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THE ORGANIZATIONAL NEEDS OF SCHOOL PRINCIPALS IN PUERTO RICO

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Executive Summary

During 2019, ABRE decided to further its investigative work through the publication of the research study “Education Gap Analysis: Case Study Approach”. In this study, ABRE PR sought to detect enabling factors for academic performance, by looking at geographically proximate schools with similar student profiles but different academic outcomes. ABRE PR selected and analyzed 14 schools, resulting in valuable findings and some additional research questions that deserved further investigation. One of the key findings from this research was that school principals were critical drivers of overall school performance, particularly when operate their schools with a high degree of autonomy and they are proactive. This demonstrated a large need for more research on the role of the school principal.

Based on these previous findings and to discover ways to support school principal’s daily tasks and responsibilities, this new ABRE PR research focused on the following question: **What are the organizational needs affecting the general well-being of public-school principals in Puerto Rico?** By investigating the current organizational needs of public-school principals in Puerto Rico, ABRE PR’s research aims to help set some guidelines to ensure that future investments in these areas perform according to local needs and respond to sound policy interventions.

The expected results from this investigation were the following:



Discover the common and existing organizational needs among Puerto Rico public school principals that neither the Puerto Rico Department of Education (PRDE) nor other stakeholders cover



Expose currently available resources and their suitability or effectiveness for school principals’ organizational needs



Develop recommendations that could be used to create an action plan that determines the areas that NGOs and/or the PRDE need to invest in



Propose public policy changes or investment programs to cover common and specific organizational needs.

Executive Summary (cont.)

Method

Due to the exploratory nature of this research, a questionnaire titled “Organizational Needs Questionnaire” was designed to develop a profile of the organizational needs of public-school principals. This needs questionnaire aimed to collect and identify the diverse needs that both schools and their principals have that could be affecting the quality of their performance and well-being. In addition to this questionnaire, semi-structured questions were designed for interviewing 21 school principals. The interview consisted of 8 questions to gather information about the following: (1) the most pressing needs of schools; (2) assistance and benefits received from non-profit organizations, private partnerships, and/or other institutions; (3) level of parental and community engagement; (4) administrative needs and duties concerning the improvement of schools’ performance; (5) aspects necessary for schools to achieve success; (6) budget needed to cover needs; and (7) perceptions on the competencies or skills a school principal requires to be successful in their role.

Due to the COVID-19 pandemic and not having in-person access to schools in operation and during regular hours, the official data collection was done using multiple platforms and services such as, emails, telephones, PsyData, and Zoom.

Findings

This study managed to confirm that school principals believe they are severely lacking in basic resources and materials to provide a healthy environment for teachers and students and improve academic achievement. Principals were in need of concrete organizational resources such as materials, personnel, and technology, among others. ABREPR findings reflect the poor conditions of these schools in the areas of infrastructure, technology, personnel, and sports facilities.

As a result, principals spend more time covering all their essential needs to operate in a safe environment and have less time to work on the academic improvement of the schools they manage. This context amplifies the possibility for school principals to develop some type of burnout, which could end up affecting their personal comfort and health but also the well-being of their schools.

The school principals surveyed and interviewed for this study also demanded greater autonomy in the areas of administration, finances, and recruitment of personnel (for teaching and non-teaching staff). Principals complained about type of training teachers received and about the PRDE practice of transferring teachers without consulting them. There also seems to be a general agreement that the procurement processes to get materials and resources to cover their different needs are ineffective.

These might be one of the explanations of why most principals must develop creative, different, and informal responses to fulfill the different needs their schools have. One common thread found through the collected data is that principals feel they cannot influence the decision-making processes of their region or the PRDE central offices regarding their schools. This lack of autonomy leads them to create various options and design coping mechanisms for them to meet these needs. In addition to feeling they have little autonomy to make significant changes, school principals felt they are not being paid adequately or fairly, as their salaries do not compensate for all the work they do; salaries have not increased in proportion with their ever-growing workload.

Recommendations

Based on these findings, ABREPR recommends that principals should have the ability to make decisions regarding administrative and financial matters, including hiring processes of both teaching and non-teaching staff. ABREPR also encourages the creation of a vice-principal position or a school administrator, which focuses on addressing administrative management matters to deal with the great number of tasks that every school principal must currently manage. In addition, ABREPR suggests conducting a job analysis to evaluate school principals' scale salaries, responsibilities, and necessary competencies for the job.

Finally, notwithstanding all these challenges, proactive school principals, who are also effective instructional leaders, have created or allow the create imaginative mechanisms to meet the various needs of their school. Some of the initiatives and processes that principals have put in place could help others with their specific needs. Using various platforms, school principals should be able to promote and communicate strategies and best practices for other principals to emulate; this will create effective learning communities between schools. In ABRE PR's interviews, principals showed willingness to share and teach others what they do every day to meet their many challenges. Having resources available for principals to share their experiences will promote collaboration throughout schools, resulting in the implementation of efficient instructional strategies and promotion of effective learning. On this specific study ABRE focused on organizational needs of school principals.

Additional research is required to analyze the health and competency needs of public-school principals on the island. This additional research could provide great insights concerning the necessary health factors that must be taken care of for the well-being of Puerto Rico's public-school principals. As well, creating the ideal school principal profile will enable the identification of the necessary competencies and skills public school principals in Puerto Rico require to achieve the expected success in terms of academic performance and quality education.

Introduction



Over the past few decades, Puerto Rico's public school principals have been affected by a series of changes and events that have occurred on the island and increased their workload. These have been formidable circumstances that include new school regulations and changes in public policies, the transformation of the teaching-learning process, social and demographic changes, budget cuts, inadequate school equipment to support the advent of technological advances, atmospheric events and seismic activity, the COVID-19 pandemic, among others. Moreover, a recent case study from ABRE PR demonstrated that each school operates within a particular context that brings unique challenges and needs that could affect its educational performance and quality.

These challenges and their relation to accountability and obligatory compliance with academic standards and META-PR tests have resulted in a forceful increase in school principals' job responsibilities and greater complexity in their work. In turn, this leads to their inability to devote more time towards overseeing their respective schools' academic areas.

While some studies have shown that additional well-structured job responsibilities and roles could represent positive challenges that result in a high level of personal, professional, and

organizational growth, it is very likely that this is not the case for all school principals in Puerto Rico's public school system. The workload of a school principal in Puerto Rico is typically characterized by overwhelming responsibilities, information uncertainty due to unplanned changes, and emotional anxiety. This context increases the probability that school principals, being the primary leaders at their schools, will develop burnout, which could not only affect their well-being but also the well-being of their school environments.

To highlight and find a way to support their already stressful functions, ABRE PR's research focused on the following question: **What are the organizational needs affecting the general well-being of public school principals in Puerto Rico?** Although there are some positive initiatives underway that have been implemented with the purpose of transforming Puerto Rico's public school system, there is limited data and research regarding the principals of these schools. Investigative studies by ABRE PR suggest that the performance and proactivity of school principals significantly influence school performance in its many aspects. It appears that direct support for school and psychosocial needs that principals have can lead to significant changes in public schools.

Introduction (cont.)

However, over the past 5 years, school principals have faced ongoing challenges. The Puerto Rico Department of Education (PRDE) has closed multiple schools (almost every year) and its budget reductions have pressured and burdened the work of public school principals.

In the interviews and in the questionnaires, the school principals highlight that another challenge has been added to the daily stressors they face through a new law known as the Puerto Rico Education Reform Act (Law 85-2018),² which was enacted in 2018 and "artificially" increased the autonomy of public schools, but also increased their duties and responsibilities. On the other hand, the impact of hurricanes Irma and Maria (2017), recent earthquakes (2019 and 2020), and their associated scars, have all coincided in a remarkably short period of time. Plus, all the complications and setbacks that the COVID-19 pandemic has caused up until the present cannot be ignored when considering what principals face.



Photo: NY Times (An abandoned classroom at the Carlos Conde Marín school in Carolina)

It is also important to consider that from 2006 onwards, the structure of Puerto Rico's public school system, as well as its main components, have undergone a significant amount of change. Between 2016 and 2018, with more than 466 schools closed, the system was reduced by nearly half. Some experts in the field suggest that there is a strong possibility that more schools could face closure if total enrollment continues to decline due to emigration and the island's aging population.

² Puerto Rico Education Reform Act, Law 85-2018, www.de.pr.gov/wp-content/uploads/2019/03/ley-85-2018-enmendada.pdf

Introduction (cont.)

All these events have placed a heavy burden on school principals, as they are expected to develop their communities in some way, but they are provided with very few tools to both address organizational needs as well as their own emotional well-being. Taken together, all these factors serve as a legitimate basis for justifying sound research into the well-being of school principals, their job needs, and what they face at their schools. The hypothesis behind this research is that if school principals are provided with the necessary tools, not only the indispensable ones but also those required for their skill development and emotional well-being, this would dramatically improve their lives and the academic performance of students throughout the system.

In reviewing the literature, little effort has been made to assess all the needs school principals have and, consequently, to evaluate how these might affect the delivery and performance of public education in Puerto Rico. Other local organizations and academic institutions, such as the Flamboyán Foundation and the Interdisciplinary Research Institute of the University of Puerto Rico, have developed studies related to these topics in 2006 and 2008³. Both studies presented a summary and an overview of what are some of the most common and significant obstacles that principals often face within their respective school environments. In turn, they mention some of the main traits that school principals must have to be effective in their work. However, to create transformative public policies and innovatively designed programs, more granular studies that target the specific needs of each school as an organization are required. For example, Flamboyán Foundation's research recommended "building a robust recruitment and selection system that brings only the best candidates to schools." But what are the skills, qualities, and knowledge that a public school principal in Puerto Rico would need to lead effectively and efficiently?

The answer to this and other questions can be found in the Conclusions section of this research. Although this will provide some answers to what ails the public school system and its key members, ABRE PR always aims to obtain recommendations that are actionable and applicable to the context in which schools exist. Therefore, this research will provide informed suggestions concerning specific actions to be carried out and recommended public policies. In fact, ABRE PR's recent case study titled "Educational Gap Analysis: A Case Study Approach" (2020)⁴, concluded that schools should be analyzed within a geographic and unitary context, as specific individual differences between schools (both internal and external) have a strong impact on each of them. All previous research has developed its analyses at the state level, which may reflect some general trends, but should be considered with caution when used for designing new programs or public policy changes. It seems the "one size fits all" methodology is not helping schools overcome their challenges.

ABRE PR's last study (mentioned above and completed in 2020) found that school principals currently need specific organizational resources, such as materials, human resources, technology, and infrastructure repairs, among others. In addition, they also need skill development for the effective management of their schools, such as leadership, technology management, proposal preparation, evaluation processes, and organizational culture management, among other skills. Furthermore, these competencies were determined to be statistically significant when correlated with principals' ability to improve their job performance at their schools and positively impact their own health. However, research showed that, instead of being able to develop these skills, school principals have had to develop different strategies, such as coping mechanisms, to handle different problems daily and face different internal and external issues related to their respective schools.

³ WHO IS LEADING PUBLIC SCHOOLS IN PUERTO RICO? A PROFILE OF SCHOOL PRINCIPALS Report for the academic period 2007–08, p. 38, a.pdfa.pdf

⁴ "Educational Gap Analysis: A Case Study Approach" (2020), p.67 <https://www.abrepr.org/es/brecha-en-educacion>

Introduction (cont.)

The purpose of this research is to discover some resources and materials that principals need to improve their well-being, meet their work needs within their school environments, and positively impact academic performance. This will be done while initially identifying their perceptions of competencies required for an effective school principal's profile to successfully lead the island's public schools and guide students towards academic achievement.

In addition, following observations will be considered:



The most common organizational needs of the principals who participated in this study and aren't being considered by the Puerto Rico Department of Education.

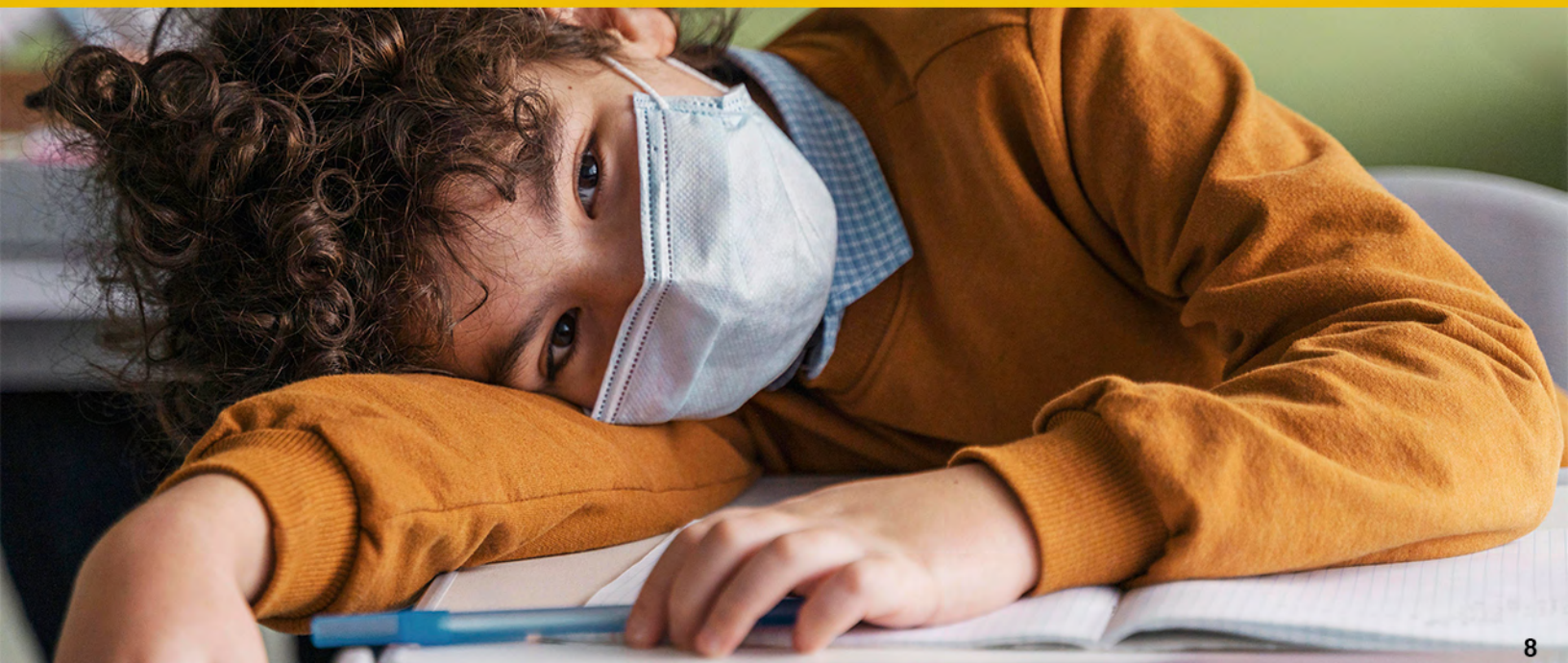


The variety of organizational needs that principals have depending on their school community and their own strategies.



The resources that are currently available and how they could meet the organizational needs of school principals.

Finally, changes in public policies or existing initiatives will be proposed to meet the most common, specific, and pressing organizational needs mentioned throughout this investigation.



The main purpose of this research was to determine what are the organizational needs that affect the general well-being of Puerto Rico's public school principals and to identify the competencies these people deem necessary for a school principal to perform their role efficiently. To achieve the purpose, we will identify these needs according to the perception of the school principals themselves. In the process, all the resources and practices principals use to positively impact the academic performance of the school community they lead will be identified. On summary, the methodology involved a survey and interviews to school principals, that were analyzed to answer our main question.

Selection of School Principals for the Investigation

The population considered for this research were the school principals of all public schools in Puerto Rico. For the quantitative research stage, the data of our sample was gathered based on the availability of participants who voluntarily accepted to complete the questionnaire online. The goal was to gather at least 50 questionnaires representing each educational region, all grade levels, and different academic proficiencies.

For the qualitative research stage, data was obtained through interviews conducted by directly contacting school principals and asking them to participate. Twenty-one school principals were selected to guarantee the participation of schools at all levels (elementary school, middle school, and high school) of the seven educational regions across the island (Arecibo, Bayamón, Caguas, Humacao, Mayagüez, Ponce, and San Juan).

Puerto Rico Department of Education's Research Authorization

To request authorization from the Puerto Rico Department of Education (PRDE), steps already determined by the department were followed. This was required to obtain the letter of authorization that all researchers must have available before starting to carry out investigations in Puerto Rico's public schools. ABRE PR submitted the following documents for the department's approval to conduct the study: ABRE PR's cover letter; Consent of school principals; Questionnaire, Questions for interviewing school principals; Project's Scope of work; Research validation.

After the PRDE analyzed the research proposal and approved the consents and questionnaires to be used, they sent ABRE PR a letter of authorization which allowed said organization to reach out to school principals to promote the completion of questionnaires and schedule interviews.

Design of Data Collection Tools

Due to the exploratory nature of this research, a questionnaire titled Organizational Needs Questionnaire was designed to develop a profile of the organizational needs of public school principals. This needs questionnaire aimed to collect and identify the diverse needs that both schools and their principals have that could be affecting the quality of their performance and well-being. The following details summarize its content:

Organizational Needs Questionnaire

- It is composed of 78 short questions.
- School principals filled out this questionnaire.
- The questions included were geared to collect data about location; student population; principals' profile; sports facilities; infrastructure; equipment; services; proposals; special projects; partnerships with private organizations; and the needs of teachers, students, and the school principal.
- Other scientific questionnaires were considered for the design of this one.

Semi-structured Interview

In addition to this questionnaire, semi-structured questions were designed for interviewing 21 school principals. The interview consisted of 8 questions to gather information about the following:

- the most pressing needs of schools;
- access to and availability of materials and equipment necessary for the operation of your school;
- assistance and benefits received from non-profit organizations, private partnerships, and/or other institutions;
- level of parental and community engagement;
- administrative needs and duties concerning the improvement of schools' performance;
- aspects necessary for schools to achieve success;
- budget needed to cover needs;
- and perceptions on the competencies or skills a school principal requires to be successful in their role.

Data Collection Efforts and Participants

Due to the COVID-19 pandemic and not having in-person access to schools in operation and during regular hours, the official data collection was done using multiple platforms and services such as, emails, telephones, PsyData, and Zoom. Below is a list of the questions and efforts made to collect data and the number of participants for each questionnaire and interview.

Research Methodology (cont.)

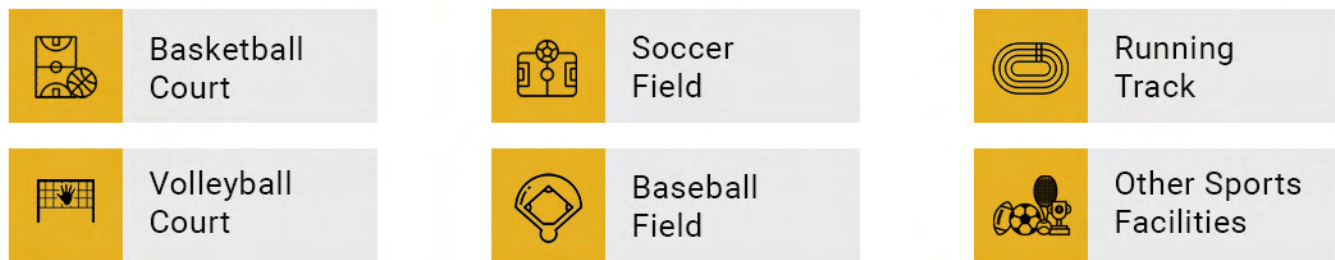
Organizational Needs Questionnaire	Result
<ul style="list-style-type: none">• It was created on PsyData and the link was shared via email.• Several student volunteers who attend private schools were given the task of making calls to school principals and helping them complete the questionnaire in interview format to facilitate the process.• School principals were contacted by phone and email.• Some school principals responded directly through the link provided while others were interviewed over the phone	<ul style="list-style-type: none">• Sixty-two (62) school principals from all 7 educational regions and grade levels throughout Puerto Rico answered the questionnaire.
Semi-Structured Interview Questions	Result
<ul style="list-style-type: none">• The school principals were contacted via phone and email, and a meeting was scheduled to conduct the interviews.• Interviews were conducted via Zoom and lasted around 30 minutes (on average).• An industrial organizational psychologist (consultant) conducted the interviews with the ABRE PR team.	<ul style="list-style-type: none">• Twenty-one (21) school principals were interviewed (one principal from each grade level: elementary school, middle school, and high school) from the 7 educational regions throughout Puerto Rico.

Results

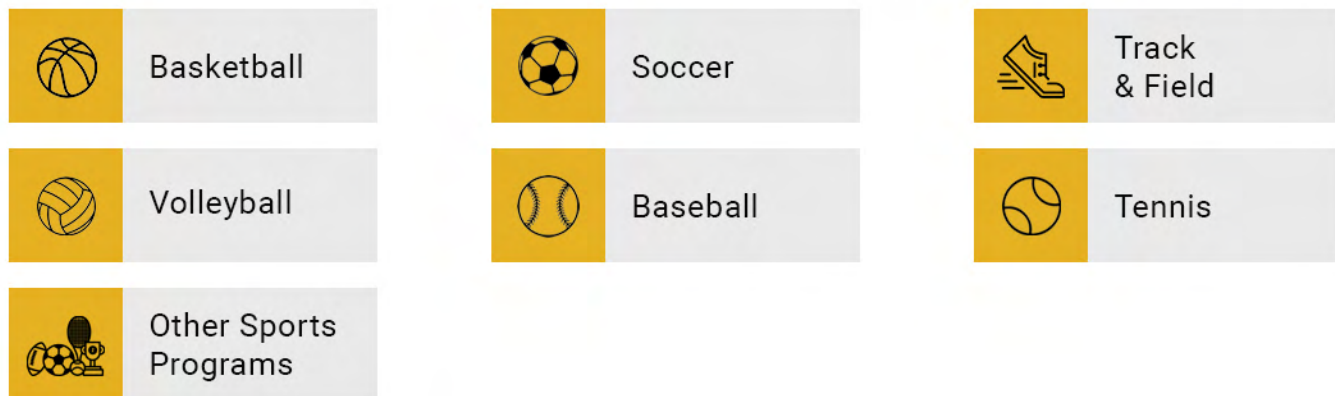
Quantitative Results - Abre Scores

ABRE PR created scores to organize and classify the information regarding sports facilities, extracurricular sports programs, fine arts programs, administrative school staff, infrastructure and services, and technological infrastructure. To create the study's scores, the premises corresponding to each abovementioned dimension were used and assigned a value of 1 if the school indicated that it had one and a value of 0 if it did not. After this process, to create the dimension score, the scores of the premises were added up and divided by the total number of premises of a dimension to obtain a proportion with a value fluctuating between 0 and 1, that were later converted to a percentage score.

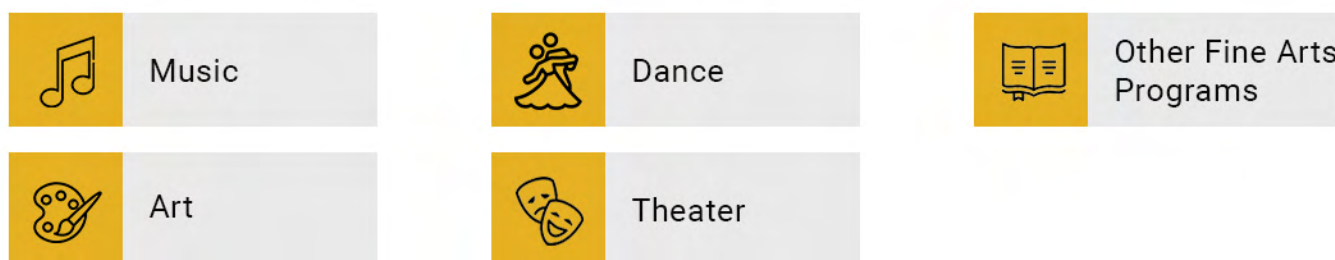
Sports Facilities Score: This dimension is comprised of 6 premises and was established to measure if a given school had usable sports facilities for its students.



Extracurricular Sports Programs Score: This dimension is comprised of 7 premises and was established to measure the quantity of extracurricular sports programs offered in a given school.












Fine Arts Programs Score: This dimension is comprised of 5 premises and was established to measure the quantity of fine arts programs offered by a given school.



Results (cont.)

Administrative School Staff Score: This dimension is comprised of 9 premises and was established to measure if a given school had a complete and active administrative staff.

 Social Worker	 Janitors	 Administrative Assistant
 School Psychologist	 Counselor	 Librarian
 School Nurse	 School Registrar	 Security Guard

Infrastructure and Services Score: This dimension is comprised of 26 premises and was established to measure if a given school has all the required infrastructural components and essential services to operate effectively.

1. Library
2. Functional computer room
3. Functional science laboratory
4. All classrooms with air conditioning units
5. Green area maintenance services
6. Cleaning and sanitary maintenance services
7. Well-painted and presentable infrastructure
8. Ramps for handicapped persons
9. Sufficient classrooms for all students enrolled
10. Equipment and tools necessary for special education students
11. Nursing services
12. Security cameras
13. School bell
14. School lunchroom
14. School lunchroom
15. Administrative offices
16. Faculty room
17. Sufficient restrooms for all students enrolled
18. Parent-teacher association
19. Curriculum aligned with META-PR tests
20. Adequate recreational space for students
21. Functional photocopier
22. Internet access for students in all classrooms
23. Internet access for teachers in all classrooms
24. Internet access in administrative offices
25. Access to technological programs for instructional support (i.e., Google Classroom, Microsoft Office)
26. At least one project or smart board per classroom

Results (cont.)

Technological Infrastructure Score: This dimension is comprised of 8 premises. It is a sub-score of the Infrastructure and Services Score solely focused on measuring technological premises.

1. Functional computer room
2. Security cameras
3. Functional photocopier
4. Internet access for students in all classrooms
5. Internet access for teachers in all classrooms
6. Internet access in administrative offices
7. Access to technological programs for instructional support (i.e., Google Classroom, Microsoft Office)
8. At least one project or smart board per classroom

General Scores					
	Min.	Max.	M	Mdn	SD
Administrative School Staff	33%	100%	74%	78%	0.13
Extracurricular Sports Program	0%	71%	24%	21%	0.23
Fine Arts Program	0%	80%	27%	20%	0.18
Infrastructure and Services	19%	96%	63%	62%	0.15
Sports Facilities	0%	83%	29%	33%	0.19
Technological Infrastructures	0%	100%	58%	56%	0.23

Note: Min. = minimum value; Max. = maximum value; M = mean; Mdn = median; SD = standard deviation.

The following is a summary of the score distributions that participating schools had in this study. The scores were converted to percentages and assigned a traditional grading system scale ranging from A to F.

Sports Facilities Score

- 3.2% of the schools scored **B**
- 4.8% of the schools scored **D**
- 92% of the schools scored **F**

Extracurricular Sports Programs Score

- 6.5% of the schools scored **C**
- 93.5% of the schools scored **F**

Results (cont.)

Fine Arts Programs Score

- 6.5% of the schools scored **B**
- 3.2% of the schools scored **D**
- 90.3% of the schools scored **F**

Administrative School Staff Score

- 4.8% of the schools scored **A**
- 22.5% of the schools scored **B**
- 25.8% of the schools scored **C**
- 33.8% of the schools scored **D**
- 13.0% of the schools scored **F**

Infrastructure and Services Score

- 8.0% of the schools scored **A**
- 11.3% of the schools scored **B**
- 19.4% of the schools scored **C**
- 22.6% of the schools scored **D**
- 38.7% of the schools scored **F**

Technological Infrastructure Score

- 3.2% of the schools scored **A**
- 12.9% of the schools scored **B**
- 16.1% of the schools scored **C**
- 12.9% of the schools scored **D**
- 54.9% of the schools scored **F**

Federal Proposals and Programs

School principals were asked if their schools have federal proposals or programs to which the majority (61.29%, n = 38) responded in the negative.

When dividing the results of schools that have federal proposals or programs by the school's proficiency, it was observed that most of proficient schools do not have federal proposals or programs (63.64%, n = 14). Similarly, most low proficient schools do not have federal proposals or programs (60.00%, n = 24).

When inquiring about which federal proposals or programs the schools have, a total of 10 different programs reported by school principals were observed. The following table presents the federal proposals or programs mentioned by the schools.

Results (cont.)

What federal proposals or programs do you have in place at your school?		
	f	%
Casa Familiar	1	7.69%
Escuela Nocturna	1	7.69%
ESSA	1	7.69%
Library Act	3	23.08%
Ofrecimiento Ocupacional Administración de Empresas	2	15.38%
Programa Aprendices de Español como Segundo Idioma	2	15.40%
Proyecto ITA	1	7.69%
Proyecto PBIS	1	7.69%
Thinking Labs	1	7.69%
TOTAL	13	100.00%

Regarding programs or partnerships with private organizations, it was observed that the majority (64.52%, n = 40) reported that they have programs or partnerships with private organizations.

We examined the number of programs or partnerships with private organizations among proficient and low proficient schools and found that many of the low proficient schools (65.00%, n = 26) have programs or partnerships with private organizations, which involves a similar proportion to the percentage reported by proficient schools (63.64%, n = 14).

Upon inquiring about the types of programs or partnerships with private organizations, it was observed that the majority are partnerships with non-profit organizations (40.54%, n = 30) followed by partnerships with universities (27.03%, n = 20), the government (17.57%, n = 13), and the private sector (14.86%, n = 11).

School Equipment and Services

The most frequently reported equipment and services include administrative offices (96.77% of schools), security cameras (93.55% of schools), school lunchroom (93.55% of schools), curriculum aligned with META-PR tests (91.94% of schools), and internet access in administrative offices (91.94% of schools). The least reported equipment and services were that all classrooms have air conditioning units (12.90% of schools), parent-teachers associations (27.42% of schools), at least one projector or smart board per classroom (35.48% of schools), equipment and tools needed for special education students (41.94% of schools), and internet access for students in all classrooms (43.55% of schools) along with internet access for teachers in all classrooms (46.77% of schools). The following table presents all the responses regarding the equipment and services that schools have available.

Results (cont.)

School Equipment and Services - Responses			
	N	%	% of Cases
Access to technological programs for instructional support (i.e., Google Classroom, Microsoft Of	39	4.21%	62.90%
Adequate recreational space for students	38	4.10%	61.29%
Administrative offices	60	6.48%	96.77%
All classrooms with air conditioning units	8	0.86%	12.90%
At least one projector or smart board per classroom	22	2.38%	35.48%
Cleaning and sanitary maintenance services	42	4.54%	67.74%
Curriculum aligned with META-PR tests	57	6.16%	91.94%
Equipment and tools needed for special education students	26	2.81%	41.94%
Faculty room	32	3.46%	51.61%
Functional photocopier	42	4.54%	67.74%
Green areas maintenance service	54	5.83%	87.10%
Internet access for students in all classrooms	27	2.92%	43.55%
Internet access for teachers in all classrooms	29	3.13%	46.77%
Internet access in administrative offices	57	6.16%	91.94%
Nursing Services	42	4.54%	67.74%
Parent-teacher association	17	1.84%	27.42%
Ramps for handicapped persons	51	5.51%	82.26%
School bell	52	5.62%	83.87%
School lunchroom	58	6.26%	93.55%
Security cameras	58	6.26%	93.55%
Sufficient classrooms for student enrollment	39	4.21%	62.90%
Sufficient restrooms for all students enrolled	46	4.97%	74.19%
Well-painted and presentable infrastructure	30	3.24%	48.39%
Total	926	100.00%	1493.55%

Note: School principals could select more than one option. Therefore, the total percent of cases surpass 100%.

Administrative School Staff

Regarding the human resources available at surveyed schools, it was observed that almost all schools have security guards (98.39% of the schools), social workers (98.39% of the schools), and school nurses (96.77% of the schools). The least that schools have is a registrar (6.45% of schools), administrative assistants (38.71% of schools), and counselors (56.45% of schools). The following table illustrates all responses regarding school personnel.

Results (cont.)

Administrative School Staff - Responses			
	N	%	% of Cases
Administrative assistant	24	5.80%	38.71%
Counselor	35	8.45%	56.45%
Janitors	57	13.77%	91.94%
Librarian	57	13.77%	91.94%
Registrar	4	0.97%	6.45%
School nurse	60	14.49%	96.77%
School psychologist	55	13.29%	88.71%
Security guards	61	14.73%	98.39%
Social worker	61	14.73%	98.39%
Total	414	100.00%	667.75%

Note: School principals could select more than one option. Therefore, the total percent of cases surpass 100%.

Personnel Needs in School

The greatest reported staffing needs in schools were teachers (46.67% of schools), followed by non-teaching staff (31.11% of schools), administrative assistants (26.67% of schools), support staff such as counselors, school psychologists, social workers (22.22% of schools), and special education teachers (13.33% of schools).

Highest Priority Resources Needs

The top priority of reported resource needs were electronic whiteboards, photocopiers, internet, air conditioning units, and computers. The following table shows the schools' priorities in terms of their resource needs.

Prioritization of Resource Needs (materials, technologies, equipment, health, etc.)		
	f	%
Air conditioning units	7	12.50%
Computers	4	7.14%
Internet	9	16.07%
Photocopiers	15	26.79%
Smart boards	21	37.50%
Total	56	100.00%

Dividing the schools by proficiency, we observed that the main needs of proficient schools were photocopiers, smart boards, computers, air conditioning units, and projectors. On the other hand, the main needs of low proficient schools were smart boards, photocopiers, internet, technology, and materials.

Resource Needs (materials, technology, equipment, health, development, etc.) by Proficiency			
Proficient		f	%
YES	Air conditioning units	3	5.77%
	Computers	3	5.77%
	Photocopiers	5	9.62%
	Projectors	3	5.77%
	Smart boards	4	7.69%
NO	Internet	6	11.54%
	Materials	3	5.77%
	Photocopiers	8	15.38%
	Smart boards	14	26.92%
	Technology	3	5.77%
Total	Total	52	100.00%

Results (cont.)

Highest Priority Infrastructure Needs

In terms of priority, infrastructure needs include leaky roofs (40%, n = 20), paint (34%, n = 17), classroom repairs (14%, n = 7), sport court repairs (8%, n = 4), and bathroom repairs (4%, n = 2). The infrastructure needs of the proficient schools focused on leaky roofs, paint, air conditioning units, classrooms, and sport courts repairs. On the other hand, the infrastructure needs of low proficient schools were paint, air conditioning units, classrooms, leaky roofs, and short column building repairs. The following table demonstrates the schools' priorities based on their proficiency.

School Infrastructure by Proficiency			
Proficient		f	%
YES	Leak roof	7	14.29%
	Paint	7	14.29%
	Air conditioning units	4	8.16%
	Classrooms	3	6.12%
	Sport court repairs	2	4.09%
NO	Paint	9	18.37%
	Air conditioning units	6	12.24%
	classrooms	4	8.16%
	Leaky roofs	4	8.16%
	Building repairs (short column)	3	6.12%
Total		49	100.00%

The number of computers available for student use ranged from 0 to 1,000, with a mean of 288.79, and a standard deviation of 206.11. On the other hand, the number of computers available for teacher use ranged from 0 to 85, with a mean of 32.03, and a standard deviation of 16.98.

Half of the schools (50.00%, n = 31) reported that they have all the necessary equipment to effectively deliver virtual classes. This raises the concern that there are still many schools that do not have the necessary equipment to effectively offer classes in this format. When dividing the results of the equipment necessary to effectively teach virtual classes by whether the school is proficient or not in this area, it was observed that 54.55% (n = 12) of the proficient schools do not have the necessary equipment to teach virtual classes, while 52.50% (n = 21) of the low proficient schools indicated that they do have the necessary equipment to effectively teach virtual classes.

Additional Relevant Findings

Most schools (51.61%, n = 32) reported being between very satisfied and satisfied with the agency maintenance services offered by OMEP and PBA at their schools. However, 48.39% (n = 30) of the schools reported being between very dissatisfied and dissatisfied with these agency maintenance services.

On the other hand, 59.09% (n = 13) of proficient schools are between satisfied and very satisfied with the agency maintenance services at their schools, while 52.50% (n = 21) of low proficient schools are dissatisfied or very dissatisfied with agency maintenance services in their schools.

Results (cont.)

How satisfied are you with the services of the previous agency?					
Proficient		f	%	Valid %	Cummulative %
YES	Very Satisfied	2	9.09%	9.09%	9.09%
	Satisfied	11	50.00%	50.00%	59.09%
	Dissatisfied	6	27.27%	27.27%	86.36%
	Very dissatisfied	3	13.64%	13.64%	100.00%
Total		22	100.00%	100.00%	
NO	Very Satisfied	5	12.50%	12.50%	12.50%
	Satisfied	14	35.00%	35.00%	47.50%
	Dissatisfied	11	27.50%	27.50%	75.00%
	Very dissatisfied	10	25.00%	25.00%	100.00%
Total		40	100.00%	100.00%	

Most of the principals surveyed (53.23%, n = 33) consider that their teachers do not have all the necessary materials to be able to teach their students. The school principals surveyed consider the overall quality level of the teachers at their respective schools to be excellent (51.61%, n = 32) or good (48.39%, n = 30). On the other hand, with respect to the number of complaints received by principals regarding the performance of their school's teachers, the majority (80.65%, n = 50) indicated that they receive few or no complaints in this regard.

Most principals (53.23%, n = 33) indicated that they believe that parents of students in their schools show interest in their children's academic achievements. Dividing the result by the proficiency of the schools, we observe that 63.64% (n = 14) of the proficient schools consider that the parents of the students in their schools show interest in their children's academic achievements, while 52.50% (n = 21) of the low proficient schools indicated that their students' parents do not show interest in their children's academic achievements. This demonstrates what school principals indicated as the problems that mostly affect students' academic performance; according to those surveyed, issues with students are due to the parents' lack of interest in their children's academic performance (64.52% of principals), lack of student motivation (58.06% of principals), and student absence (48.39% of principals).

Concerning other related topics, principals were also asked about the number of hours they work during a typical week. Principals reported working for up to 80 hours a week and an average of 50 hours per week (Standard Deviation = 13.14). Many school principals (98.39%, n = 61) indicated that they perform tasks that are not part of their job description. Similarly, most principals (88.71%, n = 55) indicated that they perform work tasks at home in their free time. Regarding the sense of personal valuation, 90.32% (n = 56) of principals indicated that they do not feel valued by the PRDE. In addition, 98.39% (n = 61) of los school principals indicated that they feel they are not being fairly rewarded for the work they do. Most principals (77.42%, n = 48) indicated that they and their colleagues cannot influence decisions made by the regional education office regarding their schools. Similarly, 88.71% (n = 55) of principals indicated that they and their colleagues cannot influence the decisions made by the PRDE regarding their schools. As to the frequency of meetings with school faculty members, principals indicated that they meet on a weekly (43.55%, n = 27) and monthly (40.32%, n = 25) basis.

Results (cont.)

Qualitative Results

The qualitative data collection involved a series of semi-structured questions that were asked to school principals. Below is a summary of the most relevant findings for each of the questions asked:

Principal Qualitative Findings		
% of schools	Category	Definition
What would you say are the five most important/immediate needs your school has?		
85.71%	Infrastructure	Solving the schools' structural problems such as leaky roofs, electricity, maintenance, paint, damaged sport courts, etc
47.62%	Technology	Lack of technology materials such as computers, televisions, smart boards, etc
47.62%	Material & Equipment	Lack of photocopiers, duplicators, and related equipment and faster delivery of said materials.
Do you have access to obtain and/or availability of materials and equipment necessary for the operation of your school?		
42.86%	No access to or availability of materials and equipment	Principals feel that they do not have the necessary access to obtain and/or availability of materials and equipment, which causes great frustration and affects the schools' operational performance.
38.10%	Access to materials and equipment	Openness in principals having access school materials and equipment.
Does your school receive support from organizations, federal proposals, or private partnerships?		
52.38%	Do not receive support	Principals stated their schools do not receive any aid from organizations, federal grants, or private partnerships.
38.10%	Receive services, materials and equipment from alliances.	Collaboration with private, non-profit, or public organizations that school principals receive or develop to obtain services for their schools. Alliances through which school principals collaborate by supplying materials for their schools. Partnerships between schools and various organizations through which lectures and workshops are provided for the school community.
How do parents or the community support each school to work with its specific needs?		
47.62%	Significant parental support	Principals consider they have a significant parental participation in their schools' regular and extracurricular activities.
38.10%	Life support	Collaboration with private, non-profit, or public organizations that school principals receive or develop to obtain services for their schools
14.29%	Volunteer parents	Principals seek and have parents that can volunteer to help with cleaning, maintenance, guarding students during recess, and function as teacher assistants to complete teaching duties.

Results (cont.)

What things do you need to better manage your school as a principal?		
52.38%	Non-teaching human resources (administrative)	Principals believe it is necessary for all schools to have additional non-teaching staff such as vice-principals and special or administrative assistants to satisfy administrative and academic needs.
19.05%	Support	Assistance received by school principals for their school through parents, regional education offices, and other organizations.
Is it necessary to have greater autonomy over certain school factors? Which ones?		
71.43%	Autonomy to manage the budget as a whole	School principals believe that they should be able to manage the budget based on the needs their schools have.
66.67%	Administrative and academic autonomy	Principals would like to make administrative, managerial, and academic decisions regarding their schools and eliminate PRDE's bureaucratic procurement processes.
52.38%	Selection of human resources for the satisfaction of school needs	School principals believe having autonomy to select the staff who works in their schools will be of great benefit.
What do you understand your school and students need to achieve success?		
38.10%	Equipment for motivational purposes, tools, and materials	Principals consider that various things are needed to keep students motivated, including equipment and materials such as balls for sports, musical instruments, among other items, aside from the current needs they mentioned throughout the interview.
23.81%	Technology	Principals understand there is a need for technological equipment for students to achieve success.
Do you think that obtaining the necessary budget to cover your current needs would improve the quality of education and students' overall performance?		
100.00%	Needs satisfied would improve education.	Principals believe that by covering the needs of their schools, students and teachers would improve their overall performance as well as the quality of education offered.
Which competencies (knowledge, skills, and abilities) do you understand Puerto Rico's school principals need to effectively run a school?		
47.62%	Leadership	Capacity to influence and motivate others to achieve goals
23.81%	Communication	Ability to keep parents, teachers, and other members of the school community informed

Results (cont.)

What would you say are the 5 most important/immediate needs your school has?

The answers to this question demonstrated the five main needs that schools have. Among these needs, the top three mentioned by principals were infrastructure, technology, and equipment and materials. When infrastructure needs were mentioned, they were related to roofs, doors, receptacles, infrastructure maintenance, etc. Technology needs refer to having access to a stable internet connection, computers, televisions, and smart boards, etc. Last but certainly not least, the need for equipment and materials refers to the need for photocopiers, duplicators, and necessary equipment. Moreover, school principals also mentioned the need for orders placed with suppliers and approved by the PRDE to be delivered in a timely manner, as it sometimes takes an entire year to receive the necessary merchandise and materials.

Do you have access to and availability of materials and equipment necessary for the operation of your school? How? What is the process that was implemented to meet those needs internally or externally (inside or outside the department)?

This question seeks to know the access and availability school principals have to obtain the necessary materials and equipment for the efficient operation of their schools, and the motivation or demotivation that the lack of educational materials can cause for teachers and students. We can see that most of the schools do not have good access to the necessary materials for their effective operation. In addition, many talk about the PRDE's inefficient process to approve procurement processes and how materials are not delivered after all.

Does your school receive aid from organizations, federal grants, or private partnerships? Which ones? How did you get them?

We were able to evaluate the aid each school receives, whether from organizations, federal proposals, or private alliances. Most of the schools reported that they do not have federal proposals, but they do have some private alliances and receive help from organizations (even though most of these are not in the way of financial aid or donation of materials) and other alliances for talks and orientations. Most of the principals talked about wanting and needing more support in this area but they do not know where to obtain information on the matter.


How do parents or the community support the school in addressing these needs?

By asking this question, ABRE PR wanted to know how parents and the community support the principals of each school so that their needs can be met. Most principals indicated that they receive a lot of support from parents in extracurricular activities and during regular class periods, while others indicate that parents dedicate little time to the education of their children. Meanwhile, others tell us about parent volunteers who provide maintenance to the school, help clean the classrooms and bathrooms, look after the students during recess, and act as teaching assistants.

What things do you need as a principal to better manage the school? Do you believe it is necessary to have greater autonomy or control over certain school factors? Which ones?

ABRE PR intended to find out what needs a principal requires for the adequate management of their schools and if they believe it is necessary to have greater autonomy over some school factors and, if so, in which areas they would need greater autonomy.

Results (cont.)



The principals interviewed indicated that their greatest need is for personnel who can help them with administrative work, such as assistant principals and special assistants so that they can pay attention to other relevant matters as well as pending administrative work. Most principals emphasized the need for autonomy in budget management to be able to provide their schools with everything they need in both financial and administrative terms. They also noted that there is a need for academic autonomy, where their teaching curriculum can be adapted to the needs of the students per school as well as autonomy in the selection of staff to choose the personnel they will keep in their schools.

What do you understand your school and students need to be successful?

This question is meant to have principals consider what their schools and their students need to achieve the greatest success possible. Those interviewed were inclined towards the need for equipment and motivational materials as well as equipment and tools for good class development, such as tennis balls for physical education classes and instruments for music classes.

Financially, what budget does your school need right now to cover its needs? If you obtained that money, how and on what would you use it? Do you think this would improve the quality of education and student performance?

This question seeks to find out how much money the principals interviewed would need to cover their schools' needs, how the money would be used, and whether it would improve education and student performance. The amounts of money needed ranged from one thousand dollars to six million dollars, although it can also be perceived that many of the principals have a lack of financial knowledge. They indicated that they would use the budget to cover the most important school needs. However, they did recognize that being able to meet their school's needs would help improve the quality of education and student performance.

What competencies (knowledge, skills, and abilities) do you understand that school principals in Puerto Rico need to effectively lead a school?

This question intends to reveal the knowledge, skills, and abilities that the principals interviewed understand school principals must have to effectively manage schools in Puerto Rico. Each one presented the competencies they considered necessary from their point of view, but we can see that many agreed that communication, leadership, technology management, being an active listener, being a good administrator and being committed to their work are the most important.

Conclusions

The objective of this study was to identify the needs of public schools according to principals in Puerto Rico. ABRE PR was interested in knowing and revealing what needs were daily encountered by school principals in terms of health, organization, and competencies. In this study phase, data was collected regarding the organizational needs of public school principals. Both the second and third phases of the health and competency needs of school principals will soon be completed to develop the profile of an effective school principal.

In ABRE PR's recent study,⁵ the completed analysis confirmed the complexity of the public school system. In other words, although public schools operate under a highly centralized system, schools respond to their immediate context. This means that local conditions, along with the internal reality of each school, are strong drivers of academic achievement. Therefore, although school principals have similar needs, these are determined by the school's geographical area, its population, and its infrastructural conditions, among other important and unique factors.

General Observations

This study managed to confirm that school principals believe they are severely lacking in basic resources and materials to provide a healthy environment for teachers and students and improve academic achievement. ABRE PR's last study suggested school principals with similar needs and conditions faced these challenges in different ways. Puerto Rico's public school system does not offer a path or adequate process to face different situations, in addition to not having the necessary autonomy to make decisions about them. School principals use their creativity when it comes to problem solving or having to satisfy some of their needs. The school principals surveyed and interviewed for this study demanded greater autonomy in the areas of administration, finances, and recruitment of personnel (for teaching and non-teaching staff). This lack of autonomy leads them to create various options and design coping mechanisms for them to meet these needs, which helps ABRE PR reach the conclusion that school principals in Puerto Rico are well prepared but have little autonomy to make significant changes. However, the preparation and professional training that these school principals is not always in par with Puerto Rico's current reality and what the student population needs.

As in a previous study⁶, ABRE PR understands that these creative, different, and informal responses, which are outside the rules and regulations prescribed by the central system, denote a policy gap for issues that require a greater degree of school autonomy.

One common thread found through the collected data is that principals feel they cannot influence the decision-making processes of their region or the PRDE central offices regarding their schools. There also seems to be a general agreement that the procurement processes to get materials and resources to cover their different needs is ineffective. These finding might be one of the explanations of why most principals must develop creative, different, and informal responses to fulfill the different needs their schools have (as mentioned above).

In addition, school principals feel they are not being paid adequately or fairly, as their salaries do not compensate for all the work they do and the salaries have not increased in proportion with their ever-growing workload. And they are not that far from the truth.

⁵ Education Gap Analysis: A Case Study Approach, 2020, by ABRE Puerto Rico. <https://www.abrepr.org/es/brecha-en-educacion>

⁶ Education Gap Analysis: A Case Study Approach, 2020, by ABRE Puerto Rico. <https://www.abrepr.org/es/brecha-en-educacion>

Conclusions (cont.)

In 2014, an investigation at a primary school in the Philippines, similar to the one ABRE PR is conducting, concluded that, according to national policies and standards, principals had the authority and responsibility to:⁷

- 01 Establish the mission, vision, goals, and objectives of the school;
- 02 Create an environment within the school that is conducive to teaching and learning;
- 03 Implement the school curriculum and be accountable for the best learning outcomes;
- 04 Administer and manage all the personnel, physical, and financial resources of the school;
- 05 Offer educational programs, projects, and services that provide equal opportunities for all students in the community;
- 06 Introduce new and innovative modes of instruction to achieve better learning outcomes;
- 07 Administer and manage all the personnel, physical, and financial resources of the school;
- 08 Recommend the complement of school personnel based on their needs;
- 09 Encourage staff development;
- 10 Establish school and community networks and encourage the active participation of teacher organizations, non-academic public-school personnel, and parent-teacher-community associations;
- 11 Accept donations, gifts, bequests, and grants to enhance the competencies of teacher learning facilitators, improve and expand school facilities, and provide instructional materials and equipment. Such donations or grants must be reported to the appropriate district supervisors and division superintendents; and
- 12 Carry out other functions that are assigned by the corresponding authorities.

Puerto Rico is not far from all the items the Philippines include in their list of responsibilities. The obligations of school principals are varied and broad, covering many, if not all, administrative areas. Every day, with each new policy or because of a natural emergency event, the functions of school principals increase, but not their financial remuneration.

⁷ Philippine Basic Education, "What Principals Do That Works", January 2014 <https://www.philippinesbasiceducation.us/2014/01/what-principals-do-that-works.html>

Conclusions (cont.)

In addition, ABRE PR's results show that the overwhelming list of 462 infrastructure, materials, and equipment needs that the schools from the established sample have (determined through limiting their answers to pick their top 5 needs) are consuming a lot of time and energy from the principals who were interviewed. ABRE PR's scores, which are presented in the Results section, reflect the poor conditions of these schools in the areas of infrastructure, technology, personnel, and sports facilities. As a result, principals spend more time covering all their essential needs to operate in a safe environment and have less time to work on the academic improvement of the schools they manage.

Coping Mechanisms for Diverse Needs

ABRE PR's study suggests there are policy tools that can be established to meet the needs of principals and their schools if the experiences or coping mechanisms are systematized into concrete policy actions. Measures that could be considered to attain this goal could include new and effective procurement procedures and processes that encourage school principals' active involvement in human resources decisions, among others.

While these measures take shape, principals are developing or encouraging unique initiatives and becoming part of alliances and processes to address their needs. Moreover, the needs assessment showed that although schools have different needs, most of these needs fall into the category of infrastructure, technology, and essential services. In other words, schools are overwhelmed with these types of needs and principals spend so much time dealing with administrative concerns that the academic and educational areas are overlooked or not given their due attention.

As to school principals, they rely on their own efforts to meet their needs and on strategies that do not depend 100% on obtaining PRDE's help or approval. They understand that there is little or no support they receive from the PRDE and its regional education offices and that their salaries are inadequate, which make it difficult to attract suitable candidates. School principals feel undervalued and have overwhelming needs in a "centralized" system that has not shown any signs of change in the past three years towards meeting all the listed needs. However, proactive school principals, who are also effective instructional leaders, create or allow the creation of mechanisms to meet these needs.

Federal Proposals and Programs

One of the findings of the latest Education Gap Analysis study from ABRE PR was that principals from high proficiency schools who had been interviewed understood that they were not getting additional help from NGOs or federal grants. They felt that most of the proposals or alliances that were implemented through the PRDE were targeted to low proficiency schools. Although this new study showed that the proportion of schools with federal programs or proposed partnerships is quite similar between high and low proficiency schools, low proficiency schools reflected a higher percentage (of 3.64%) of programs and general proposals compared with high proficiency schools. At the DEPR, recurrent federal funds are used to implement diverse school improvement initiatives as suggested by the applicable law. It is worth noting that school librarians participate in the largest proportion of existing federal alliances.⁸ Some of the alliances that these librarians pursue hope to gain continuous access to an immense variety of books, but other proposals are also geared to equip libraries as learning centers.

⁸ 23.07 % of schools participate in federal proposals that benefit Library programs within the schools; followed by programs for Spanish as a second language and business administration programs with 15.38% of schools each.

Conclusions (cont.)

School Resources and Services

It is incredible to think that on a tropical island like Puerto Rico only 12.90% of the main schools interviewed indicated that they have air conditioning units in their classrooms. Some school principals interviewed complained that the few equipment purchased was damaged due to humidity and heat. Others commented that students could concentrate better on their lessons if they did not experience so much heat and humidity inside the classrooms.

Also, more than half of the schools surveyed do not have internet access in all classrooms or the equipment and tools necessary for special education students.

Some principals indicated that through last year's emergency education funding provided and allocated by the CARES Act to the PRDE, they have been able to obtain many of the materials that they currently have. They commented that the budgets assigned to their schools do not cover their entire needs. The inadequacy of schools' budgets has led to the creation of school COOPs or informal sales of food or t-shirts to cover their needs. Some receive donations from parents or private companies, but only 27.42% of the schools surveyed have a parent-teacher association (PTA), which makes it difficult for them to organize parents to carry out activities and get the necessary funds to cover their needs. Most of the principals interviewed indicated that both they and the teachers had to buy teaching materials and equipment with their own money.

Assigned School Personnel

While more than 98% of the principals surveyed indicated to have security guards at their school, many of them have part-time shifts. Not all schools have a security guard on shift early in the morning to make sure students have a secure transition to their respective school buildings. Also, during dismissal time, sometimes a security guard is no longer available. This is where principals come in with another function: welcoming students to school early as they have no security and making sure students, especially elementary students, leave with an authorized adult to pick them up in the afternoon when they leave. In addition, some principals, depending on the location of their security guard to guarantee students' and staff members' safety. On the other hand, the 2% of schools that do not have security guards have an even greater concern for the safety of their students.

Another high percentage of the answers on personnel concerns turned out to be about nursing services. A 96.77% of schools have nurses, but some schools do not have a nurse. As to a nurse's office, one of the principals interviewed told us that, on many occasions, she had to give her office to the nurse to take care of students who needed her services because they had nurses assigned to their school, but they didn't even have an infirmary or with space available to enable it. Another principal mentioned that they were placing the school nurse in a room without an air conditioning unit and expected to receive some of the used equipment donated by a nearby hospital that was being remodeled. Another school principal commented that they had a nurse and the space available for an office, but they did not have the nursing equipment so that she could tend to the students.

As for staff offering student services and support such as counselors and administrative assistants, very few of the schools surveyed have them. Only 6.45% of the schools have a registrar and administrative assistant. 37.71% have an administrative assistant. School principals feel that the lack of administrative staff increases their workload even more and limits the time they need to deal with academic matters. As reflected on the Administrative School Staff Score developed by ABRE PR, most schools scored D since they do not have a complete team and are needing at least two positions to fill.

⁹ 23.07 % of schools participate in federal proposals that benefit Library programs within the schools; followed by programs for Spanish as a second language and business administration programs with 15.38% of schools each.

Conclusions (cont.)

Personnel Needed in Schools

Since 1993 all existing education acts, including the Puerto Rico Education Reform Act 85-2018, as amended, have included the term principals' autonomy and what could be their redefined roles. However, real autonomy has yet to arrive. When vacant positions need to be filled, school principals do not participate in the selection and recruitment of those eventually hired, even when they are the ones who know the qualities and capacities that such personnel require. If school principals participated in the selection of teachers and other non-teaching personnel, they would have the required qualities to meet the needs of the schools for which they are recruited. A 46.67% of the 62 schools surveyed need teachers, but there is no process for these schools to participate in recruitment processes, except for teachers that will conduct special classes in specialized schools.

The lack of active participation in significant decision-making processes and the lack of fair and equitable salaries for the functions they perform mean that the school principals interviewed and surveyed do not feel valued by PRDE.⁹ Principals complained about training the selected teachers for a year or two only for the PRDE to transfer them from the school without consulting them or the teachers themselves. They also mentioned that there are times when PRDE transfers their teachers from their school, but they continue to use their specific school's budget to pay them. According to these principals, special education students are the ones who are most affected by these changes. Due to their condition, especially when it comes to autism, they find it difficult to relate to a teacher and when they do, the PRDE transfers them.

Highest Priority Resources and Infrastructure Needs of the Surveyed Principals

The technological equipment and infrastructure need of the surveyed or interviewed principals demonstrate how a nonefficient procurement process and the absence of a functional facilities maintenance department within the PRDE affects the quality of education and the well-being of the school community. ABRE PR scores showed most schools have an F in these two categories.

Principals say that delivery of materials usually takes between two and three months, if they arrive at all, since there is no guarantee of delivery. In addition, there is a gap in the quality of the products that are purchased since products do not meet the expectations of what is required. They mentioned that, in the past, because of a credit card they had assigned to the school's budget, the purchase process was easier and faster. They made three quotes and bought at the best offer. Everything occurred at the school administrative office level, which was more efficient as the completion of the entire process lasted between just one to two weeks. Materials that did not meet expectations were immediately returned to the supplier, granting principals or those in charge of procurement the ability to ensure quality on everything acquired. Now they must submit the requisition for a purchase order to be created; if the requisition is approved by the buyer at the regional level, the central level office gives its approval, and the order is finally dispatched. When materials finally arrive to a school, if they are the wrong ones or are found in poor condition, the return process is completely bureaucratic, to the point where materials take so long that there is little chance of getting them returned or even obtaining a credit to the school's budget. **The PRDE does not have (1) a list of materials that meet the needs of the schools or (2) a study of the needs of materials in schools.**

⁹ 90.32% indicated that they do not feel valued by the PRDE and 98.39% indicated that they feel they are not being fairly rewarded for the work they do. 77.42% indicated that both they and their colleagues cannot influence the decisions made by regional education offices (ORE, by its Spanish acronym) regarding their respective schools.

Conclusions (cont.)

These credit cards are no longer in use because the Puerto Rico Accounting Law prohibits government agencies and employees from having credit cards, but the process that replaced them has been inefficient. The PRDE purchasing processes suggest that schools should have a principal, a secretary, and an administrative assistant to reduce process errors. But many of the schools do not have the necessary administrative staff, having to ask for support from teachers or, instead, principals keep increasing their workloads and opt to do it alone.

The COVID-19 pandemic has caused some school principals to feel concerned¹⁰ about the following: (1) not having the necessary equipment to effectively offer hybrid, in-person, and virtual classes; (2) that their teachers do not have all the necessary didactic materials to be able to teach students,¹¹ and that there aren't enough materials for fine arts programs, specialized schools, and Montessori schools; and (3) that some schools do not have photocopiers and other essential equipment.

The PRDE submitted a form¹² that covers the period from August 2020 to June 2021 titled "Activities and Budget Distribution Model Form," ("Modelo de actividades y distribución de presupuesto") about the needs of the schools and the plans to cover them and achieve the established goals. If this form is completed correctly and plans and processes are implemented, school principals may be able to meet their needs. An additional study would be required to determine if the model form works and benefits schools.

¹⁰ 83.87% indicated they are dissatisfied with the budget amount assigned to their schools to cover their needs.

¹¹ 53.23% consider their teachers do not have all the necessary educational material to be able to teach.

¹² Puerto Rico Education Department, "Modelo de actividades y distribución de presupuesto," 2020-2021.

Public Policy Recommendations

As part of ABRE PR's long tradition of contributing to Puerto Rico's public policy debate, the organization has developed several policy suggestions that could assist the PRDE and other organizations in the process of developing new strategies, particularly when analyzing, designing, and implementing proposals.

The following are a series of general and public policy recommendations based on ABRE PR's data analysis and specific suggestions from participants. Data from its case study¹³ and previous field research were also taken into consideration for these recommendations.

1. Create a mentoring program among school principals so that successful principals can guide other principals from schools with higher needs.

After gathering data on the needs that schools have and doing performance appraisals with the school principals, an internal mentoring program could be created. This program should be specialized and focused on principals' needs as well as the creation of an individual professional development pathway for the role. This initiative is necessary for their personal improvement and would help promote effectiveness when performing their work. ABRE PR's data shows that although school needs tend to be dependent on their own environment, some of the initiatives and processes that principals have put in place could help others with their specific needs. In addition, a program like this can help provide a space for principals to obtain support from colleagues in areas that are specifically identified as improvement opportunities. In ABRE PR's interviews, some principals showed disposition to share and teach others what they do. On the other hand, other school principals expressed their desire on wanting to learn how to prepare grant proposals and create partnerships, alliances, and fundraising initiatives. In addition, professionals specialized in school, administrative, and human resources management should be integrated in the program for those principals who need additional support in those specific areas where further development will be of great benefit.

2. PRDE should share and communicate the entire reconstruction and maintenance plan to its 7 regional education offices (ORE) to guarantee all school principals are aware of the reconstruction proposed timeline for their schools.

It is imperative that all school principals are informed on when their schools will undergo repairs and the expected proposed timeline. The existing plan should be shared and communicated to all regions, so every school is adequately informed. This will help to manage their expectations and create a sense of demand towards what students deserve.

3. Using administrative platforms, school principals should promote and communicate strategies and best practices for other principals to emulate; this will create effective learning communities between schools.

Schools have many innovative projects that are unknown to the general population and the rest of the country's school community. An effective communication strategy must be developed between schools so that these initiatives can be imitated. The PRDE has administrative platforms that schools could use as a repository of best practices and innovative programs and projects so that other communities can emulate them.¹⁴ Within learning communities, it is common to see exchanges of best practices between members, sharing all kinds of valuable resources and feedback.

¹³ "Educational Gap Analysis: A Case Study Approach" (2020), p.67 [https://www.abrepr.org/es/brecha-en-educacion.business administration programs with 15.38% of schools each](https://www.abrepr.org/es/brecha-en-educacion.business%20administration%20programs%20with%2015.38%25of%20schools%20each).

¹⁴ 6 Benefits of a Connected School Community (schoolbox.com.au); <https://schoolbox.com.au>

Public Policy Recommendations (cont.)

Therefore, having resources available for principals to share their experiences will promote collaboration throughout schools, resulting in the implementation of efficient instructional strategies and promotion of effective learning.¹⁵ By facilitating communication between schools and sharing positive results, Puerto Rico's public school system will benefit and be greatly impacted, which will get the attention of stakeholders that could promote public policy or system level changes.

4. Creation of a detailed definition of a school principal's role, including what should be expected from a school principal if you are teacher, parent, or a student.

Because school principals play a key role in creating effective learning environments through their influence on factors such as teacher development and cooperation, motivational strategies, working conditions, and the entire school environment in general (for teachers, students, and parents), it is important to provide a detailed definition of what the school community and the PRDE expect of an effective school principal.

Although the tasks and basic responsibilities of a school principal should be to manage all the personnel, human, and financial resources of a school, it is no less important to ensure effective learning at all levels. As part of this expectation, a school principal's profile must include all the necessary competencies (qualities and skills) needed to be an effective school principal to manage a diverse number of matters in a school.

5. Creation of a vice-principal position or a school administrator, which focuses on addressing administrative management matters to deal with the great number of tasks that every school principal has to currently manage.

By adding a management resource to each school's staff, school principals could focus on addressing the academic needs of students by offering more support to teachers through classroom visits, frequent constructive evaluations, and ensuring effective professional development for all staff members. The creation of this position will relieve the burden on current school principals by allowing more space to fulfill the expectations of the PRDE's new academic recovery plan in its attempt to solve the academic delay caused by the COVID-19 emergency. Moreover, school principals will have time to be on the lookout for new public-private partnerships.

6. Ability to make decisions regarding administrative and financial matters, including hiring processes of both teaching and non-teaching staff.

Every school principal should have the responsibility and the right to recommend the human resources required by their school (according to its needs). Any request and recommendation must have reasonable justification for proceeding with the hiring of or agreements with the school staff/faculty. Staff turnover, without consulting a principal or considering a principal's evaluations of their staff, discourages them and could disrupt the learning process, especially for special education students.

This confirms that the principal and their team are the ones that will have overall mastery and knowledge of what happens in their school and what could work to benefit or harm its environment. But to be a genuine leader, the principal, together with the school council, must be able to make certain decisions related to the school's administrative matters, which would require administrative autonomy and the set of new responsibilities and leadership skills that go with it.¹⁶

¹⁵ Key Concept: Learning Communities (harvard.edu); <https://developingchild.harvard.edu>

¹⁶ Castillo Ortiz, A. (2000). Administración educativa: técnicas, estrategias y prácticas gerenciales, San Juan, PR: Publicaciones Puertorriqueñas.

This new school principal role would involve school-based management (SBM). It is a database management system based on improving student achievement, empowering the school community, and decentralizing decision-making processes. Under an SBM system, school principals must guide the school community towards the established goals and acquire additional leadership skills. In studies carried out by Ingram in 1997,¹⁷ it was concluded that teachers were more motivated under the figure of a transformative leader because it offered them the possibility for them to become leaders as well. This way, the entire school community becomes a better environment for learning and development. Principals becoming school leaders would refer to them being recognized as professionals with advanced specialized knowledge. Therefore, they are expected to do their job effectively while striving to improve their skills throughout their career, collaborate with their colleagues and parents to work towards school improvement, and think creatively about the challenges they face. However, if teachers and school leaders are expected to act as professionals, they should be treated as such.¹⁸ The PRDE has to offer them the tools, simple and effective processes, and the opportunity to utilize their leadership skills.

On the other hand, the needs of schools vary according to their level, population, geography, and teaching equipment. Despite having a similar curriculum, needs can vary between different schools, from elementary to the high school level. If a school is located on the coastal area of the island, it may also have different needs than a school located in the mountainous region of the island. Moreover, needs may vary if the school has a large population of special education students or a program that is geared towards their education, and if the school has high-tech or highly outdated equipment.

Therefore, principals must have the administrative and financial autonomy Law 85 refers to. The implementation of full autonomy will take time and a long adaption process. Yet, while it is fully implemented, school principals should actively participate in the selection of materials and equipment from the product catalog the PRDE makes available for procurement purposes. In addition, the Department of Education should take into consideration the principal's opinion by asking their suggestions when deciding how funding should be distributed within each school budget.

"At the same time, the regional education offices shall grant greater autonomy to the schools so that they, within the framework of this Act, the public policy of the PRDE, and the regulations promulgated by the Secretary of Education, may implement such measures as may be pertinent and adequate to serve their enrollment and the particular characteristics of their demographic region."

"To employ the autonomy conferred in matters of: 1. Supervision and administration of school personnel, to achieve established goals; 2. Adaptation of educational programs to better serve the interests of the students, after consultation with the Regional Superintendent; 3. Administration of the resources assigned to the school; 4. Development of plans for the internal security of the school and a process to refer to the Department of Family Affairs and inform the Secretary, or any other competent authority, of child abuse cases detected in the school and provide follow up."

"The Department shall grant autonomy to the Regional Superintendent for the distribution of funds to schools, which shall be governed by the general guidelines promulgated."¹⁹

¹⁷ Ingram, P.D. (1997). Leadership behaviors of principals in inclusive educational. *Journal of Educational Administration*

¹⁸ Talis 2018 Results (Volume II), https://www.oecd-ilibrary.org/education/talis-2018-results-volume-ii_19cf08df-en

¹⁹ Puerto Rico Reform of Education Act, Law 85-2018

7. Conduct a job analysis to evaluate school principals' scale salaries, responsibilities, and necessary competencies for the job.

Principals not only feel they are ignored when having to make any kind of decisions about their school, but also believe that the demands of their role are not on par with their perceived salaries. The academic preparation and the number of skills and competencies required for their position are increasing while their salaries remain the same. As of today, PRDE has a D-16 form which contains the roles and responsibilities of a school principal. This form²⁰ was last updated around 2008 and is based on a law that is no longer active (Law 149, Organic Act for the Department of Education of Puerto Rico). Because of this, and all the data collected through this investigation, ABRE PR recommends that the PRDE conducts a Job Analysis where, among other things, the department can be able to determine:

- The necessary competencies (knowledge, skills, and abilities) required for the job.
- The tasks that principals need to perform to effectively operate a school.
- The internal and external job market status to establish the appropriate remuneration for the \ position.
- Alignment with the proposed framework of the current and applicable Law 85-2018.

This analysis should be done by integrating current principals in the process to guarantee that all their current needs and special circumstances are considered.

²⁰ Form DE-16 (Job Description) of School Principal; DE-16 del director de escuela.pdf (dde.pr)

Further Research


Additional research is required to analyze the health and competency needs of public school principals on the island. As mentioned earlier, the objective of this study was to identify the needs of these principals. These needs were categorized into three areas: organizational needs, health needs, and competency needs. Organizational needs correspond to the first phase of this study. Health and competency needs are part of the second and third phase and they are not thoroughly discussed in this report. These two additional phases of the study are expected to be completed soon and will aim to accomplish two important goals:

- Carry out an investigation with statistical predictive models of mediation and moderation to assess which health variables are either taking a toll on or helping principals in doing their job. These types of models have yet to be used in educational research in Puerto Rico and could provide great insights concerning the necessary health factors that must be taken care of for the well-being of Puerto Rico's public school principals.
- Create the ideal profile that enables the identification of the necessary competencies and skills public school principals in Puerto Rico require to achieve the expected success in terms of academic performance and quality education.

Glossary

1. **Academic proficiency:** percentage score that demonstrates the academic performance of a school, based on its META-PR tests results.
2. **Autonomy:** power granted to public schools to make decisions on their academic, financial, and administrative matters within the limits established by law (Law 85-2018).
3. **Competency:** possession of sufficient knowledge or skills.
4. **COOP:** a store that is managed by the school council, which must approve the income and expense budget for a school to spend that money according to current regulations.
5. **High proficiency school (HPS):** a school which has an academic proficiency of 66% or higher, as computed by the META-PR ABRE score.
6. **Infrastructure:** schools' basic services, physical facilities for teachers and students, educational resources, and materials for effective organizational operation.
7. **Low proficiency school (LPS):** a school which has an academic proficiency of 65% or lower, as computed by the META-PR ABRE score.
8. **META-PR tests:** standardized tests used in Puerto Rico to evaluate students' academic performance and measure the quality of the educational processes. They are part of the Measurement and Evaluation for the Academic Transformation of Puerto Rico system ("Sistema de Medición y Evaluación para la Transformación Académica").
9. **Office for the Improvement of Public Schools (OMEP):** agency in charge of the grounds and maintenance and repair of school buildings.
10. **Parent-teacher association (PTA):** an organization led by the parents of the community to collaborate and contribute to school initiatives and activities.
11. **Philippine Basic Education:** a blog that tackles issues on basic education (in the Philippines and the United States) including early childhood education, the teaching profession, math and science education, medium of instruction, poverty, and the role of research and higher education.
12. **Public Buildings Authority (PBA):** agency in charge of public buildings structures and gardens, as well as plumbing, electric system, and everything else that entails labor or repairs.
13. **Puerto Rico Department of Education (PRDE):** public agency in charge of Puerto Rico's public education system.
14. **Puerto Rico Education Reform Act (Law 85-2018, as amended):** public policy of the Government of Puerto Rico in education that develops the framework for the public education system.

Glossary (cont.)



15. **Regional education offices (ORE):** administrative offices that gives direct support to schools and serves as a liaison between the schools of an assigned region and the PRDE's central office. There are 7 regional education offices which evaluate and address the specific needs of each school. These offices are respectively located in Caguas, Humacao, San Juan, Mayagüez, Arecibo, Bayamón, and Ponce.
16. **School council:** school entity composed of between 5 to 11 members of the four components of the school (student, academic, administrative, and external). It must approve the school's income and expense budget, authorize the disbursement of the school's own funds, evaluate management and efforts, encourage community participation, and establish alliances, among other responsibilities, in accordance with the PRDE Regulations established under Article 6.04 of Law 85-2018, known as the Puerto Rico Education Reform Act, as amended.
17. **The OECD Teaching and Learning International Survey (TALIS):** is the largest international survey asking teachers and school leaders about their working conditions and learning environments and provides a barometer of the profession every five years. Results from the 2018 cycle explore and examine the various dimensions of teacher and school leader professionalism across education systems.
18. **Technological infrastructure:** technological equipment students and teachers have (or need), how it is being used, and the quality of internet services.

Quantitative Research Results

Sample Description:

In this study, ABRE PR obtained information from 62 public school principals and all educational levels were represented, from pre-kinder to high school. The 6.45% (n = 4) of the schools have a Montessori curriculum.

The research completed made sure the 7 educational regions were represented in such a way where that 17.74% were principals from Caguas, 17.74% from Mayagüez, 16.13% from Arecibo, 16.13% from San Juan, 12.90% from Ponce, 12.90% from Humacao, and 6.45% from Bayamón. The sample included schools from 41 different municipalities of Puerto Rico, and they were built from 1901 to 2016, but 70.92% were built before 2000.

The number of students enrolled in these schools was between 76 to 1,030 (Median = 327, Mean = 347, Standard Deviation = 166). From the enrolled students, ABRE PR observed that between 2 to 250 students (Median = 90, Mean = 100, Standard Deviation = 54) were part of special education programs.

On the other hand, the number of teachers from these schools were between 11 to 82 (Median = 29, Mean = 33, Standard Deviation = 15). Most teachers have between 10 to 15 years of experience (51.61%, n = 32), followed by 16 years of experience or more (33.87%, n = 21). School principals reported that the number of positions to be filled in their schools were between 0 to 10 (Median = 0, Mean = 1, Standard Deviation = 2).

Description of Infrastructure, Clubs and Extracurriculars Programs:

Regarding different school infrastructures, ABRE PR observed that most schools have a library (100% of cases), followed by a science laboratory (31.03% of cases), and a functional computer room (20.69% of cases). As to sport installations, the researched schools have basketball courts (89.29% of cases), volleyball courts (60.71% of cases), baseball fields (14.29% of cases), soccer fields (8.93% of cases), running tracks (5.36% of cases) and others specified as none (16.07% of cases).

School principals were asked about the extracurricular sport programs their schools have, and their answers were as followed: basketball (85.37%), volleyball (73.17%), running track (34.15%), baseball (29.27%), soccer (19.51%), and others (14.63%; i.e., bow and arrow, Olympic wrestling, table tennis, and none). As to fine arts programs, most schools (64.52, n = 40) did not have adequate materials for them.

Principals were also asked about whether they have student clubs or organizations to which the majority (77.42%, n = 48) responded in the affirmative. The following table presents the student clubs and organizations reported by school principals. A total of 77 different student clubs and organizations were reported.

Appendix (cont.)

Student Clubs and Organizations in Schools		
	f	%
Club 4H	5	2.22%
Club Adulam	1	0.44%
Club Bilingüe	1	0.44%
Club de Agricultura	5	2.22%
Club de Ambientalistas	3	1.33%
Club de Arte	1	0.44%
Club de Astronomía	1	0.44%
Club de Baile	3	1.33%
Club de Bellas Artes	1	0.44%
Club de Biblioteca	25	11.42%
Club de Ciencias	7	3.11%
Club de Cocina	4	1.78%
Club de Consejería	4	1.78%
Club de Cuidado y Protección de Mascotas	1	0.44%
Club de Deportes	11	4.89%
Club de Enfermería	3	1.33%
Club de Español	3	1.33%
Club de Estudiantes Emprendedores	1	0.44%
Club de Estudiantes Orientadores	3	1.33%
Club de Estudiantes Talentosos	1	0.44%
Club de Francés	1	0.44%
Club de Idiomas	1	0.44%
Club de Inglés	3	1.33%
Club de Jóvenes Inspiradores	1	0.44%
Club de Lectura	5	2.22%
Club de Manualidades	3	1.33%
Club de Matemáticas	7	3.11%
Club de Mediadores de Conflicto	2	0.89%
Club de Medicina	4	1.78%
Club de Meteorología	1	0.44%
Club de Música	7	3.11%
Club de Oratoria	1	0.44%
Club de Periodismo	1	0.44%
Club de Próceres	1	0.44%
Club de Química	1	0.44%
Club de Reciclaje	4	1.78%
Club de Robótica	2	0.89%
Club de Rtes	1	0.44%
Club de Teatro	3	1.30%
Club de Tecnología	1	0.44%
Club de Trabajo Social	8	3.56%
Club de Tutores	1	0.44%
Club InterAct	1	0.44%
Club Juvenil de la Cruz Roja	1	0.44%
Club Lenguaje de Señas	2	0.89%
Club Recarga Positiva	1	0.44%
Club Valores para Vivir	1	0.44%
Computer Science Honor Society	1	0.44%

Appendix (cont.)

Club Lenguaje de Señas	2	0.89%
Club Recarga Positiva	1	0.44%
Club Valores para Vivir	1	0.44%
Computer Science Honor Society	1	0.44%
Consejo de Estudiantes	3	1.30%
Cooperativismo	5	2.22%
Corónate Princesa	1	0.44%
Cróvicas	1	0.44%
DECA	1	0.44%
FBLA - Future Business Leaders of America	7	3.11%
FCCLA - Líderes de las Familias, Carreras y Comunidades de América	5	2.22%
FLCA	1	0.44%
FLCC	1	0.44%
Futuros Escritores	1	0.44%
Girls Scouts	2	0.89%
Grupo Focal	1	0.44%
HOSA	2	0.89%
Huerto Escolar	3	1.33%
Liga Atlética Policiaca	3	1.33%
MAPS	1	0.44%
NASA	1	0.44%
No student organizations due to COVID-19	4	1.78%
Not answered	12	5.33%
Organización Nacional	1	0.44%
Organizaciones Vocacionales	1	0.44%
Patrulleros Escolares	4	1.78%
PBIS	3	1.30%
Saving Paw	1	0.44%
Seminario de Vida Estudiantil	2	0.89%
SKILLS USA	3	1.33%
Sociedad de Honor	1	0.44%
STEAM	1	0.44%
Viajes Estudiantiles	1	0.44%
Western Forensic League Club	1	0.44%
Zanqueros	1	0.44%
Total	225	100.00%

Description of Federal and Private Programs or Proposals:

Principals were asked if their schools have federal proposals or programs. The majority (61.29%, n = 38) responded that they do not have these in place. When dividing the results of schools that have federal proposals or programs by school proficiency, it was observed that most high proficiency schools do not have federal proposals or programs (63.64%, n = 14). Similarly, most low proficiency schools do not have federal proposals or programs (60.00%, n = 24).

When inquiring about which federal proposals or programs the schools have, school principals reported a total of 10 different proposals or programs. The following table presents the federal proposals or programs mentioned by these schools.

Appendix (cont.)

What federal proposals or programs do you have in place at your school?		
	f	%
Casa Familiar	1	7.69%
Escuela Nocturna	1	7.69%
ESSA	1	7.69%
Library Act	3	23.08%
Ofrecimiento Ocupacional Administración de Empresas	2	15.38%
Programa Aprendices de Español como Segundo Idioma	2	15.40%
Proyecto ITA	1	7.69%
Proyecto PBIS	1	7.69%
Thinking Labs	1	7.69%
TOTAL	13	100.00%

Regarding programs or partnerships with private organizations, it was observed that most principals (64.52%, n = 40) reported that they have programs or partnerships with private organizations. The number of programs or partnerships with private organizations among high and low proficiency schools were examined and it was found that many of the low proficient schools (65.00%, n = 26) have programs or partnerships with private organizations; this proportion is similar to the percentage reported by proficient schools (63.64%, n = 14). Upon inquiring about the types of programs or partnerships with private organizations, it was observed that the majority are partnerships with non-profit organizations (40.54%, n = 30) followed by partnerships with universities (27.03%, n = 20), the government (17.57%, n = 13), and the private sector (14.86%, n = 11).

Description of Equipment and Services:

As to the most frequently reported equipment and services that schools have, principals included administrative offices (96.77% of schools), security cameras (93.55% of schools), a school lunchroom (93.55% of schools), curriculum aligned with META-PR tests (91.94% of schools), and internet access in administrative offices (91.94% of schools). The least reported equipment and services by principals were that all classrooms have air conditioning units (12.90% of schools), parent-teacher associations (27.42% of schools), at least one projector or smart board per classroom (35.48% of schools), equipment and tools needed for special education students (41.94% of schools), and internet access for students in all classrooms (43.55% of schools) along with internet access for teachers in all classrooms (46.77% of schools). The following table demonstrates all the responses on school equipment and services.

Appendix (cont.)

School Equipment and Services - Responses			
	N	%	% of Cases
All classrooms with air conditioning units	8	0.86%	12.90%
Green areas maintenance service	54	5.83%	87.10%
Cleaning and sanitary maintenance services	42	4.54%	67.74%
Well-painted and presentable infrastructure	30	3.24%	48.39%
Ramps for handicapped persons	51	5.51%	82.26%
Sufficient classrooms for student enrollment	39	4.21%	62.90%
Equipment and tools needed for special education students	26	2.81%	41.94%
Nursing Services	42	4.54%	67.74%
Security cameras	58	6.26%	93.55%
School bell	52	5.62%	83.87%
School lunchroom	58	6.26%	93.55%
Administrative offices	60	6.48%	96.77%
Faculty room	32	3.46%	51.61%
Sufficient restrooms for all students enrolled	46	4.97%	74.19%
Parent-teacher association	17	1.84%	27.42%
Curriculum aligned with META-PR tests	57	6.16%	91.94%
Adequate recreational space for students	38	4.10%	61.29%
Functional photocopier	42	4.54%	67.74%
Internet access for students in all classrooms	27	2.92%	43.55%
Internet access for teachers in all classrooms	29	3.13%	46.77%
Internet access in administrative offices	57	6.16%	91.94%
Access to technological programs for instructional support (i.e., Google Classroom, Microsoft Of	39	4.21%	62.90%
At least one projector or smart board per classroom	22	2.38%	35.48%
Total	926	100.00%	1493.55%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

Description of Human Resources:

Regarding the human resources available at schools, it was observed that almost all schools have security guards (98.39% of the schools), social workers (98.39% of the schools), and school nurses (96.77% of the schools). On the other hand, what schools rarely had was a registrar (6.45% of schools), administrative assistants (38.71% of schools), and counselors (56.45% of schools). The following table presents all responses regarding school personnel.

Appendix (cont.)

Administrative School Staff - Responses			
	N	%	% of Cases
Administrative assistant	24	5.80%	38.71%
Counselor	35	8.45%	56.45%
Janitors	57	13.77%	91.94%
Librarian	57	13.77%	91.94%
Registrar	4	0.97%	6.45%
School nurse	60	14.49%	96.77%
School psychologist	55	13.29%	88.71%
Security guards	61	14.73%	98.39%
Social worker	61	14.73%	98.39%
Total	414	100.00%	667.75%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

The greatest staffing needs in schools that were reported by principals were teachers (46.67% of schools), non-teaching staff like security guards and maintenance (31.11% of schools), administrative assistants or auxiliaries (26.67% of schools), support staff such as counselor, school psychologist or social worker (22.22% of schools), and special education teachers (13.33% of schools).

Description of Resources Needed:

The top priority of reported resource needs were electronic whiteboards, photocopiers, internet, air conditioning units, and computers. The following table presents schools' priorities in terms of their resource needs.

Prioritization of Resource Needs (materials, technologies, equipment, health, etc.)		
	f	%
Air conditioning units	7	12.50%
Computers	4	7.14%
Internet	9	16.07%
Photocopiers	15	26.79%
Smart boards	21	37.50%
Total	56	100.00%

Most of the principals surveyed (53.23%, n = 33) consider that their teachers do not have all the necessary teaching materials to be able to teach their students. As schools were divided by proficiency, it was observed that the main needs of proficient schools were photocopiers, smart boards, computers, air conditioning units, and projectors. On the other hand, the main needs of low proficient schools were smart boards, photocopiers, internet, technology, and materials.

Appendix (cont.)

Resource Needs (materials, technology, equipment, health, development, etc.) by Proficiency			
Proficient		f	%
YES	Air conditioning units	3	5.77%
	Computers	3	5.77%
	Photocopiers	5	9.62%
	Projectors	3	5.77%
	Smart boards	4	7.69%
NO	Internet	6	11.54%
	Materials	3	5.77%
	Photocopiers	8	15.38%
	Smart boards	14	26.92%
	Technology	3	5.77%
Total		52	100.00%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

Regarding the status of school infrastructure, 64.52% (n = 40) of the principals surveyed consider their school's infrastructure to be good or excellent, 30.65% (n = 19) indicated that the infrastructure is poor, and 4.84% (n = 3) considered it a threat to the school community's safety. In terms of infrastructure needs, priority is based on leaky roofs (40%, n = 20), paint (34%, n = 17), classrooms repairs (14%, n = 7), sport court repairs (8%, n = 4) and bathroom repairs (4%, n = 2). The infrastructure needs of the proficient schools focused on leaky roofs, paint, air conditioning units, and classrooms and sport court repairs. On the other hand, the infrastructure needs of low proficient schools were paint, air conditioning units, classrooms, leaky roofs, and short column building repairs. The following table demonstrates the schools' priorities according to their proficiency.

School Infrastructure by Proficiency			
Proficient		f	%
YES	Air conditioning units	4	8.16%
	Classrooms	3	6.12%
	Leak roof	7	14.29%
	Paint	7	14.29%
	Sport court repairs	2	4.09%
NO	Air conditioning units	6	12.24%
	Building repairs (short column)	3	6.12%
	classrooms	4	8.16%
	Leaky roofs	4	8.16%
	Paint	9	18.37%
Total		49	100.00%

The number of computers available for student use ranged from 0 to 1,000, with a mean of 288.79, and a standard deviation of 206.11. On the other hand, the number of computers available for teacher use ranged from 0 to 85, with a mean of 32.03, and a standard deviation of 16.98.

Half of the school principals (50.00%, n = 31) surveyed reported that they have all the necessary equipment to effectively deliver virtual classes. This raises concerns about the fact that there are still many schools that do not have the necessary equipment to effectively offer classes in this format.

Appendix (cont.)

When dividing the results of the equipment necessary to effectively teach virtual classes by whether the school is proficient or not, it was observed that 54.55% (n = 12) of the proficient schools do not have the necessary equipment to teach virtual classes, while 52.50% (n = 21) of the low proficient schools indicated that they do have the necessary equipment to effectively teach virtual classes.

Description of Maintenance Services:

Most principals (54.84%, n = 34) reported that the agency in charge of school maintenance services is OMEP, while 35.48% (n = 22) indicated that this service is performed in their schools by PBA, and 9.68% (n = 6) indicated another agency (i.e., shared between OMEP and PBA, private company, shared with municipality OMEP and PBA).

Most principals (51.61%, n = 32) reported being between very satisfied and satisfied with the services offered by the maintenance agencies in their schools. However, 48.39% (n = 30) of principals reported being between very dissatisfied and dissatisfied with the maintenance services provided by OMEP and PBA.

On the other hand, 59.09% (n = 13) of principals from proficient schools are between satisfied and very satisfied with agency maintenance services in their schools, while 52.50% (n = 21) of principals from low proficient schools are dissatisfied or very dissatisfied with agency maintenance services in their schools.

How satisfied are you with the services of the previous agency?					
Proficient		f	%	Valid %	Cummulative %
YES	Very Satisfied	2	9.09%	9.09%	9.09%
	Satisfied	11	50.00%	50.00%	59.09%
	Dissatisfied	6	27.27%	27.27%	86.36%
	Very dissatisfied	3	13.64%	13.64%	100.00%
Total		22	100.00%	100.00%	
NO	Very Satisfied	5	12.50%	12.50%	12.50%
	Satisfied	14	35.00%	35.00%	47.50%
	Dissatisfied	11	27.50%	27.50%	75.00%
	Very dissatisfied	10	25.00%	25.00%	100.00%
Total		40	100.00%	100.00%	

Teacher's Needs and Quality:

Regarding the overall quality level of teachers, principals consider their levels to be excellent (51.61%, n = 32) and good (48.39%, n = 30). On the other hand, with respect to the number of complaints received by principals regarding the performance of their school's teachers, the majority (80.65%, n = 50) indicated that they receive few or no complaints in this regard.

Most school principals (98.39%, n = 61) indicated that they discuss learning strategies and methods regularly with their teachers. In addition, 90.32% (n = 56) of principals rated the overall morale/mood of their teachers as motivated and enthusiastic. However, 9.68% (n = 6) rated their teachers as unmotivated. In terms of training, the principals surveyed indicated that, above all, teachers required stress management (75.81% of principals), active learning skills (64.52% of principals), learning assessment strategy skills (62.90% of principals), and technology management (53.23% of principals).

What training do you understand your teachers need? - Responses			
	N	%	% of Cases
Active learning skills	40	17.39%	64.52%
Assessment skills	29	12.61%	46.77%
Learning assessment strategy skills	39	16.96%	62.90%
Other (How to work with low-income students, skills and strategies for managing family and personal life, differentiated education, subject integration, entrepreneurship, gender equity, strategies for managing challenging students, strategies for transferring knowledge, strategies for teaching children with disabilities, music assessment and evaluation, interpretation of pre-test results, data-based planning, data management for planning, data management and use, do not want more workshops "we have been given too many," other teaching strategies, "try not to offer three workshops at the same time and on the same day," preparation of mini-lessons, integration of assessment techniques in the teaching process)	15	6.52%	24.19%
Stress management	47	20.43%	75.81%
Technology management	33	14.35%	53.23%
Time management	27	11.74%	43.55%
Total	230	100.00%	370.97%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

Description of Academic Needs:

Most principals (53.23%, n = 33) indicated that they believe that parents of students in their school show interest in their children's academic achievement. Dividing the result by the proficiency of the schools, it was observed that 63.64% (n = 14) of the principals from proficient schools consider that the parents of the students in their schools show interest in their children's academic achievement. On the other hand, 52.50% (n = 21) of principals from low proficient schools indicated that their students' parents do not show interest in their children's academic achievement. School principals indicated that the problems that mostly affect students' academic performance, according to the principals surveyed is due to issues of parents disinterested in students' academic performance (64.52% of principals), lack of student motivation (58.06% of principals), and student absence (48.39% of principals).

Appendix (cont.)

What problems do you understand affect the academic performance of students in your school the most?			
	N	%	% of Cases
Absence of students	30	15.79%	48.39%
Absence of teachers	15	7.89%	24.19%
Excessive number of students per classroom	13	6.84%	20.97%
Lack of extracurricular activities	17	8.95%	27.42%
Lack of materials	16	8.42%	25.81%
Lack of student motivation	36	18.95%	58.06%
Lack of technology / equipment	14	7.37%	22.58%
Other (school environment, "the school is adjacent to 5 housing projects (<i>residenciales</i>) and the environment is troubling," low schooling of parents, administrative burden for teaching staff, lack of support and coordination, lack of commitment and teamwork of parents with their children, lack of mastery of basic grade level skills "in our case, 8th grade level skills," time management, no incentive for perfect attendance by the department, that the theater does not have all the necessary equipment required for the arts to achieve its greatest expression).	9	4.74%	14.52%
Parents disinterested in students' academic performance	40	21.05%	64.52%
Total	190	100.00%	306.46%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

Regarding motivation for extracurricular activities, 91.94% (n = 57) of school principals understand that having additional extracurricular activities aside from sports could motivate students even more.

Principals were asked if they believe that the current curriculum in their schools appropriately challenges most students and 51.61% (n = 32) stated that the curriculum was sufficiently challenging. When dividing the responses by the proficiency of the schools, it was observed that most principals in proficient schools (72.7%, n = 16) feel that the current curriculum appropriately challenges most students. On the other hand, most principals of low proficient schools (60.00%, n = 24) believe that the current curriculum does not appropriately challenge their students.

In relation to student wellness workshops and trainings, principals indicated that they would like their students to receive workshops on topics such as time management (61.29% of principals), stress management (50.00% of principals), physical activity (48.39% of principals), healthy relationships (46.77% of principals), anger management (45.16% of principals), peer pressure (43.55% of principals), personal financial management (38.71% of principals), wellness (29.03% of principals), bullying (27.42% of principals), and others such as academic achievement, professional careers, entrepreneurship through agriculture, sense of responsibility in studies, use of controlled substances, the causes and risks of delinquency, and the health risks of unprotected sex (9.68% of principals).

What topics for student wellness workshops would you like to see presented at your school?			
	N	%	% of Cases
Anger management	28	11.29%	45.16%
Bullying	17	6.85%	27.42%
Healthy relationships	29	11.69%	46.77%
Other (i.e., academic achievement, professional careers, entrepreneurship through agriculture, sense of responsibility in studies, use of controlled substances, the causes and risks of delinquency, and the health risks of unprotected sex).	6	2.42%	9.68%
Peer pressure	27	10.89%	43.55%
Personal financial management	24	9.68%	38.71%
Physical activity	30	12.10%	48.39%
Stress management	31	12.50%	50.00%
Time management	38	15.32%	61.29%
Wellness	18	7.26%	29.03%
Total	248	100.00%	400.00%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

The main form of communication between principals and parents to notify school incidents or announcements is through email (91.94% of principals), and social networks (90.32% of principals). The least common forms of communication were through newsletters (53.23% of principals), chat groups such as WhatsApp (50.00% of principals), texts (37.10% of principals), and other means such as letters, communicated through teachers, summons, phone calls, and Microsoft Teams (20.97% of principals).

Inferential Statistics Results:

The relationship between school proficiency scores was examined by the proportions calculated for sports facilities, infrastructure, extracurricular sports programs, fine arts program, services, and personnel. A Pearson correlation analysis was performed, where a significantly low and moderate negative relationship was observed between proficiency and school personnel ($r = -0.28$, $p < .05$). This result indicates that the higher the proficiency, the more principals perceive that they are understaffed in their schools. In addition, a low and statistically significant moderate positive relationship could be observed between sports facilities and extracurricular sports programs ($r = 0.30$, $p < .05$). This relationship was expected since extracurricular sports programs require sports facilities, but even so, a higher relationship was expected. However, a possible explanation may be that some schools' sport courts are damaged. On the other hand, a high and significantly moderate positive relationship was found between infrastructure and school personnel ($r = 0.54$, $p < .01$). This relationship indicates that the higher the infrastructure score, the more staff members a school has. This is an expected relationship, since the larger the school, the more staff members those schools are expected to have. As for the rest of the correlations, no statistically significant relationships were observed.

Appendix (cont.)

Non-Parametric (n = 62) Group Comparisons						
	Mdn Proficiency		U	Z	SE	p
	YES	NO				
Sports facilities	0.17	0.33	477.50	0.58	64.53	0.56
Extracurricular sports programs	0.21	0.21	432.50	-0.11	66.08	0.91
Fine arts programs	0.2	0.20	387.50	-0.95	55.3	0.34
Infrastructure	0.33	0.33	544.00	1.7	61.16	0.09
Personnel	0.67	0.78	590.50	2.29	65.61	0.02*

Note: * $p < .05$; Mdn = Median; U = Mann-Whitney's U test score; Z = standardized Z score; SE = Standard Error; p = significant level.

Regarding the result for the parametric test (independent samples t-test) for services by proficiency, no statistically significant differences were found, $t(60) = 0.17$, $p = 0.86$, 95% CI [-0.08, 0.09], $d = 0.16$. This result indicates that service scores are similar between proficient ($M = 0.65$, $SD = 0.14$) and low proficient schools ($M = 0.65$, $SD = 0.17$).

School Principals Data:

Principals' years working at their respective schools ranged from 0 to 35 years (Mean = 7.19, Median = 6.50, Standard Deviation = 6.28). As for years working as principals within the PRDE system, the results were similar and fluctuated between 0 to 35 years (Mean = 11.44, Median = 11.00, Standard Deviation = 6.32). On the other hand, years of experience working within the PRDE ranged from 8 to 45 years (Mean = 22.50, Median = 22.00, Standard Deviation = 7.75). And finally, the number of schools in which each of them has been a principal ranged from 1 to 16 schools (Mean = 2.69, Median = 2.00, Standard Deviation = 2.05).

Principals were asked about the number of hours they work during a typical week and the hours reported ranged from 10 to 80 hours (Mean = 47.45, Median = 50.00, Standard Deviation = 13.14). Most school principals (98.39%, $n = 61$) indicated that they perform tasks that are not in their job description. Similarly, most principals (88.71%, $n = 55$) indicated that they take work home to perform some tasks in their free time. Regarding the sense of personal valuation, 90.32% ($n = 56$) of school principals indicated that they do not feel valued by the PRDE. In addition, 98.39% ($n = 61$) of school principals indicated that they feel they are not being paid fairly for the work they do. Most principals (77.42%, $n = 48$) indicated that both they and their colleagues cannot influence decisions made by the regional education office regarding their schools. Similarly, 88.71% ($n = 55$) of principals indicated that they and their colleagues cannot influence decisions made by the PRDE regarding their school. Regarding the frequency of meetings with school faculty, principals indicated that they meet on a weekly (43.55%, $n = 27$) and monthly (40.32%, $n = 25$) basis.

In relation to the documentation required by the PRDE, 70.97% ($n = 44$) of school principals consider it is important to fill out all the documents required by the PRDE, while 29.03% ($n = 18$) do not consider it an important task.

Appendix (cont.)

Among the training that principals consider necessary for professional development and to perform their work adequately must include learning how to draft proposals to obtain federal funds (90.16% of principals), partnerships with private companies (54.10% of principals), management and development of teaching talent (37.70% of principals), managing technological tools (32.79% of principals), managing educational curricula (26.23% of principals), improving META-PR tests (24.59% of principals), among others such as stress management, time management, burnout prevention, emotional well-being, and how to work with the SIE platform (6.56% of principals).

What training do you understand you need to be able to perform your job as a school principal and develop professionally?			
	N	%	% of Cases
Educational curriculum management	16	9.64%	26.23%
Establishment of alliances with private companies	33	19.88%	54.10%
Management and development of teaching talent	23	13.86%	37.70%
META-PR test improvement	15	9.04%	24.59%
Other (stress management, time management, burnout prevention, emotional well-being, how to work with the SIE platform).	4	2.40%	6.56%
Preparation of proposals to obtain federal funds	55	33.13%	90.16%
Use of technological tools	20	12.05%	32.79%
Total	166	100.00%	272.13%

Note: School principals could select more than one option. Therefore, the percent of cases surpass 100%.

School principals were asked about their town or municipality of residence. Thirty-nine different towns or municipalities were reported, of which San Juan (6.45%, n = 4), Arecibo (4.84%, n = 3), Caguas (4.84%, n = 3), Cidra (4.84%, n = 3), Orocovis (4.84%, n = 3), and Trujillo Alto (4.84%, n = 3) were the most. The following table shows all the towns or municipalities reported.

In which municipality do you reside?		
	f	%
Adjuntas	1	1.61%
Aguada	1	1.61%
Aibonito	1	1.61%
Añasco	2	3.23%
Arecibo	3	4.84%
Barceloneta	1	1.61%
Barranquitas	1	1.61%
Cabo Rojo	2	3.23%
Caguas	3	4.84%
Canóvanas	1	1.61%
Carolina	2	3.23%
Cidra	3	4.84%
Corozal	1	1.61%
Fajardo	2	3.23%
Guayama	2	3.23%
Guaynabo	1	1.61%
Gurabo	1	1.61%
Hatillo	2	3.23%
Hormigueros	1	1.61%

Appendix (cont.)

Isabela	1	1.61%
Lares	2	3.23%
Las Piedras	1	1.61%
Maricao	2	3.23%
Maunabo	1	1.61%
Orocovis	3	4.84%
Patillas	1	1.61%
Ponce	1	1.61%
Rincón	2	3.23%
Sabana Grande	1	1.61%
Salinas	1	1.61%
San Juan	4	6.45%
Santa Isabel	1	1.61%
Toa Alta	1	1.61%
Trujillo Alto	3	4.86%
Utua	1	1.61%
Vega Alta	1	1.61%
Villalba	1	1.61%
Yabucoa	1	1.61%
Yauco	2	3.23%
Total	62	100.00%

Socioeconomic Data of School Principals:

The age of the school principals ranged from 35 to 75 years (Mean = 50.45, Median = 49.00, Standard Deviation = 8.04). Most school principals were female (56.45%, n = 35) and have master's degrees (67.74%, n = 42). They obtained their highest academic degree at the Interamerican University of Puerto Rico (25.81%), followed by the University of Phoenix (17.74%), the Ana G. Méndez University System (14.52%), and the Pontifical Catholic University of Puerto Rico (14.52%). The following table presents all the universities reported by principals.

Indicate the name of the institution where you obtained your highest academic degree		
	f	%
Ana G. Méndez University	9	14.52%
Atlantic International University	1	1.61%
Cambridge College	1	1.61%
Caribbean University	3	4.84%
East Central University in Dominican Republic (medicine)	1	1.61%
EDP University	1	1.61%
Interamerican University of Puerto Rico	16	25.81%
Metropolitan University	3	4.84%
Nova Southeastern University	6	9.68%
Pontifical Catholic University of Puerto Rico	9	14.52%
University of Phoenix	11	17.74%
University of Puerto Rico	1	1.61%
Total	62	100.00%

Appendix (cont.)

Summary of Qualitative Findings		
% of schools Mentioned Answer	Category	Definition
What would you say are the five most important/immediate needs your school has?		
85.71%	Infrastructure	Principals needs of solving the schools' structural problems such as roof leaks, electricity, maintenance, paint, broken courts, etc.
47.62%	Techonology	Needs the schools have related to technology materials such as computers, televisions, Smartboards, etc.
47.62%	Material & Equipment	Schools need to purchase photocopiers, duplicators and related equipment and their need to arrive faster.
Do you have access to and availability to obtain the materials and equipment necessary for the operation of your school?		
42.86%	No access to or availability of materials and equipment	Principals feel that they don't have the necessary access and that the lack of availability of materials and equipment causes great frustration, affecting the operational performance of the school.
Does your school receive support from organizations, federal proposals, or private partnerships?		
52.38%	Not helped	These principals stated that their school does not receive any aid from organizations, federal grants or private partnerships.
How do parents or the community support the school to work with its needs?		
47.62%	Significant parental support	Principals consider that they have a significant parent's participation in school's regular and extracurricular activities.
38.10%	Life support	Principals believe parents offer very little support in relation to the education of their children.
14.29%	Volunteer parents	Principals seek and have parents that can volunteer to help on cleaning, maintenance, guarding students during recess time and function as teacher assistants' duties.
What things do you need as a principal to better manage your school?		
52.38%	Non-teaching human resources (administrative)	Principals believe is necessary for all schools to have additional non-teaching staff such as vice-principal, special or administrative assistant in order to satisfy administrative and academic needs.
Is it necessary to have greater autonomy over certain school factors? Which ones?		
71.43%	Autonomy to manage the budget as a whole	School principals believe that they should be able to manage the budget based on the needs that the school has.
66.67%	Administrative and Academic Autonomy	Principals would like to make administrative, managerial and academic decisions regarding schools and eliminate bureaucratic procurement processes of PRDE.
52.38%	Selection of human resources for the satisfaction of school needs	School principals believe having autonomy to select the staff who works in their schools will be of great benefit.

Appendix (cont.)

What do you understand your school and students need to achieve success?		
38.10%	Equipment for motivational purposes, tools and materials	Principals consider there is a need of a variety of gears to keep students motivated, including equipment and materials such as balls, musical instruments, among others, aside from the current needs they mentioned throughout the interview.
Do you think that obtaining the necessary budget to cover your current needs would improve the quality of education and students' overall performance?		
100.00%	Needs satisfied would improve education	Principals believe that by covering the needs of the school, students and teachers would improve their overall performance as well as the quality of education offered.