Counselling Through Information Technology Shanxi Province, China

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Abstract

This research article study Administrators with expertise and vision in technology can effectively promote and drive sustainable change within the consultation systems of schools or educational organizations. This article reviews theories related to technological leadership, technological capabilities, digital literacy of teachers, and the integration of consultation technology in Shaanxi, China. It aims to analyze the influence of these factors on the integration of consultation technology and to examine an appropriate structural equation model. Empirical research has found that technological leadership, technological capabilities, teachers' digital literacy, and the use of media and technology for consultation have a direct positive influence on the integration of technology into consultation in Shaanxi, China. Moreover, technological capabilities, teachers' digital literacy, and the use of media and technology for consultation act as mediators, linking technological leadership with the integration of technology into consultation in Shaanxi, China. Recommendations and the development of a model named the "T(LCD)U Model" aim to enhance the quality of consultation, develop practices and policies, promote technological skills, improve communication efficiency, strengthen relationships, utilize resources efficiently, and support sustainable learning in schools and educational institutions. Recommendation and Future Research 1) In future studies, researchers should consider other variables that influence the integration of Counseling Technology Integration. This should be done by exploring theoretical frameworks and collecting additional qualitative data to obtain more comprehensive information. 2) Future research should employ qualitative methods, using diverse data collection techniques such as focus group discussions or participatory observations, to gain a deeper understanding of how the studied variables are interrelated. 3) Subsequent studies should examine different areas, such as urban or rural settings, to compare the influence of technological leadership on counselor teachers' use of information technology in student counseling, to determine if there are differences.

Introduction

University counseling faces numerous challenges, including systemic issues and individual student needs. Chronic understaffing and increased scrutiny exacerbate the imbalance between clinical supply and demand, straining traditional service models. Counseling centers often lack intra-organization networks, administrative independence, and professional counselors, further compounded by low student awareness of services, inadequate resources, and minimal administrative support (Janderková, D. 2022; Getachew A., et.al 2019). Discrepancies between counselor and client reports on symptom change suggest a need for better assessment methods. Stigma around seeking help and depressive symptoms hinder students' willingness to seek counseling, highlighting the need to address mental health stigma Students with special needs and psychological issues like binge drinking require tailored counseling approaches. There is a clear need for professional counselors, specialized training, and resources to address student psychological problems. The diverse counseling needs

underscore the importance of comprehensive and responsive services. Lastly, university counselors face challenges with administrative tasks, crisis management, and lack of support, indicating broader systemic issues in academic support (La, S., et al 2022).

The shift to online counseling services by teacher counselors during the COVID-19 pandemic has presented both challenges and opportunities. Key challenges include the need for clear guidance, job descriptions in virtual settings, and technical issues like signal problems and lack of student access to necessary devices (Kuş, M., & Aydin, M. K. 2022; Somanandana, V.,et al. 2022). The quality of online counseling was influenced by counselors' resilience and digital skills. Opportunities from this transition include overcoming time-space-distance barriers, providing in-service training, and facilitating access to services via online platforms and communication technologies. The development of website-based counseling applications and the use of social media have been pivotal in adapting to online service delivery. Perceptions of online counseling vary, with some educators finding it time- and cost-efficient despite evaluation challenges (Rahman, R. A., & Chudari, I. N. 2022). Lecturers also appreciate e-counseling for supporting students academically and emotionally. Efforts to enhance competencies in online counseling have led to the development of learning management plans and tools, highlighting the importance of digital competencies for future teaching professionals. Overall, transitioning to online counseling has required developing new tools, adapting to technological challenges, and enhancing the digital skills of teacher counselors.

University counseling management systems face numerous challenges, from systemic issues to individual care complexities. Key challenges include an imbalance between clinical supply and demand, exacerbated by understaffing and increased scrutiny, prompting the adoption of new service models like stepped care and triage systems. Counselors also deal with administrative burdens and crisis management, highlighting the need for support from academic societies. Administrative system management is hindered by policy, practice, proprietary systems, people, politics, and financial constraints, requiring multifaceted solutions (La, S., et al 2022). Technological solutions, such as data visualization tools, assist advisers in efficiently managing problematic students, showcasing innovation in counseling management. The global and dynamic nature of higher education, including internationalization and technological advancements, presents challenges and opportunities, necessitating adaptive strategies. The counseling field needs a more unified structure, accreditation, and specialized training to ensure quality and efficacy (Geryk, M. 2016). The lack of standardized practices, administrative autonomy, and professional development highlights the need for comprehensive reforms in counseling services. Additionally, addressing the gap between students' self-assessment and real-world demands requires networking programs for professional orientation, indicating a systemic issue in aligning education with the labor market (Getachew et al., 2019).

Research Objectives

1. To explore the level of technology leadership, technology competency, teacher digital literacy, using media and technology for counseling, and counselling technology integration in Shanxi, China?

2. To analysis the influence of technology leadership, technology competency, teacher digital literacy, and using media and technology for counseling toward counselling technology integration in Shanxi, China?

3. To examine the suitable structural equation model describing the the influence of technological leadership affect counselors teachers into student counseling through information technology in Shanxi Province, China.

Literature Review

Relevant studies and theories are summarized, research gaps are summarized, and research hypotheses are formulated to develop a conceptual framework

1. Technology Leadership

Technology leadership involves the strategic and operational management of technology within an organization to achieve long-term goals. It drives innovation, improves efficiency, and maintains a competitive edge (Arians, H. 2017). This concept requires a blend of technical understanding and leadership skills to guide and manage technology integration. In education, it involves combining ICT expertise with leadership skills to enhance learning outcomes (Demja, Z. B., & Shurif, S. al. (2021).

2. Technology Competency

Technology competency includes the knowledge, skills, and abilities essential for effective technology use and integration across professional fields. For teachers, this involves developing and applying educational technologies to enhance classroom effectiveness. Teacher Technology Competency (TTC) covers technological operations, ethical considerations, pedagogical strategies, and ongoing professional development, empowering teachers to implement digital pedagogy (Bećirović, S.2023). Teachers' technology proficiency varies by age, service length, and education level, requiring continuous updates to methodologies and resources (Mariscal, L. L., et.al.(2023).

3. Teacher Digital Literacy

Digital literacy encompasses skills and competencies for effectively participating in a digital society, including using digital devices, managing information, and communicating digitally. It supports broader educational goals and character education, crucial in Society 5.0 (Press, N., Arumugam,et al. 2019). Digitally literate teachers create digital content, manage safety, resolve technical issues, and use various digital learning resources, continually seeking training for professional growth (Suwarjo, S., et.al.(2022).

4. Using Media and Technology for Counseling

The incorporation of media and technology into counseling, accelerated by the COVID-19 pandemic, has expanded the profession. Counselors use social media and digital platforms to enhance accessibility and engagement, transforming the counseling environment (Chiruvolu, V., & Jacques, J., 2022). Online counseling benefits students preferring anonymity but requires proficiency in ICT tools and addressing issues like internet connectivity and data security (Steele, T., Nuckols, G., & Stone, C. 2020).

5. Counseling Technology Integration

The integration of online counseling by teachers has become significant, especially during the COVID-19 pandemic, shifting to remote learning. School counselors leverage technology for guidance, saving time despite challenges like poor connectivity and limited tech skills (Riswani, R., et.al.(2022).

The integration of teaching and counseling roles is essential for holistic student development, as teachers' multifaceted roles include guidance and mentoring. Cybercounseling offers a professional practice for addressing academic and non-academic student issues, with e-counseling applications providing a repository for student development

Research Methodology

The researcher used quantitative methods to analyze the data. This data was collected using a questionnaire sent to 340 teachers and practitioners involved in counseling in higher education institutions in Shaanxi Province, China. A multistage sampling method was used in this research. Collect online questionnaires The questionnaire consists of 1) Demographic

Characteristics The questions are structured as closed-ended with multiple-choice options. Respondents are instructed to select one answer for each item 2) Technology Leadership 3) Technology Competency 4) Teacher digital Literacy 5) Using Media and Technology for Counselling. and 6) Counseling technology integration. Items were measured with 1 indicating "strongly disagree", 2 indicating "disagree", 3 indicating "neutral", 4 indicating "agree", and 5 indicating ". Totally agree."

The exam passed a quality check by determining content validity. By consulting 3 experts, then the questionnaire was used to calculate the coefficient of congruence (index of item objective congruence: IOC). If any question has an IOC value of more than 0.60 or more, it means that the question value is accurate in its content. The results of the consideration of the 3 experts showed that every question had an IOC value greater than 0.60, indicating that the questionnaire This is a research tool that is accurate in terms of content. Then take the questionnaire to Reliability Testing with a population with similar characteristics to the sample group of 30 people and test it to determine the reliability of the instrument using the method of Cronbach (Cronbach's Alpha) which the test results were found to be greater than 0.7, passing the standard criteria

Data analysis for statistical analysis of data obtained from questionnaires. Using a statistical package, the details are as follows.

1. Analysis of data on the general status of respondents. Use frequency and percentage values.

2. Real-world data analysis of the studied variables Use methods for finding the arithmetic mean and standard deviation.

3. Model analysis according to the research framework. Statistics used include confirmatory factor analysis. (Confirmatory Factor Analysis: CFA) and Structural Equation Modeling: SEM)

Research Results

1. Basic data analysis of respondents

Displays the frequency and percentage of basic information of survey respondents. The results of the study found that Most of the respondents were men, a total of 174 people (51.20%), aged 36 - 45 years, a total of 135 people (39.70%), most of whom had master's degrees, 225 people (66.2%) had worked in the organization for 7 - 9 years. A total of 107 individuals (31.50%) and a total of 340 respondents had advisory duties (100.00%). Additionally, 230 individuals (67.60%) were involved in administrative duties and 131 individuals (38.50%) had teaching duties.

2. Analysis of the levels of technology leadership, technology competency, teachers' digital knowledge, the use of media and technology for counseling, and the integration of counseling technology in Shaanxi, China

The levels of Technology Leadership, Technology Competency, Teacher Digital Literacy, Using Media and Technology for Counselling, and Counselling Technology Integration are at the Agree level The research results are presented in Table 1.

Table 1 Mean ($\bar{X}$), standard deviation (S.D.) and interpretation of levels of studied variables (n = 340)

Measurement	$\bar{X}$	S.D.	Level
Technology Leadership	3.77	0.687	Agree
Technology Competency	3.72	0.691	Agree
Teacher Digital Literacy	3.85	0.617	Agree
Using Media and Technology for Counselling	3.72	0.617	Agree
Counselling technology integration	3.81	0.638	Agree

3. Confirmatory Factor Analysis of the Model the Influence of Technological Leadership Affect Counselors Teachers into Student Counseling Through Information Technology in Shanxi Province, China

The results of the confirmatory factor analysis indicate that the model fits well with the empirical data. The Chi-Square value is 92.093, with df = 78, P-value = 0.131 > 0.05, and Chi-Square/df = 1.181 < 3.0. The fit indices are as follows: Comparative Fit Index (CFI) = 0.998 > 0.90, Goodness of Fit Index (GFI) = 0.969 > 0.90, Adjusted Goodness of Fit Index (AGFI) = 0.939 > 0.80, Root Mean Square Error of Approximation (RMSEA) = 0.023 < 0.05, Root Mean Square Residual (RMR) = 0.012 < 0.05, Normed Fit Index (NFI) = 0.984 > 0.90, and Incremental Fit Index (IFI) = 0.998 > 0.90. These indices meet the specified criteria, indicating that the model fits well with the empirical data.

Table 2 Shows the Results of the Confirmatory Factor Analysis Model of the Influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration

| Model	λ	SE	t-value	R^2	CR	AVE
Technology Leadership (TLD)					0.928	0.722
VIS (Parameter Estimates)	0.90	-	-	0.80		
DAL	0.86	0.045	21.367**	0.73		
EPP	0.83	0.054	18.095**	0.69		
SIM	0.86	0.035	24.862**	0.74		
DCI	0.80	0.046	18.793**	0.64		
Technology Competency (TCP)					0.924	0.709
UAE	0.87	-	-	0.76		
AUC	0.88	0.039	25.178**	0.78		
ISS	0.87	0.043	21.160**	0.76		
POC	0.78	0.044	20.622**	0.61		
ETM	0.79	0.052	16.004**	0.63		
Teacher Digital Literacy (TDL)					0.889	0.666
ATT	0.81	-	-	0.65		
TEC	0.83	0.048	21.131**	0.69		
COG	0.83	0.063	17.203**	0.68		
SOE	0.80	0.055	16.694**	0.64		
Using Media and Technology for Counselling (UMT)					0.850	0.742
ICT	0.76	-	-	0.58		
ONC	0.95	0.065	17.977**	0.91		
Counselling Technology Integration (CTNI)						
CTI	0.84	-	-	0.70		

**Statistically significant at the 0.01 level.

Table 2, the results of the confirmatory factor analysis of the model of the influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration at the 0.01 level of statistical significance include five latent variables: Technology Leadership, Technology Competency, Teacher Digital Literacy, Using Media and Technology, and Counselling Technology Integration. The path coefficients range from 0.76 to 0.95, all exceeding 0.40, and the multiple correlation coefficients (R^2) range from 58.0% to 91.0%. The average variance extracted (AVE) values range from 0.666 to 0.742, all exceeding 0.50, indicating good convergent validity and unity of the variables. The composite reliability (CR) values range from 0.850 to 0.928, all exceeding 0.60, demonstrating high discriminant validity for all variables in the model of the influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration. Therefore, it can be concluded that the confirmatory factor analysis model of the influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration fits well with the empirical data under statistically acceptable conditions, and the measurement values exhibit high discriminant validity, indicating unity among the latent variables. Technology Leadership (TLD) has path coefficients ranging from 0.83 to 0.90 and multiple correlation coefficients (R^2) ranging from 64.0% to 80.0%., Technology Competency (TCP) has path coefficients ranging from 0.78 to 0.88 and multiple correlation coefficients (R^2) ranging from 61.0% to 78.0%., Teacher Digital Literacy (TDL) has path coefficients ranging from 0.80 to 0.83 and multiple correlation coefficients (R^2) ranging from 64.0% to 69.0%., Using Media and Technology for Counselling (UMT) has path coefficients ranging from 0.76 to 0.95 and multiple correlation coefficients (R^2) ranging from 58.0% to 91.0%. and Counselling Technology Integration (CTNI) has a path coefficient of 0.84 and a multiple correlation coefficient (R^2) of 70.0%.

4. Structural Equation Modeling Analysis the Influence of Technological Leadership Affect Counselors Teachers into Student Counseling Through Information Technology in Shanxi Province, China

The Structural Equation Modeling (SEM) analysis of the influence model of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration was conducted to assess the appropriateness and accuracy of the structural equation model. The model was refined for completeness to achieve statistically acceptable values by connecting variables using Modification Indices. The suitability and accuracy of the structural equation model were evaluated by examining the path coefficients and R^2 values to verify the shared variance of the indicators, as shown in Figure 1
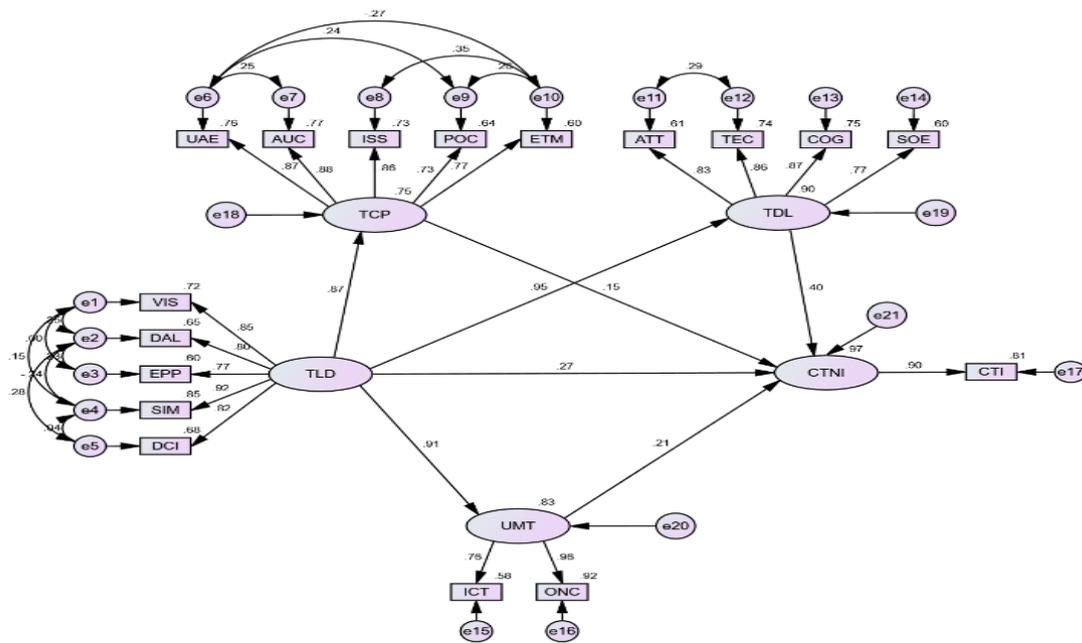
Chi-square=87.735, df=76, P-value=.168, Chi-square/df=1.154,
CFI=.998, NFI=.985, GFI=.972, AGFI=.943, IFI=.998,
RMR=.010, RMSEA=.021

Figure 1 Structural Equation Model of the Influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration after Model Adjustment

Figure 1 shows the results from the adjusted model using the Modification Indices method to connect variables, ensuring consistency. The researcher evaluated the statistical indices to assess the fit of the Structural Equation Model of the Influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration after the model adjustment, comparing them with standard benchmarks for fit indices.

The structural equation model of the influence of Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling Technology Integration after model adjustment is consistent with empirical data, as shown in Figure 1. This indicates that the model aligns well with empirical data, with Chi-Square = 87.735, df = 76, P-value = 0.168 > 0.05, and Chi-Square / df = 1.154 < 3.0. The analysis of the adjusted model shows that all seven indices meet the specified criteria.

Table 3 Summary of Hypothesis Testing

Hypothesis	Coefficient	Test Result	Path	t-value	p-value	R² (%)
H1: Technology Leadership will have a positive influence on counselling technology integration	0.27	Supported	Positive	2.574	0.010*	97
H2: Technology Competency will have a positive influence on Counselling Technology integration	0.15	Supported	Positive	2.158	0.031*	97
H3: Teacher digital Literacy will have a positive influence on counselling technology integration	0.40	Supported	Positive	3.964	0.000**	97
H4: Using Media and Technology for counselling will have a positive influence on counselling technology integration	0.21	Supported	Positive	2.433	0.015*	97
H5: Technology Leadership will have a positive influence on technology competency	0.87	Supported	Positive	17.302	0.000**	75
H6: Technology Leadership will have a positive influence on teacher digital literacy	0.95	Supported	Positive	17.654	0.000**	90
H7: Technology Leadership will have a positive influence on using media and technology for counselling	0.91	Supported	Positive	14.601	0.000**	83
H8: Technology competency will mediate the association between technology leadership and counselling technology integration	0.70	Supported	Positive	6.800	0.000**	97
H9: Teacher digital literacy will mediate the association between technology leadership and counselling technology integration	0.70	Supported	Positive	6.800	0.000**	97
H10: Using media and technology for counselling will mediate the association between technology leadership and counselling technology integration	0.70	Supported	Positive	6.800	0.000**	97

* Statistically significant at the 0.05 level. **Statistically significant at the 0.01 level.

Results of the structural equation model (SEM) hypothesis testing on the influence of technology leadership. Technology performance Teacher digital literacy and the use of media and technology in counseling regarding the efficiency of counseling through technology, it was found that Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling have a direct positive influence on Counselling Technology Integration, with influence coefficients of 0.27, 0.15, 0.40, and 0.21, respectively, at a 0.05 level of statistical significance. Together, Technology Leadership, Technology Competency, Teacher Digital Literacy, and Using Media and Technology for Counselling can explain or predict 97.00% of the variance in Counselling Technology Integration.

Furthermore, the findings suggest that Technology Competency, Teacher Digital Literacy, and the Use of Media and Technology for Counselling act as mediators in the relationship between Technology Leadership and Counselling Technology Integration, with a mediation coefficient of 0.70. This indicates that Technology Leadership significantly influences the utilization of information technology by counseling teachers for student counseling in Shanxi Province, China.

Discussion

1) Technology leadership positively impacts counselling technology integration by fostering an environment that supports the use of information technology in counseling. This leadership equips counselor teachers with necessary tools and resources, promoting the development of students' potential in the digital age. Research by Landa, E.,et.al..(2023) supports this, indicating that strong technology leadership among principals and educational leaders positively influences teachers' adoption and integration of technology in the classroom.

2) Technology competency positively impacts Counselling Technology Integration, as it enables counselor teachers to efficiently integrate technology into counseling services. This aligns with research by Suggs, B.,et.al. (2022), which found that licensed counselors' perceived technology competency significantly impacts their ability to integrate technology into clinical practice, as familiarity with and use of current mental health technologies enhances their capabilities.

3) Teacher digital literacy significantly impacts the integration of technology in counseling. A positive attitude towards technology enhances counselors' effectiveness in using it. Teachers who embrace technology are more likely to adapt digital tools and learn new skills, improving their counseling efficiency. This aligns with Yuliastini, N. K. S. Y., & Kusumawardani, N. M. D. N. (2022); Woo, H., et.al.((2020), who stated that promoting digital literacy is essential for successful technology integration in counseling, helping counselors navigate the complexities of digital interactions and leverage technology to improve client outcomes.

4) The integration of media and technology in counseling can significantly improve the effectiveness of counseling services. Broadcast media, such as radio, television, and podcasts, can reach a wide audience, including those in remote areas, and effectively disseminate information, provide guidance, and offer emotional support. Counselor teachers can use these media to create counseling programs, promote activities, and continuously provide useful information to students and parents. This approach also enhances their skills in using digital tools and adapting to technological changes. This aligns with Stifel, S. W. F., et. al.(2012). who stated that the integration of technology in counseling, from email and video conferencing to advanced virtual reality tools, continues to evolve, offering new modalities of care that are as impactful as traditional methods.

5) Technology leadership positively impacts technology competency by incorporating technology into counseling practices and management. Leaders with strong technology leadership set a good example, making counselor teachers aware of the importance of technology and inspiring them to develop their skills. Support from these leaders ensures continuous training and development in technology, aligning with Ahmad, M. F., & Husnin, H. (2022) research that headmasters with strong technology leadership can enhance teachers' competence in using technology.

6) Teachers will be inspired and develop a positive attitude toward using technology, recognizing its value in enhancing the counseling process. This encourages them to adopt digital tools, crucial for creating efficient learning environments that meet students' needs. Anthony, M. (2023) found that strong technology leadership correlates with higher technological adoption among teachers. Similarly, Alhejaili, A.S. (2022) noted that leaders with digital literacy skills create supportive environments for technology integration, highlighting the importance of leadership in promoting digital literacy and improving educational outcomes.

7) Technology leadership positively impacts the use of media and technology in counselling, as visionary leaders can effectively integrate technology into educational organizations. Research by Anthony, M. (2023) shows that strong technology leadership

among school administrators enhances teachers' competence and engagement in using technology for teaching and learning. High-level technology leadership can enhance teachers' efficiency in integrating technology into their teaching practices, supporting the government's digital education goals.

8) Technology competency plays a crucial role in the relationship between technology leadership and counselling technology integration. Administrators who demonstrate technology leadership recognize and support the use of technology to improve efficiency and learning in educational organizations. This leads to policy changes and organizational culture shifts, and directly contributes to the development of counselor teachers' technology competency. Research by Suggs, B.,et.al. (2022) shows that licensed counselors' perceived technological proficiency significantly impacts their ability to integrate technology into clinical work, enhancing accessibility, affordability, and effectiveness of counseling services.

9) Teacher digital literacy will mediate the link between technology leadership and counseling technology integration. Leaders with tech expertise can foster a positive attitude toward technology use, enhancing counselor teachers' digital skills. Suryahadikusumah, A. R., & Nadya, A. (2020) state that while integrating technology in counseling has challenges and benefits, digital literacy is key to overcoming obstacles and maximizing online counseling's potential.

10) Using media and technology for counseling will mediate the link between technology leadership and counseling technology integration. Administrators who exhibit technology leadership recognize the potential of media and technology to enhance counseling effectiveness. Dewi, R.S. (2023) found that therapists generally have a positive attitude towards online counseling, highlighting the importance of adapting environments to improve treatment outcomes. Technology-mediated therapy (TMT) is effective, especially in low- and middle-income countries. Smith, J., & Gillon, E. (2021) found that using media in counseling positively impacts information services, encouraging more engaging and effective counseling practices.

Suggestions

Based on the above findings, the following recommendations can be made:

1) Creating a Clear Vision and Strategy: Administrators should have a clear vision of technology's role in improving counseling, develop strategies for its integration, and effectively communicate this vision to all counselors and staff, ensuring alignment towards the common goal of using technology to enhance the counseling process.

2) Providing Necessary Tools and Resources: Technology leaders should promote the use of modern, efficient tools like online counseling software, student data management platforms, and communication applications to enable counselor teachers to provide more effective and convenient counseling services.

3) Supporting Training and Skill Development: Administrators should provide training in technology use and social and emotional skill development to counselor teachers, enhancing their confidence and capability in using technology to build meaningful relationships and support student development.

4) Fostering an Open and Innovative Organizational Culture: Administrators should foster an organizational culture that values innovation and technology in work processes, encouraging counselor teachers to experiment with new technologies and fostering knowledge and experience sharing to enable effective technology use in counseling.

5) Monitoring and Evaluating: Technology leaders should establish continuous monitoring and evaluation systems for counseling technology use, enabling administrators and teachers to assess its effectiveness and make necessary adjustments to enhance the counseling process..

By following these recommendations, educational institutions can effectively leverage technology to enhance counseling services, leading to better outcomes for both counselor teachers and students.

Conclusion

Summary of finding

Technological leadership, technology competency, teacher digital literacy, and using media and technology for counseling had a direct positive influence on the integration of technology in counseling in Shanxi, China. Additionally, technology competency, teacher digital literacy, and using media and technology for counseling served as mediators linking technological leadership to the integration of technology in counseling in Shanxi, China. The developed model, named the "T(LCD)U Model" (Technology (Leadership, Competency, Digital Literacy) Using Media and Technology for Counseling), suggests that having technological leadership results in increased technology competency, digital literacy, and the use of media and technology for counseling among advisor teachers. These factors are crucial in driving the integration of technology into the counseling process, making it modern, efficient, and responsive to the needs of students in the digital age. The results of this research can be applied to enhance the quality of counseling, develop guidelines and policies, promote technological skills, improve communication efficiency, strengthen relationships, use resources effectively, and support sustainable learning in schools and educational institutions.

Recommendation and Future Research

1) In future studies, researchers should consider other variables that influence the integration of Counseling Technology Integration. This should be done by exploring theoretical frameworks and collecting additional qualitative data to obtain more comprehensive information.

2) Future research should employ qualitative methods, using diverse data collection techniques such as focus group discussions or participatory observations, to gain a deeper understanding of how the studied variables are interrelated.

3) Subsequent studies should examine different areas, such as urban or rural settings, to compare the influence of technological leadership on counselor teachers' use of information technology in student counseling, to determine if there are differences.

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