A way to improve the quality of education: the role of the school principal

Una manera de mejorar la calidad de la educación: el rol del director escolar

Uma forma de melhorar a qualidade da educação: o papel do gestor escolar

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Abstract

This article reviews the existing literature and empirical evidence based on impact evaluation studies (randomized control trials) on the importance of the school principals' role in educational improvement. Given the small number of studies, many questions remain unanswered. The purpose of this paper is to contribute to the debate and discussion about the role of school principals and how to strengthen their capacity to perform their duties. It is based on the premise that school principals' training policy is justified on the understanding that the principal is the second factor that significantly impacts student learning. Thus, by strengthening the capacity of these actors, improvements would be achieved in the educational process, in learning and in the quality of education. Unfortunately, the literature on this topic is shockingly scarce, particularly regarding studies that allow establishing attribution. Therefore, it is recommended that more studies be promoted to identify the most effective factors for improving the quality of school principals and the results among their students.

Keywords: educational leadership, teacher professional development, educational policy, school principals, education.

Resumen

El presente artículo presenta una revisión de la literatura y de la evidencia empírica basada en estudios de evaluación de impacto (ensayos de control aleatorios) sobre la importancia del rol directivo escolar para la mejora educativa. Dado el pequeño número de estudios, aún existen muchas preguntas por responder, por lo que la finalidad de este documento es contribuir a la reflexión y al diálogo sobre el papel del director escolar y sobre cómo fortalecer su capacidad para que desempeñe sus funciones. Se parte de la premisa de que la política de capacitar a los directores de colegios se justifica al entender que el director es el segundo factor que mayor incidencia tiene sobre los aprendizajes de los estudiantes. De esta manera, al fortalecer la capacidad de estos actores se lograrían mejoras en el proceso educativo, en los aprendizajes y en la calidad de la educación. La literatura sobre este tema es escandalosamente escasa, en particular cuando se trata de estudios que permitan establecer atribución. Es recomendable, por lo tanto, que se fomenten más estudios que permitan identificar los factores más efectivos para mejorar la calidad de los directores de escuelas y de los resultados entre los alumnos de las mismas.

Palabras clave: liderazgo educativo, desarrollo profesional docente, política educativa, director escolar, educación.

Resumo

Este artigo apresenta uma revisão da literatura e das empíricas baseadas em estudos de avaliação de impacto (ensaios controlados randomizados) sobre a importância do papel do gestor escolar para a melhoria educacional. Dado o pequeno número de estudos, ainda há muitas perguntas sem resposta, por isso o objetivo deste documento é contribuir para a reflexão e o diálogo sobre o papel do gestor da escola e como fortalecer sua capacidade de exercer suas funções. Parte-se da premissa de que a política de formação de gestores se justifica por entender que eles são o segundo fator de maior incidência na aprendizagem dos alunos. Dessa forma, fortalecendo a capacidade desses atores, seriam alcançadas melhorias no processo educacional, na aprendizagem e na qualidade da educação. A literatura sobre este assunto é escandalosamente escassa, principalmente quando se trata de estudos que permitem estabelecer atribuição. Portanto, recomenda-se que mais estudos sejam promovidos para identificar os fatores mais eficazes na melhoria da qualidade dos gestores da escola e dos resultados de qualidade entre seus alunos.

Palavras-chave: liderança educacional, desenvolvimento profissional docente, política educacional, gestor escolar, educação.

Introduction

In countries with different levels of economic development, there is sufficient empirical evidence to conclude that the quality of an education system is only as good as the quality of its teachers (Barber & Mourshed, 2007; Lee & Koh, 2020).

In fact, studies in developing countries (low- and middle-income countries) have repeatedly found that the difference between a weak and a good teacher in student test scores, has been estimated at 0.36 standard deviations (SD) in Uganda (Buhl-Wiggers *et al.*, 2017) and 0.54 SD in Pakistan (Bau & Das, 2017).

This means that during a school year, having a good teacher versus a weak one is equivalent to a difference of more than two school years (Evans & Yuan, 2018). Similarly, it has been found that a good teacher increases not only cognitive but also non-cognitive achievement (Chetty *et al.*, 2014).

In a world that is changing rapidly due to accelerated shifts in technology, production, the use of new knowledge, and innovation, the demand on the labor market is reacting accordingly. However, education systems are not reacting as swiftly to meet this new demand; they are not keeping up to date.

Unfortunately, countries must continue to upgrade their human capital to remain competitive in a globalized, demanding, and changing economy. To do so, the education sector needs to align general system characteristics with educational inputs. Look at the way in which, for example, school autonomy or standardized assessments are matched with school textbooks or the length of the academic year.

Schleicher (2016) rightly argues that teachers today have significant challenges. It is not just conveying educational content: they must cultivate students' ability to be creative, think critically, solve problems and make decisions. They have to help students work better together, and develop their skills to communicate and collaborate; they have to develop students' ability to recognize and exploit the power of new technologies; and they have to nurture the character qualities that help people live and work together.

This is particularly important because there are growing expectations for teachers to increasingly stress the value of balancing the delivery of expert content with the building of social-emotional skills, which are also important for students' success throughout life.

In addition, teachers are expected to play various roles ranging from content expert, curriculum developer, and pedagogue, to social worker, psychologist, mentor, and motivator. Every teacher has facets of this skill set and can potentially enhance them through a variety of tools. The goal is to align the support provided to individual teachers with their unique challenges and needs.

Given the rapid changes in education, teacher development must be viewed in terms of lifelong learning, with initial teacher training conceived as a foundation for continuing education. It is not a terminal education. Effective professional development activities forge a close connection between teachers' own development, their teaching responsibilities, and their school's goals. We fully support this position. Moreover, we agree with those who have argued that one

of the educational policies enabling teachers to improve their quality and that of their students, is to lead them with quality Principals (World Bank, 2013).

Principals connect teachers with students, parents, the community, and the education system in general. They can contribute to student success through the impact they have on school organization, school environment, and above all, by stimulating the relationship between teachers and education.

Methodology

We introduced the topic with existing literature reviews on mostly correlational and descriptive research studies. We continued with the review of the literature on impact assessment studies, following the Randomized Control Trial (RCT) methodology available in the information system from the International Initiative for Impact Assessment 3ie, where there are more than 10,000 RCT studies. Altogether we found less than 20 studies on the subject of interest.

Empirical Evidence

What is the empirical evidence telling us? Our theory for change is simple: the policy of training school principals is justified because principals help improve the educational process and the quality of education.

Let's look at what the empirical evidence-based literature says, particularly on Impact Evaluation (IE) studies. The findings should have implications for the design of future educational initiatives focused on supporting school principals.

The Wallace Foundation has been insisting on the need to bolster educational leadership in the USA for the last two decades, betting that leadership, critical for any field —military, business, religion, sports, etc.— is also critical for education. In 2004 they published the first literature review (Leithwood *et al.*, 2004) of studies done up to the early 2000s.

More recently, Wieczorek and Lear (2018) conducted a review of 39 empirical investigations (unfortunately only correlational, like almost all empirical studies to date) on how educational leaders, especially principals, build and maintain professional networks. There is empirical evidence that they build a positive and trusted professional community, which fosters professional development and growth.

An increasing amount of literature shows that principals and other system administrators are a critical factor in explaining school outcomes and that management practices used with teachers, including professional development activities, drive efficacy.

A recent publication (Grissom *et al.*, 2021), also promoted by the Wallace Foundation, reviews studies since 2000 and concludes that the payoff of an effective school principal is much greater than previously thought, both in achieving better student-level results, as well as in improving teacher satisfaction, retaining teachers in their role (especially high-quality teachers), and student attendance, among others.

As highlighted by Pont (2018), school leadership improves school climate and student academic performance by influencing teacher motivation. Pont further notes that the role of the principal is essential to improve educational efficiency and equity.

In fact, according to Fullan (2019), the available evidence indicates that the most important role of the principal in promoting school improvement consists of three interrelated factors: leading learning, creating coherence, and promoting the development of the teaching profession.

Regarding teachers specifically, school leaders manage to improve the quality of teaching indirectly by stimulating the motivation and commitment of the teaching staff, optimizing their working conditions, and ensuring the development of their professional skills (Leithwood *et al.*, 2006; Fullan & Hargreaves, 2012; in Romero & Krichesky, 2019).

In this sense, educational leaders transform school organizations into true learning organizations capable of driving school change. With this objective in mind, Murillo Torrecilla (2006) points out that it is necessary to contribute to an improvement-oriented management model to promote leadership distributed among the actors of the educational community.

Distributed leadership implies an alteration in a leadership centered on the managing figure, to become a culture centered on the collaboration of its members where they assume a shared responsibility to achieve institutional objectives.

The purpose of this review is to understand how educational leaders can position their leadership as related to learning activity to improve instruction within school improvement systems. The focus was on the leadership of teaching leaders for learning practices that can potentially develop organizational learning capacity as a means to improve instruction and student learning; on the leadership of principals in support of the instructional leadership activity of teaching leaders; as well as on their decision-making capacity and their diplomatic roles.

All of these aspects seem to be valued by practitioners, but have not been soundly or meaningfully implemented or researched. In this paper, we want to provide some room for this topic because, as previously mentioned, there is a growing literature showing that principals and other administrators help to understand students' academic performance (Fullan, 2019; Leithwood *et al.*, 2006; Marzano *et al.*, 2005; Murillo Torrecilla, 2006; Pont, 2008) and the management practices used with teachers drive effectiveness (Branch *et al.*, 2012; Branch *et al.*, 2013; Gates *et al.*, 2014; Hitt & Tucker, 2015; Leithwood *et al.*, 2004).

This review also shows that some best practices may be identified from the experience of charter schools where management practices are positively correlated with student achievement and can lead to greater student learning when introduced in low-performing schools (Fryer, 2014).

In addition, this literature has also begun tracking management best practices and demonstrates that good management practices strongly correlate with student achievement (Bloom *et al.*, 2015; Dobbie & Fryer, 2013).

Randomized Control Trials

While we found only a few RCT studies in developing countries, the topic of school leadership has emerged in recent decades as being of great relevance to these countries. These studies show that the role of the school principal is critical when making cross-sectoral interventions.

When it comes to school health interventions, for example, it has been found that better results are achieved when interventions are focused on the school principal. In China, a rural nutrition program combining information, subsidies, and incentives to reduce anemia among students found that nutritional levels of all three types of interventions improved significantly compared to the control group (Miller *et al.*, 2012).

Interactions with pre-existing incentives for principals to achieve good academic performance led to substantially larger gains in the information and incentive interventions: when combined with incentives for good academic performance, the associated effects on student hemoglobin concentration were 9.8 g/L (4.1 to 15.5) higher in the informational schools and 8.6 g/L (2.1 to 15.1) higher in schools with incentives.

Another study uses an RCT to evaluate a school-based anemia reduction program in rural China to examine how a greater school emphasis on promoting health affects academic performance (Sean *et al.*, 2013). Although education and health promotion are complementary functions for schools, they compete for limited school resources.

We compared the effects of a traditional program providing only information on anemia and subsidies, with an identical program that included performance incentives for school principals based on the prevalence of anemia at the school level. At the end of the trial, test scores among students with anemia at baseline improved with both versions of the program, but the scores of students in the incentive group who were healthy at baseline fell in relation to healthy students in the control group.

The results suggest that performance incentives to improve student health increase the impact of school programs on student health outcomes, but may also lead to the reallocation of school resources.

To control soil-transmitted helminth (STH) infections, the World Health Organization recommends school-based deworming programs as part of a health hygiene education component. However, the effect of such health hygiene interventions has not been properly studied. A study in Peru (Gyorkos et. al, 2013) conducted a trial in the Peruvian Amazon where experimental school students received:

a. an initial one-hour class activity on health, hygiene, and sanitation and 30-minute refresher activities every two weeks for four months; and

b. a half-day workshop for teachers and principals.

Four months later, the STH infection was re-evaluated in all schools by lab technologists unaware of the intervention status. Experimental school students

scored significantly higher on all aspects of an STH-related proficiency test compared to control students. The intensity of an Ascaris lumbricoides infection at follow-up was statistically significantly lower (by 58 %) in experimental students compared to students in control schools.

They concluded that a school-based health hygiene education intervention was effective in increasing STH awareness and reducing Ascaris lumbricoides infection. The benefits of regular school-based deworming programs are likely to be improved when a sustained health and hygiene education intervention is integrated into school curricula.

Another assessment that includes a cross-sectoral issue is the case of electric power in South African schools, where it is expensive and many are not proactive in reducing these costs. Managing the bills is cumbersome as the information is difficult to understand, the tariff structure is bafflingly complex, and generally, the person handling payments is often an overburdened teacher.

A recent evaluation (Samuels & Booysen, 2019) helped to understand how to reduce costs in five Stellenbosch schools. The authors provided highly visible and intuitive daily, weekly, and monthly reports to three of the schools, while the other two were used as controls. The reports were shared with sector stakeholders, including principals and teachers, to encourage accountability.

Usage was shown as an Energy and Financial component, color-coded by hourly and by rate type. Using the Difference-in-Difference method, they found financial savings of 11%, 13%, and 14% when the staff received training on the rate structure before the study began. These results suggest that sharing digestible information on a regular basis could help South African schools reduce their energy costs; a particularly relevant saving given the country's dependence on fossil fuels.

Moving on directly to the issue of school management, an RCT study conducted in Mexican elementary schools (Romero, et. al, 2021) looked at the impact on school management capacity and student test scores when providing schools with:

   a. Cash grants.

   b. Management training for school principals.

   c. Both.

Management training for school principals focused on improving principals' abilities to collect and use data to monitor students' basic arithmetic and literacy proficiency and to provide feedback to teachers on their instruction and teaching practices. The study found that:

   a. the cash grant had no impact on student test scores or the school principals' managerial capacity.

   b. management training improved the managerial capacity of school principals, but had no impact on student test scores; and

   c. the combination of cash grants and management training amplified the effect on school principals' managerial capacity and had a positive, but statistically insignificant impact on student test scores, reminding us that there are no magic solutions to this issue.

Another study of a quasi-experimental design in South Africa found that moving to a more efficient province improved performance on national math tests for secondary school students by half the rate of that observed in countries with the fastest improving performance on international evaluation programs.

The replacement of teachers or principals, however, does not appear to account for the improvement, although the addition of administrative support staff does emerge as a plausible contributing factor. Greater resource use efficiency, rather than additional funding, also appears to explain most of the change (Gustafsson & Taylor, 2018).

Indeed, a study in Brazil (Brollo *et al.*, 2020) shows that in the context of a cash transfer program conditional to school attendance, manipulation of school attendance reporting occurred, particularly in municipalities with a higher share of students in schools with principals connected to particular political parties.

A more positive result between the relationship of school human resources with educational results is found in Senegal (Carneiro *et al.*, 2016), where an RCT reviewed a scholarship program designed to improve the selection of scholarship recipients and its effect on learning outcomes.

The effect found was positive and long-lasting (for at least two years). These effects are observed among schools that concentrated funds on human resource improvements rather than school materials, suggesting that teachers and principals may be a central determinant of school quality.

The issue of the impact of School-Based Management (SBM) on student test scores is of great interest. A study in the Philippines (Yamauchi, 2014) shows that SBM increased the average national achievement test score by 4.2 points over three years. The gain in mathematics was 5.7 points. And depending on the methodology used, it can lead to even greater impacts: 8.6 and 11.4 points for average and math scores, respectively.

These impacts are higher than the previously reported estimate from the Philippines, probably due to the fact that the sampled schools had learned about SBM implementation from the accumulated experiences from other provinces that had introduced the modality earlier. The empirical results also show that schools with experienced principals and teachers are eager to introduce SBM.

Another study in Burkina Faso investigated the role of an SBM program involving community members in the development and implementation of annual school plans (Sawada *et al.*, 2016). They found that the project significantly increased social capital through voluntary contributions to public goods, between 8 and 10.2 %.

For groups comprised of school principals, teachers, and parents, the average contribution increased between 12.7 and 24.1 % through the democratic election of school management committee members, and between 11.0 and 17.2 % through the implementation of the project. These results suggest that community-managed projects can improve local cost recovery by increasing local contributions of public goods, which could lead to improved fiscal sustainability in community-driven projects.

Another project providing comprehensive management training to school principals, teachers, and community leaders in addition to a grant was evaluated

in Gambia (Blimpo *et al.*, 2015). The evaluation compares schools with both inputs, some with grant only, and some with control schools. Schools for each group were randomly selected.

At the end of the program, the full intervention led to a 21% reduction in student absenteeism, and a 23% reduction in teacher absenteeism but produced no impact on student test scores. Furthermore, it was found that in villages with high literacy levels, the program can generate gains in student learning outcomes. Receiving the grant alone had no impact on either test scores or student participation.

A final RCT study we have found examines the impact of two strategies for using large-scale evaluation results to improve school management and classroom instruction in the province of La Rioja, Argentina. Public elementary schools were randomly assigned to three groups:

- A diagnostic feedback group, in which standardized tests were conducted at the beginning and two follow-ups and results were made available to the schools.

- A training group, which conducted workshops and school visits.

- A control group, in which tests were administered at the second follow-up.

After two years, schools with diagnostic feedback outperformed control schools in math and reading, with these improvements being maintained at least one year after the end of the Project (de Hoyos *et al.*, 2021). In addition, principals in schools with feedback were more likely to use evaluation results to make management decisions, while students were more likely to report that their teachers used more instructional strategies and rated their teachers more favorably.

Combining feedback with capacity building did not appear to generate further improvements, but this could be because schools assigned to receive both components started from lower learning levels and participated in fewer workshops and visits than expected.

These investigations allow us to affirm that managerial leadership is a strategic educational policy issue (Romero & Krichesky, 2019). In this regard, it is essential to move towards a solid body of empirical research that allows for the substantiation of these findings, thus establishing attribution.

These findings support the claim that principals can increase teacher effectiveness and ultimately improve the quality of education. In fact, the best-functioning education systems have diverse and stringent requirements for entering the profession and, in turn, have mechanisms in place to support principals (Velez & Chi, 2018).

Although requirements vary between high-quality systems, they include passing written exams, having formal academic credentials, and completing a certain number of years of service in teaching and school management. In most systems, applicants are pre-selected from a pool of qualified and certified candidates. In some countries, this pool of certified candidates receives regular training on topics pertinent to school principals.

Incidentally, one of the least important requirements for becoming a school principal in most of the top-performing school systems is seniority, a determining

factor used in many developing countries. Principals go through substantive training programs covering topics such as school planning, internal management, school culture, instructional development, teacher growth, and conflict resolution. As a result, these systems nurture future principals even before they have the job.

Complementarily, a learning-centered vision requires educational leadership of the management teams that must lead to the improvement of educational quality in the school institution. This leadership style promotes teacher professional development to promote exchange and learning among peers, transforming the school into a learning organization. Learning-centered school culture is focused on driving programs based on staff development, organizational redesign, and the management of teaching and learning programs (Leithwood *et al.*, 2006).

Discussion

From the literature reviewed, we evidenced the importance of designing training programs for management teams as school leaders who are able to lead the professional development of teachers in schools, who can develop action research to investigate educational practices and make decisions based on evidence, as well as inter-institutional cooperation to break with the isolation of schools and form true learning communities which promote collaborative professional learning.

For this reason, as Marcelo and Vaillant (2018) point out, it is necessary to overcome the dualism between theory and practice in the training of teachers and management teams, and in the design of programs focused on developing skills and attitudes relevant to the performance of professional practice in educational institutions today.

> Along these lines, it is essential to think of training programs that propose both an adequate learning methodology, and the approach of relevant content for the work of teaching, which will result in the reinforcement of collaboration and professional learning among peers in the participating educational institutions.

An example of this is the case of the educational Leadership & Innovation program developed by the Varkey Foundation, which in the intermediate evaluation report found, indirectly rather than through the direct beneficiaries, a high impact on the educational communities. Its action orientation, research as a practice guide, the design of short-term transformation, and effective follow-up after the course are some of the aspects to be emphasized, which can be transferred to any intervention.

This positive assessment was reflected in the impact the program had on institutional practices. This practice improvement was mainly observed in the collaborative spaces (exchange of teaching practices and feedback among teachers) and the support of the management team in teaching professional development (Varkey Foundation, 2018).

Based on what we found, we see that good professional empowerment programs for leaders can have a positive effect on the quality of education and

we recommend the design of training programs that include the implementation of simultaneous practices, as the promotion of collaborative professional learning devices —i.e., professional learning communities and peer tutoring—; and the development of content anchored in the competency framework of each educational system and in coordination with initial teacher training.

Conclusions

The literature on this topic is shockingly scarce. As the World Development Report (World Bank, 2018) argues, many of the benefits of education depend on the skills students develop in school. As workers, people need a variety of skills (cognitive, socioemotional, technical) to be productive and innovative. As parents, they need literacy to read to their children or interpret medicine labels, and they also need numeracy skills to budget for their future. As citizens, people need literacy and numeracy, as well as higher-order reasoning skills to evaluate the promises of politicians. As community members, they need the sense of agency that comes from developing mastery of an issue (World Bank, 2018).

The role of school principals can be decisive in achieving this, and it is often suggested that the school principal is key to the quality of education (UNESCO, 2004; World Bank, 2013). In this context, knowing how best to do this is a challenge we must face when designing educational programs that consider the lessons produced by empirical evidence.

After the teaching factor, the principal has the greatest impact on learning. School leaders should be empowered with continuous training initiatives, recognizing them and taking advantage of their accumulated knowledge. These approaches, among others, should encourage dialogue with the system so that the changes promoted in schools receive support from above: promoting the opening of classroom and school doors, the encounter between different levels and modalities, combining the theoretical with the practical, understanding music in schools and providing support from above.

> **The principal has the opportunity to manage change and create an opportune environment to build a shared project. The way in which leadership is exercised influences everything that happens in the institution, having high expectations from students, engaging its community, growing teaching teams, and achieving a joint project (Porres, 2018). As Sam Walker (2017) says, "the most crucial ingredient in a team achieving and maintaining historical greatness is the character of its leader."**

There are many principals making great efforts in their schools. However, they must have a very clear vision in order to prioritize pedagogical aspects and avoid the bureaucracy that their role often entails. Another relevant fact is that in vulnerable schools the factor "Principal" is even more essential than in other settings. That is, educational inclusion depends to a large extent on the principal. But it is usually in these types of schools where there is more turnover and less autonomy for principals.

In some countries, principals usually come to their posts after having been in the classroom for many years. And at this point, training plays a key role in the face of this new need for development. Being a principal is not an investiture, nor a suit that someone wears one morning to become a principal. They may be experienced and passionate about leading, but they need to continue developing their skills (Porres, 2018).

Rethinking the managerial role implies abandoning the idea of one-person leadership. The principal must be an organizer, an inspirer, and a transformer who generates a certain climate and manages school trust (Porres, 2018). Being a principal today means thinking about service and empowerment of others, in the relationship with the teaching staff, which is where the principal's main strength lies.

Clearly, we have seen that there are no magic solutions to solve all problems everywhere, but that context is fundamental to designing relevant educational programs. In the end, strengthening the role of the school principal deserves much more attention than has been given so far. Indeed, it would seem that principals are the forgotten ones in the educational system.

They are generally presented as the key to implementing educational programs or performing important tasks, ranging from administrative issues to community affairs to such roles as teacher trainers, pedagogical advisors, monitoring and evaluation system users, school lunch controllers, teacher absenteeism managers, key drivers of student outcomes, but rarely do they become part of national educational development programs. They are assumed to be competent.

Given the low number of studies, it is clear that more research is needed on the role of school principals and on how to strengthen their capacity to fully perform their functions. It is time to fill this gap.

Notes:

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References

BARBER, M., & MOURSHED, M. (2007). *How the world's best-performing school systems come out on top*. McKinsey.

BAU, N., & DAS, J. (2017). *The Misallocation of Pay and Productivity in the Public Sector: Evidence from the Labor Market for Teachers*. World Bank. http://hdl.handle.net/10986/26502

BLIMPO, M. P., EVANS, D. K., & LAHIRE, N. (2015). *Parental Human Capital and Effective School Management: Evidence from The Gambia*. World Bank. http://hdl.handle.net/10986/21852

BLOOM, N., LEMOS, R., SADUN, R., & VAN REENEN, J. (2015). Does Management matter in schools? *The Economic Journal*, *125*(584), 647-674. https://doi.org/10.1111/ecoj.12267

BRANCH, G., HANUSHEK, E., & RIVKIN, S. (2012). Estimating the Effect of Leaders on Public Sector Productivity: The Case of School Principals. *NBER Working Paper Series, 17803*. https://doi.org/10.3386/w17803

BRANCH, G., HANUSHEK, E., & RIVKIN, S. (2013). School Leaders Matter: Measuring the impact of effective principals. *Education Next, 13*(1), 62-69.

BROLLO, F., KAUFMANN, K., & LA FERRARA, E. (2020). The Political Economy of Program Enforcement: Evidence from Brazil. *Journal of the European Economic Association, 18*(2), 750-791.

BUHL-WIGGERS, J., KERWIN, J. T., SMITH, J. A., & THORTON, R. (2017). *The Impact of Teacher Effectiveness on Student Learning in Africa. Research on Improving Systems of Education (RISE)*.

CARNEIRO, P., KOUSSIHOUÈDÉ, O., LAHIRE, N. MEGHIR, C., & MOMMAERTS, C. (2016). *School Grants and Education Quality: Experimental Evidence from Senegal*. World Bank Policy.

CHETTY, R., FRIEDMAN, J. N., & ROCKOFF, J. E. (2014). Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood. *American Economic Review*, *104*(9), 2633-2679.

DARLING-HAMMOND, L., & ROTHMAN, R. (2011). *Teacher and Leader Effectiveness in High-Performing Education Systems*. Stanford Center for Opportunity Policy in Education and Alliance for Excellent Education.

DE HOYOS, R., GANIMIAN, A. J., & HOLLAND, P. A. (2021). Teaching with the Test: Experimental Evidence on Diagnostic Feedback and Capacity Building for Public Schools in Argentina. *The World Bank Economic Review, 35*(2), 499-520.

DIXON, P., SCHAGEN, I., & SEEDHOUSE, P. (2015). The impact of an intervention on children's reading and spelling ability in low-income schools in India. *Taylor & Francis Online, 22*(4), 461-482.

DOBBIE, W., & FRYER, R. (2013). Getting Beneath the Veil of Effective Schools: Evidence from New York City. *American Economic Journal: Applied Economics, 5*(4), 28-60.

EUCHNER, C. (1983, November 23). Debate Grows on LOGO's Effect on Thinking Skills. *Education Week*. https://www.edweek.org/education/debate-grows-on-logos-effect-on-thinking-skills/1983/12

EVANS, D. K., & YUAN, F. (2017). *The Economic Returns to interventions that increase Learning*. World Bank.

FRYER, R. (2014). Injecting Charter School Best Practices into Traditional Public Schools: Evidence from Field Experiments. *Quarterly Journal of Economics*, *129*(3), 1355-1407. https://doi.org/10.1093/qje/qju011

FULLAN, M. (2019). Liderar los aprendizajes: acciones concretas en pos de la mejora escolar. *Revista Eletrônica de Educação, 13*(1), 58-65. https://doi.org/10.14244/198271993074

FULLAN, M., & HARGREAVES, A. (2012). Reviving Teaching with 'Professional Capital'. *Education Week*, *31*(33), 30-36.

FUNDACIÓN VARKEY (2018). *Evaluación de resultados intermedios. Presentación del impacto del Programa de Liderazgo e Innovación Educativa*. https://www.fundacionvarkey.org/qu%C3%A9-hacemos/programa-de-liderazgo-e-innovaci%C3%B3n-educativa/evaluaci%C3%B3n-de-resultados-intermedios

GATES, S. M., HAMILTON, L. S., MARTORELL, P., BURKHAUSER, S., HEATON, P., PIERSON, A., & GU, K. (2014). *Principals Preparation Matters: How Leadership Affects Students Achievement*. RAND Corporation. https://www.rand.org/pubs/research_briefs/RB9786.html

GRAHAM, J., & KELLY, S. (2018). How Effective Are Early Grade Reading Interventions? A Review of the Evidence. Policy Research Working Paper 8292. World Bank. http://hdl.handle.net/10986/29127

GRISSOM, J. A., EGALITE, A. J., & LINDSAY, C. A. (2021). *How Principals Affect Students and Schools. A Systematic Synthesis of Two Decades of Research*. The Wallace Foundation.

GUSTAFSSON, M., & TAYLOR, S. (2018). Treating Schools to a New Administration: Evidence of the Impact of Better Practices in the System-Level Administration of Schools. *Journal of African Economies*, *27*(5), 515-537.

GYORKOS, T. W., MAHEU-GIROUX, M., BLOUIN, B., & CASAPIA, M. (2013). Impact of Health Education on Soil-Transmitted Helminth Infections in Schoolchildren of the Peruvian Amazon: A Cluster-Randomized Controlled Trial. *PLoS Neglected Tropical Diseases, 7*(9). http://dx.doi.org/10.1371/journal.pntd.0002397

HITT, D., & TUCKER, P. (2015). Systematic Review of Key Leader Practices Found to Influence Student Achievement: A Unified Framework. *Review of Educational Research, 86*(2), 531-569. https://doi.org/10.3102/0034654315614911

JOHNSON, R. C., & JACKSON, C. K. (2019). Reducing Inequality through Dynamic Complementarity: Evidence from Head Start and Public School Spending. *American Economic Journal: Economic Policy, 11*(4), 310-349.

LEE, S., & KOH. A. (2020). Lessons for Latin America from Comparative Education: South Korea's Teacher Policy. Department of Research and Chief Economist. Discussion Paper IDB-DP-No.744. Inter-American Development Bank. http://dx.doi.org/10.18235/0002322

LEITHWOOD, K., DAY, C., SAMMONS, P., HARRIS, A., & HOPKINS, D. (2006). Successful School Leadership: What It Is and How It Influences Pupil Learning. Report Number 800, NCSL/Department for Education and Skills.

LEITHWOOD, K., SEASHORE, K., ANDERSON, S., & WAHLSTROM, K. (2004). *How leadership influences student learning*. Wallace Foundation. http://

www.wallacefoundation.org/knowledge-center/Documents/How-Leadership-Influences-Student-Learning.pdf

LEME, M. C., LOUZANO, P., PONCZEK, V., & SOUZA, A. P. (2012). The Impact of Structured Teaching Methods on the Quality of Education in Brazil. *Rede de Economia Aplicada, REAP*, *25*, 1-29. https://doi.org/10.1016/j.econedurev.2012.05.008

MARCELO, C., & VAILLANT, D. (2018). Hacia una formación disruptiva de docentes: 10 claves para el cambio. *Revista de investigación en educación, 17*(1), 62-64.

MARZANO, R., WATERS, T., & MCNULTY, B. (2005). *School Leadership That Works: From Research to Results*. Association for Supervision and Curriculum Development.

MILLER, G., RENFU, L., LINXIU Z., SEAN, S., YAOJIANG S., PATRICIA, F., QIRAN Z., & MARTORELL, R. (2012). Effectiveness of Provider Incentives For Anaemia Reduction In Rural China: A Cluster Randomised Trial. *British Medical Journal (BMJ)*, *345*, e4809. https://doi.org/10.1136/bmj.e4809

MOLINA, E., PUSHPARATNAM, A., RIMM-KAUFMAN, S., & WONG, K. K. Y. (2018). *Evidence-Based Teaching. Effective teaching practices in primary school classrooms. Policy Research Working Paper 8656*. World Bank.

MURILLO TORRECILLA, J. (2006). Una dirección escolar para el cambio: del liderazgo transformacional al liderazgo distribuido. *REICE - Revista Electrónica Iberoamericana sobre Calidad, Eficacia y Cambio en Educación, 4*(4e).

PONT, B. (2018). El liderazgo escolar: un papel clave en la mejora educativa. *Cuadernos de Pedagogía, 487*, 93-98.

PORRES, A. (2018). El liderazgo escolar en la transformación educativa. *Clarín*. https://www.clarin.com/opinion/liderazgo-escolar-transformacion-educativa_0_PHtocvHPg.html

ROMERO, C., & KRICHESKY, G. J. (2019). El director escolar en Argentina: un actor clave pero (aún) invisible. Un estudio sobre las normas, condiciones laborales y formación de los directores escolares de escuelas públicas. *Educational Policy Analysis Archives*, *27*(12). https://doi.org/10.14507/epaa.27.3576

ROMERO, M., BEDOYA, J., YANEZ-PAGANS, M., SILVEYRA, M., & DE HOYOS, R. (2021). *School Management, Grants, and Test Scores: Experimental Evidence from Mexico. Policy Research Working Paper, 9535.* World Bank. http://hdl.handle.net/10986/35108

SAMUELS, J. A., & BOOYSEN, M. J. (2019). Chalk, talk, and energy efficiency: Saving electricity at South African schools through staff training and smart meter data visualization. *Energy Research & Social Science, 56.* https://doi.org/10.1016/j.erss.2019.05.022

SAWADA Y., AIDA, T., GRIFFEN A. S., KOZUKA E., NOGUCHI H., & TODO Y. (2016). *Election, Implementation, and Social Capital in School Based Management: Evidence from a Randomized Field Experiment on the Coges Project in*

Burkina Faso. Japan International Cooperation Agency (JICA) Research Institute.

SCHLEICHER, A. (2016). *Teaching Excellence through Professional Learning and Policy Reform: Lessons from Around the World.* International Summit on the Teaching Profession, OECD Publishing. http://dx.doi.org/10.1787/9789264252059-en

SEAN, S., RENFU, L., LINXIU, Z., YAOJIANG, S., MEDINA, A., & ROZELLE, S. (2013). Do you get what you pay for with school-based health programs? Evidence from a child nutrition experiment in rural China. *Economics of Education Review, 37,* 1-12.

UNESCO (2004). *Educación para todos. El imperativo de calidad.*

UNITED NATIONS. (2015). *Transforming our World: The 2030 Agenda for Sustainable Development.*

VÉLEZ, E., & CHI, J. (2018). *Teaching for Success. Teacher Policies in Shanghai and Lessons for Central America.* Inter-American Dialogue.

WALKER, S. (2017). *The Captain Class: The Hidden Force That Creates the World's Greatest Teams.* Ebury Publishing.

WIECZOREK, D., & LEAR, J. (2018). Building the "bridge": Teacher leadership for learning and distributed organizational capacity for instructional improvement. *International Journal of Teacher Leadership, 9*(2).

WORLD BANK (2013). What Matters Most for Teacher Policies: A Framework Paper. *SABER, 4.* http://hdl.handle.net/10986/20143

WORLD BANK (2018). *World Development Report 2018: Learning to realize education's promise.* Oxford University Press and The World Bank.

YAMAUCHI, F. (2014). An alternative estimate of school-based management impacts on students' achievements: Evidence from the Philippines. *Journal of Development Effectiveness, 6*(2), 97-110. https://doi.org/10.1080/19439342.2014.906485