Research Article

Spearheading education during the COVID-19 rife: Administrators' level of digital competence and schools' readiness on distance learning

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The impact of the COVID-19 pandemic changed the course of delivering quality education to learners. This study analyzed the level of digital competence of school administrators, the readiness of schools, and perceived challenges on the delivery of distance learning. Using a descriptive research design, the researchers used an online survey to gather pertinent data for the study. Thirty-six (36) administrators took part in the online survey using universal sampling from a school division in the province of Bulacan, Philippines. The researchers created an online research instrument and subjected it to validation before the actual administration. After data gathering, the researchers encoded and tabulated the data. This study used the following statistical tools to analyze the data: frequency, percentage, and rank. The study found that the administrators have varied results on the aspect of digital competence based on the statistical analysis. In terms of school readiness on distance learning, the schools were not yet ready to implement a distance learning scheme. For the perceived challenges, internet connection/ connectivity is the primary concern. Other challenges involve preparation, competencies, funding, and devices for distance learning. Based on the result of the study, the researchers provided some essential recommendations for the administrators, teachers, and other stakeholders.

Keywords: School administrators, digital competence, school readiness, distance learning

I. Introduction

The outbreak of the Novel Corona Virus disease (COVID-19) which originated from Wuhan, China has rapidly crossed borders, infecting people, and has caused distress to everybody across the world (Klapproth et al., 2020; Singhal, 2020). It was then declared a public health emergency of international concern on January 30, 2020, due to the rapid spread of the virus. Worldometer (2020) has recorded 25.8 million confirmed cases and over 800,000 deaths globally as of September 02, 2020 This has sparked fears of an impending economic crisis, and the education system was also greatly affected from pre-school to tertiary level (Nicola et al., 2020; Toquero, 2020).

Different governments suspended schools as of April 8, 2020, which affected billions of learners worldwide. The outbreak forced schools to close to curb the spread of the epidemic as mentioned by Sintema, (2020) and Gonzales, (2020). The social distancing measures that most of the countries implemented have affected everyday routines and other scheduled activities (Lee, 2020). Various ramifications like social, cultural, pedagogical, and psychological emerged through analysis of social media posts, online classes, and interviews (Al-Lily et al., 2020).

The education sector in the Philippines was also in turmoil as classes for the remaining days of School Year 2019-2020 were suspended by President Rodrigo Duterte as an initial action on the rise of confirmed cases in the country. As mentioned by Alvarez (2020) in his study, the pandemic had caused the Philippine higher education institutions to abruptly shift to emergency remote teaching as a response to the call for continued education despite the global health threat.

Different countries worldwide have introduced various solutions during the pandemic to continue the education process (Basilaia & Kvavadze, 2020; Guo et al., 2020; Petronzi & Petronzi, 2020). And because of this pandemic, leaders and managers cultivate cultural change in their organization brought about by digital transformation (Ossianilsson, 2018).

With the situation, the Department of Education through its website (deped.gov.ph) launched DepEd commons last March 2020 which aims to support distance learning amidst the outbreak. For Education Secretary Leonor Magtolis Briones, the DepEd commons is a step towards being able to offer continuity of education despite disruptions of classes brought about by the health threat. Distance learning highlights the integration of technology for educational delivery (Toquero, 2020).

However, the department's goal of preparing for the shift to distance learning has a long way to go as support from all the individuals who will be affected by the change in the delivery model has to be ready. The findings of Arinto (2016) call for administrators concerning the design of faculty development programs, provision of faculty support, and strategic planning for online distance learning implementation across the institution. Francisco and Nuqui (2020) on the other hand found that the new normal leadership is an adaptive one while staying strong on their commitment. Administrators, expected to spearhead the continuity of education in the middle of the pandemic, should be the most to be involved as they will lead the implementation of changes in the education system. To add, a research study revealed that public secondary school administrators only attended limited formal lifelong learning activities (Baldovino, 2018). The author also identified several barriers like money, time, age, fear, and necessity.

From a related paper, it posits that there is a need to improve the technological proficiency of administrators to maximize their management functions (Blake, 2020). Only through increased technology competence on the part of administrators shall schools be able to start taking advantage of the technologies available in the delivery of education. On the other hand, a group of investigators found in their study that there are variations in the behavioral intention to adopt ICT (Ibrahim et al., 2018). In a different study, the administrator needs to seek professional development opportunities and other valuable learnings to increase knowledge and confidence (Sheperd & Taylor, 2016).

Another consideration of the effective delivery of distance learning is the school's preparedness with regards to equipment and facilities and the availability of various technologies (Arinto, 2016). Schools having limited technologies are not ready for the implementation of online education and that virtual teaching can be successful in schools having a technical environment and support (Basilaia & Kvavadze, 2020). To add, another group of researchers confirmed in the e-learning curricula for primary schools, they still need to introduce the on-the-spot teaching method (Burdina et al., 2018).

Based on the different perspectives and results of different literature mentioned, this study intended to analyze the administrators' level of digital competencies. At the same time, assess the readiness of the school in implementing distance learning. It also wants to see the perceived challenges in the delivery of distance learning of the school.

The study hopes to provide substantial information and evidence so that administrators and other school heads can use it in various ways possible. Also, this study adds up to the growing literature of distance education and other important school administration concepts and processes.

2. Method

2.1. Research Design

The study used a descriptive survey method of research to elicit data. The administration of the survey is online. This study described the level skills of the school administrators with their digital skills. Also, the study assessed the readiness of schools and identified the perceived challenges in the delivery of distance learning.

2.2. Respondents and Setting of the Study

There was a total of thirty-nine (39) respondents which comprised nine (9) Education Program Supervisors and thirty (30) School Heads in a Schools Division in Central Luzon, Philippines. To get the sample, the researchers used a universal sampling technique, however, there were only thirty-six (36) who agreed to answer the survey online and provided the necessary data for the study.

2.3. Instrumentation and Validation

With the use of an online survey, the researchers distributed the instrument to the different school administrators to assess their digital skills, perceived schools' readiness, and challenges that may hinder the delivery of lessons amidst the COVID-19 pandemic. The online survey has three parts: (a) administrators' level of competence on digital skills, (b) school's readiness on distance learning, and (c) perceived challenges in the delivery of distance learning. For the validity of the instrument, the researchers submitted it to credible individuals who comprised the following, a university professor, a researcher, a public-school teacher, and a school administrator. The researchers considered the comments and suggestions to complete the content of the instrument.

2.4. Data Analysis

After gathering the data, the researcher tabulated and encoded the data. The study used frequency count and percentage for the administrators' level of digital competence and the school's readiness on distance learning. On the other hand, the study also frequency counts and ranking on the perceived challenges on the delivery of distance learning.

3. Results and Discussion

This study aimed to analyze the level of digital competence of administrators, the readiness of the school to distance learning, and perceived challenges on the delivery of distance learning. The study found the following results in Table 1.

Table 1
Administrators' Level of Digital Competence

Skill	Beginner		Intermediate		Advanced		Expert	
	f	%	f	%	f	%	f	%
MS Office Application	1	3	25	69	8	22	2	6
Web browsing	3	8	18	50	14	39	1	3
E-mailing	2	6	15	42	17	47	1	3
Downloading files	1	3	14	39	17	47	4	11
Uploading files	1	3	17	47	14	39	4	11
Video Conferencing	6	17	15	42	13	36	2	6
Online Chatting	2	6	13	36	15	42	6	17
Connecting to Links	4	11	16	44	14	39	2	6
Video Editing	22	61	12	33	2	6	0	0
Photo Editing	22	61	11	31	3	8	0	0
Google Apps	10	28	23	64	3	8	0	0
MS Office 365	12	33	19	53	5	14	0	0

Table 1 shows that most of the administrators are at the beginning level when it comes to video and photo editing having both 22 responses. Four other skills portray that the administrators are at the intermediate level which is using MS Office application, web browsing, uploading files, video conferencing, connecting to links, google apps, and MS Office 365. There are also three (3) skills where the administrators rated themselves at the advanced level, including e-mailing, downloading files, and online chatting. Related research supports the result of the current study as it stated that administrators were proficient with word processing and email (Blake, 2020). However, much work needs to be done to improve the essential technical skills needed for school management functions, including taking advantage of the technologies available to improve education. On the other hand, another research paper showed that school administrators need professional development in technology utilization to meet the standards (Yu & Prince, 2016).

Table 2

Schools' Readiness on Distance Learning

Items	Frequency	Percentage
1. Availability of Printing Equipment and Other Materials		
Yes	29	81
No	3	8
No Answer	4	11
2. Availability of Learning Materials		
Inadequate	21	58
Adequate	10	28
Less than adequate	0	0
No Answer	5	14
3. Capacity to Print Learning Materials		
Very Low	6	17
Low	17	47
High	7	19
Very High	1	3
No answer	5	14
4. Capacity to Distribute Learning Materials		
Very Low	2	5
Low	15	42
High	13	36
Very High	1	3
No answer	5	14
5. Capacity to Orient Parents		
Very Low	0	0
Low	17	47
High	14	39
Very High	0	0
No answer	5	14
6. Teachers' Capacity to Conduct Online Teaching and Learning		
Very Low	0	0
Low	4	11
Average	17	47
High	10	28
Very High	1	3
No Answer	4	11
7. Availability of tools to Monitor Online Teaching and Learning		
Yes	25	69
No	11	31
8. Capacity to provide Technical Assistance to the Teachers on the Use of Online Platforms		
Inadequate	3	8
Fairly Competent	13	36
Competent	19	53
Highly Competent	1	3
9. Availability of Online Learning Modality Facilities		
Yes	13	36
No	18	50
10. Availability of Funds to Support Alternative Delivery Mode		
Yes	6	17
No	26	72
No Answer	4	11

The majority of the administrators affirmed printing equipment which can be used for printing of learning materials to be used by the learners in the implementation of distance learning as evidenced by the 29 respondents answering "yes". More than half or 58% (21) said that there are inadequate learning materials during the conduct of the survey while 10 administrators stated that they have adequate learning materials. Although there is available printing equipment in the schools as shown by the positive response in table 2, the schools have a low capacity with printing learning materials which can be attributed to the different brands and capacity of printers available in the schools. As to the capacity to distribute learning materials, there is almost the same frequency in the low and high-capacity levels of 15 and 13, respectively. A low-capacity level on the orientation of parents on the different learning modalities was evident with 17 responses. Regarding teachers' capacity to conduct online teaching and learning, the administrators gave an average level having 17 responses, while 10 respondents gave a high level of confidence that the teachers can teach online. The 25 positive responses of the administrators show that some available tools or apps can help monitor online teaching and learning. As to their capacity to provide technical help to the teachers on the use of online platforms, 19 (53%) of the administrators are competent to help their teachers, while only 3% or 1 administrator rated himself as highly competent to give technical help. There are no available online learning modality facilities in the schools as shown by the 18 (50%) of administrators responding "no". The majority of the administrators stated that there is no available fund to support Alternative Delivery Mode as they plan the annual budget at the end of the preceding year or the very beginning of the year. A related study by a group of researchers stated in their conclusion that in a technology-rich classroom setting, the classroom management abilities of teachers and their digital competence come together (Moltudal et al., 2019). From another perspective, Ventayen and Orlanda (2018) showed that there was a positive attitude among graduate students towards open distance e-learning. In a similar study, Fedina et al., (2017) concluded in their study that preschool educational institution (PEI) administration considers their educational institution ready for distance learning technology (DET). However, from the paper of Alea et al., (2020), they explained that the teachers' geographical location correlates to the readiness to adapt to distance learning education.

Table 3
Perceived Challenges on the Delivery of Distance Learning

Perceived Challenges	Frequency	Rank
Internet connection/ connectivity	18	1
Teachers' competence and skills for online learning delivery	11	2
Availability of funds and/ or budget for online/ distance learning	10	3
Availability of gadgets and/ or devices like cellular phones and/ laptop for learning and teaching	9	4
Teaching and/or learning materials	6	5
Leaners' competence/ capability for online/ distance learning	5	6
Parental support for online/ distance learning	3	7

Table 3 enumerated the perceived challenges on the delivery of distance learning as assessed or observed by the respondents. As seen from the table, the most common challenge perceived by the administrators was internet connection/ connectivity. This is key for a stable learning delivery for both teachers and students. Next on the list is the teacher's competence and skills for online learning delivery. Not all teachers are technology savvy since some of them still prefer the classical way of delivering learning. The funds or budget of both the institution, the teachers, and the parents for online/distance learning is also an issue. Not all can access funding or budget to implement a drastic move for a change of learning. The gadgets and/ or devices are another challenge, for teachers, students, and parents. Another issue that comes to mind from the respondents was the teaching and/or learning materials for the students. With the sudden implementation of online/distance learning, preparation was hasty and they might have tampered with the quality of the learning materials. Also, the respondents considered the learners' competence/ capability for online/ distance learning. Not all learners are skilled and knowledgeable about how technology is used in learning. It is also vital to have the support of the family, the parents for online/ distance learning. Some parents complain about the context and circumstances that online/ distance learning brought upon them. Overall, the abovementioned challenges can be provided with proper and adequate attention and solution by the government and the sincere

participation of other stakeholders. One related literature stated that one of the primary barriers in learning technology is the time, how to teach them, and other job responsibilities (Polly et al., 2020). Another study also pointed out the relationship between online readiness and ODL learners' preferred technological devices (Firat & Bokurt, 2020).

4. Conclusions

Considering the current findings of the study, the researchers presented the following conclusion based on the research problem stated beforehand. Most of the administrators are at the beginning level with video and photo editing, having both 22 responses. Four other skills portray that the administrators are at the intermediate level which is using MS Office application, web browsing, uploading files, video conferencing, connecting to links, google apps, and MS Office 365. There are also three (3) skills where the administrators rated themselves at the advanced level, including e-mailing, downloading files, and online chatting. The schools are not ready to implement distance learning as shown by the inadequate learning materials to be used in the said modality, unavailability of online modality facilities, insufficient funds to support alternative delivery modes, and low capacity to print and distribute learning materials. Despite being competent to provide technical help to the teachers, some digital skills (in Table 1) which are necessary for the production of learning materials for online teaching further shows that the administrators cannot provide the needed help themselves. Respondents also enumerated some perceived challenges on the delivery of distance learning, and the number one on the list is internet connection/ connectivity. Other pertinent challenges revolved around preparation, competencies, funding, and devices which were essential in the delivery of distance learning.

Like any other articles and studies, this current study also has its own limitations. The respondents of the study should cover a wider range since it only considered one division. The methodology should be more stringent and consider using inferential statistics like t-test, Analysis of Variance (ANOVA) or even Pearson-r and regression analysis to dig deeper into the context. Another one, it is also vital to include the demographic profile of the respondent for further analysis and considerations. Finally, consider other stakeholders to make the analysis more reliable and concrete. The mentioned limitations can be explored further in the future by other researchers with the same interest.

5. Recommendations

Based on the aforementioned conclusions, the researchers, therefore, offer the following recommendations: (1) a more specific digital skill analysis is recommended for a more comprehensive view of the needed skills of the administrators. This can be done by seminars and skills training intended for the need of the administrators. (2) A parallel training needs assessment on digital skills among the teachers is also needed to provide the required training for the teachers as they are the front liners in the teaching-learning process. Furthermore, a hands-on or a demonstration seminar for skills re-tooling and upgrading is essential. (3) Partnership with the different stakeholders must be strengthened for them to be able to aid in the production of needed resources for the delivery of distance learning. Non-government organizations and the local government units at the local, city, or provincial levels can greatly increase and help the school and the students in the distance learning implementation and funding at the same time. (4) Collaboration is needed among all school stakeholders (school heads, teachers, learners, parents, community, etc.) for more effective decision-making. This can be implemented through monthly general assembly or meeting and there should be an active inclusion and participation of each school stakeholders to maximize the benefits of each.

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