



The Strategies for Improving the Information Technology Leadership of Leaders in Colleges and Universities in Guangxi

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ABSTRACT:

The objectives of this research were: 1) to study the current situation of information technology leadership of leaders in colleges and universities in Guangxi, 2) to provide strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi, and 3) to evaluate the adaptability and feasibility of strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi. The sample group of this research was 331 mid-level leaders. The interviewees were 13 mid-level or above leaders. The research instruments included: 1) questionnaire, 2) semi-structured interview and 3) evaluation form. The statistics to analysis the data were frequency, percentage, average value, standard deviation and content analysis.

The results showed that 1) the current situation of information technology leadership of leaders in colleges and universities in Guangxi was at high level, 2) the strategies for improving the information technology leadership of leaders could be divided into five aspects, which contained 62 measures. There were 11 measures for promoting vision, planning and management, 12 measures for enhancing member development and training, 14 measures for strengthening information technology and infrastructure support, 11 measures for improving evaluation and research and 14 measures for improving interpersonal and communication skills, 3) the results about evaluation of adaptability and feasibility of the strategies for improving information technology leadership of leaders were at high level.

1. INTRODUCTION

In today's world, technological advances are changing rapidly, and modern information technologies such as the Internet, cloud computing, big data, and artificial intelligence are profoundly changing the way humans think, produce, live, and learn, profoundly demonstrating the prospects for world development. China persistently promotes education informatization and strives to expand the coverage of quality education resources by means of informatization. Through education informatization, China will gradually narrow the regional and urban-rural digital gap, vigorously promote education equity, and allow hundreds of millions of children to share quality education under the

blue sky and change their fate through knowledge (Chinese Ministry of Education, 2012).

Education informatization has been included in the national development strategy and has become an important support for realizing the dream of a prosperous and strong education country. The Education Informatization 2.0 Action Plan proposes to make education informatization an endogenous variable for systemic change in education, and support and lead the development of education modernization (Chinese Ministry of Education, 2019).

In 2020, the new crown pneumonia epidemic COVID-19 made it impossible for teachers and students to return to school normally to start teaching activities. In



February, the Chinese Ministry of Education issued the Guidance on the good organization and management of online teaching in general higher education institutions during the epidemic prevention and control period (Chinese Ministry of Education, 2020)

The researcher currently teaches at Guangxi University of Science and Technology and wants to understand the current status of the level of information technology leadership of college leaders in Guangxi, which is one of the motives of the study. Through the methods of questionnaire survey and interview, the researcher compares the differences of information technology leadership of different college leaders, analyzes the influencing factors of information technology leadership of college leaders, and explores the cultivation path to enhance information technology leadership of college leaders, in order to provide strategic support for the effective enhancement and development of information technology leadership of college leaders. This is the second motivation of the study.

2. RESEARCH QUESTIONS

1. What is the current situation of information technology leadership of leaders in colleges and universities in Guangxi?
2. What are the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi?
3. Are the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi adaptable and feasible?

3. LITERATURE REVIEW

3.1 Concept and theory of leadership

Kouzes & Posner (2013) proposed that leadership is the ability of a leader to motivate and drive subordinates to voluntarily make outstanding contributions in the organization.

Miao & Huo (2006) proposed that leadership is the ability of a leader to effectively engage and influence subordinates and all stakeholders in a given situation to consistently achieve the established development goals of the group or organization.

Zhang, Shuang (2010) proposed that leadership is the leader's ability to influence the led and some stakeholders in the process of achieving the

organizational vision, as well as the interaction between the leader and the led and some stakeholders.

Du, Yuan& Liu, Meifeng (2009) pointed out that leadership is an organizational process in which managers in an organization clarify organizational development goals for their team and all organizational members, and exert influence on organizational members through specific organizational behaviors so that they voluntarily accept the team goals and work for them.

3.2 Concept and theory of information technology

Ronghuai Huang and Yongbin Hu (2012) proposed that information technology leadership refers to the leader's ability to consistently achieve group or organizational goals with followers and stakeholders in the context of information technology development.

Zhang, H. (2017) proposed that information technology leadership is the ability of an individual, team or organization to use information technology as a mediator to influence and lead followers and stakeholders to implement organizational change and achieve common goals.

Dong Tongqiang (2020) proposed that information technology leadership is a comprehensive ability demonstrated by managers or leaders in coping with the new information management work process to influence and guide the majority of teachers and students as well as administrators to consistently achieve the predetermined vision of education informatization.

3.3 Strategies for improving the information technology leadership

D Copeland Sr & Gray, (2002) The Technology Education Leadership Project (TELP) in Maryland, USA, is a statewide program to enhance teacher leadership in the 21st century. and enhanced their teaching practices and developed their leadership skills.

Gao (2009) proposes four strategies to enhance principals' information technology leadership, to be good at identifying and fully exploring their own information technology leadership potential and believing in themselves; to take the initiative to participate in training and interact extensively, taking the opportunity to form and refine a basic vision of school information



technology development and enhance their information technology leadership.

Professor Sun, Zhenxiang (2010) believes that improving principals' information technology leadership can be done in three ways: conducting research on principals' information technology leadership with Chinese characteristics; promoting research on principals' information technology leadership evaluation criteria; and reforming the existing training methods for principals.

He Chong (2010) proposed strategies to improve principals' leadership from a universal perspective, specifically from two perspectives: school-based and regional actions for principals' leadership development.

3.4 Related research

Afshari, Bakar, Luan, and Siraj (2012) showed in a survey of 320 principals in Iran that computer use and professional development activities (ICT and

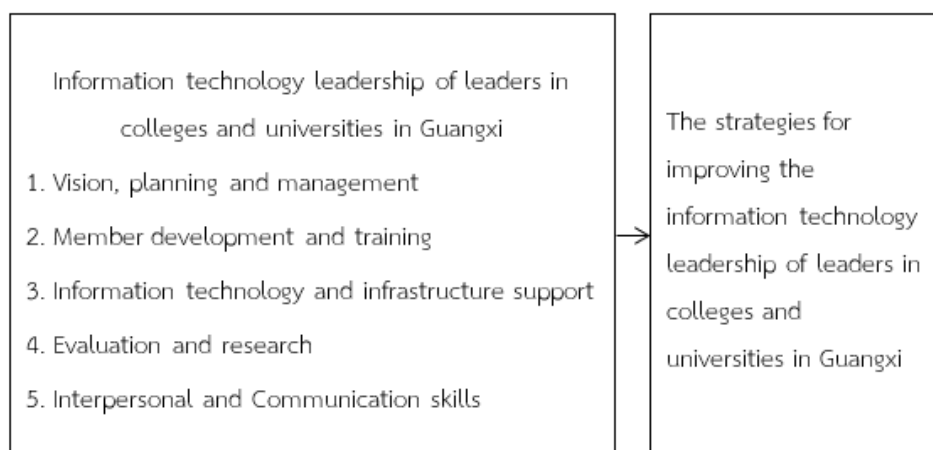
leadership aspects) influenced principals' leadership role in the ICT implementation process. Principals with high knowledge and skills showed a high level of computer use, while principals without a background in computer technology showed a high level of uncertainty in the process of implementing information technology in school education, which indirectly affected their transformational leadership roles and functions.

Yorulmaz and Can (2016) explores the relationship between the technical leadership of principals and demographic characteristics such as age, length of service and whether they have received in-service technical training. The analysis showed that the most important dimension was system development. In addition, there was a significant correlation between age and perfectionism in professional practice, as well as on-the-job technical training and technical leadership, visionary leadership and digital citizenship.

Wang, Shuhua, & Wang, Yining. (2021) analyzed the mediating effects of two variables, organizational climate and self-efficacy, on transformational leadership style and information technology leadership of principals by using the Bootstrap mediation effect test

4. RESEARCH CONCEPTUAL FRAMEWORK

Figure 1 Research Framework



5. OBJECTIVES OF THE RESEARCH

1. To study the current situation of information technology leadership of leaders in colleges and universities in Guangxi

2. To provide strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

3. To evaluate the adaptability and feasibility of strategies for improving the information technology



leadership of leaders in colleges and universities in Guangxi

6. RESEARCH METHODOLOGY

6.1 Population and Sample

6.1.1 Population

The population of this research was 2323 mid-level leaders from 26 public undergraduate colleges and universities in Guangxi.

6.1.2 Sample

The sample of questionnaire group

According to Krejcie and Morgan sampling table, the sample group of this research was 331 mid-level leaders from 26 public undergraduate universities in Guangxi. These samples were taken by stratified sampling method and sample random sampling method.

The interviewees were conducted with 13 mid-level or higher leaders. The following qualifications were required: 1) serving as leader for at least 5 years. 2) having extensive experience in information technology leadership. 2) master's degree or above.

Research Instruments

The instrument used in this study, contained a questionnaire, a semi-structured interview form, and an evaluation form used to facilitate strategy adaptation.

7. RESEARCH RESULTS

Table 1 The average value and standard deviation of the current situation of information technology leadership of leaders in five aspects

(n=330)

Information technology leadership of leaders in colleges and universities in Guangxi		$\bar{x}$	S.D.	level	order
1	Vision, Planning and Management	3.54	0.49	high	4
2	Member Development and Training	3.58	0.46	high	3
3	Information Technology and Infrastructure Support	3.60	0.48	high	2
4	Evaluation and Research	3.47	0.52	Medium	5
5	Interpersonal and Communication Skills	3.66	0.51	high	1
Total		3.57	0.64	high	

According to Table 4.2, the current situation of leaders' information technology leadership was found to be at high level ($\bar{x}=3.57$). Considering the results of this study, in descending order, the highest level is

interpersonal and communication skills ($\bar{x}=3.66$), followed by information technology and infrastructure support ($\bar{x}=3.60$) and evaluation and research is the lowest level ($\bar{x}=3.47$).

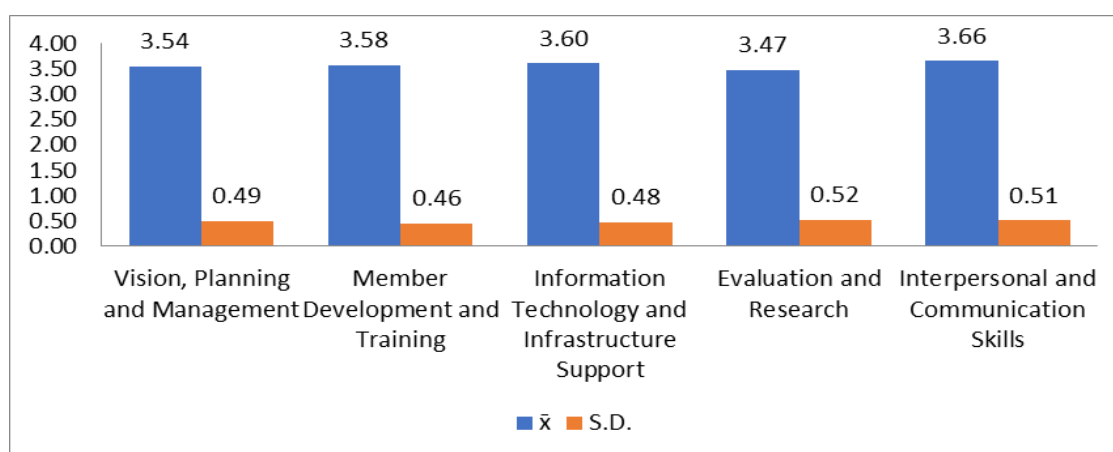


Figure 2 The average value and standard deviation of the current situation of information technology leadership of leaders



According to Figure 2, the current situation of leaders' information technology leadership was found to be at a high level ($\bar{x}=3.55$). Considering the results of this study, in descending order, the highest level is Interpersonal and communication skills ($\bar{x}=3.66$),

followed by Information Technology and Infrastructure Support ($\bar{x}=3.60$), followed by Member Development and Training ($\bar{x}=3.58$), followed by Vision, Planning and Management ($\bar{x}=3.54$), and Evaluation and Research is the lowest level ($\bar{x}=3.47$).



Figure3 Strategies for improving the information technology leadership of leaders

8. CONCLUSION AND DISCUSSION

8.1 Conclusion

This research was to develop the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi. The researcher summarizes the findings into 3 parts, as follows:

Part 1: the current situation of information technology leadership of leaders in colleges and universities in Guangxi

Part 2: the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

Part 3: the adaptability and feasibility of strategies for improving the information technology

leadership of leaders in colleges and universities in Guangxi.

Part 1: the current situation of information technology leadership of leaders in colleges and universities in Guangxi

The current situation of leaders' information technology leadership was found to be at high level. Considering the results of this study, in descending order, the highest level is Interpersonal and Communication Skills, followed by Information Technology and Infrastructure Support and Evaluation and Research is the lowest level.

Vision, planning and management was found to be at high level. Considering the results of this study, in descending order, the highest level is You can focus on and implement a plan for the improvement of information technology in the college, followed by you



can effectively manage and allocate information technology resources and equipment and you give a picture of the future that everyone wants to see is the lowest level.

Member development and training was found to be at high level. Considering the results of this study, in descending order, the highest level is You can support on-the-job training for members to improve information technology literacy, followed by You care about the work, life and growth of your staff and sincerely advise them on their development. and You can actively build a learning platform for teachers' professional development and managers' improvement is the lowest level.

Information technology and infrastructure support was found to be at high level. Considering the results of this study, in descending order, the highest level is You will use information technology equipment and related software to process teaching and management related documents, followed by You believe that the use of emerging information technology to assist in teaching management can improve the effectiveness of work and You like to take the initiative to follow the latest cutting-edge development trends in educational technology is the lowest level.

Evaluation and Research was found to be at medium level. Considering the results of this study, in descending order, the highest level is Your college has a management and evaluation system for information-based teaching, followed by You are aware of the faculty's integration of information technology into teaching and learning and You will always reflect on yourself and conduct self-assessment is the lowest level.

Interpersonal and communication skills was found to be at high level. Considering the results of this study, in descending order, the highest level is Your college maintains a congenial atmosphere between people, followed by Your staff are happy to share each other's experiences and skills and You can maintain good interactions with IT-related groups outside the college is the lowest level.

Part 2: the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

Strategies for improving the information technology leadership of leaders can be divided into 5 dimensions, which contain 62 measures. There are 11 measures for promoting vision, planning and

management skills, 12 measures for enhancing member development and training, 14 measures for strengthening information technology and infrastructure support, 11 measures for significantly improving evaluation and research and 14 measures for improving interpersonal and communication skills.

Promoting vision, planning and management contains 11 measures, they are as follows:

- 1) Proactively create opportunities for faculty and staff to fully understand the development prospects of the department.
- 2) Make sure that faculty and staff are fully aware of the unit's business philosophy and goals.
- 3) Explain to faculty and staff the long-term significance of the work being done.
- 4) Provide a vision for the future at staff meetings.
- 5) Show the faculty and staff the goals and directions to strive for.
- 6) Often work with faculty and staff to analyze the impact of their work on the overall goals of the department.
- 7) A vision for the use of information technology (including hardware and software) in the college is clearly stated to members
- 8) Firmly work with members to develop a plan for the use of college information technology
- 9) High priority and implementation of plans related to college information technology improvements
- 10) To integrate the college's information technology resources for members' use
- 11) Manage and allocate information technology resources and equipment in an efficient manner

Enhancing member development and training contains 12 measures, they are as follows:

- 1) Regularly encourage the professional development of Academy members in the field of information technology
- 2) Strongly support on-the-job training for members to improve information technology literacy



3) Resolutely provide reasonable resource allocation for members' information technology training

4) Actively build a learning platform for the professional development of teachers and the improvement of managers

5) Prioritize the personal situation of employees when dealing with them

6) Wholeheartedly help employees to solve their life and family problems

7) Communicate with employees regularly to understand their work, life and family situations

8) Patiently teach employees and answer their questions.

9) Take great care of employees' work, life and growth, and sincerely provide suggestions for their development.

10) Pay great attention to creating conditions for employees to bring their strengths into play.

11) Establish a lifelong learning experience center to update information technology education resources in a timely manner.

12) Education authorities should conduct intensive training for leaders on a regular basis to update their information awareness.

Strengthening information technology and infrastructure support contains 14 measures, they are as follows:

1) Create conditions that make it easy to use information technology to support faculty teaching and learning activities

2) Conduct frequent information skills training to convince faculty that it is easy to use emerging information technology tools, such as smart classrooms, to improve teaching effectiveness

3) Conduct lectures and hands-on demonstrations to make staff feel that using information technology to support teachers' teaching and learning activities is useful

4) Conduct hands-on training so that staff can witness that using emerging information technology tools such as smart classrooms can improve teaching and learning

5) Regularly use emerging information technology to support instructional management and improve the effectiveness of their work

6) Regularly use information technology equipment and related software to process documents related to teaching and management

7) Proactively follow the latest cutting-edge developments in educational technology

8) Proactively explore and study how the latest information technology can be applied to teaching and management in the college

9) Take the initiative to learn the latest information technology, and guide and help faculty members to learn together

10) Proactively create conditions to use information technology to improve the effectiveness of work

11) Take a comprehensive interest in the use of information technology equipment by members of the college

12) Try to allocate information technology resources to college members in a balanced and reasonable way

13) Timely assist and support college members in the use of information technology facilities

14) Fully implement the establishment of a real-time maintenance mechanism for the college's information technology equipment

Significantly improving evaluation and research contains 11 measures, they are as follows:

1) Ensure the establishment of a regular management and evaluation system for information technology teaching and learning

2) Develop a complete evaluation program or system for information technology teaching resources in a timely manner

3) To timely develop a complete assessment program or system for administrators

4) Adhere to the development of a complete evaluation plan or system for faculty and staff



5) Implement the assessment of students' effectiveness in using information technology in learning based on academic evaluation indicators

6) Actively assess the information technology professionalism of members of the faculty

7) Regularly learn about faculty members' integration of information technology into teaching and learning

8) Accurately evaluate the effectiveness of information technology systems in general multimedia classrooms and smart classrooms

9) Accurately assess the effectiveness of faculty members' use of information technology in teaching based on academic evaluation indicators

10) Regularly evaluate the effectiveness of the college's overall information technology development as a whole

11) Always reflect on oneself and conduct self-evaluation

Improving interpersonal and communication skills contains 14 measures, they are as follows:

1) Never care about personal gains and losses, and work with dedication.

2) Resolutely put your own personal interests after the interests of the group and others.

3) Resolutely share the hardships with the faculty and staff.

4) Create a friendly atmosphere among people in the college.

5) Vigorously advocate mutual support and assistance among faculty and staff.

6) Strongly promote and advocate faculty and staff to share each other's experiences and skills voluntarily.

7) Regularly encourage subordinates to speak up for ideas that are different from others.

8) Firmly implement a people-centered management philosophy.

9) Regularly communicate and discuss with subordinates on an equal footing about work-related issues.

10) Frequently maintain good interaction with information technology related groups outside the college

11) Communicate frequently with members within the college on topics related to the latest information technology (e.g. ChatGPT)

12) Proactively discuss the latest information technology-related issues with parents and community members

13) Actively promote the establishment of an efficient information technology communication and management platform

14) Create opportunities and work to obtain external forces and funding support.

Part 3: the adaptability and feasibility of strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

The adaptability and feasibility of the strategies for improving information technology leadership of leaders were at high level, with values ranging from 3.56 to 4.89, indicating that the strategies for improving information technology leadership of leaders are adaptable and feasible.

8.2 Discussion

This research was to develop the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi. The researcher summarizes the discussion into 3 parts, details as follows:

Part 1: the current situation of information technology leadership of leaders in colleges and universities in Guangxi

Part 2: the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

Part 3: the adaptability and feasibility of strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi



Part 1: the current situation of information technology leadership of leaders in colleges and universities in Guangxi

The current situation of leaders' information technology leadership was found to be at high level. Considering the results of this study, in descending order, the highest level is interpersonal and communication skills, followed by information technology and infrastructure support and evaluation and research is the lowest level.

The statistical results of the above data show that the average of information technology leadership of leaders in Guangxi universities is just a little above the middle level and barely enters the high level range, but from the specific data, there is still a lot of potential for improvement. This also shows that this research is very meaningful.

Wang Chenhan (2019) pointed out that the current status of information technology leadership of middle-level leadership cadres in Guangxi institutions is at the middle to upper level, with much room for improvement.

Since 2020, the new crown epidemic COVID-19 has swept the world, and universities nationwide have actively carried out information technology leadership and management during the epidemic in terms of training teachers on teaching strategies and methods, providing technical service support, enriching the construction of curriculum teaching resources, improving teachers' teaching space and equipment, and increasing policy support (Wu, D. & Li, W., 2020).

Many college deans actively managed relationships with sister institutions, the community and industry for the healthy development of the college during the COVID-19 epidemic. For example, they sought funding for technical equipment from departments such as the Asset Office and communicated with IT centres for teaching and learning resource development, thus securing space for the development of educational information technology in the college. These initiatives indirectly contribute to the enhancement of information technology leadership of college leaders (Liu Bingli, 2022).

According to the studies and opinions of the above three scholars, after three years of the COVID-19 epidemic, the information technology leadership of leaders in higher education institutions should be

improved to some extent. The statistical results of the current study also showed that the information technology leadership of leaders in Guangxi's higher education institutions is currently at a high level, which is an improvement over the data of relevant studies before the COVID-19 epidemic, which is largely in line with the studies of the three scholars above.

Vision, planning and management was found to be at high level. It shows that leaders are better at using vision and goals to motivate faculty members. The highest level is You can focus on and implement a plan for the improvement of information technology in the college, It shows that the vast majority of leaders want to use information technology tools to advance teaching and learning effectiveness. The lowest level is you give a picture of the future that everyone wants to see, it shows that leaders are still not doing enough to provide a better future for faculty and staff.

information technology vision and information awareness have a strong positive influence on leaders' information technology leadership. Leaders who are stronger in information technology vision planning have higher levels of information technology leadership.

Li, Minggen (2022) suggested through his study that leaders should base their vision on the real problems of universities and plan their vision in a point-by-point manner. When formulating information technology vision, university leaders must take the continuous and stable operation of the university as a prerequisite, construct a scientific development strategy for school innovation, take top-level design and regulations as an entry point, and formulate a scientific and effective development vision plan for the actual situation of the university, so as to provide scientific guidance for the continuous, stable and reasonable development of various tasks.

Member development and training was found to be at high level. It shows that the mid-leader has the high moral character, certain personality and is very concerned about the professional informational development of the faculty and staff. The highest level is You can support on-the-job training for members to improve information technology literacy, it shows that leaders are generally willing to provide the necessary help and support for the personal development of faculty and staff. The lowest level is You can actively build a learning platform for teachers' professional development and managers' improvement, this is because building a



dedicated learning platform requires the support of human, material and financial resources from all sides to make it work, and it is sometimes difficult to promote this work.

W. Xiao (2019) proposed that leaders should integrate IT-related educational resources to provide members with time and opportunities for self-professional growth.

Information technology and infrastructure support was found to be at high level. This is because leaders are still keen to use information technology tools to drive innovation and reform in teaching methods and improve teaching effectiveness. The lowest level is You like to take the initiative to follow the latest cutting-edge development trends in educational technology, it indicates that although most leaders want to promote teaching reform and improve teaching effectiveness with the help of information technology, the leaders themselves are not too concerned about the latest frontier development of educational technology and lack the intention to explore it actively, which is something we need to pay special attention to.

Li, Minggen (2022) suggests that university leaders need to grasp the new requirements of the new technological environment, combine modern information technology with traditional university management in a scientific way, and create conditions to fully support the use of information technology for teaching and research by staff, so as to achieve innovation and improve the level of management.

Evaluation and Research was found to be at medium level. This is because carrying out informatization evaluation requires a relatively high level of competence for leaders. To successfully carry out information-based evaluation, leaders themselves must first have a strong awareness of information technology, information technology capabilities, information-based communication and management skills. High information literacy is a prerequisite for the successful implementation of information-based evaluation.

Wu, Daguang & Sheng, Zhonghua (2020) point out that most leaders and teachers have the relatively lowest level of evaluation competencies in the composition of information technology leadership. They suggest that leaders' information technology evaluation competencies and levels should be vigorously improved,

so as to enhance the effectiveness of leaders' information technology planning and building evaluation efforts, and that leaders should adopt advanced information technology tools such as big data to improve and enhance the effectiveness of teaching and learning evaluation.

Interpersonal and communication skills was found to be at high level. It shows that most leaders are good at communicating positively and effectively with their colleagues and faculty in order to improve their work effectiveness, and they are good at creating a good organizational climate.

Wu, Daguang & Li, Wen (2020) found in their survey of online teaching and learning during the epidemic that the 97 universities surveyed at the time used a total of 66 online teaching and learning platforms, such as Ding Ding and Tencent Meeting, of which 11 (17%) were university and government platforms and 55 (83%) were market-based platforms. This shows that coordinating and managing the relationship between the college and its internal and external units, and securing the necessary resources and space for development, is essential and important for the improvement of information technology leadership of leaders.

Part 2: the strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

The researcher provided the Strategies for improving information technology leadership of leaders in five aspects, which contain 62 measures. There are 11 measures for promoting vision, planning and management, 12 measures for enhancing member development and training, 14 measures for strengthening information technology and infrastructure support, 11 measures for significantly improving evaluation and research and 14 measures for improving interpersonal and communication skills.

In the literature review, this researcher found that there are many influencing factors of information technology leadership, including technology acceptance model (Zhao, Leilei., 2017), transformational leadership (Wang, Shuhua., 2020), organizational climate (Wang, Shuhua.& Wang,Yilin.,2021), external force support (Li, Shasha., 2013), and so on. Through the refinement of the interview results, we found that the 62 strategies also correspond to the above-mentioned related



influencing factors, which further confirms the scientific and rational nature of this enhancement strategy.

Part 3: the adaptability and feasibility of strategies for improving the information technology leadership of leaders in colleges and universities in Guangxi

The adaptability and feasibility of the strategies for improving information technology leadership of leaders were at high level, indicating that the strategies for improving information technology leadership of leaders are adaptable and feasible.

The average value of adaptability and feasibility in significantly improving evaluation and research was at the lowest level among all five aspects. Among the current situation data of information technology leadership, evaluation and research was also the lowest, indicating that improving evaluation and research was the most difficult factor. University leaders should work harder in this area to make up for their own shortcomings. Only in this way can they quickly improve their own information technology leadership.

9. RECOMMENDATIONS

Implications

The research results showed that the recommendations for improving the information technology leadership of leaders in colleges and universities in Guangxi are as follows:

Evaluation and research have the lowest average of all five dimensions, so leaders should first work to improve their evaluation and research capabilities.

1) Vision, Planning and Management:

Leaders should provide a vision for the future at staff meetings.

2) Member Development and Training:

Leaders should actively build a learning platform for the professional development of teachers and the improvement of managers.

3) Information Technology and Infrastructure Support: Leaders should proactively follow the latest cutting-edge developments in educational technology.

4) Evaluation and Research: Leaders should always reflect on oneself and conduct self-evaluation.

5) Interpersonal and communication Skills:

Leaders should frequently maintain good interaction with information technology related groups outside the college.

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