423	Not Significant
	Teacher Effectiveness	.017	.134	.894	Not Significant
	School Resources	.035	.281	.779	Not Significant
	Monitoring Plan	.037	.299	.765	Not Significant
Flexibility Skills	Needs Assessment	-.248	-1.93	.056	Not Significant
	Instructional Delivery	.051	.460	.647	Not Significant
	Teacher Effectiveness	.003	.023	.982	Not Significant
	School Resources	-.016	-.119	.905	Not Significant
Employee motivation	Monitoring Plan	.074	.570	.570	Not Significant
	Needs Assessment	.207	1.531	.128	Not Significant
	Instructional Delivery	-.022	-.199	.843	Not Significant
	Teacher Effectiveness	.100	.765	.446	Not Significant
Conflict management	School Resources	-.212	-1.65	.101	Not Significant
	Monitoring Plan	-.044	-.346	.730	Not Significant
	Needs Assessment	-.227	-1.73	.086	Not Significant
	Instructional Delivery	.046	.397	.692	Not Significant
Innovation and creativity	Teacher Effectiveness	-.121	-.864	.389	Not Significant
	School Resources	.352	2.538	.012	Significant
	Monitoring Plan	.232	1.706	.091	Not Significant
	Needs Assessment	.264	1.873	.064	Not Significant
Critical Thinking	Instructional Delivery	.230	2.333	.021	Significant
	Teacher Effectiveness	-.003	-.029	.977	Not Significant
	School Resources	-.145	-1.25	.216	Not Significant
	Monitoring Plan	.136	1.181	.240	Not Significant
Decision Making	Needs Assessment	.006	.047	.963	Not Significant
	Instructional Delivery	.226	1.979	.050	Significant
	Teacher Effectiveness	.212	1.544	.125	Not Significant
	School Resources	.090	.665	.507	Not Significant
Decision Making	Monitoring Plan	.227	1.701	.092	Not Significant
	Needs Assessment	.210	1.525	.130	Not Significant
	Instructional Delivery	.084	.724	.471	Not Significant
	Teacher Effectiveness	.118	.846	.399	Not Significant
Decision Making	School Resources	.318	2.308	.023	Significant
	Monitoring Plan	.033	.241	.810	Not Significant
	Needs Assessment	.190	1.352	.179	Not Significant

The table presents the significant relationship on the leadership skills of the school leaders to the school improvement

The *Cognitive skills, Interpersonal skills, Technical Skills, Flexibility Skills, Employee motivation, Conflict management, Innovation and creativity, Critical Thinking, and Decision Making* on the leadership skills of the school leaders was not observed to have any significant relationship to the school improvement. This is based on the computed t values obtained from the tests which were less than the critical t value. Furthermore, majority of the p-values obtained were greater than the significance alpha 0.05, hence there is absence of significance.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis “*There is no significant relationship on the leadership skills of the school leaders to the school improvement*” is accepted.

Summary of Findings

1. The level of school leaders' competency in terms of technology operation and concept, ICT social and ethical skills and ICT professional skills was all rated as highly competent
2. The level of leadership skills in terms of cognitive skills, interpersonal skills, technical skills, flexibility skills, employee motivation, conflict management, innovation and creativity, critical thinking, decision making were all interpreted as highly skilled.
3. The level of school improvement with regards to instructional delivery, teacher effectiveness, school resources, monitoring plan, needs assessment were all rated as very high.
4. School leaders' computer competency has no significant relationship to school improvement.
5. Leadership skills of school leaders have no significant relationship to school improvement.

Conclusions of the Study

Based on the findings and procedures, it was revealed that:

1. the school leaders' competency in terms of technology operation and concept, ICT social and ethical skills and ICT professional skills was all rated as highly agree despite getting various means were interpreted as highly competent.
2. The overall mean of leadership skills terms of cognitive skills, interpersonal skills, technical skills, flexibility skills, employee motivation, conflict management, innovation and creativity, critical thinking, decision making were also rated as highly skilled.
3. And school improvement with regards to instructional delivery, teacher effectiveness, school resources, monitoring plan, needs assessment were all rated as very high.
4. School leaders computer competency and leadership skills were found no significant relationship to school improvement in the in the Division of Laguna.
5. Leadership skills were found no significant relationship to school improvement in the in the Division of Laguna.

Recommendations

Based on the findings and conclusions drawn, the following are hereby recommended:

1. The Department of Education, whether at the national, regional, or divisional levels, is committed in its support of training school administrators and teachers in ICT to maintain computer competency and in providing pertinent training in the same field to keep school administrators and teachers up to date on the most recent developments in ICT education and for better ICT integration.
2. School leaders may engage in coaching and mentoring peers, enabling collaboration and professional learning, advocating collective responsibility and committing to continuous improvement.
3. Department of Education may provide training to support districts and schools that conducting a school-level needs assessment. This might include examples of data to examine or examples of completed school-level needs assessment summaries, to fully identify the school priority for the school improvement.
4. Teachers and school administrators should continue learning how to use technology to the advantage of students in order to raise their academic performance. This includes not only limiting the use of

technology for personal and professional development but also maximizing its use and extending its use to sharing among colleagues in education.

5. Teachers, school leaders, and other stakeholders should collaborate to monitor and evaluate school performance specifically for the benefit of each student in order to continuously improve the school.
6. Other variables not included in the current study may be taken into account in future studies with a wider scope.

References

- Allen, N., Grigsby, B., & Peters, M. L. (2015). Does leadership matter? Examining the relationship among transformational leadership, school climate, and student achievement. *International Journal of Educational Leadership Preparation*, 10(2), 1–2
- Atsan, N. (2017). Karar vermede çatışma kuramı ve özsaygı ilişkisine yönelik kültürel bir inceleme [A cultural examination of the relationship between decisional self-esteem and conflict theory of decision making]. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 22(1),
- Bursalıoğlu, Z. (2013). Okul yönetiminde yeni yapı ve davranış [New structure and behaviour in school management]. *Pegem Akademi*
- Carvalho, M., Cabral, I., Verdasca, J., & Alves, J. (2021b). What about us? Teachers' participation in schools' strategic action plans. *Participatory Educational Research*, 8(3), 156–175. <https://doi.org/10.17275/per.21.59.8.3>
- Hajisoteriou, C., Karousiou, C., & Angelides, P. (2018). Successful components of school improvement in culturally diverse schools. *School Effectiveness and School Improvement*, 29(1), 91–112. <https://doi.org/10.1080/09243453.2017.1385490>
- Hallinger, P., & Walker, A. (2017). Leading learning in Asia-Emerging empirical insights from five societies. *Journal of Educational Administration*, 55(2), 130–146.
- Harris, A., Adams, D., Jones, M.S., & Muniandy, V. (2015). System effectiveness and improvement: The importance of theory and context. *School Effectiveness and School Improvement*, 26(1), 1–3. <https://doi.org/10.1080/09243453.2014.987980>
- Pietsch et. Al. 2019 M. Pietsch, P. Tulowitzki, T. Koch On the differential and shared effects of leadership for learning on teachers' organizational commitment and job satisfaction: A multilevel perspective *Educational Administration Quarterly*, 55 (5) (2019), pp. 705-741, 10.1177/0013161X18806346
- Silins, H. C., & Mulford, W. R. (2002). Schools as learning organizations. *Journal of Educational Management* 45, 238-273
- Strunk, K.O., Marsh, J.A., Bush-Mecenas, S.C., & Duque, M.R. (2016). The best laid plans: An examination of school plan quality and implementation in a school improvement initiative. *Educational Administration Quarterly*, 52(2), 259–309. <https://doi.org/10.1177/0013161X15616864>