TOWARD CRAFTING AN INTERVENTION PROGRAM (IP) FOR THE NEW NORMAL STAKEHOLDERS' STANDARDS

Dr. Avelina M. Aquino and Dr. Emelita G. Laganao
Bulacan State University, City of Malolos, Bulacan--Philippines-3000

ABSTRACT

The Philippine government ordered the cessation of classes to contain the circulation of coronavirus; therefore, people had to stay at home. Here, the researchers used quantitative data analysis (QDA) with a questionnaire as the main instrument for data gathering. Findings included: the practice teachers see the extent of their essential skills with media teaching platforms as Great Performance. Their adjustment is Fair Performance. The stakeholders perceived practice teachers with Fair Performance and Minimal Performance. There is a variance between practice teachers' and stakeholders' perceptions in all variables such as in media teaching-learning platforms and adjustment. Therefore, an Intervention Program (IP) was crafted to help practice teachers adapt to the stakeholders' standards. The researchers concluded that 1) practice teachers' essential skills in the media teaching platforms are great but fair in the adjustment; 2) stakeholders' perception of the practice teachers' essential skills is fair and fair or minimal performance in the adjustment; and 3) the researchers did not accept the null hypothesis because there is a variance between practice teachers' and stakeholders' perception in all variables. Hence, the researchers recommend that 1) training and seminars on media teaching platforms be intensified; 2) adjustment or transition into teaching be enhanced; (3) an IP be implemented and evaluated regularly; and 4) interested researchers may be encouraged to replicate the study by using other means to evaluate the practice teachers' skills on the media teaching platforms.

Keywords: Intervention Program, New Normal, Stakeholders' Standards.

1. INTRODUCTION

At the onset of the infection in 2019, otherwise known as COVID-19, it has become a problem because it spreads all over the world. The effects are worldwide. All schools were closed to prevent the circulation of this infection (UNESCO, 2021).

Schools and offices were closed to prevent the movement of people to lower the circulation of this infection while the healthcare system posed problems. Many schools and universities continue their normal classes, with video programs over the internet.

Distance education has replaced instructors with educational material that students study on their own. The Philippines is no exception. To contain the spread of this virus, the Philippine government ordered the cessation of classes; so, people had to stay at home.

Essential skills of pre-service teachers with this infection. Lydia Logan (2021) said that teachers need to retool their essential skills in these difficult times. She continued by saying that teachers have to upgrade their skills. Whether it is mentoring, or other means, professional learning is mandatory. She also said that professional learning should include digital learning strategy. For students to adapt to the times, teachers should upgrade their skills. According to

Aquino (2021), teaching is a complicated and multifaceted task. As such, teachers must be adept at the transition from the traditional to online teaching-learning process. Logan stressed the need for inequitable access to technology and the internet.

Merill (2020) stated that "in the period that followed COVID-19, undoubtedly, every school across the country—recognized the chasm."

Many teachers and students express their happiness in the digital experiences (Robinson,2022).

Taghizadeh and Amirkhani (2022) found that collaborative tasks and activities can build rapport.

YingYau, Yeung, and Lee, (2022) indicated that teachers did not like online teaching.

Unga, Labadin, and Suraya (2022) stressed the integration of thinking skills.

Stakeholders' perception of the pracice teachers' skills. Çamlıbel-Acar and Eveyik-Aydın (2022) said that teachers appreciated online education during the circulation of the infection.

According to Thooptong (2017), as a part of teachers' training and development, their preparation is essential. So, planning is important.

This idea was concurred by Simpson, Day, Goulding, and Asha (2022) when they disclosed that teachers are effective if they are influenced by education policy, values, and students' needs.

Michailidi and Stavrou (2021) revealed that 1) roles; 2) skills; and 3) expertise are important for educational innovations.

Yuan, Yang, and Lee (2021) revealed that experience overseas helped to develop skills of practice teachers. They developed a sense of urgency to overcome problems in teaching.

According to Brandt, Barth, Merritt, and Hale (2021indicated that personal, professional, social, and structural components are important in teaching.

Intervention Program. Çelik, Tomris, and Tuna (2022) found that coaching and counselling are good for training programs.

Miller-Bains, Cohen, and Wong in 2022 disclosed that data literacy is critical for new teachers.

According to Chevalier, Giang, El-Hamamsy, Bonnet, Papaspyros, Pellet, Audrin, Romero, Baumberger, and Mondada (2022), thinking (is important.

McCormic, Mattera, Maiera, Xia, Jacob, and Morris (2022) assessed the importance of quality time among children to improve their academic performance.

McCormic, Mattera, Maiera, Xia, Jacob, and Morris (2022)'s finding was consistent with Lu and Wang (2022) who emphasized the need to regulate learning.

The reviewed literature helped the researchers formulate the problems of the study. It provided supportive arguments for the problem under study.

It is always construed that teachers' professional learning is important, especially during online teaching and learning. It is a must for teachers to retool their skills and competencies. Practice teachers are no exception; they too must hone their skills and competencies and develop thgeir skills. To continue providing them with ice teachers in challenging circumstances, they should comply with the standards set by various stakeholders in the community. Since the stakeholders have also their views, perceptions, and expectations of the pre-service skills and competencies, such are construed to match and mesh with each other so that better learning is produced. If these do not match, an intervention program may be proposed to help the former

develop the needed skills and competencies during the pandemic where professional learning opportunities for technology should be provided. It is in this contention that the researchers conducted this study.

Conceptual Framework

In this study, the researchers used the IPO model, where I is the input; P is the process; and O is the output. This conceptual framework was used by the researchers.
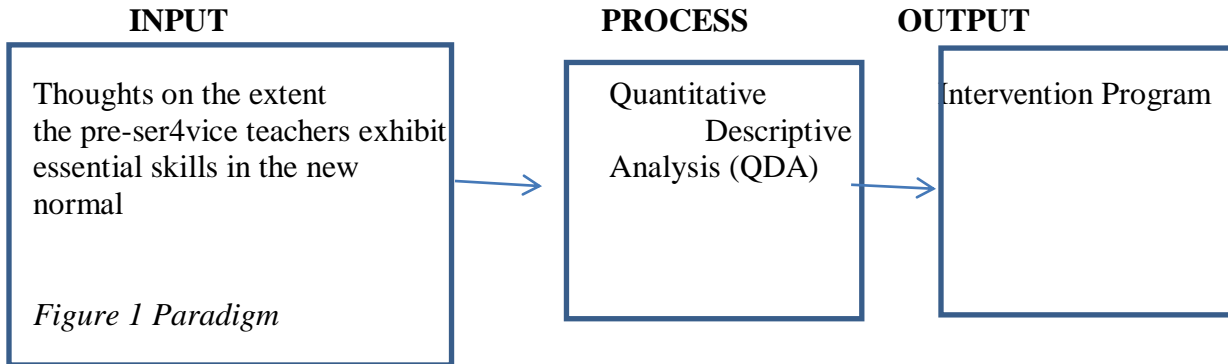
INPUT	PROCESS	OUTPUT
Thoughts on the extent the pre-ser4vice teachers exhibit essential skills in the new normal *Figure 1 Paradigm*	Quantitative Descriptive Analysis (QDA)	Intervention Program

Figure 1 presents the paradigm. In this study, the researchers used the IPO model.

Problem Statement

How do the practice teachers exhibit the essential skills in practice teaching to craft an Intervention Program (IP) to cope with the new normal stakeholders' standards? Therefore, the objective of the researchers was to explore the practice teachers' essential skills in practice teaching to craft an Intervention Program (IP) to cope with the new normal stakeholders' standards.

Specifically, the researchers answered these:
1. To what extent do the practice teachers exhibit essential skills with:
   1.1 media teaching-learning platforms;
      1.1.1   Facebook
      1.1.2   Microsoft Office
      1.1.3   GSuite (i.e., Google Docs, Google Forms, Google Meet)
      1.1.4   Zoom
   1.2 adjustment;
      1.2.1   flexibility
      1.2.2   time management
      1.2.3   resilience
      1.2.4   finding purpose and meaning in teaching
      1.2.5   self-confidence
      1.2.6   appreciation of others
2. To what extent do the stakeholders perceive the practice teachers exhibit essential skills with:
   2.1 media teaching-learning platforms;
      2.1.1   Facebook
      2.1.2   Microsoft Office

      2.1.3   GSuite (i.e., Google Docs, Google Forms, Google Meet)

      2.1.4   Zoom

  2.2 adjustment;

      2.2.1   flexibility

      2.2.2   time management

      2.2.3   resiliency

      2.2.4   finding purpose and meaning in teaching

      2.2.5   self-confidence

      2.2.6   appreciation of others

3. Is there a significant difference between the practice teachers' and stakeholders' perception of:

  3.1 media teaching-learning platforms;

      3.1.1   Facebook

      3.1.2   Microsoft Office (i.e., Microsoft Word, Microsoft PowerPoint, Microsoft Excel)

      3.1.3   GSuite (i.e., Google Docs, Google Forms, Google Meet)

      3.1.4   Zoom

  3.2 adjustment;

      3.2.1   flexibility

      3.2.2   time management

      3.2.3   resiliency

      3.2.4   finding purpose and meaning in teaching

      3.2.5   self-confidence

      3.2.6   appreciation of others

4. What Intervention Program (IP) may be crafted to help practice teachers cope with the new normal stakeholders' standards?

Hypothesis

H0= There is no variance between the practice teachers' and stakeholders' perceptions of:

1. media teaching-learning platforms &
2. adjustment

Method

      This section gives an outline of the research method that was employed in this study. It explained how the researchers chose the participants. It also introduced the instrument for data collection and the procedures to carry out this study. Lastly, the researchers also discussed the ethical considerations that were pursued in the process of this research. They wrote a letter of consent addressed to the Schools Division Superintendent (see Appendix A).

2. RESEARCH METHOD

In this study, the investigators used the descriptive approach. It collected quantifiable data for statistical analysis. Specifically, they used the quantitative analysis (QDA) to perceive the significant difference between the pre-service teachers' and stakeholders' perception of the former's skills. In the QDA methodology, the researchers distinctly found the difference and finalize the absolute difference among the variables. As quantitative data are always numeric, the researchers ordered, added them together, and the frequency of the responses in the questionnaire were counted. Therefore, in the descriptive statistics, responses were calculated using quantitative data.

Crafting the Intervention Program (IP) to cope with the new normal stakeholders' standard was the main interest of this study. It was also one of the vital reasons for the researchers to employ a QDA. Moreover, this study is descriptive quantitative in nature and quantitative descriptive analysis in approach. Furthermore, according to McCombes (2020), research which is descriptive is used to modify a population or situation precisely and methodically.

Specifically, questions 1 and 2 were answered by using a researchers-made questionnaire; question 3 was answered based on the statistical treatment made for questions 1 and 2 that referred to significant differences. For specific questions 1 and 2, the researchers used the mean rating and verbal descriptions to describe the extent of skills exhibited per variable. The researcher utilized ANOVA (one-way) to find the variance between the groups of self-evaluation scores of students, principals, and critic teachers. For specific question number 3, it was computed that there is a variance between the practice teachers' and stakeholders' perceptions in terms of all variables. Question 4, the main interest of the study, was about crafting an IP to help practice teachers cope with the stakeholders' standards. The items included in this IP were based on the perceived needs of practice teachers to be given attention.

The findings of this study were significant to students as practice teachers in the city of Malolos because they could hone their skills as required by the schools; to school teachers and principals so that they could monitor their practice teachers in the delivery of the lessons; and to future researchers to replicate this study and use other variables.

Respondents

The 260 practice teachers, 79 school principals, and 80 critic teachers in the Division of Bulacan were used. Practice teachers are those students in their terminal year in the University and they are those in their practicum or practice teaching. Specifically, included in this research were the 126 BSED 4th-year students taken from a total of 403 practice teachers with a different area of specialization (Sciences, Mathematics, English, Filipino, Social Studies, and Values Education) during the 2nd term of School Year 2021-2022 at the Bulacan State University. Table 1 shows the data.

Table 1 Number of Respondents

Course	Year and Section	Specialization/ Major	SL	AOL	RPL	TOTAL	Irreg. Students	Working Students	Recomm. Sample
4th YEAR									
BSED	A	Sciences	33	0	0	32	0	3	10
BSED	AA	Sciences	2	32	0	33	8	4	10
BSED	AAA	Mathematics	0	32	0	32	2	15	10
BSED	B	Mathematics	0	38	0	38	0	5	12
BSED	BB	English minor in Mandarin	0	32	0	34	0	15	11
BSED	BBB	English minor in Mandarin	0	35	0	35	3	3	11
BSED	C	Filipino	0	42	0	42	0	10	13
BSED	CC	Filipino	0	37	0	37	1	10	12
BSED	CCC	Social Studies	36	0	0	36	3	0	11
BSED	D	Social Studies	0	42	0	42	1	7	13
BSED	DD	Values Education	40	0	0	42	2	9	13
TOTAL						403			126

The researchers used the *raosoft* software to come up with the sample size with 95% confidence level. The confidence level indicates how accurately a sample that reflects the population being studied.

Aside from 126 students, also included in this research were 79 from 98 school principals and 80 from 100 critic teachers. Table 2 shows the data.

Table 2 Principal and Critic Teacher Respondents

EDDIS	Number of schools	Principals	Critic teachers
1	23	23	24
2	28	28	26
3	32	32	32
4	15	15	18
Total	98 (79)	98 (79)	100 (80)

Instruments

The researchers used the form for survey in data gathering (See Appendix B). However, informal interviews were likewise made for the validation of responses. Moreover, interview guide questions (cursory) were also used. Part One was for the extent of the practice teachers' skills on media teaching-learning platforms and adjustment. For media teaching-learning platforms, there were four dimensions/aspects (Facebook, Microsoft Office, GSuite [i.e., Google Docs, Google Forms, Google Meet], and Zoom. For each dimension/aspect, there were seven (7) benchmark statements each; so a total of 28 items were recorded. Part Two was for the practice

teachers' adjustment with six (6) dimensions/aspects (flexibility, time management, resilience, finding purpose and meaning in teaching, self-confidence, & appreciation of others). Again, for each dimension/aspect, there were seven (7) benchmark statements each; so a total of 42 statements were registered.

The statements in the questionnaire were crafted, The researchers had the items validated (See Appendix C).

Also, such items underwent a reliability test where (See Appendix D). They sought the assistance of their friend statistician about reliability. The Kappa value of 0.7 or higher should be good enough to use. The researchers likewise asked him to check the items slated in the researcher-made questionnaire.

For reliability, the researchers administered the questionnaire to 50 teachers in School XX in Pulilan, Bulacan for the computation of Cronbach alpha. However, only 46 responded. On the other hand, Cronbach alpha measures the internal consistency of a test. This group of teachers was not included in the actual conduct of the study. The coefficient is the expected correlation of one test form with an alternate form that contains the same number of items. The computed Cronbach alpha should be higher than .7. Otherwise, the researchers necessitated the revision of the entire items. The following were the results of the Cronbach alpha (see Appendix D).

Part One: Reliability Test on Media Teaching-learning Platforms

The expected value for the computed coefficient must be greater than 0.700 to qualify as "reliable" and the resulting Cronbach's alpha was 0.830 which confirms that the questionnaire was reliable.

The expected value for the computed coefficient must be greater than 0.700 to qualify as "reliable" and the resulting cronbach's alpha was 0.830 which confirms that the questionnaire was reliable.

For this dimension/aspect on Google, .926 was the computed coefficient and such was greater than 0.700 to qualify as "reliable" and the resulting Cronbach's alpha confirmed that the questionnaire was reliable.

ll the items for part one qualified as **reliable.** The resulting Cronbach's alpha confirmed that the questionnaire was reliable.

Part Two: Adjustment

For flexibility under part two of the adjustment, the computed coefficient was .930. It was assumed that items under this were reliable.

The computed coefficient for time management was .923.

It could be said that the items for part two are **reliable**. This gave the researchers a confident feeling to proceed to the next stage in the research process.

3. DATA COLLECTION AND ANALYSIS

The researchers gathered data and processed them with the Statistical Package for Social Science (SPSS) to get a significant difference. For the extent of the practice teachers' use of skills, the researchers used these scales:

Mean Numerical Rating Equivalent	Verbal Interpretation for extent	Descriptive
4.50-5.00	Very Great	Very Great Performance
3.50-4.49	Great	Great Performance
2.50-3.49	Moderate	Fair Performance
1.50-2.49	Less Moderate	Minimal Performance
1.0-1.49	No Extent	Low Performance

Ethical Considerations

The completion of the research was under the guidance of ethics that needed to be considered. It is one of the requirements in doing an investigation.

Initially, all the necessary permits were collected before the implementation of the research.

Second, participants were given the option to participate or decline. Their participation in the interview was voluntary. To ensure this, they were assured that no future transaction of the participants with the researcher would be affected whatever their decision. In addition, no reward was also given for participating.

Third, each participant was also given the option to withdraw anytime during the data collection. They may also request to delete their responses or profile once the research was completed.

Fourth, another consideration was to protect their identity. All of the information was treated with utmost secrecy and confidentiality. The name or any information that would pinpoint their identity was not mentioned in any part of the paper. Codes were used as a substitute for their names during the transcription and presentation of findings in the next chapter.

Lastly, the opinions of the participants were respected and the researcher did not engage in a debate over their opinions.

4. RESULTS AND DISCUSSIONS

Extent of the Practice Teachers' Perception of their Essential Skills in Media Teaching-learning Platforms

Based on how the practice teachers see the extent of their essential skills with media teaching platforms, Facebook got 3.88 which was "to a great extent" with a descriptive equivalent of **Great Performance**. For Microsoft Office, 3.92 was registered. This was "to a great extent" with a descriptive equivalent of **Great Performance**. Microsoft Office, GSuite (i.e., Google Docs, Google Forms, Google Meet) got 4.07 and was "to a great extent" with a descriptive equivalent of **Great Performance**. Zoom had 4.11 was "to a great extent" with a descriptive equivalent of **Great Performance**. In terms of new learning paradigms, practice teachers have to be flexible; according to Thooptong (2017), teacher preparation is important for teachers' development. During difficult times, they have to learn how to use the internet. In terms of media platforms, the practice teachers are confident that their skills are exhibited to a great extent. Miller-Bains, Cohen, and Wong (2022), supported this finding when they disclosed that data literacy is critical for teachers. This paralleled Unga, Labadin, and Suraya (2022) when they said that teachers should focus on skills development. Millennials are adept at using media platforms. These findings were supported by Lydia Logan (2021) when she said that professional training is needed while there is learning online. She continued by saying that teachers must hone their skills.

Under adjustment, flexibility got 3.14. This was "Moderate Extent" with a descriptive equivalent of **Fair Performance**. Time management garnered 3.35 which and was "Moderate Extent" with a descriptive equivalent of **Fair Performance**. Resilience got 3.78 and interpreted as "Great Extent" with a descriptive equivalent of Great Performance. Finding purpose and meaning in teaching received 3.99 which was "Moderate Extent" with a descriptive equivalent of **Fair Performance**. Confidence of the self had 4.05, and it was "Moderate Extent" with a descriptive equivalent of **Fair Performance**. 1.2.6 Appreciation of others received 3.49 which was "Moderate Extent" with a descriptive equivalent of **Fair Performance**. However, for adjustment on the use of media platforms, the practice teachers rated themselves as fair performance, which may be because they still need some training on this aspect. In fact, during the informal online interview, they disclosed that they are still adamant to use media platforms. Çamlıbel-Acar and Eveyik-Aydın (2022) agreed that practice teachers preferred face-to-face instruction. Table 3 shows the data.

Table 3 Mean Rating of the Practice Teachers' Perception of their Essential Skills in terms of Media Teaching-learning Platforms

Pre Service Teachers' Perception of their Essential Skills	MEAN RATING	VERBAL INTERPRETATION
Media platforms: Facebook	3.88	Great Extent
Microsoft Office	3.92	Great Extent
GSuite (i.e., Google Docs, Google Forms, Google	4.07	Great Extent
Zoom	4.11	Great Extent
Adjustment: Flexibility	3.14	Moderate Extent
Time management	3.35	Moderate Extent
Resiliency	3.78	Great Extent
Finding purpose and meaning in teaching	3.99	Great Extent
Self-confidence	4.05	Great Extent
Appreciation of others	3.49	Great Extent

Extent of how the Stakeholders Perceive the Practice Teachers Exhibit Essential Skills on Media Teaching Platforms

In terms of the extent of how the stakeholders perceive the practice teachers exhibit essential skills on media teaching platforms, Facebook got 2.55 which was "Moderate Extent" with a descriptive equivalent of **Fair Performance**. Microsoft Office got 2.26 and was "Less Moderate Extent" with a descriptive equivalent of **Minimal Performance**. GSuite (i.e., Google Docs, Google Forms, Google Meet) had 2.15 which was "Less Moderate Extent" with a descriptive equivalent of **Minimal Performance**. Zoom had 2.18 which was "Less Moderate Extent" with a descriptive equivalent of **Minimal Performance**. About adjustment, Flexibility garnered 3.48 which was "Moderate Extent with a descriptive equivalent of **Fair Performance**. Time management got 3.63 and was "Great Extent" with a descriptive equivalent of **Great Performance**. Resiliency got 4.24 which was "Great Extent" with a descriptive equivalent of **Great Performance**. Finding purpose and meaning in teaching received 4.30 which was interpreted as "Great Extent" with a descriptive equivalent of **Great Performance**. Self-confidence got 3.82 which was "Great Extent" with a descriptive equivalent of **Great Performance**. Appreciation of others garnered 3.91 which was "Great Extent" with a descriptive equivalent of **Great Performance**. Only adjustment (flexibility, time management, & resiliency, finding purpose and meaning in teaching, self-confidence, & appreciation of others) got **Great Extent**, while in some other aspects got **moderate** or **low moderate extent** may be because the perception comes from the stakeholders; they believe that the pre-service teachers still lacked the needed skills. These findings were consistent with Çamlıbel-Acar and Eveyik-Aydın (2022) when they said that practice teachers preferred face-to-face instruction. Being seasoned teachers and baby boomers, they perceived practice teachers as students who indicated a feeling more comfortable and capable in conventional classrooms. During the informal interviews conducted online, the critic teachers disclosed that they wanted traditional classrooms. This was supported by YingYau, Yeung, and Lee, (2022) when they stated that teachers like traditional classrooms. Their perceptions were affected by their inadequacy in online teaching because of the generation gap. Table 4 displays the data.

Table 4 Mean Rating of the Stakeholders' Perception of the Practice Teachers' Essential Skills in terms of Media Teaching-learning Platforms

Stakeholders' Perceptions of the Pre-service Teachers' Essential Skills	MEAN RATING	VERBAL INTERPRETATION
Media platforms: Facebook	2.55	Moderate Extent
Microsoft Office	2.26	Less Moderate Extent
GSuite (i.e., Google Docs, Google Forms, Google	2.15	Less Moderate Extent
Zoom	2.18	Less Moderate Extent
Adjustment: Flexibility	3.48	Great Extent
Time management	3.63	Great Extent

Resiliency	4.24	Great Extent
Finding purpose and meaning in teaching	4.30	Great Extent
Self-confidence	3.82	Great Extent
Appreciation of others	3.91	Great Extent

Significant Difference between the Practice Teachers' and Stakeholders' Perception of their Skills

There is a variance between practice teachers' and stakeholders' perception in all variables such as in **media teaching-learning platforms (**Facebook, Microsoft Office, GSuite (i.e., Google Docs, Google Forms, Google Meet), and Zoom and a significant difference between practice teachers' and stakeholders' perceptions were noted in **adjustment** (flexibility, time management, resiliency, finding purpose and meaning in teaching, self-confidence, and appreciation of others).

The vagueness of the answer though comes from the fact that the researchers used an instrument about perception, and it is a self-evaluation, for practice teachers rated themselves and then the researchers had ratings coming from principals and critic teachers. the emerging concept of the generation gap is noted.

The same outcome was computed for the significant difference between PST and stakeholders' perceptions when it comes to adjustment, flexibility, time management, resiliency, finding purpose, self-confidence (see Appendix E).

Intervention Program (IP) that was crafted to Help Practice Teachers Cope with the New Normal Stakeholders' Standards

Based on the findings of the study, an **Intervention Program** (IP) was crafted to help practice teachers cope with the new normal stakeholders' standards. Successful implementation of this **IP** may enhance the prospective teachers' pedagogical skills and competencies to match the industry standards, thus leading to better performance in the new normal. The IP (See Appendix F) is composed of the rationale, objectives, activities, time frame, funding, strategies, persons involved, and success indicators. Such IP has to be implemented the whole year round.

5. SUMMARY, CONCLUSIONS, AND FUTURE RESEARCH DIRECTIONS

The practice teachers see the extent of their essential skills with media teaching platforms as **Great Performance**. Their adjustment is **Fair Performance**. In terms of the extent of how the stakeholders perceive the practice teachers exhibit essential skills on media teaching platforms, the stakeholders perceived pre-service teachers with **Fair Performance** and **Minimal Performance.** There is a significant difference between practice teachers' and stakeholders' perceptions in all variables such as in **media teaching-learning platforms** and **adjustment**. Therefore, based on the findings of this study, Therefore, based on the findings, an **Intervention**

Program (IP) was crafted to help practice teachers cope with the new normal stakeholders' standards. Therefore, in the light of these findings, the researchers concluded that 1) practice teachers' essential skills in the media teaching platforms are great but fair in the adjustment; 2) stakeholders' perception of the practice teachers' essential skills is fair and fair or minimal performance in the adjustment; and 3) the researchers *did not accept* the null hypothesis because there is a significant difference between practice teachers' and stakeholders' perception in all variables. Hence, in light of these conclusions, the researchers recommend that 1) training and seminars on media teaching platforms be intensified; 2) adjustment or transition into teaching be enhanced; (3) an IP be implemented and evaluated; and 4) interested researchers may be encouraged to replicate the study by using other means to evaluate the practice teachers' skills on the media teaching platforms.

REFERENCES

Aquino, A. (2021). From Students' Lenses: What Constitutes Good Teaching? International Journal of Learning and Teaching . Volume 7, No. 2. pp101-106.

Brandt, J., Barth, B., Merritt, E. & Hale, A. (2021). "A matter of Connection: The 4 Cs of Learning in Pre-service Teacher Education for Sustainability." *Journal of Cleaner Production*. Volume 279, 123749.

Çamlıbel-Acar, Z. & Eveyik-Aydın, E. (2022). "Perspectives of EFL Teacher Trainers and Pre-service Teachers on Continued Mandatory Distance Education during the Pandemic." *Teaching and Teacher Education*. Volume 112, 103635.

Çelik, S., Tomris, G., & Tuna, D.M. (2022). "The COVID-19 pandemic: The Evaluation of the Emergency Remote Parent Training Program Based on At-home Support for Children with Down Syndrome." *Children and Youth Services Review*. Volume 133, 106325.

Chevalier, M., Giang, C., El-Hamamsy, E., Bonnet, E., Papaspyros, V., Pellet, J., Audrin, C., Romero, M., Baumberger, B., & Mondada, F. (2022). "The Role of Feedback and Guidance as Intervention Methods to Foster Computational Thinking in Educational Robotics Learning Activities for Primary School." *Computers & Education*. Volume 180, 104431.

Cristobal, A., & Cristobal, M. C. (2017). *Practical research for senior high school 1*. C & E Publishing, Inc.

https://www.philstar.com/headlines/2020/03/12/2000138/covid-19-affects-363-million-students-worldwide).

Logan, L. (2022). https://www.educationandcareernews.com/education-technology/why-teacher-professional-learning-is-essential-during-the-pandemic/

Lu, L., & Wang, Y. (2022). "The Effects of Different Interventions on Self-regulated Learning of Pre-service Teachers in a Blended Academic Course." *Computers & Education*. Volume 180, 104444.

McCombes, S. (2020, July 10). Descriptive Research.

McCormic, M., Mattera, D., Maiera, M., Xia, S., Jacob, R., Morris, P. (2022). "Different settings, different patterns of impacts: Effects of a Pre-K Math Intervention in a Mixed-Delivery System." *Early Childhood Research Quarterly*. Volume 58, Pages 136-154.

Michailidi, E. & Stavrou, D. (2021). "Mentoring In-service Teachers on Implementing Innovative Teaching Modules." *Teaching and Teacher Education*. Volume 105, 103414.

Merill, S. (2020). https://www.edutopia.org/article/teaching-through-pandemic-mindset-moment

Miller-Bains, K., Cohen, J., &Wong, V. (2022). "Developing Data Literacy: Investigating the Effects of a Pre-service Data Use Intervention." *Teaching and Teacher Education*. Volume 109, 103569.

Robinson, E. (2022). https://www.edutopia.org/article/teaching-through-pandemic-mindset-moment

Simpson, A., Day, C., Goulding, J., & Asha, J. (2022). "Australian Teachers' Perceptions of Effectiveness in a Performative Culture." *Teaching and Teacher Education*. Volume 109, 103542.

Taghizadeh, M. & Amirkhani, S. (2022). "Pre-service EFL Teachers' Conceptions and Strategy Use in Managing Online Classes." *System*. Volume 104, 102671.

Thooptong, K. (2017). "Stakeholders' Perceptions of Effective EFL Teachers." *Journal of Education* v11 n4 p155-174.

Unga, L., Labadin, J., & Suraya, F. (2022). "Computational Thinking for Teachers: Development of a Localized E-learning System." *Computers & Education*. Volume 177, 104379.

YingYau, A., Yeung, M. &Lee, C. (2022). "A Co-orientation Analysis of Teachers' and Students' Perceptions of Online Teaching and Learning in Hong Kong Higher Education during the COVID-19 Pandemic." *Studies in Educational Evaluation*. Volume 72, 101128.

Yuan, R. Yang, M. & Lee, I. (2021). "Preparing Pre-service Language Teachers to Teach Critical Thinking: Can Overseas Field School Experience Make a Difference?" *Thinking Skills and Creativity*. Volume 40, 100832.