Technology Leadership: Aspiring Administrators' Perceptions of Their Leadership Preparation Program

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Abstract

The purpose of this study was to investigate the aspiring administrators' perceptions of their preparation as technology leaders in an educational leadership master's program of a large suburban university. An instrument based on the requirements of the National Educational Technology Standards for Administrators (NETS-A) was developed to survey 58 program candidates who were in their last semester of the program. Descriptive statistics were used to examine the agreeable extent of the responses. Univariate Analysis of Variance was used to determine if significant differences existed in perceptions among the classifications of the demographic variables. Results of the study showed that the aspiring principals' rating of their technology preparation was slightly above average. All the subscales were rated above average except for Subscale 4 (Support, maintenance, operations, and finance) and Subscale 5 (Assessment and evaluation). Candidates' perceptions of their program preparation were divided. Program realignment with NET-A Standards is recommended.

INTRODUCTION

For years, educators have been discussing the importance of technology preparation for school administrators (Hope, Kelley & Kinard, 1999; Knezek, 2001; Riedl, Smith, Ware, Wark, & Yount, 1998). However, colleges and schools of education have not been responding fast enough to meet the overwhelming need of including technology in their educational leadership programs (McLeod, Hughes, Richardson, Dikkers, Becker, Quinn, Logan, & Mayrose, 2005). These programs must recognize their responsibility in preparing future technology leaders and develop technology leadership as an integral component of administrator preparation and licensure. Some educational leadership programs started to infuse technology into their programs a few years ago. For example, the educational leadership program involved in this study consists of a total of 32 credit hours of which 12 were clearly identified for technology leadership. The 12 credit hours include courses in 21 Century Teaching and Learning, Technology Leadership, Productivity and Professional Practice, and Educational Technology Support and Management. Additionally, educational technology is also integrated into other program courses including Current Issues in Educational Leadership, Personnel and Staff Development, Curriculum and Instructional Leadership, Organizational and Financial Resources, Educational Policy and Legal Perspectives, Practicum and Portfolio. When the entire education field is actively involved in technology integration, it is time for educational leadership program developers to carefully assess the outcome of technology integration in their programs. One way of performing the program assessment is to survey their program graduates to solicit their perceptions of their preparation in technology leadership.

THEORETICAL CONTEXTS

School Administrators and Technology Leadership

Providing strong technology leadership has become one of the many requirements of an effective school leader. According to Mehlinger and Powers (2002), "It is no longer possible for administrators to be both naïve about technology and be good school leaders" (p. 218). In the past, teachers had to bear the responsibility alone for the success of technology programs. Today, however, administrative leadership is considered an important factor affecting the successful integration of technology into schools (Bingham & Byron, 2001). The research clearly indicated that schools with effective technology programs also had strong leadership who supported the program and understood the benefits of technology (Office of Technology Assessment, 1995). Schools that have made the most progress toward technology adoption and integration have school leaders with a vision of what is possible through the use of technology. These school leaders model the use of technology, support best practices in instruction and assessment and provide professional learning opportunities for their staff. The Southeast Initiatives Regional Technology in Education Consortium, (SIER*TEC), an organization that works collaboratively to help communities of learner use technology effectively, has had the greatest impact working with schools whose leaders are committed to helping teachers and students use technology effectively (Bingham & Byron, 2001).

Sandholz, Ringstaff, and Dwyer (1997) found school leadership crucial in determining whether or not teachers would integrate technology. Computers can have a very positive impact on student achievement—making learning more authentic, engaging, and meaningful to students. Research showed that the use of technology in classroom instruction could enhance student learning. Valdez (2004) reviewed the findings of current research and summarized that technology impacted student achievement with an effect size range between .30 and .40. However, school leaders must ensure that teachers receive adequate professional development, technical support, and classroom resources to realize these technological benefits. School leaders are in a unique position to inspire a vision for technology and allocate the financial and human resources to ensure complete and sustained implementation of the vision (Creighton, 2003).

Technology Standards for School Administrators

A national collaborative has developed a set of standards for school administrators that can serve to guide and support administrators as they assume their role as technology leaders. (Technology Standards for School Administrators, 2001). These standards are a national consensus among educational stakeholders of what best indicates effective school leadership for comprehensive and appropriate use of technology in schools and has been adopted by the International Society for Technology in Education (ISTE) as the National Educational Technology Standards for Administrators (NETS-A). The NETS-A consist of six standards related to leadership and vision; learning and teaching; productivity and professional practice; support, maintenance, operations, and finance; assessment and evaluation; and social, legal, and ethical issues (International Society for Technology in Education, 2002). According to Creighton (2003),

> These standards enable us to move from just acknowledging the importance of administrators in defining the specifics of what administrators need to know and be able to do in order to discharge their responsibility as leaders in the effective use of technology in our schools. (p.1)
> Don Knezek (2001), Director of the Technology Standards for School

Administrators project that led to ISTE's adoption of the NETS-A, stated,

> Integrating technology throughout a school system is, in itself, significant systemic reform. We have a wealth of evidence attesting to the importance of leadership in implementing and sustaining reform in schools. It is critical, therefore, that we attend seriously to leadership for technology in schools. (Technology Standards for School Administrators, p. 5)

Technology Preparation for School Administrators

In spite of the fact that the principal's preparation in technology is a key element in promoting technology success in schools (Hope, Kelley & Kinard, 1999), very little attention has been given to preparing school administrators for their role as technology leaders. According to Mehlinger and Powers (2002), "Graduate school programs generally are doing a poor job in preparing school principals and superintendents to be technology leaders" (p. 218). Very few school leaders had training in their preparation programs or as part of professional development efforts to deal with technology issues (Riedl, Smith, Ware, Wark, & Yount, 1998). As a result, many of today's administrators are novice technology users and have very little experience necessary to be effective technology leaders. Research indicates that few school administrators use technology meaningfully to improve the efficiency and effectiveness of their own work (Riedl et al., 1998). Without basic technology competency, it stands to reason that most school leaders lack the ability to understand the various policy and planning issues related to the successful implementation of technology (McLeod, Hughes, Richardon, Dikkers, Becker, Quinn, Logan, & Mayrose, 2005).

Demographic Differences

Literature has indicated that respondents' demographic information could make a difference in their perceptions of educational issues. School principals' perception of inclusive education were impacted by their gender, age, years of experience and professional preparation (Vidovich & Lombard, 1998; Yarborough, 2002). Assistant principals' gender and administrative experiences were found to have significant impact on their perceptions of visionary leadership (LeMieux, 2000). Teachers' perception of the education of disability students also varied by their gender, age, teaching experiences and professional training (Bennet, Deluca, & Bruns, 1997; Jobe, Rust, & Brissie, 1996; Lampropoulou & Padeliadu, 1997; Stoler, 1992; Vidovich & Lombard, 1998).

PURPOSE OF THE STUDY

Most of the current research was performed in emphasizing the need for technology competency of school principals. Few studies focused on assessing the outcome of the effort of the educational leadership programs in fostering technology integration. The purpose of this study was to solicit the candidates' perception of the extent the program had prepared them to master their technology competency as a result of completing their Master's Degree Program in Educational Leadership. School leaders need to be adequately prepared to effectively facilitate the implementation of technology in today's schools. If they do not perceive their preparation to be adequate, then program revision has to be made to address program deficiencies.

RESEARCH QUESTIONS

This research was guided by the following questions:

1. What are the aspiring administrators' perceptions of their technology preparation in the educational leadership program?
2. Do demographics of aspiring administrators make any difference in their perceptions of the technology preparation in the educational leadership program?

METHODS

Participants

Participants in this study consisted of 58 teachers who were enrolled in their last semester of a Master's Degree program in educational leadership at a large suburban university. Seventy-eight percent (45) of the participants were female and 22% (13) were male. Thirty-five percent (20) were 30 years old or younger, 19% (11) were between ages 31-35, 22% (13) were between 36-40, 14% (8) were between 41-45, and 10% (6) were 46 or older. Seventy-six percent (44) of the respondents were Caucasians, 22% (13) were African Americans, and 2% (1) Hispanics. Sixty-four percent (37) of the teachers had 0-10 years of teaching experience, 31% (18) had 11-20 years of teaching experience, and 5% (3) had 21-30 years of teaching experience. Sixty-seven percent (39) of the participants taught in suburban schools, 29% (17) in urban schools, and 4% (2) in rural schools. Ninety-four percent (55) of the participants taught in public schools and 4% (2) taught in private schools. Seventy percent (41) of the participants served as general education teachers, 5% (3) as special education teachers, 16% (9) as support specialists, 4% (2) as school counselors, and 5% (3) as administrators. Sixteen percent (9) of the participants taught at the elementary school level, 33% (19) at the middle school level, 22% (13) at the high school level, and 29% (17) were then not serving in a teaching capacity. (See Table 1) The small number of participants in this study was all from one educational leadership program and did pose a research limitation in generalization of findings.

Instrumentation

A survey instrument was constructed by the researchers to evaluate the perceptions of aspiring school administrators regarding their preparation as technology

leaders in the program. The survey was developed online after careful consideration of the National Educational Technology Standards for Administrators. The NETS-A consist of six standards related to leadership and vision; learning and teaching; productivity and professional practice; support, maintenance, operations, and finance; assessment and evaluation; and social, legal, and ethical issues (ISTE, 2002). Five performance statements were developed for each of the six standards for a total of 30 survey items (e.g., "The educational leadership program prepared me to develop and articulate a vision for how technology will be used to support teaching and learning"). Each of the six standards represented a subscale in data analysis. Survey items were presented in a 6-point Likert-scale format and aspiring administrators were asked to select the response that best represented their level of agreement with each statement. Response choices included: strongly agree, agree, somewhat agree, somewhat disagree, disagree, and strongly disagree.

Table 1. Descriptive Statistics – Demographic Information of Aspiring Administrators

Gender:		**School Level**:	
Male (13)	22%	Elementary (9)	16%
Female (45)	78%	Middle(19)	33%
		High (13)	22%
Age:		Non-teaching (17)	29%
30 or younger (20)	35%		
31 – 35 (11)	19%	**School Type:**	
36 – 40 (13)	22%	Public (55)	94%
41 – 45 (8)	14%	Private (2)	4%
46 or older (6)	10%	Not working (1)	2%
Ethnicity:		**School Location:**	
Caucasian (44)	76%	Urban (17)	29%
African Am. (13)	22%	Suburban (38)	67%
Hispanic (1)	2%	Rural (2)	4%
Year of Teaching:		**Position:**	
0 – 10 (37)	64%	Teacher (regular) (40	70%
11 – 20 (18)	31%	Teacher (special) (3)	5%
21 – 30 (3)	5%	Support Specialist (9)	16%
		Counselor (2)	4%
		Administrator (3)	5%

Numbers in ( ) represent the actual numbers of Aspiring Administrators in corresponding categories.

A validation panel was formed to establish the validity of the instrument. The panel consisting of instructional technology specialists, educational leadership content experts, and statisticians was asked to evaluate the questionnaire and make suggestions for improvement. A suggestion was made by the panel to extend the original five-point Likert scale to a six-point Likert scale to eliminate the 'no opinion' choice. Additional suggestions were made to reduce ambiguities in the wording of a few statements. The

instrument was pilot tested by surveying 15 aspiring administrators. Pilot data were analyzed by using Cronbach alpha to test for internal consistency of the instrument. Results of the analysis yielded an overall alpha of .974.

Data Collection & Analysis

The survey instrument was administered to three graduate classes of educational leadership candidates who were in their last semester of program completion. A total of 58 responses were received. Descriptive statistics were employed to analyze data on candidate perceptions. Means and standard deviations are displayed by total and by subgroup. Frequencies were also conducted on respondents' personal demographics to show their range of background differences. A series of Univariate Analyses of Variance were performed to determine if school level, year of teaching experience, age, and position made any difference in the candidates' perceptions. In the application of the Univariate Analysis of Variance, when one demographic variable was employed in the process, the other demographic variables were used as control covariates to minimize their possible impact on candidates' perceptions.

Table 2. Descriptive Statistics – Aspiring Administrators' Technology Perception byTotal and By Subscale

Average Perception	N	Minimum	Maximum	Mean	SD
Total	58	1.00	6.00	3.602	1.285
Subscale 1	58	1.00	6.00	3.645	1.400
Subscale 2	58	1.00	6.00	3.786	1.369
Subscale 3	58	1.00	6.00	4.014	1.248
Subscale 4	58	1.00	6.00	3.137	1.478
Subscale 5	58	1.00	6.00	3.372	1.487
Subscale 6	58	1.00	6.00	3.759	1.492
Valid (listwise)	58				

Subscale 1 = Leadership and vision
Subscale 2 = Learning and teaching
Subscale 3 = Productivity and professional practice
Subscale 4 = Support, maintenance, operations, and finance
Subscale 5 = Assessment and evaluation
Subscale 6 = Social, legal, and ethical issues

Similar Univariate Analyses of Variance were also performed to examine if aspiring administrators' years of teaching experience, age, ethnicity, gender, position and

school type made any difference in their technology perception of the leadership program. No significant difference was found in any of the comparisons.

RESULTS

Responses of aspiring administrators were summarized into one category of total average perception and six categories of subscale average perceptions, namely (1) leadership and vision; (2) learning and teaching; (3) productivity and professional practice; (4) support, maintenance, operations, and finance; (5) assessment and evaluation; and (6) social, legal, and ethical issues. Descriptive statistics were calculated on the total average perception and each of the six subscale average perceptions to yield their means and standard deviations (See Table 2 above). Results of the descriptive analysis indicated that the aspiring administrators' total average perception was 3.602 out of a six-point scale. When the data were analyzed by subscale, the aspiring administrators' mean perception for leadership and vision was 3.645, for learning and teaching was 3.786, for productivity and professional practice was 4.014, for support, maintenance, operations, and finance was 3.137, for assessment and evaluation was 3.372, and for social, legal, and ethical issues was 3.759. While the mid-point of a six point scale was observed at 3.5, aspiring administrators' total average perception of 3.602 was slightly above average. Four of the subscales' average perceptions (leadership and vision; learning and teaching; productivity and professional practice; and social, legal, and ethical issues) were rated above average. Two subscales' average perceptions (support, maintenance, operations and finance; and assessment and evaluation) were rated below average. The lowest subscale with a mean of 3.137 was support, maintenance, operations and finance. The highest subscale with a mean of 4.014 was productivity and professional practice.

Additionally, participants' responses to the 30 items on the questionnaire were analyzed by frequency distribution as shown in Table 3. Results of the analysis indicated that high percentages of the ratings were circled around ratings of 2 and 5. The frequency distribution showed a somewhat bimodal type of configuration suggesting significant differences in candidates' perceptions of their program preparation.

Univariate Analysis of Variance was performed to examine if there was any significant difference in aspiring administrators' total technology perception among school levels. Aspiring administrators' years of teaching experience, age, ethnicity, gender, role, and school type were used as covariates to control the possible effect they might have on perception. Aspiring administrators were observed in four levels: elementary, middle, high, and not currently teaching. Result of the analysis showed a significant difference in aspiring administrators' total perception among the four school levels (F value = 2.970) (see Table 4). The mean of each level was calculated as 2.656 for elementary school level, 3.570 for middle school level, 3.497 for high school level, and 4.338 for not currently teaching level (see Table 5). The findings surely indicated that the "not currently teaching" group had more agreeable technology perception of the leadership program than any group that was then teaching. Among the four groups, elementary aspiring administrators had the least agreeable technology perception of the leadership program.

Table 3. Frequency Distribution – Aspiring Administrators' Technology Perceptions by Item on the Questionnaire

Item	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5	Rating 6
1	7 (12.1)	11 (19)	7 (12.1)	9 (15.5)	19 (32.8)	5 (8.6)
2	9 (15.5)	13 (22.4)	7 (12.1)	5 (8.6)	20 (34.5)	4 (6.9)
3	4 (6.9)	13 (22.4)	3 (5.2)	13 (22.4)	20 (34.5)	5 (8.6)
4	7 (12.1)	11 (19)	6 (10.3)	8 (13.8)	21 (36.2)	5 (8.6)
5	7 (12.1)	12 (20.7)	7 (12.1)	8 (13.8)	17 (29.3)	7 (12.1)
6	5 (8.6)	11 (19)	4 (6.9)	13 (22.4)	19 (32.8)	6 (10.3)
7	5 (8.6)	9 (15.5)	1 (1.7)	11 (19)	25 (43.1)	7 (12.1)
8	5 (8.6)	12 (20.7)	1 (1.7)	15 (25.9)	21 (36.2)	4 (6.9)
9	4 (6.9)	13 (22.4)	3 (5.2)	15 (25.9)	16 (27.6)	7 (12.1)
10	7 (12.1)	16 (27.6)	5 (8.6)	11 (19)	15 (25.9)	4 (6.9)
11	4 (6.9)	15 (25.9)	1 (1.7)	14 (24.1)	21 (36.2)	3 (5.2)
12	3 (5.2)	12 (20.7)	2 (3.4)	9 (15.5)	23 (39.6)	9 (15.5)
13	2 (3.4)	7 (12.1)	7 (12.1)	9 (15.5)	24 (41.4)	9 (15.5)
14	7 (12.1)	11 (19)	4 (6.9)	11 (19)	20 (34.5)	5 (8.6)
15	5 (8.6)	14 (24.1)	1 (1.7)	8 (13.8)	22 (37.9)	8 (13.8)
16	8 (13.8)	17 (29.3)	1 (1.7)	10 (17.2)	18 (31)	4 (6.9)
17	10 (17.2)	21 (36.2)	6 (10.3)	6 (10.3)	12 (20.7)	3 (5.2)
18	8 (13.8)	19 (32.8)	7 (12.1)	8 (13.8)	11 (19)	5 (8.6)
19	10 (17.2)	20 (34.5)	7 (12.1)	6 (10.3)	11 (19)	4 (6.9)
20	10 (17.2)	15 (25.9)	10 (17.2)	4 (6.9)	16 (27.6)	3 (5.2)
21	9 (15.5)	20 (34.5)	4 (6.9)	7 (12.1)	13 (22.4)	5 (8.6)
22	6 (10.3)	19 (32.8)	3 (5.2)	10 (17.2)	15 (25.9)	5 (8.6)
23	7 (12.1)	15 (25.9)	5 (8.6)	7 (12.1)	18 (31)	6 (10.3)
24	8 (13.8)	19 (32.8)	4 (6.9)	7 (12.1)	13 (22.4)	7 (12.1)
25	6 (10.3)	17 (29.3)	6 (10.3)	11 (19)	13 (22.4)	5 (8.6)
26	6 (10.3)	16 (27.6)	6 (10.3)	5 (8.6)	17 (29.3)	8 (13.8)
27	5 (8.6)	14 (24.1)	2 (3.4)	11 (19)	17 (29.3)	9 (15.5)
28	4 (6.9)	14 (24.1)	6 (10.3)	8 (13.8)	17 (29.3)	9 (15.5)
29	6 (10.3)	13 (22.4)	5 (8.6)	8 (13.8)	17 (29.3)	9 (15.5)
30	7 (12.1)	15 (25.9)	4 (6.9)	12 (20.7)	13 (22.4)	7 (12.1)

Numbers in ( ) represent percentages.

Rating 1 = Strongly Disagree
Rating 2 = Disagree
Rating 3 = Somewhat Disagree
Rating 4 = Somewhat Agree
Rating 5 = Agree
Rating 6 = Strongly Agree

Table 4. Univariate Analysis of Variance – Differences in Aspiring Administrators' Technology Perceptions by School Level

Source	Type III Sum Of Squares	df	Mean Square	F
Corrected Model	28.989	9	28.989	2.412
Intercept	16.163	1	16.163	12.103
Years of Teaching	.020	1	.020	.015
Age	.362	1	.362	.271
Ethnicity	5.493	1	5.493	4.113
Gender	.361	1	.361	.270
Role	4.588	1	4.588	3.436
School Type	1.490	1	1.490	1.116
School Level	11.899	3	3.966	2.970 *
Error	61.432	4	1.335	
Total	827.021	56		
Corrected Total	90.421	55		

* $p < .05$

Table 5. Descriptive Statistics – Aspiring Administrators' Technology Perceptions by School Level

Level	Mean	SD	N
Elementary School	2.656	1.539	9
Middle School	3.570	1.216	19
High School	3.497	1.164	12
Not Currently Teaching	4.338	.936	16
Total	3.627	1.282	56

DISCUSSION

The findings of this study clearly showed that aspiring administrators gave the educational leadership program an overall barely average rating in preparing them as technology leaders. These findings, though not as pessimistic as situations as described by Mehlinger & Powers (2002) and Riedl, Smith, Ware, Wark, and Yount (1998), are not particularly exciting. The large numbers in the standard deviations (e.g. S.D. for Total Average Reponses = 1.285 out of a 6-point scale) indicated a wide margin of disagreement among the respondents in total average and in all the subscales. Consideration has to be given to examine the educational leadership curriculum to reflect the technology needs of the aspiring administrators, particularly in the areas of support, maintenance, operations and finance, and assessment and evaluation. The weaknesses of the program were specifically identified by the candidates as:

1. Trouble-shooting basic technical problems
2. Allocating resources to implement technology programs
3. Evaluating hardware and software efficiency and suitability
4. Identifying and monitoring progress of student technology skills.

What it meant was the candidates perceived that the program had not done enough to prepare its candidates how to manage the entire technological system in school. The program needs to be revised to increase candidates' preparation in continuous support and assessment of technology leadership activities. The National Educational Technology Standards for Administrators (NETS-A) could serve as an excellent guideline in realigning the course activities.

The findings of this study also showed that the only subscale that comfortably met the above average agreeable perception was productivity and professional practice. What it meant was that aspiring administrators felt they were quite well prepared in modeling effective use of technology in class. Specific strengths of the program were identified as:

1. Encourage the use of technology that develops decision-making and problem solving.
2. Use technology for communication with stakeholders.
3. Encourage the use of technology in daily school business management.

Program developers need to recognize the program strengths and continue to develop in these areas for the benefit of its candidates.

Respondents' perceptions in the areas of leadership and vision, learning and teaching, and social, legal and ethical issues were divided though their means still showed their responses to be slightly above average. Program goals need to be established and plans have to be developed to challenge the aspiring administrators to higher standards. Technology integration to meet social needs is still an issue to be explored in the program. Legality and ethical concerns in the use of technology is still puzzled by many aspiring administrators.

In examining the aspiring administrators' technology perception by school level, it was found that the currently non-teaching group expressed more agreeable perception of the leadership program over their technology preparation than any of the currently teaching groups. The result is not surprising because when educators are not currently involved in classroom teaching, they are less likely to recognize the pressing need for technology in school and thus, their expectation of the technology preparation in the program tends to be less demanding.

CONCLUSION AND RECOMMENDATION

When educational leadership faculty recognizes the importance of technology preparation and continues to foster technology integration in their programs, it is time to assess what the programs have achieved in preparing their aspiring administrators. The findings of this study that the aspiring administrators gave a slightly above average rating for the program's effort in preparing them as technology leaders is a warning to program developers. What it means is that despite the faculty's effort technology preparation in the educational leadership program was not applauded by aspiring principals to be outstanding. In the areas of (1) support, maintenance, operations and finance and (2) assessment and evaluation, the aspiring principals' ratings were even less desirable. On the other hand, program candidates did recognize that the program had encouraged them in the use of technology in both instructional and school business management uses. The results of this study need to be taken seriously. A reexamination of all program areas in technology preparation has to be conducted to reflect alignment with the National Educational Technology Standards for Administrators. Field administrators need to be involved in this curriculum alignment process for technology preparation in the educational leadership programs to be effective.

Though the study was conducted in one educational leadership program in Georgia, results of the study have nationwide implication. Other educational leadership programs nationwide could perform similar survey to assess where they stand in preparing their candidates as technology leaders. If what the faculty does is not what the candidates perceive, that is where consideration for program improvement begins. On the other hand, while focus is placed on preparing field administrators to be technology leaders, attention needs to be drawn also to the technology readiness of faculty members who participate in delivering the programs.

Contributors

Traci Redish, associate professor of educational leadership at Kennesaw State University and Director of the GaDOE Educational Technology Training Center (ETTC), is a graduate of Georgia State University. Traci is known statewide for her development of the InTech Technology Professional Development Program--the premier technology integration training solution adopted by the State of Georgia and recognized by HB 1187 as one acceptable path for meeting the Special Georgia Technology Requirement for educators. Over 68,000 educators in Georgia have completed the InTech program. Dr. Redish served as the Regional Program Co-chair for the International Society for Technology in Education (ISTE) for the NECC 2007 conference. She has developed a Masters program in Technology Leadership and an Ed.D. program in Instructional Technology for Kennesaw State University. Dr. Redish presents at local, state, national, and international conferences on technology leadership.

Tak Cheung Chan, professor of educational leadership at Kennesaw State University in Kennesaw, Georgia, is a graduate of the University of Georgia. He was a classroom teacher, assistant school principal, school principal, and district office administrator. His previous experiences in higher education include serving as an assistant professor at Valdosta State University and as an associate professor at Georgia Southern University. His research interests include educational planning, facility planning, school business administration, school finance, and international education.

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APPENDIX

A Survey of Candidates' Perception of Technology Leadership Program

This survey is designed to assist the Technology Leadership Program improve its preparation for technology leaders. Please take a few minutes to share your perceptions with us by responding to the survey items below.

Directions: Please indicate the most appropriate response:

1. Years of Teaching Experience:
   - 0-10 years
   - 11-20 years
   - 21-30 years
   - Over 30 years

2. Current Teaching Level:
   - Elementary School
   - Middle School
   - High School
   - Not currently teaching

3. Age:
   - 30 years or less
   - 31-35 years
   - 36-40 years
   - 41-45 years
   - 46 or over

4. Ethnicity:
   - African American
   - Asian
   - Caucasian
   - Hispanic
   - Multi-Racial
   - Other

5. Gender:
   - Male
   - Female

6. What type of school are you currently working?
   - Public school
   - Private school
   - Not currently working

7. What area is your school located?
   - Urban area
   - Suburban area
   - Rural area

8. Which of the following best describes your current position?
   - General Education Teacher (PreK-12)
   - Special Education/Gifted Teacher
   - Support Specialist
     (EIP, Media, ESOL, Title I, Technology Specialist, Lead Teacher, etc.)
   - Guidance Counselor
   - Administrative/Supervisory – Building Level
   - Central Office Personnel

Directions: Select the response below that best represents your level of agreement with each statement. Please consider your level of preparation relative to the Technology Leadership Program only.

The Technology Leadership Program prepared me to:	Strongly Agree	Agree	Some what Agree	Some what Disagree	Disagree	Strongly Disagree
1. Develop and articulate a vision for how technology will be used to support teaching and learning.	6	5	4	3	2	1
2. Play a central role in the development and implementation of a school technology plan that supports the vision for technology.	6	5	4	3	2	1
3. Integrate the technology plan into the overall school improvement plan to ensure alignment of technology with instruction.	6	5	4	3	2	1
4. Use technology to collect and analyze data to advance school improvement efforts.	6	5	4	3	2	1
5. Advocate for the use of research-based best practices in the use of technology.	6	5	4	3	2	1
6. Promote the use of technology to meet the individual and diverse needs of learners.	6	5	4	3	2	1
7. Encourage the use of technology that develops higher-level thinking, decision-making, and problem-solving skills.	6	5	4	3	2	1
8. Promote a culture that encourages risk-taking, recognition, and reward for implementing innovative uses of technology.	6	5	4	3	2	1
9. Assist teachers in collecting, analyzing, and interpreting student data to improve instruction practice.	6	5	4	3	2	1

10. Provide quality technology-based professional learning for faculty to improve the use of technology in the classroom.	6	5	4	3	2	1
11. Model the effective use of technology on a routine basis for faculty and staff.	6	5	4	3	2	1
12. Use technology to communicate with colleagues, faculty, staff, parents, and the larger community.	6	5	4	3	2	1
13. Engage in the use of technology to advance school operations (ex: keep records, manage budgets, organize student information, develop schedules and maintain inventories).	6	5	4	3	2	1
14. Stay abreast of emerging technologies and their uses in education.	6	5	4	3	2	1
15. Encourage faculty and staff to use technology to improve their productivity and professional practice.	6	5	4	3	2	1
16. Ensure adequate technical support to facilitate the use and maintenance of technology throughout the school.	6	5	4	3	2	1
17. Troubleshoot basic technical problems that commonly occur with the use of computers.	6	5	4	3	2	1
18. Allocate financial and human resources to successfully implement the school technology plan.	6	5	4	3	2	1
19. Develop and implement a plan to purchase, repair and replace technology on an ongoing basis to prevent obsolescence.	6	5	4	3	2	1
20. Evaluate hardware and software products to compare features, determine cost-effectiveness, and ensure compatibility prior to purchase.	6	5	4	3	2	1

21. Evaluate student technology skills to ensure mastery of the national educational technology standards for students (NETS-A).	6	5	4	3	2	1
22. Assess the level of technology implementation into daily classroom practice.	6	5	4	3	2	1
23. Evaluate the technology plan on a regular basis to determine whether goals and benchmarks are being met.	6	5	4	3	2	1
24. Formally evaluate faculty on their ability to integrate technology into the teaching and learning process.	6	5	4	3	2	1
25. Evaluate the effectiveness of technology-based initiatives implemented throughout the school.	6	5	4	3	2	1
26. Ensure that all learners have equitable access to technology resources.	6	5	4	3	2	1
27. Model and enforce social, legal and ethical uses of technology.	6	5	4	3	2	1
28. Ensure the online security and safety of all students in the school.	6	5	4	3	2	1
29.Model and enforce copyright laws and the district's acceptable use policy.	6	5	4	3	2	1
30. Develop strategic community relationships that foster collaboration in planning, implementing, and assessing the use of technology in the school.	6	5	4	3	2	1