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Principals' Information Technology Leadership Preparedness in the New Normal: Towards an Executive Development Program

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Abstract

In order to prevent the spread of COVID-19 to schools and ensure the safety and health of teachers and students, the Ministry of Education in China issued an online platform at all levels and of all kinds schools, actively respond and carry out online teaching activities. Although such a large-scale online teaching is a special move to deal with the epidemic, it is also an important opportunity to promote the development of school informatization. It is a rare opportunity to test and improve the information leadership of principals. To carry out online education in the school field is to test the principal's ability to integrate information technology with leadership work, and put forward higher requirements for information leadership. Understanding the development status and implementation difficulties of principals' informatization leadership will help improve the effectiveness of online teaching and provide reference for school informatization management in the post-epidemic era.

Keywords

Technology Leadership Preparedness; Principal; Post-epidemic Era.

1. Introduction

At the beginning of 2020, COVID-19 broke out in China. In order to prevent the spread of COVID-19 to schools and ensure the safety and health of teachers and students, the Ministry of Education in China issued an online platform at all levels and of all kinds schools, actively respond and carry out online teaching activities. Currently, there are about 237,000 primary and secondary schools in China, with nearly 190 million primary and secondary school students. Although such a large-scale online teaching is a special move to deal with the epidemic, it is also an important opportunity to promote the development of school informatization. It is a rare opportunity to test and improve the information leadership of principals.

The principal is the highest person in charge of the school administration, representing the school externally and presiding over the overall school affairs internally, who plays a key role in planning, designing, organizing, implementing and evaluating the work of the academic community.

To carry out online education in the school field is to test the principal's ability to integrate information technology with leadership work, and put forward higher requirements for information leadership.

Understanding the development status and implementation difficulties of principals' informatization leadership will help improve the effectiveness of online teaching and provide reference for school informatization management in the post-epidemic era.

2. Background of the Study

The principal is the leader of school informatization, so it is necessary to understand the revolutionary significance of information technology to the development of education, understand the principles, policies and strategic arrangements of national education

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informatization, grasp the historic opportunities brought by information technology, lead the reform of educational philosophy, promote the innovation of teaching mode, push forward the transformation of management mode, and constantly accelerate the pace of school modernization.

Today's students are plugged in to an engaging multimedia world powered by information technology. This connection has created high expectations for technology to engage today's learners and transform education to support 21st century skills. School leaders have the complex task of incorporating information technology to enhance teaching and learning.

School principals must navigate multiple complex responsibilities to ensure that information technology is available and safe for student and teacher to use, however, school principals must also participate in technology use preparation, so they can use the 21st century information technology as well as encourage its use.

"What is the information technology leadership of principals?", "How to improve the information trchnology leadership of principals?" are two problems that every principal should be aware of under the information environment.

Principals must ensure that information technology is available for student and teacher use; however, principals must also participate in information technology use preparation so they can use the 21st century information technology as well as encourage its use.

Therefore, the purpose of this study was to determine the perceptions of principals on their technology leadership preparedness in the new normal.

2.1. Statement of the Problem

This study will determine the principals' preparedness for information technology leadership as perceived by the teachers and the principals themselves towards an executive development program.

Specifically, it sought answers to the following questions:

1. What is the profile of the teachers and principal respondents in terms of?

1.1 Age

1.2 Sex

1.3 Tenure in the school

2. What is the technology leadership preparedness of principals as perceived by themselves in terms of the following ISTE standards for educational leaders?

2.1 Equity and Citizenship Advocate

2.2 Visionary Planner

2.3 Empowering Leader

2.4 System Designer

2.5 Connected Learner

3. What is the technology leadership preparedness of principals as perceived by their teachers in terms of the following ISTE standards for educational leaders?

3.1 Equity and Citizenship Advocate

3.2 Visionary Planner

3.3 Empowering Leader

3.4 System Designer

3.5 Connected Learner

4. Is there a significant difference on the preparedness of principals for technology leadership as perceived by themselves when their profile is taken as test factor?

ISSN: 2688-8653

5. Is there a significant difference on the preparedness of principals for technology leadership as perceived by the teachers when their profile is taken as test factor?

6. Is there a significant relationship on the perception of both the adminstrators and teachers on the preparedness of principals on information technology leadership?

7. What are the issues and problems of the principals in implementing information technology in the school?

8. Based on the findings of the study, what executive development program for principals can be proposed?

2.2. Significance of the Study

This study will benefit the following groups or individuals:

Selected administrators. For them to know their information technology leadership competence for their further professional development.

Teachers. For them to be guided on the competence that a principal should possess for their own future career path

Students. The students will have high quality of education and will be competitive in the job market through the guidance of a technologically enhanced principals

Human Resource Managers. It will be helpful to deepen their understanding of the relevant planning and implementation of the faculty development program in their college and universities especially for principals and other administrators.

Other School Administrators. The school administrators or superiors of faculty members will be guided by the result of this study. It will provide effective suggestions for the university faculty development program management to enhanced technology leadership.

Future Researchers. This study will guide the future researchers who might be interested in doing a related study on the competency needs, prospects and opportunities of principals towards technology leadership.

2.3. Scope and Delimitation of the Study

This study focused on the perceptions of principlas on their preparedness as information technology leaders as well as the teachers perception towards the development of an executive program for principals.

The technology leadership preparedness of principals will be assessed by the pincipals themselves and their teachers using the ISTE Standards for Education Leaders developed by the International Standards for Technology Education (ISTE) in 2019. The standards include the following areas: equity and citizenship advocate, visionary planner, empowering leader, system designer, and connected learner.

According to the calculation result of the Slovin formula and Qualtrics， this study will survey 30 principals of elementary and secondary school. A selected group of 200 teachers will also be ask to answer the questionnaire.

The study will be conducted in Fangcheng county, Henan Province, China during the second semester of school year 2021-2022.

3. Literature References

Through literature review, it is found that the academic circle pays more and more attention to the important value of principal information technology leadership in promoting the development of school informatization.

For example, Zhi Tingjin et al., based on empirical research, point out that principal information technology leadership has a positive impact on school informatization efficiency. Wu Haiyan

ISSN: 2688-8653

pointed out that the educational technology leadership of the principal has provided a huge internal motivation for the information construction of the school. At the same time, the development of school information construction will also promote the further improvement of principal leadership, and the two present a good interactive relationship. Mojgan A Fshari and other scholars pointed out that the principal's role as a technology leader is of great significance for promoting school informatization teaching and management [1].

3.1. Educational Leader Preparation

Educational leader preparation includes traditional educational programs provided by accredited colleges and universities that lead to professional certification in Educational Administration. Programs developed and offered by school districts or other national organizations are also included in this definition.

3.2. Technology Leadership of Administrators

In a study conducted by Köksal Banoğlu (2014), he stated that technology leadership roles in schools touch many responsibilities ranging from ensuring the appropriateness of lighting facilities in classrooms to the assurance of healthy computer usage and also ranging from using technology in ways that support democratic principles and protecting the equal access to technology to preventing gender inequality in technology usage.

3.3. Conceptual Framework

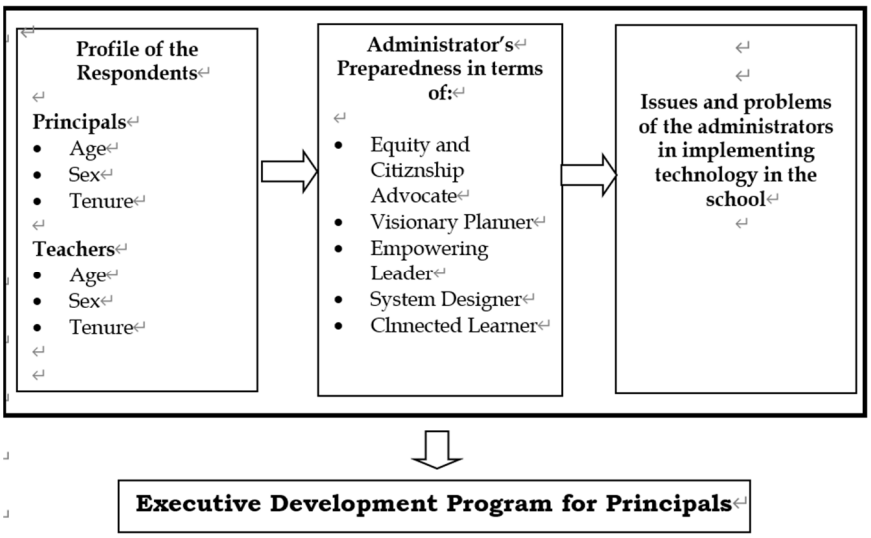

Figure 1. Research Paradigm

As shown in the research paradigm above, in the first box, the researcher determined the profiles of the principals and teacher respondents based on their age, sex, and tenure.

In the second box, the researcher determined the preparedness of the administrators for technology leadership as assessed by the principals themselves and the teachers in terms of equioty and citizenship advocate, visionary planner, empowering leader, system designer, and connected learner.

The third box was on the issues and problems encountered by the administrators in implementing technology in their school.

The result of the analysis will be the basis of the researcher in developing an executive development program for principals.

ISSN: 2688-8653

3.4. METHODOLOGY

The chapter presents the research design and techniques used by the researcher in conducting the study. It includes respondents of the study, the research locale, research instrument used, data processing and the statistical tools utilized in the analysis and interpretation of data.

3.5. Research Design

This study will use descriptive research which is fact-finding with interpretation. It utilizes the gathering of data concerning the current state of things investigations through distribution of questionnaire. It also involved the treatment of data in order to test hypothesis and to answer questions concerning the current status of the subject of the study.

The purpose of this study is to explore the perceptions principals have of their technology leadership preparedness. Likewise, he researcher will also findc out the teachers assessment of ther preparedness of their own principals.

3.6. Research Locale

The study will be conducted in Fangcheng County which located in southwest Henan Province.

As of May 2021, Fangcheng County has jurisdiction over 14 towns, 1 ethnic township, 4 subdistricts, and 1 forest farm. According to the seventh census data, as of November 1, 2020, Fangcheng County has a permanent population of 873,731 people.

Fangcheng has more than 500 public and private primary and secondary schools in the county, there are more than 500 primary and secondary school principals, and more the 10,000 teachers. The county attaches great importance to education and has devoted a lot of energy and financial support to it, so it is a good object for investigation and research in this paper.

3.7. Population and Sampling Technique

This study will concentrate on the items in the survey questionnaires and interview guide questions will be provided for the respondents.

The respondents in this study are limited to the 200 teachers and 30 principals of elementary and secondary school in Henan province of China. Purposive sampling be will used in this study.

3.8. Data Gathering Procedure

The survey will be conducted by electronic questionnaire and distribute through the principal's and teachers' Wechat group. From January to March, 2022, a total of 230 questionnaires will be distributed o the intended respondents of the study.

3.9. Statistical Treatment of Data

For ease of the analysis of the data gathered, the researcher employed the following statistical tools and treatments for the analysis of the data:

1. Frequency Count and Percentage.

The researcher used these two measures on the profile variables in the study.

2. Weighted Mean.

This was used by the researcher in the analysis of data based on the respondents' answers.

3. Standard Deviation.

This was employed in every item that require the mean values to determine the measures of dispersion of the responses given by the respondents.

The researcher used the following Likert scale:

4. t-test or ANOVA

This parametric test was used by the researcher in testing three following hypotheses:

ISSN: 2688-8653

Table 1. Likert scale

Scale	Attitude	Perception
3.51-4.00	Strongly agree	Very High
2.51-3.50	Agree	High
1.51-2.50	Disagree	Low
1.00-1.50	Strongly disagree	Very low

1. There is no significant difference on the preparedness of principals for technology leadership as perceived by themselves when their profile is taken as test factor.
2. There is no significant difference on the preparedness of principals for technology leadership as perceived by the teachers when their profile is taken as test factor.
3. There is no significant relationship on the perception of both the adminstrators and teachers on the preparedness of principals on information technology leadership.

Decision Criteria

The analysis of the hypotheses was carried out using the 0.05 level of significance.

4. Results, Analysis and Interpretation of Data

This chapter presents the results of the gathered data with the analysis and interpretation according to the statement of the problem. The profile of the teacher and principal respondents in terms of age, sex, and tenure in the school, assessment of the teachers and the principals themselves on the technology leadership preparedness based on the ISTE standards for educational leaders, differences in their assessments when their profile is taken as test factor, and the the issues and problems of the principals in implementing information technology in the school are hereby presented with the end view of the proposed executive development program for principals.

4.1. Differences in the Assessment of the Two Groups of Respondents on Principals' Technology Leadership Preparedness

Table 2 presents the diffences in the assessment of teachers and principals themselves on principals' technology leadership preparedness.

As shown in Table 2, respondents have obtained a computed t-value of -1.30 in terms of equity and citizenship advocate with the significance value of 0.20. Since the significance value is higher than the set 0.05 level of significance, null hypothesis is accepted which means that there is no significant difference between the assessment of the teacher and principal respondents on Principals' technology leadership preparedness. This goes to show that teacher and principal respondents themselves have relatively the same perceptions on the Principals' level of preparedness on technology leadership in terms of equity and citizenship advocate.

Generally, respondents have obtained an over-all computed t-value of --2.18 with the significance value of 0.03. Since the significance value is less than the set 0.05 level of significance, null hypothesis is rejected which means that there is a significant difference between the assessment of the teacher and principal respondents on Principals' technology leadership preparedness. The result reveals that teacher and principal respondents themselves have different perceptions on the Principals' level of preparedness on technology leadership. This further indicates that teachers have better assessment on the level of preparedness of Principals on teachnology leadership than the Principals have perceived themselves.

ISSN: 2688-8653

Table 2. Differences in the Assessment of the Two Groups of Respondents on Principals' Technology Leadership Preparedness

ISTE Standards for Educational Leaders	Group	Mean	SD	Computed t-value	Sig	Decision on Ho	Interpretation
1. Equity and Citizenship Advocate	Principals	1.72	0.50	-1.30	0.20	Accepted	Not Significant
	Teachers	1.85	0.49				
2. Visionary Planner	Principals	1.87	0.58	-1.13	0.26	Accepted	Not Significant
	Teachers	2.00	0.54				
3. Empowering Leader	Principals	1.82	0.48	-3.39	0.00	Rejected	Significant
	Teachers	2.17	0.56				
4. System Designer	Principals	1.86	0.50	-2.27	0.03	Rejected	Significant
	Teachers	2.09	0.55				
5. Connected Learner	Principals	1.88	0.52	-1.70	0.09	Accepted	Not Significant
	Teachers	2.07	0.58				
Over-all	Principals	**1.83**	**0.45**	**-2.18**	**0.03**	**Rejected**	**Significant**
	Teachers	**2.03**	**0.48**				

5. Summary of Findings, Conclusions and Recommendations

Summary of Findings

The present study determined the profile of the teacher and principal respondents, their assessments of the Principals' technology leadership preparedness, differences in their assessment when profile is taken as test factor, differences between the assessment of the teachers and principals themselves, and the issues and problems of the principals in implementing information technology in the school.

5.1. Profile of the Teacher Respondents

Most of the principal respondents (50%) are within the age group of 31-40 years old, male (50%) and are tenured in the school for more than 20 years. For teacher respondents, majority of them are female, mostly are within the age group of 41-50 years old, and have been tenured in the school for more than 20 years.

5.2. Principal Respondents' Self-Assessment on their Technology Leadership Preparedness

Based from the result, empowering leader gained the highest assessment from the Principals, however, this only indicates a low level of preparedness on technology leadership among the Principals. Among the five ISTE Standards for Educational Leaders, equity and citizenship advocate gained the lowest assessment from the Principals themselves. An over-all mean value of 2.03 clearly shows that Principals exhibited a low level of technology leadership preparedness based on their own assessment.

On Equity and Citizenship Advocate

Principals sometimes ensure that all students have access to the technology and connectivity necessary to participate in authentic and engaging learning opportunities with the highest assessment given but indicating a low level of preparedness of Principals based on their own assessment. Similary, they sometimes cultivate responsible online behavior including the safe, ethical and legal use of technology, sometimes ensure all students have skilled eachers who actively use technology to meet students learning needs, and sometimes model digital citizenship by critically evaluating online resources, engaging in civil discourse online and using digital tools to contribute to positive social change all indicating a low level of technology preparedness among the Principals. A composite mean value of 1.85 shows that Principals

ISSN: 2688-8653

exhibited a low level of technology learership preparedness in terms of equity and citizenship advocate based on their own assessment.

On Visionary Planner

Principals sometimes engage education stakeholders in developing and adopting a shared vision for using technology to improve student success, informed by the learning sciences with the highest assessment given but indicating a low level of preparedness. Similarly, they sometimes build on the shared vision by collaboratively creating a strategic plan that articulates how technology will be used to enhance learning, sometimes evaluate progress on the strategic plan, make course corrections, measure impact and scale effective approaches for using technology to transform learning, sometimes share lessons learned, best practices, challenges and the impact of learning with technology with other education leaders who want to learn from this work, and sometimes communicate effectively with stakeholders to gather input on the plan, celebrate successes and engage in a continuous improvement cycle indicating a low level of preparedness among the Principals. A composite mean value of 2.00 shows that Principals manifested a low level of technology learership preparedness in terms of visionary planner based on their own assessment.

On Empowering Leaders

Principals sometimes empower educators to exercise professional agency, buildteacher leadership skills and pursue personalized professional learning with the highest assessment given but indicating a low level of preparedness among the Principals based on their own assessment. Similarly, they sometimes inspire a culture of innovation and collaboration that allows the time and space to explore and experiment with digital tools, sometimes develop learning assessments that provide a personalized,actionable view of student progress in real time, sometimes build the confidence and competency of educators to put the ISTE Standards for sstudents and educators into practice, and sometimes support educators in using technology to advance learning that meets the diverse learning, cultural and social-emotional needs of individual students all indicating a low level of preparedness among the Principals. A composite mean value of 2.17 shows that Principals have shown a low level of technology learership preparedness in terms of empowering leader based on their own assessment.

On System Designer

Sometimes Principals establish partnerships that support the strategic vision, achieve learning priorities and improve operations with the highest assessment given but indicating a low level of preparedness among the Principals. Similarly, they sometimes lead teams to collaboratively establish robust infrastructure and systems needed to implement the strategic plan, sometimes ensure the resources for supporting the effective use of technology for learning are sufficient and scalable to meet future demand, and sometimes protect privacy and security by ensuring hat students and staff observe effective privacy and data management policies all indicating that Principals have a low level of preparedness. A composite mean value of 2.09 shows that Principals have a low level of technology leasdership preparedness in terms of systems designer based on their own assessment.

On Connected Learner

Principals sometimes participate regularly in online professional learning networks to collaboratively learn with and mentor other professionals with the highest assessment given but indicating a low level of preparedness among the Principals. Similarly, they sometimes use technology to regularly engage in reflective practices that support personal and professional growth, sometimes develop the skills needed to lead and navigate change, advance systems and promote a mindset of continuous improvement for how technology can improve learning, and sometimes set goals to remain current on emerging technologies for learning innovations in pedagogy and advancements in the all indicating that Principals have a low level of

ISSN: 2688-8653

preparedness. A composite mean value of 2.07 indicates that Principals have a low level of technology leasdership preparedness in terms of connected learner based on their own assessment.

5.3. Teacher Respondents' Assessment on the Technology Leaership Preparedness of Principals

Based from the result, connected learner gained the highest assessment from the teachers, however, this only indicates a low level of preparedness on technology leadership among the Principals. Among the five ISTE Standards for Educational Leaders, equity and citizenship advocate gained the lowest assessment from the teacher respondents. An over-all mean value of 1.83 clearly shows that Principals exhibited a low level of technology leadership preparedness based on the assessment of the teacher respondents.

On Equity and Citizenship Advocate

It was perceived by the teacher respondents that Principals sometimes model digital citizenship by critically evaluating online resources, engaging in civil discourse online and using digital tools to contribute to positive social change with the highest assessment given but indicating a low level of preparedness of Principals. Similarly, it was perceived by the teacher respondents that Principals sometimes cultivate responsible online behavior, including the safe, ethical and legal use of technology, sometimes ensure all sudents have access to the technology and connectivity necessary to participate in authentic and engaging learning opportunities, and sometimes ensure all students have skilled teachers who actively use technology to meet student learning needs all indicating a low level of preparedness of Principals. A composite mean value of 1.72 only shows that Principals have a low level of technology leadership preparedness in terms of equity and citizenship advocate as assessed by the teacher respondents.

On Visionary Planner

Teachers perceived that Principals sometimes evaluate progress on the strategic plan, make course corrections, measure impact and scale effective approaches for using technology to transform learning with the highest assessment given but indicating a low level of preparedness among the Principals based on the assessment of the teachers. Similarly, they've seen that Principals sometimes communicate effectively with stakeholders to gather input on the plan, celebrate successes and engage in a continuous improvement cycle, sometimes lessons learned, beest practices, challenges and the impact of learning with technology with other education leaders who want to learn fromt his work, sometimes Principals bukd on the share vision by collaboratively creating a strategic plan that articulates how technology will be used to enhance learning, and sometimes Principals engage education stakeholders in developing and adopting a shared vision for using technology to imprve student success, and informed by the learning sciences but indicating a low level of preparedness among the Principals. A composite mean value of 1.88 only shows that Principals exhibited a low level of technology leadership preparedness in terms of visionary planner based on the assessment of the teacher respondents.

On Empowering Leader

Teacher respondents perceived that Principals sometimes develop learning assessments that provide a personalized, actionable view of student progress in real time with the highest assessment given but indicating a low level of preparedness among the Principals. Similarly, teachers have seen the Principals that they sometimes inspire a culture of innovation and collaboration that allows the time and space to explore and experiment with digital tools, sometimes build the confidence and competency of educators to put the ISTE Sgtandards for Students and Educators into practice, sometimes empower educators to exercise professional agency, build teacher leadership skills and purse personalized professional learning, and

ISSN: 2688-8653

sometimes support educators in using technology to advance learning that meets the diverse learning, cultural and social-emotioanl needs of individual students all indicating a low level of preparedness among the Principals according to the teacher respondents. A composite mean value of 1.82 shows that Principals manifested a low level of technology leadership preparedness in terms of empowering leaders as assessed by the teacher respondents.

On System Designer

It was perceived by the teacher respondents that Principals sometimes ensure that resources for supporting the effective use of technology for learning are sufficient and scalable to meet future demand with the highest assessment given but indicating a low level of preparedness among the Principals. Similarly, it was perceived by the teachers the Principals sometimes lead teams to collaboratively establish robust infrastructure and systems needed to implement the strategic plan, sometimes they establish partnership that support the strategic vision, achieve lerning priorities and improve operations, and sometimes protect privacy and security by ensuring that students and staff observe effective privacy and data management policies indicating a low level of preparedness among the Principals based on the assessment of the teacher respondents. A composite mean value of 1.86 only shows that Principals have shown a low level of technology leadership preparedness in terms of systems designer as assessed by the teachers.

On Connected Learner

It was perceived by the teacher respondents that Principals sometimes use technology to regularly engage in reflective practices that support personal and professional growth, and that they sometimes develop the skills needed to lead and navigate change, advance systems and promote a mindset of continuous improvement for how technology can improve learning with the highest assessment given but indicating a low level of preparedness. Similarly, it was perceived by the teachers that Principals sometimes participate in online professional learning networks to collaboratively learn with and mentor other professionals, and sometimes set goals to remain current on emerging technologies for learning, innovations in pedagogy and advancements in the learning sciences also indicating a low level of preparedness among the Principals. A composite mean value of 1.88 indicates that Principals manifested a low level of technology leadership preparedness in terms of connected learner as assessed by the teacher respondents.

5.4. Differences in the Self-Assessment of the Principal Respondents on their Technology Leadership Preparedness When their Profile is Taken as Test Factor

On Age

The result shows that there were significant differences in the assessment of the Principal respondents on their technology leadership preparedness when their age is taken as test factors. This further shows that Principal respondents who are within the age group of 20-30 years old have seen themselves to be less prepared for technology leadership in terms of equity and citizenship advocate, visionary planner, and connected learner than those who are in the age group of 31-40 years old and 41-50 years old, while it can be noticed that those who are in the age group of 41-50 years old have shown the highest assessment of themselves as regards their technology leadership preparedness in terms of equity and citizenship advocate, visionary planner, and connected learner. It was also found that Principal respondents who are within the age group of 20-30 years old have seen themselves to be less prepared for technology leadership in terms of empowering leader, and system designer than those who are in the age group of 41-50 years old, while it can also be noticed that those who are in the age group of 41-50 years old have shown the highest assessement of themselves as regards technology preparedness in terms of empowering leader and system designer.

ISSN: 2688-8653

On Sex

The result shows that there was no significant difference in the self-assessment of the Principals on their technology leadership preparedness when their sex is taken as test factor. This indicates that male and female Principals have relatively the same perceptions of their level of preparedness in terms of equity and citizenship advocate, visionary planner, empowering leader, system designer, and connected learner.

On Tenure in the School

The result reveals that there was no significant difference in the self-assessment of the Principals on their technology leadership preparedness when their tenure in the school is taken as test factor. This goes to show that Principals have relatively the same perceptions of their level of preparedness in terms of equity and citizenship advocate, visionary planner, empowering leader, system designer, and connected learner regardless of their tenure in the school.

5.5. Differences in the Teacher Respondents' Assessment on the Technology Leadership Preparedness of Principals When their Profile is Taken as Test Factor

On Age

The result reveals that there was no significant difference in the assessment of teacher respondents on the technology leadership preparedness of Principals when their age is taken as test factor. This goes to show that teacher respondents have relatively the same perceptions on the level of preparedness of the Principals in technology leadership in terms of equity and citizenship, visionary planner, empowering leader, system designer, and connected learner regardless of their age.

On Sex

Based from the result, there was no significant difference in the assessment of teacher respondents on the technology leadership preparedness of Principals when their sex is taken as test factor. The result indicates that teacher respondents have relatively the same perceptions on the level of preparedness of the Principals in technology leadership in terms of equity and citizenship, visionary planner, empowering leader, system designer, and connected learner regardless of their sex.

On Tenure in the School

The result reveals that there was no significant difference in the assessment of teacher respondents on the technology leadership preparedness of Principals when their tenure in the school is taken as test factor. This goes to show that teacher respondents have relatively the same perceptions on the level of preparedness of the Principals in technology leadership in terms of equity and citizenship, visionary planner, empowering leader, system designer, and connected learner regardless of their tenure in the school.

5.6. Differences in the Assessment of the Two Groups of Respondents on Principals' Technology Leadership Preparedness

The result shows that there were no significant differences between the assessment of the teachers and the principals themselves on principals' technology leadership preparedness in terms of equity and citizenship advocate, visionary planner, and connected learner. However, significant differences exist in terms of empowering leader, and system designer. This further shows that teachers have better assessed the principals as empowering leader and as system designer than the principals themselves. Generally, the result indicates that teachers have higher assessment on the preparedness of the principals on technology leadership than the self-assessment of the principals.

ISSN: 2688-8653

5.7. Issues and Problems of the Principals in Implementing Information Technology in the School

Five (5) major themes emerged from the responses of the interviewed principals about the issues and problems in implementing information technology in the svvchool. These are (1) Absence of Structured IT Plan, (2) Lack of Resources, (3) Resistance to Innovations. (4) Lack of In-service Training, and (5) Recruiting Human Resources.

6. Conclusion

According to the findings above, this research came up with the following conclusions:

1.Most of the principals are young and have not been that long in the instutition, while most of the teachers seems to be older and more tenured than the Principals.

2.Principals have seen themselves to have a low level of technology leadership preparedness indicating that they are not adequately prepared for leadership in a technology-rich environment.

3.Teachers also believed that there is a low level of preparedness on technology leadership among the principals.

4.The older the principals, the better they assessed their preparedness in technology leadership, but remains to a low level.

5.Principals, regardless of their sex and tenure in the school, have shown similar assessment on their technology leadership preparedness.

6.Teachers have relatively the same perceptions on how prepared the principals are in technology leadership regardless of their age, sex, and tenure in the school.

7.Teachers have better assessed the principals of being empowering leaders and system designers than how the principals assessed themselves.

8.Though both the teachers and the principals themselves perceived that there is a low level of preparedness in technology leadership among the principals, however, the result shows that their pereceptions differ statistically in general indicating a higher perception of teachers than the principals themselves. This may be due to the fact that Principals are younger and less tenured as compared to the teachers.

7. Recommendations

Based on the conclusions derived in this study, this research came up with the following recommendations.

1.Principals must maximize the resources beyond formal leadership preparation to develop technology leadership skills.

2.Educational leadership programs for principals must be reviewed for improvement to help leaders develop the knowledge and skills necessary to lead technology rich schools.

3.It is recommended that a supplemental program intended for principals that incorporates the ISTE standards for educational leaders must be developed to provide professional growth opportunities among the principals.

4.Ensure that the professional development being provided will meet the needs of the principals that will aid them in becoming technology leaders.

5.The principals should engage in professional development activites that focus on technology and integration of technology in student learning activities, and must be an advocagte for technology use that support student learning.

ISSN: 2688-8653

6.A qualitative study can focus on the causes of higher perceived technology leadership preparedness that would yield helpful information to develop sound professional learning activities for principals.

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