

GSJ: Volume 11, Issue 6, June 2023, Online: ISSN 2320-9186 www.globalscientificjournal.com

SCHOOL OPERATIONAL REGULATION PRACTICE OF SCHOOL HEADS AND ADAPTIVE INSTRUCTIONAL COMPETENCE OF TEACHERS

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Teacher I

Abstract

This study aimed to determine the relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers. This study utilized the non-experimental quantitative research design using descriptive technique involving teachers in Sarangani District of Davao Occidental Division, Philippines. The study was conducted on the Second Semester of School Year 2022-2023. Research instruments on school operational regulation practice of school heads and adaptive instructional competence of teachers were used as source of data. Using mean and pearson-r, as statistical tools to treat the data, the study showed the following results: the level of school operational regulation practice of school heads is very high, the level of adaptive instructional competence of teachers is high, there is a significance on the relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers.

Keywords: School Operational Regulation Practice of School Heads, Adaptive Instructional Competence of Teachers, School Administration and Supervision, Quantitative Research, Philippines

1. INTRODUCTION

Adaptability has been highlighted as essential for teachers, given the constantly changing demands of teaching work. However, there are several teachers shown poor adaptability and in turn display lower job commitment. More so, many teachers lack the skill needed to respond to the rich background of the students. Today, not all teachers can navigate digital teaching which is the preference of a number of students in the blended learning modality (Mihladiz, Duran and Dogan, 2011).

In the context of Indonesia, there are also teachers who do not manifest competence in digital literacy. This skill is essential as teaching and learning migrated to online modality. The inability of teachers to use online tools and teaching applications decreases the chance of the students to cultivate their capacity in the maximum. Likewise, teachers are unable to deliver teaching experience that is responsive to the needs of the students, making the teachers appear obsolete and unproductive (Mardiana, 2020).

In the Philippines, teachers often complain regarding the many innovations in school setting. The programs which are introduced to schools may receive negative feedbacks believing that it will take teacher's instructional time. This puts teachers in constraints as they have to include the integration of the many innovations in their classrooms. However, not all of these teachers do so because some of them lack the skills or they need more time to master the process in order to perform what is expected (Mallillin, 2021).

In some schools in Davao City, teachers also have issues on the integration of many skills in the classroom. When they are required to design lessons that integrate digital literacy and inventive thinking, most elder teachers declare that it might be too old for them

to learn digital literacy. They confessed that this give stress in their work (Baog & Cagape, 2022).

Today, the researcher has rarely come across with a study conducted in the local context during the new normal education setup. This prompts the researcher to consider the conduct of this study to prove the authenticity of the problems presented, making this study sought a new knowledge in the field of education.

This study is anchored on the theory on teacher efficacy of Medley (1977) which stated that the overall competencies are determined by how well a teacher performed in relation to a set of specific competencies, some of which were more important than others in determining overall competence. The most prevalent hypothesis on teacher competence.

According to Medley (1977), a teacher's competence is determined by their knowledge, skills, and talents. It is a consistent quality of the teacher that does not significantly vary as the teacher switches between different contexts. The researcher concentrated on the following competencies, which are thought to be present inside each of the component as defined by Medley's teacher competence theory: instructional skills, classroom management, guidance skills, and personal and professional skills.

The conceptual paradigm is shown in Figure 1. The independent variable of this study is school operational regulation practice of school heads. The indicators of this study were taken from Goleman (1998) and the indicators include: inspire, influence, and develop.

Inspire which refers to being able to focus on using other people's wisdom in situations, as well as the ability to connect with people emotionally; Influence which means making others feel important and making them feel like their opinions are valuable. Develop means acknowledging people's accomplishments and strong points, then offering feedback.

The dependent variable of this study is adaptive instructional practice of teachers. The indicators were taken from NCREL and Metiri Group (2003) with the following indicators: digital-age literacy, inventive thinking, effective communication, and high productivity.

Digital-age literacy, which refers to the various competencies expected in a 21st such as basic literacy, scientific literacy, economic literacy, technological literacy, visual literacy, information literacy, cultural literacy and global awareness; inventive thinking which is prized in the 21st century and which a successful individual needs to develop and cultivate these essential life skills;

This study aims to find out the significance of the relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers.

This study is beneficial to the Schools Division Office where the study is conducted as it will give the personnel a concrete view of the levels of the variables which this study is aimed to identify. This will guide the personnel as their reference for future decision-making to improve on the aspects which the study is intended to uncover.

Similarly, this study is viewed as a significant benchmark to the School heads and Teachers as this will help them enhance their current practice in terms of the variables and indicators included in this study. This may guide them in designing Learning Action Cells that will help the school gain inputs and eventually improve their present practice.

This study is beneficial to students as they are the direct beneficiary of the initiatives in schools including the professional advancements of school heads and teachers. The benefits that the students will gain from this study is expected to help them increase their learning proficiency.

This study is also beneficial to future researchers as this will guide them in conducting similar study. This study can also be their benchmark in exploring other variables not covered in this research.

This study is aimed to determine the relationship between the school operational regulation practice of school heads and adaptive instructional competence of teachers. The study will be implemented in some public schools in Davao Occidental Division within the second semester of the School Year 2022-2023.

This study includes only practices that teachers need to master in the workplace which are the following: digital-age literacy, inventive thinking, effective communication, and

high productivity. For the school operational practice, it only covers inspiration, influence, and developing.

2. MATERIALS AND METHODS

Discussed in this chapter are the research design, the research subjects, the research instrument, the research procedure in gathering of the data and the statistical treatment of data to be used in the conduct of the study.

This study employed the non-experimental quantitative research design utilizing correlational technique. A substantial proportion of quantitative educational research is non-experimental because many important variables of interest are not manipulable. Because non-experimental research is an important methodology employed by many researchers, it is important to use a classification system of non-experimental methods highly descriptive of what we do and which also allows us to communicate effectively in an interdisciplinary research environment. Correlational research designs evaluate the nature and degree of association between two naturally occurring variables (Johnson, 2012).

The geographic location of this study was shown in Figure 2. The municipality of Sarangani is a 4th class municipality in the province of Davao Occidental, Philippines. According to the 2020 census, it has a population of 22,515 people. The municipality consists of 2 major islands, Sarangani Island and Balut Island. It is the municipality of the Philippines bordering Indonesia.

The research sample included only those teachers who have permanent position. They must also have a teaching experience for the public school for at least five years. The substitute teachers and those holding Learning Support Aid positions are excluded in the sample of the research. Likewise, this study is conducted only to one district of Davao Occidental Division and at least have more than a hundred teachers as sample.

This study utilized purposive sampling in determining the sample of this study. Only those teachers who manifested their willingness to participate in the research were included in the study. These students must have Informed Consent to show their voluntary participation of the study.

This study utilized adopted questionnaire. The questionnaire on school operational regulation practice of school heads. The indicators of this study were taken from Goleman (1998) and the indicators include: inspire, influence, and develop.

This five-point Likert Scale was used in determining the school operational regulation practice of school heads in this study.

On the other hand, the questionnaire for adaptive instructional practice of teachers. The indicators were taken from NCREL and Metiri Group (2003) with the following indicators: digital-age literacy, inventive thinking, effective communication, and high productivity.

Meanwhile, this five-point Likert Scale was used in the assessment of adaptive instructional practice of teachers.

The researcher simplified and contextualized the questionnaires without losing the original content. The first draft of the contextualized version of the instruments was submitted to the research adviser for comments and recommendations to improve its presentation. The final copies were submitted to the panel of experts for approval.

Final revision of questionnaire was made by incorporating the corrections, comments and suggestions given by the expert validators. The validators rated the survey questionnaires with a rating of 4.12 with a descriptive equivalent as good.

The following steps were undertaken in the gathering of data for this study. First the researcher asked permission from the Superintendent of Davao Occidental Division to conduct the study in Sarangani District. After the request was granted, the researcher also sent a letter to the district supervisor indicating the intention to conduct the study in the district. The researcher attached the letter of approval from the division superintendent. The same letter of request was also sent to the school heads.

The school allowed the researcher to gather data for the research during activity period in the afternoon. This was a big challenge for the researcher because the travel going to school's district usually takes more than half an hour from the station.

As soon as the researcher got into the school, he went to the office of the school head and showed the letter of approval and endorsement from the superintendent and from the district supervisor. After which, the researcher met the teachers and the school head and gave them a brief orientation on how they will respond to the questions in the questionnaire. As soon as the respondents were able to complete answering the questionnaire, the researcher collected them and tallied the responses. Interpretation followed after the statistician handed the data.

The following statistical tools were used in treating the data in this study. **Mean**. This was used to determine the extent of school operational regulation practice of school heads and adaptive instructional competence of teachers. **Pearson-r.** This was used to determine the significance of the relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers.

3. RESULTS AND DISCUSSION

The standard deviation in descriptive table, Table 1 ranged from 0.48 to 0.68 which are less than 1.0 as the typical standard deviation for a 5-point Likert Scale, this means that the ratings in the accomplished questionnaires were closed to the mean, indicating consistency of responses among the respondents (Wittink and Bayer, 1994).

<u>Level of School Operational Regulation Practice of School Heads</u> in terms of Inspiration

Presented in table 1.1 is the level of school operational regulation practice of school heads in terms of Inspiration with a mean score of 4.38 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: draws on the collective wisdom of others, believes in the subordinate's capacity, is able to connect with people's emotional centers as well as intellectually, acknowledges and reward people's strengths and accomplishments, and offers helpful feedback and accurately target needs for further growth.

<u>Level of School Operational Regulation Practice of School Heads</u> <u>in terms of Influence</u>

Presented in table 1.2 is the level of school operational regulation practice of school heads in terms of influence with a mean score of 4.24 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: skillfully wins people over by listening, networking with them, fine-tune what they are going to say to appeal to the listener, willingly uses a variety of strategies to build consensus and support, shows winning ways to make others show support to a certain goal, and made the subordinates move towards achieving he desired cause.

<u>Level of School Operational Regulation Practice of School Heads</u> <u>in terms of Developing</u>

Presented in table 1.3 is the level of school operational regulation practice of school heads in terms of developing with a mean score of 4.21 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: willingly shares personal resources for the welfare and growth of others, acknowledges and reward people's strengths and accomplishments, offers helpful feedback and accurately target needs for

further growth, mentors, coaches, and offers tasks that challenge and foster a person's skills, and looks forward for the development of others.

<u>Summary of Level of School Operational Regulation</u> <u>Practice of School Heads</u>

Presented in Table 1.4 is the level of school operational regulation practice of school heads with an overall mean of 4.22 with a descriptive equivalent of high indicating that all enumerated indicators were always observed. The overall mean was the result obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator which was appended in this study. Among the enumerated indicators, inspiration obtained the highest with a mean score of 4.38 or very high, influence had a mean score of 4.24 or very high, and developing with a mean score of 4.21 or very high.

The very high level of school relationship engagement practice of school heads is due to the very high level of rating given by the respondents to the indicators inspiration, influence, and developing. The result of the study is aligned with the statement of Cohen, McCabe, Michelli and Pickeral, (2009) and Lyons (2008) who stated that school heads to be effective should know how to inspire teachers.

With the vision to develop a work force and a teaching staff that efficiently carry out tasks, a word that inspires from the school head is a force that boosts teacher's morale. A school head that inspires is a school head that sees a teacher can develop to his/her maximum potential. It is an empowering act on the part of the school head when he/she gives inspiration to teachers instead of making them feel their work is unworthy of recognition. Teachers feel they are valued when they are being tapped by the school head. While the teacher is overjoyed with the recognition for the skill he has, the school head is motivating the teacher and developing the skills.

This sends a message to the teacher that the school head has a high regard on the capacity of the teacher. Eventually, the teacher finds himself developed with the trust his school have for him/her making the teacher accomplish more (Kearns and Harvey, 2009; Martin and Willower, 2008; Usop, 2012).

<u>Level of Adaptive Instructional Competence of Teachers</u> in terms of Digital-Age Literacy

Presented in table 2.1 is the level of adaptive instructional competence of teachers in terms of digital-age literacy with a mean score of 4.38 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: uses power point in presentation of lessons, uses e-learning material in support to the discussion of the lessons, manifests proficiency in exploring the world wide web, integrates the use of computer and internet in the class, and uses data from the internet to support the lessons.

<u>Level of Adaptive Instructional Competence of Teachers</u> <u>in terms of Inventive Thinking</u>

Presented in table 2.2 is the level of adaptive instructional competence of teachers in terms of inventive thinking with a mean score of 4.23 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: teaches the lesson in many varied ways; delivers lessons that motivate us to use our critical thinking skills; has desire to learn more about something that is an essential component of lifelong learning; has willingness to think about a problem or challenge, to share that thinking with others, and to listen to feedback; and has ability to analyze and ensure good problem solving and decision making.

<u>Level of Adaptive Instructional Competence of Teachers</u> <u>in terms of Effective Communication</u>

Presented in table 2.3 is the level of adaptive instructional competence of teachers in terms of effective communication with a mean score of 4.40 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: shares a common goal with others by listening other's opinion, manages one's behavior and emotions to encourage positive interactions with other individuals and groups, values the opinions of others, shares information with others, and communicates using a wide range of media and technology.

. In the class, effective communication is the foundation of all learning of the students. When teachers fail to effectively communicate to students, there is a big chance that students will not be able to master the competency taught by teachers. Hence, teachers must always consider the improvement of their communication skill in order to make students learn from the discussions in the classroom.

On the other hand, when teachers do not have knowledge of personal communication skill, he would be unable to see which aspect of communication competence he needs to improve. The constant checking on one's communication skill allows the teacher to reflect and decide of what measures he can do to better his communication skills. This is very important since all teaching jobs require effective communication in transferring learning to students (Finegan, 2008; McCarthy and Carter, 2010; Elias, Tobias, Friedlander and Chopra, 2010; Cherniss, 2012).

<u>Level of Adaptive Instructional Competence of Teachers in terms of High Productivity</u>

Presented in table 2.4 is the level of adaptive instructional competence of teachers in terms of high productivity with a mean score of 4.21 or very high. The result of this mean score is taken from the strands of the indicators which are as follows: has skills that help others achieve goals, has mastered the current and new technology to effectively solve problem, and to accomplish tasks, has ability to produce intelligent solutions to identified problems, employs more complex problem-solving methods to solve problems, uses data as reference before making solutions and alternatives to address problems.

High productivity is also about the innovations and teaching strategies designed by teachers that will help students easily learn the lessons. The term could also refer to the accomplished tasks or activities created and initiated by teachers that boost students' interests in school. While high productivity could mean progress in the learning outcomes of the students, however, this also encompasses other forms of innovation that benefit the workplace (Armstrong, 2010; Cole, 2012; Goessi, 2012; Kunje, 2011; Umo, 2010).

On the other hand, a teacher can only become highly productive when he gets involved with many activities or has accomplished a number of innovations. The teaching as a profession today requires teachers to spend much time doing non-instructional tasks aside from teaching. This is the primary reason why teachers are hampered to be highly productive in terms of performing other functions aside from instruction (Creemer, 2008; Fabunmi and Sheyins, 2012; Osoba, 2009).

Summary of Level of Adaptive Instructional Competence of Teachers

Presented in Table 2.5 is the level of adaptive instructional competence of teachers with the overall mean of 4.28 with a descriptive equivalent of high indicating that all enumerated indicators were always observed. The overall mean was the results obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator which is appended in this study.

Among the indicators, effective communication obtained the highest mean score of 4.40 or very high, digital-age literacy had a mean score of 4.38 or very high, inventive thinking had a mean score of 4.23 or very high, and high productivity had a mean score of 4.21 or very high.

The very high level of adaptive instructional competence of teachers is due to the very high level of rating given by the respondents to the indicators digital-age literacy, inventive thinking, effective communication, and high productivity. The result of the study is aligned with the statement of Billikopf (2010) and Davis & Miller (2008) who stated that another important attribute of teacher efficacy is effective communication.

Relationship between School Operational Regulation Practice of School Heads and Adaptive Instructional Competence of Teachers

Presented in Table 3 are the results of the relationship between the independent variable, school operational regulation practice of school heads and dependent variable, adaptive instructional competence of teachers. Bivariate correlation analysis using Pearson product moment correlation was employed to determine the relationship between the variables mentioned.

Based on the first correlation analysis, school operational regulation practice of school heads and adaptive instructional competence of teachers revealed a computed R-value of 0.168 with a probability value of p = 0.000 which is significant at the 0.05 level.

This implies that the higher the school operational regulation practice of school heads display, the higher will be the adaptive instructional competence of teachers. Thus, the null hypothesis of no significant relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers is therefore rejected.

The result of the study is in consonance with the proposition of Shkullaku (2013) who stated that adaptive instructional competence of teachers is the key to achieving a positive academic self-concept among the students. It is important to developing good instructional practices among teachers. Effective teachers constantly reflect about their performance and adjust their practices accordingly, so students form academic self-concept that is important to developing other skills important for work and life.

4. MAJOR FINDINGS

The level of school operational regulation practice of school heads had an overall mean of 4.27 with a descriptive equivalent of very high, the level of adaptive instructional competence of teachers had a mean of 4.28 with a descriptive equivalent of very high. Based on the first correlation analysis, school operational regulation practice of school heads and adaptive instructional competence of teachers revealed a computed R-value of 0.168 with a probability value of p = 0.000 which is significant at the 0.05 level.

5. CONCLUSION

With considerations on the findings of the study, conclusions are drawn in this section. The respondents were found to exhibit a very high level of school operational regulation practice of school heads. This indicates that the provisions relating to the school operational regulation practice of school heads embodied in the item is always observed.

There is very high level of adaptive instructional competence of teachers. This indicates that the provisions relating to adaptive instructional competence of teachers is embodied in the item is always observed.

There is a significant relationship between relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers. This implies that the higher the school operational regulation practice of school heads, the higher will be the adaptive instructional competence of teachers. Thus, the null hypothesis of no

significant relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers is therefore rejected.

The study found a significant relationship between school operational regulation practice of school heads and adaptive instructional competence of teachers. The researcher therefore recommends that the District Office of the Department of Education where the study was conducted, may look on the findings of the study as an imperative basis in orienting the teachers, on the importance of school operational regulation practice of school heads to maintain the instructional competence of teachers as these two are directly correlated.

The study revealed a very high level of school operational regulation practice of school heads. The researcher recommends that Public Schools District Supervisor may provide technical assistance to school heads on how to improve their aspect on influence as one of the indicators of the variable on very school operational regulation practice of school heads.

The results of the study revealed a very high level of adaptive instructional competence among teachers. The researcher recommends that the school heads may organize learning action cell activities focused on digital-age literacy and equip teachers with essential skills relevant to the topic so they will improve in this aspect especially that this is one of the essential skills in this time.

The researcher also recommends to future researchers to conduct similar study and explore some indicators that are not included in this study in another setting in order to uncover new knowledge relevant to the enhancement of school operational regulation practice of school heads and adaptive instructional competence of teachers.

REFERENCES

- Anderson, M. (2017). Transformational leadership in education: A review of existing literature. *International Social Science Review*, *93*(1), 1-13.
- Arifin, I., Juharyanto, Mustiningsih, & Taufiq, A. (2018). Islamic crash course as a leadership strategy of school principals in strengthening school organizational culture. *Sage Open*, 8(3), 2158244018799849.
- Asrizal, A., Amran, A., Ananda, A., & Festiyed, F. (2018, April). Effectiveness of adaptive contextual learning model of integrated science by integrating digital age literacy on grade VIII students. In *IOP Conference Series: Materials Science and Engineering* (Vol. 335, No. 1, p. 012067). IOP Publishing.
- Baier, F., Decker, A. T., Voss, T., Kleickmann, T., Klusmann, U., & Kunter, M. (2019). What makes a good teacher? The relative importance of mathematics teachers' cognitive ability, personality, knowledge, beliefs, and motivation for instructional quality. *British Journal of Educational Psychology*, *89*(4), 767-786.
- Bambrick-Santoyo, P. (2018). Leverage leadership 2.0: A practical guide to building exceptional schools. John Wiley & Sons.
- Baog, I. W., & Cagape, W. E. (2022). Adversity Quotient and Work Commitment among Public Secondary School Teachers in Davao City. *Asian Journal of Education and Social Studies*, 29(2), 25-45.
- Barana, A., Fioravera, M., Marchisio, M., & Rabellino, S. (2017, July). Adaptive teaching supported by ICTs to reduce the school failure in the project "Scuola Dei Compiti". In 2017 IEEE 41st Annual Computer Software and Applications Conference (COMPSAC) (Vol. 1, pp. 432-437). IEEE.

- Beltramo, J. L. (2017). Developing adaptive teaching practices through participation in cogenerative dialogues. *Teaching and Teacher Education*, *63*, 326-337.
- Boudett, K. P., City, E. A., & Murnane, R. J. (Eds.). (2020). Data wise, revised and expanded edition: A step-by-step guide to using assessment results to improve teaching and learning. Harvard Education Press.
- Bowe, R., Ball, S. J., & Gold, A. (2017). *Reforming education and changing schools: Case studies in policy sociology*. Routledge.
- Brühwiler, C., & Vogt, F. (2020). Adaptive teaching competency. Effects on quality of instruction and learning outcomes. *Journal for educational research online*, 12(1), 119-142.
- Bush, T. (2020). Theories of educational leadership and management. *Theories of Educational Leadership and Management*, 1-208.
- Bush, T., Abdul Hamid, S., Ng, A., & Kaparou, M. (2018). School leadership theories and the Malaysia education blueprint: Findings from a systematic literature review. International Journal of Educational Management, 32(7), 1245-1265.
- Carrasco, A., Gutiérrez, G., & Flores, C. (2017). Failed regulations and school composition: selective admission practices in Chilean primary schools. *Journal of education policy*, 32(5), 642-672.
- Ching, Y. H., Hsu, Y. C., & Baldwin, S. (2018). Becoming an online teacher: an analysis of prospective online instructors' reflections. *Journal of Interactive Learning Research*, 29(2), 145-168.
- Coleman, L. J., & Cross, T. L. (2021). Being gifted in school: An introduction to development, guidance, and teaching. Routledge.
- Collie, R. J. (2017). Teachers' social and emotional competence: Links with social and emotional learning and positive workplace outcomes. *Social and emotional learning in Australia and the Asia-Pacific: Perspectives, programs and approaches*, 167-184.
- Creemers, B. P., Peters, T., & Reynolds, D. (Eds.). (2022). School effectiveness and school improvement. Routledge.
- Daniëls, E., Hondeghem, A., & Dochy, F. (2019). A review on leadership and leadership development in educational settings. *Educational research review*, *27*, 110-125.
- Darling-Hammond, L., Schachner, A., & Edgerton, A. K. (2020). Restarting and Reinventing School: Learning in the Time of COVID and Beyond. *Learning Policy Institute*.
- Darwis, D., Pasaribu, A. F. O., & Riskiono, S. D. (2020). Improving Normative And Adaptive Teacher Skills In Teaching Pkwu Subjects. *Mattawang: Jurnal Pengabdian Masyarakat*, 1(1), 30-38.
- DiPaola, M., & Wagner, C. A. (2018). *Improving instruction through supervision, evaluation, and professional development.* IAP.
- Donohoo, J., Hattie, J., & Eells, R. (2018). The power of collective efficacy. *Educational Leadership*, *75*(6), 40-44.
- Dryfoos, J., & Maguire, S. (2019). *Inside full-service community schools*. Simon and Schuster.
- Epstein, J. L. (2018). School, family, and community partnerships: Preparing educators and improving schools. Routledge.

- Estriyanto, Y., Kersten, S., Pardjono, P., & Sofyan, H. (2017). The missing productive vocational high school teacher competency standard in the Indonesian education system. *Journal of Technical Education and Training*, *9*(1).
- Fauth, B., Decristan, J., Decker, A. T., Büttner, G., Hardy, I., Klieme, E., & Kunter, M. (2019). The effects of teacher competence on student outcomes in elementary science education: The mediating role of teaching quality. *Teaching and Teacher Education*, 86, 102882.
- Federico, P. A. (2021). Adaptive instruction: Trends and issues. In *Aptitude, learning, and instruction* (pp. 1-26). Routledge.
- Fitria, H., & Suminah, S. (2020). Role of teachers in digital instructional era. *Journal of Social Work and Science Education*, 1(1), 70-77.
- Gallagher, A., & Thordarson, K. (2018). Design thinking for school leaders: Five roles and mindsets that ignite positive change. ASCD.
- Ginja, T. G., & Chen, X. (2020). Teacher Educators' Perspectives and Experiences towards Differentiated Instruction. *International Journal of Instruction*, *13*(4), 781-798.
- Greany, T., & Higham, R. (2018). Hierarchy, markets and networks: Analysing the self-improving school-led system agenda in England and the implications for schools.
- Gregory, A., & Fergus, E. (2017). Social and emotional learning and equity in school discipline. *The future of children*, 117-136.
- Grinshtain, Y., & Gibton, D. (2018). Responsibility, authority, and accountability in school-based and non-school-based management: Principals' coping strategies. *Journal of Educational Administration*, *56*(1), 2-17.
- Gube, M., & Lajoie, S. (2020). Adaptive expertise and creative thinking: A synthetic review and implications for practice. *Thinking Skills and Creativity*, *35*, 100630.
- Håkansson Lindqvist, M., & Pettersson, F. (2019). Digitalization and school leadership: on the complexity of leading for digitalization in school. *The international journal of information and learning technology*, *36*(3), 218-230.
- Hardwick-Franco, K. G. (2019). Educational leadership is different in the country; What support does the rural school principal need?. *International Journal of Leadership in Education*, 22(3), 301-315.
- Hardy, I., Decristan, J., & Klieme, E. (2019). Adaptive teaching in research on learning and instruction. *Journal for educational research online*, *11*(2), 169-191.
- Heitink, M., Voogt, J., Fisser, P., Verplanken, L., & van Braak, J. (2017). Eliciting teachers' technological pedagogical knowledge. *Australasian journal of educational technology*, 33(3).