

The Hard Teacher's Leadership Coping to the COVID-19 Pandemic

Jorge Carlos Aguayo Chan^{1*}, Martha Vanessa Espejel López¹, María de Lourdes Pinto Loria¹ & Efrain Duarte Briceño¹

¹Universidad Autonoma de Yucatán, Mérida, Yucatán, México

*Correspondence: Facultad de Psicología, Universidad Autonoma de Yucatan, km 1 Tizimin road, Merida Yucatan, Mexico. Tel: 52-999-118-9613. E-mail: carlos.aguayo@correo.uady.mx

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Abstract

Most teachers in Mexico are not experts on Information and Communication Technologies, some rural areas lack a good internet connectivity or even electricity. This context led us to determine: How can teachers keep the pace of educational leadership? and How they cope their teaching task with the COVID-19 pandemic? The sample included 329 teachers from urban and rural zones, 71.1% female and 28.9% male, with a mean age of 38.8 years, working in public (71.7%) and private (28.3%) schools. A self-evaluation template was used to assess the planning, didactical sequence analysis and evaluation competence from the teachers. Our aim was to sketch a teacher's leadership competences profile, specifically in these pandemic times. The results showed that 75.7% of the teachers had an internet access between Good and Very good; on the contrary, 78.4% of the teachers considered that most of their students had between "not very good" to "very bad" internet access. Only a few teachers addressed the didactic planning or followed its development and assessment: I have elaborated and shared with the students indicators of achievement from the didactical sequence (32.8%); I have stimulated processes of reflection upon learning through an instrument (22.5%); I have regularly incorporated and used digital tools and Internet (31.9%); at last, I have established and conducted moments of evaluation, self and formative co-evaluation in which the students have been able to make changes based on the feedback received (30.1%). However, teachers are coping with this pandemic time and it may involve a change in educational strategies towards the future.

Keywords: COVID-19, educational leadership, elementary school, high school, teacher leadership, zone leadership

1. Introduction

1.1 Context

Due to the COVID-19 pandemic, the world has temporarily closed educational institutions, nearly 70% of the world's student population (UNESCO, 2020). This situation implies a shift in the teachers' competences in class strategies, mainly the technology ones. This change matters because most teachers in Mexico are not experts in their use; in addition, it must be considered that they are not digital natives, therefore, their educative leadership could be hampered.

It is basic to understand that the teachers acquire abilities, knowledge and attitudes to apply innovative strategies and alternative educational models, including teaching through the Information and Communication Technologies (ICT), providing students an active role in their own learning process (Gonzales Mariño, 2008). Even more, in Mexico 37% of the budget from educational institutions is aimed to acquire technological innovations, however, most of the time these instruments remain underused, because only 10% of the teachers are trained to use them (UNESCO, 2013).

1.2 Theoretical Framework

Regarding this situation, first, it is important to establish the definition of teachers' leadership. In the literature revision, we found similar concepts like "teacher leadership" and "teacher leadership style". The "teacher leadership style" emphasizes the educators' personality traits, while "teacher leadership" is concerned with the activities conducted by the educators that are self-evaluated.

In this context, the leadership for learning involves five principles: (1) focusing on learning as an activity; (2) creating favorable conditions for learning; (3) fostering the dialog about leadership and learning; (4) sharing the

leadership; and (5) sharing the responsibility for results. This means that, a teacher's practice centered on students learning requires to promote cooperation and cohesion in the teaching staff, a sense of a good work done, and a developed comprehension and vision on what is required (Bolivar, 2010).

Moreover, an early teacher leader model states seven domains for acting (Cosenza, 2015): (1) Fostering a collaborative culture to support educator development and student learning, (2) Accessing and using research to improve practice and student learning, (3) Promoting professional learning for continuous improvement, (4) Facilitating improvements in instruction and student learning, (5) Promoting the use of assessments and data for school and district improvement, (6) Improving outreach and collaboration with families and community, and at last, (7) Advocating for student learning and the profession.

This model assumes that teachers may perform a formal leadership role, which is supported by one of the Cosenza (2015) outcomes where participants mentioned that they acted as leaders when they performed collaboratively because they could make decisions to offer better learning experiences for their students.

Furthermore, the teacher's leadership is one of the fundamental ways to foster the educational quality, this statement is supported by the concepts of instructional leadership: Pedagogical leadership or leadership for learning, which considers the teacher a key instrument for the improvement of teaching and learning. Teachers are considered leaders inside the classroom and outside of it, because of their influence in creating a culture that fosters learning and organization for the learning (Martinez de Soria & Ibarrola Garcia, 2015; Balduzzi, 2015; Correa-Reyes & Cuevas-Martinez, 2017; Hernandez Mondragon, 2020).

Teachers exert their leadership when they influence the parents and other educational agents with their contributions; likewise, when they create the conditions in their own students' group to promote learning. Teachers stress their leadership when they increase their practical knowledge and develop a personal theory for the educational action considering: (1) Valuing the implications and social consequences of their work, (2) Owning the knowledge of their legal and administrative responsibilities, (3) Being skilled to evaluate their own professional progress through the reflection of their own practice, and (4) Developing an open mind to encompass a diversity of perspectives or ways to research in the class room (Martinez de Soria & Ibarrola Garcia, 2015).

In the search for leadership, teachers should contribute in many ways to the definition and development of the educative project inside the school institution where they work; looking for the efficacy and the success of their performance; fostering personal learning of the students; and constructing the learning process alongside them (Balduzzi, 2015).

In a premonitory article about the teacher's role, two questions are crucial: What does the future hold? and how can teachers be more prepared for the, so called, new reality to come? (Correa-Reyes & Cuevas-Martínez, 2017). Whereas teachers can become an example of a leader for their students, either consciously or unconsciously (mainly in the latter way), this research outcome showed that teacher's self-perception as a role model, more participative and persuasive, and less directives and delegation ones, contrasts with the student's perception. Therefore, it is important to mention that the way the teacher develops his/hers, own leadership in the classrooms, should include not only knowing his personal goals, but also the students' personal traits and goals.

Recently, a science teacher leadership framework was provided by Cheung, Reinhardt, Stone, and Warren Little (2018), which included a profile for Collaborating (with others to improve science instruction); providing resources (for effective science instruction); Advocating (in service of effective science instruction); and Modeling (effective science instruction). Under this framework the teachers assume a higher degree of engagement and an effort to improve curriculum and instruction; however, while this profile was created to support the work in science particularly, we may fairly state that teachers in another subjects can use it effectively to identify specific roles and decide to act in consequence.

In the educational scene, leadership is a core influence; accordingly, the potential of teacher's leadership remains as a central issue on educational reform and change: "Teachers as the co-constructors of educational change and key contributors to policy making is an idea that is long overdue in many education systems." (Harris & Jones, 2019, p. 123). In brief, the literature supports three key dimensions of teacher's leadership -according to the models described before- in the context of educational change: (1) teacher leadership as influencer, (2) teacher leadership as action, and (3) teacher leadership as developing pedagogical excellence.

It is a fact that there is a positive relationship between teacher leadership and positive educational change; hence, encouraging teachers to be innovative, creative and collaborative, link up with a better outcome for the learning itself and for the learners.

Different authors have acknowledged that the action power of teachers and their professional influence are two critical elements to improve the educational system. This teacher's leadership potential is paramount when reforms and changes are faced in the educational field to obtain positive and empowering results; which are the core influence to improve the learning outcomes (Harris & Jones, 2019).

Likewise, it is important to consider that a good teacher responds to the students' individual needs, is sensitive to the teaching setting and is deeply concerned for the youngsters he/she is in charge of. In this sense, when teachers participate as leaders in the change processes, they contribute to the success of the ongoing changes; moreover, when they work collectively, they can have influence in their students' performance and produce a significant impact in their outcomes (Harris & Jones, 2019).

According to Cooper et al. (in Harris & Jones, 2019, p. 124) "most scholars agree that teacher leadership occurs within and outside classrooms to influence school-wide instructional practice". This statement implies three dimensions for teacher leadership: influence, la action and excellence in teaching development. This suggests that teachers can significantly influence in policies as well as in the teaching practice, in a proactive, collective and collaborative way. Other authors agree in this concept (Berestova, Gayfullina, & Tikhomirov, 2020) by pointing that teacher leadership is based in the influence and interaction, rather than in power and authority; in professional development, communication, cooperation, the use of new ways of teaching (e-learning), and adapting the curricula to specific goals.

On a research with elementary and higher education teachers (Berestova et al., 2020), the main results indicated that the participants: (a) are aware of the need for continuous professional development, which would increase their competence and thus, the education quality, (b) agree that educators should be proactive in implementing new teaching practices, (c) consider that most important personal qualities of leadership are the ability to make decisions, express their own ideas and proposing new ones, and (d) consider that most important professional qualities of leadership are the ability of team working and organizational skills. All these aspects can have a positive influence in the educational process and allow teachers to better understand the concept of teacher leadership and its importance in education.

Another research about the leadership styles in the classroom, which included teachers and students, showed that in the case of transformational leadership, the main features which describe a teacher are: efficient, innovator, productive, motivator and engaged in his/her class. Also, a consensus was found among students and teachers regarding a more positive leadership in the classroom featuring: (a) a behavior which influences students to consider the regard the teacher as a model, (b) More commitment towards student's individual characteristics to monitor their academic progress, and (c) the development of closer relations with the students to make them feel special and valued (Erdel & Takkaç, 2020).

Due to the COVID-19 pandemic, the teachers' leadership has become a relevant issue, particularly in the dimensions of action and developing pedagogical excellence. Since educational practice transforms the context, as previously mentioned, teachers should acquire skills, knowledge and attitudes to use innovative strategies and alternative models, including teaching with ICT, looking for a more active student who takes more responsibility in his/her own learning.

A digital era and a knowledge-based society, are two concepts than lure us to believe that nowadays students could learn more and better outside the school than in a classroom, because of the enormous amount of information flowing on the internet with easy and fast access to it. Therefore, teachers must be skilled to recognize, value and adapt a different model in order to achieve knowledge, designing new scenarios and rules for teaching (Gonzales Mariño, 2008). However, although ICT are considered like a means for teaching, this power should be complementary for teachers.

Therefore, the teacher's role is a valuable competence to ensure the use of ICT by students inside and outside the classroom, furthermore, teachers should be trained to engage in its use for teaching different subjects effectively. Nevertheless, despite the diversity of policies, programs and teacher training which explain the way to achieve this goal in each country; generally, less than 10% of the teaching workforce in elementary and high school are qualified to do it in 14 of the 27 countries that reported data to UNESCO (2013).

One of the great impacts and challenges from the COVID-19 occurs in education. There is no question about the imperative preservation to human life; but also, the assurance of institutions and the services and productive sectors. However, a new approach to schools is necessary, we must think about other options with the technological support from home, to enhance the student's teaching-learning process. According with the latter, organization and

coordination of the educative tasks has become a priority to ensure the viability of the school cycle. Likewise, the COVID-19 context demands not only the development of competences, but socio-emotional skills such as empathy, flexibility, creativity, solidarity, active listening, etc. (Hernandez Mondragon, 2020).

Facing the urgency, the educative system is migrating their curricula to online courses, in order to assure continuity, and immediate availability of educative resources in a digital format is needed, as well as a normativity to regulate the e-learning. Besides resources, moving volitions are needed. In terms of research is important to document pedagogical changes and its impact, and foster internal reflection about the renewing of the teaching-learning model (Samoilovich, 2020). For Samoilovich, maintaining leadership on e-learning involves a human contact between teachers and students, a community sense, a common purpose and prove the value of internet in all fields. Likewise, a set of technological tools that allow the teams co-create, communicate, share documents and manage process efficacy is needed.

In sum, it seems that online learning has become commonplace. While video lectures have become a common method of online instruction, online learning works well when it is well designed (combining synchronous and asynchronous teaching). Research has shown that "...students have better learning experiences when they feel they are having a real interaction with others in an online learning environment." (Rosenthal & Walker, 2020, p. 2). A showing face-to-face lecture seems to be better than video lectures; this advantage is given by attention, positive emotion, experiential attitude, format preference, perceived quality, and instructor social presence.

2. Method

2.1 Research Questions

How can teachers maintain their educational leadership in times of COVID-19?

How can teachers cope their teaching task with the COVID-19 pandemic?

2.2 Participants

The study included 329 teachers from urban and rural zones in a non-probabilistic sample, 71.1% women and 28.9% men, with a mean age of 38.8 years and an age interval from 22 to 67 years old. They were working at public (71.7%) and private (28.3%) schools during the study.

2.3 Measure

A template self-evaluation (*Lista de control para la autoevaluación docente*) adapted to a Likert scale was used to assess the planning, didactic sequence analysis and evaluation competence from the teachers (EDIA Project, 2019). The aim of the scale was to assess what the teachers really could do in this period of the sanitary contingency, not what ideally was expected from their teaching activity. The instrument included three factors: Didactic sequence planning (items 1 to 8), Didactic sequence development analysis (items 9 to 33), and Evaluation (items 34 to 39). The Likert scale has five response options: Rarely (1), Few times (2), Neither few nor many times (3), Enough times (4), and Usually (5). The instrument was migrated to an e-form.

The e-form included a sociodemographic data sheet asking about gender identification, educational work level (elementary/high school), institution type (public/private), school setting (urban/rural), work seniority, professional training kind, internet access quality, and students' internet access quality.

2.4 Procedure

The instrument was by electronic means for the teachers to answer. A psychology students' team was previously trained to contact teachers and invited them to participate voluntarily, establishing the anonymity and confidentiality.

The data analysis was performed with the Jamovi software 1.0.8.0.

3. Results

3.1 Instrument Reliability

A Cronbach Alpha was made, obtaining high reliability coefficients (Aiken, 2003) for each factor as well as for the global teacher leadership score, as seen in table 1.

Table 1. Reliability Analysis

Factor	N (items)	Cronbach Alpha
Didactic sequence planification	8	.802
Didactic sequence development analysis	25	.910
Evaluation	6	.776
Total	39	.937

3.2 Sample Descriptive Analysis

Table 2 shows the sample descriptive data regarding the comparison variables, as it can be observed, the largest women percentage work at elementary level while most men work at high school level; likewise, most percentage -both women and men- works at public schools.

Table 2. Sample Descriptive Analysis

Sex	Educational level	Institution type		Total
		Public	Private	
Woman	Elementary	41.9 %	15.8 %	57.7 %
	High school	30.8 %	11.5 %	42.3 %
Subtotal		72.7 %	27.3 %	100 %
Men	Elementary	22.1 %	6.3 %	28.4 %
	High school	47.4 %	24.2 %	71.6 %
Subtotal		69.5 %	30.5 %	100 %
Global data	Elementary	36.2 %	13.1 %	49.3 %
	High school	35.6 %	15.2 %	50.8 %
Subtotal		71.7 %	28.3 %	100.0 %

Similarly, 43% of teachers perform their teaching functions in rural contexts, and 57% do it in urban settings at the state capital (Merida, Yucatan). Regarding the work seniority, it was found that: 25% had a 0 to 5 work years, 17% had between 6 to 10 years, 15% had between 11 to 15, 14% had between 16 to 20 years, 10% had between 21 to 25 years, 10% had between 26 to 30 years, and at last, 9% had more than 30 years. Most of the participants have a bachelor's degree in education (39%).

Table 3 shows the participants scores obtained in the instrument and their three factors. It can be observed that all mean values are similar, with the exception of the Didactic sequence planning factor were women obtained a slightly higher score.

Table 3. Sample Descriptive by Factors

Sex	Factor						Total	
	Didactic sequence planification		Didactic sequence development analysis		Evaluation		M	DS
	M	DS	M	DS	M	DS		
Women	4.33	.510	4.16	.494	4.26	.523	4.25	.452
Men	4.22	.517	4.17	.492	4.25	.523	4.22	.456

In table 4, the teachers' internet access percentages, as well as the students' internet access percentages can be observed, according to the teachers' answers. It can be seen that most teachers mentioned to have no problem with the internet access; however, they consider than most of their students do have access problems. This variable was recategorized in *With problem* and *Without problem* for a better understanding.

Table 4. Percentages of Internet Access with Recategorization

Internet access	Teachers	Recategorization	Students	Recategorization
Very bad	1%	With problem	4%	With problem
Bad	2%	25%	25%	70%
Moderate	22%		41%	
Good	18%	Without problem	18%	Without problem
Very good	58%	76%	4%	22%

3.3 Inferential Analysis

In relation to how can teachers maintain their educational leadership in times of COVID-19? An analysis *t* Student of independent samples comparison was conducted for the teacher leadership scale. Outcomes didn't show statistically significant differences between women and men ($t = -0.606$, $p = .545$), neither for Institution type (public or private) ($t = -0.042$, $p = .966$), neither for Educational level (elementary and high school) ($t = -0.665$, $p = .506$), neither for School zone (rural and urban) ($t = -0.628$, $p = .530$). No statistically significant differences were found in none of the three factors: Didactic sequence planning, Didactic sequence development analysis, and Evaluation.

With regard to how can teachers cope their teaching task with the COVID-19 pandemic? The outcomes of the *t* Student analysis didn't show statistically significant differences between internet access from teachers ($t = -0.231$, $p = .817$), and between internet access from students ($t = -0.227$, $p = .820$). Significant differences in any of the three factors were not found: Didactic sequence planning, Didactic sequence development analysis, and Evaluation.

Likewise, a variance analysis (ANOVA) with two fixed factors (sex and school zone) was conducted, and there were statistically significant differences both in global teachers' leadership, as well as in the three factors (table 5). According with these outcomes, the higher leadership is shown by women in rural zones and men in urban zones.

Table 5. Variance by Sex and School Zone

Zone	Sex	<i>M</i> Factors			<i>M</i> Total
		Didactic sequence planification	Didactic sequence development analysis	Evaluation	
Rural	Women	4.37	4.22	4.31	4.30
	Men	4.15	4.07	4.09	4.10
Urban	Women	4.25	4.07	4.18	4.17
	Men	4.29	4.26	4.40	4.32
	<i>F</i>	4.166	8.089	12.191	9.901
	<i>p</i>	.042	.005	.001	.002

4. Discussion

Teachers are the frontline to guarantee the children's and adolescents' learning process, while the school buildings remain shut during the COVID-19 pandemic. Therefore, it is paramount that teachers acquire the skills to use the new technologies, with the purpose of performing in a specific way every task of their educational leadership. In addition, as mentioned before, in Mexico, 37% of the budget for educational institutions is aimed to obtain technological innovations, however, most of the time these instruments remain underused since only 10% of the teachers are trained to use it (UNESCO, 2013).

Despite than almost half of the participants (43%) work in a rural context, their self-perception in regard to their internet access is good, as from those who work in an urban context. Likewise, most of them (26%) have a seniority between 16 and 30 years, which implies than they probably are not technology natives and, consequently, they don't have enough digital skills to face the challenges of e-learning. In addition, most of them (61%) don't have a bachelor degree; in other words, they don't have a University education degree or, they have it but in a different field (Chemistry, Engineering, Mathematics, etc.). All this, could impact negatively on the teacher's leadership because teachers must be skilled to recognize, value and adapt a different model to approach knowledge, designing new scenarios and rules for teaching (Gonzales Mariño, 2008).

In this context, our outcomes didn't show statistically significant differences in teachers from rural and urban schools, public and private schools, neither between women and men, which means that all they are supporting their leadership,

relying on the Didactic sequence planning, Didactic sequence development analysis, and Evaluation.

We only found, a significative statistically difference between rural women and urban men, which indicate that rural women emphasize more the Didactic sequence planning, while the urban men emphasize the Didactic sequence development analysis, and the Evaluation. This difference may be explained because teacher's self-perception is more of a participative and persuasive role, rather than management and delegation ones (Correa-Reyes & Cuevas-Martínez, 2017). Likewise, teachers are considered like a leader inside the class room and outside of it, taking into account their influence in the creation of a culture that fosters the learning and the organization for the learning (Martínez de Soria & Ibarrola Garcia, 2015; Balduzzi, 2015; Correa-Reyes & Cuevas-Martínez, 2017; Hernandez Mondragon, 2020).

However, there is not enough information to explain why rural women obtained better scores in planning and urban men better ones in analysis and evaluation; this could be due to sociocultural issues, considering than in rural zones there is lack of learning resources, for example: few libraries, didactic materials, and communication obstacles since many students speak Maya as their native language.

On the other hand, despite that a lot of students have problems with internet access, the teachers have gone beyond their duties to ensure that their students achieve a good learning, using the tools available (smartphones, television or videoconferences), experimenting other forms of pedagogies, but under a planning, intervention and evaluation. The last can be related with the fact that teachers should contribute in many ways to the definition and development of the educative project, looking for the efficacy and the success of their performance; and foster the learning of the students (Balduzzi, 2015).

In this study we found that the teaching practice -from their self-perception- it is properly planned, implemented, and evaluated; consequently, considering the COVID-19 contingency, teachers perform their leadership in a favorable way to promote learning, they share their leadership with parents looking to focus the action in the students learning. This mean that a practice focused in students learning require to foster cooperation and cohesion on the teacher's staff, and develop a vision of what is wanted (Bolívar, 2010).

Diverse studies have been oriented to planification, development and evaluation of projects and improvement programs in the field of teaching; however, this self-evaluation processes are only addressed to teachers' perception, which should be complemented with the voice of others agents like students and families, allowing to identify every school element, situations and/or troubles (Arnaiz Sánchez y Azorin Abellan, 2014; Espiñeira Bellón, Muñoz Cantero y Zeimer, 2012).

In that case, the self-evaluation should be oriented to the effective improvement of educational practice (Espiñeira Bellón et al., 2012); so that the educational administration supports the teacher's leadership ensuring the resources for local needs (Center on Great Teachers & Leaders, 2019). In conclusion, the need to collect the all community opinion is evident and, we confirm the relevant and necessary task to reflect about the educational processes that are being implemented at school nowadays facing the COVID-19 pandemic.

4.1 Conclusion

As long as the schools remain closed due the COVID-19 pandemic, this kind of studies should matter, because teachers are the frontline to guarantee the child's and teens learning process. Our findings showed that all participants are supporting their leadership depending in Didactic sequence planification, Didactic sequence development analysis, and Evaluation.

On the other hand, despite that a large number of students have problems with the internet access, the teachers have pushed further their duties to look after their students to achieve a good learning. This is an evidence from their commitment and the use of new technology strategies.

In the end, in spite of the pandemic time, teachers are performing their leadership in a favorable way to promote learning, they share their leadership with parents looking to focus the action in the students learning, displaying three of the most important teachers' leadership characteristics: influence, action and pedagogical development.

4.2 Further Recommendations

Future studies should be addressed to describe the importance of teacher leadership and is implication in the educational field. Further research must be conducted covering broader area, in order to verify whether the current conclusions of this study are validated; for example, including higher education, other states of the country, or, in terms of sample, regard the student's perception of their teacher's leadership.

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