

Generation of education leaders: Basis for mentoring and coaching for digital education

Richard L. Salutem^a, Alexy Gene B. Castillo, DIT^b

^a*richard.salutem@deped.gov.ph*

^b*alexxygenecastillo@edu.ph*

*Mabini Colleges, Inc., Governor Panotes Avenue,
Daet, Camarines Norte, 4600, Philippines*

Abstract

A study conducted in Paracale District examined the development of educational leaders in digital mentoring and coaching, analyzing the profiles of 167 teachers, 13 ICT coordinators, and 13 school heads. Utilizing a descriptive-correlational research design and tools like Microsoft Excel and IBM SPSS Statistics, the study found a strong consensus on the effectiveness of digital coaching practices, particularly in providing individualized guidance. However, challenges such as limited resources, time constraints, and a shortage of experienced mentors hindered the full implementation of these practices. Significant correlations were identified between respondents' profiles and their engagement in digital mentoring, highlighting the need for capacity-enhancement training programs focused on individualized guidance, skill development, career advancement, and holistic development to empower educators and improve digital education practices.

Keywords: Generation educational leaders, digital education, mentoring, coaching, generation

1. Introduction

Teachers are faced with possibly the most challenging dilemma of the contemporary educational landscape: the cognitive skills that are easiest to teach and measure are also the ones that are easiest to digitize, automate, and outsource. In the past, educators could presume that the knowledge they imparted to their pupils would endure throughout their entire lives. Digital technology integration has become apparent as a key component in modern school reform. As educational institutions adopt the digital revolution, education leaders play a crucial role (Driscoll, 2023).

In the past, the policy focus was on the provision of education. Today, it is on outcomes, shifting from looking upwards in the bureaucracy towards looking outwards to the next teacher, the next school. The past was about delivered wisdom, the challenge now is to foster user-generated wisdom among teachers in the frontline (Reimers, 2020).

Results from the OECD's Program for International Student Assessment (PISA) have shown that the degree to which education systems succeed in equipping students with important foundation skills varies significantly (World Bank, 2020). Since the quality of teaching is at the heart of student learning outcomes, it is an appealing idea to bring together education leaders from high-performing and rapidly improving education systems to explore educational success and some of the policies related to success that transcend the schools, especially in the Paracale District.

Thus, the DepEd Order No. 78, series of 2010 or the DepEd Computerization Program aimed in the computerization program was supported by the Regional Memorandum No. 137, series of 2022. Due to this, the Regional Memorandum No. 115, series of 2022, was established in urged to empower continuing professional development (Department of Education, 2018).

In the rapidly evolving landscape of education, the integration of digital technologies has become increasingly prevalent. As educational institutions transition towards digital learning environments, the role of education leaders becomes essential in ensuring a smooth and effective implementation of digital education Practices. This study is situated within the broader context of the ongoing digital transformation in education, where leaders are required to navigate the complexities of technology integration, support teacher professional development, and ultimately enhance the overall quality of education in the digital era (Kaputa et al., 2022).

This study primarily determined the generation of education leaders for digital education mentoring and coaching in Paracale District. This sought answers to the practices in digital education coaching and mentoring Practices in Paracale District and the barriers to the digital education coaching and mentoring Practices in Paracale District in terms of individualized guidance, skill development, career advancement, and holistic development. Also, this determined the significant relationship between the profile of the respondents and the digital education coaching and mentoring Practices.

1.1. Research Questions

This study primarily determined the generation of education leaders for digital education mentoring and coaching in Paracale District. Specifically, this sought answers to the following:

1. What is the profile of the respondents in terms of:
 - 1.1. age;
 - 1.2. sex;
 - 1.3. civil status;
 - 1.4. major/specialization;
 - 1.5. rank/position; and
 - 1.6. years in service?
2. What are the practices in digital education coaching and mentoring in Paracale District in terms of:
 - 2.1. individualized guidance;
 - 2.2. skill development;
 - 2.3. career advancement; and
 - 2.4. holistic development?
3. What are the barriers to the digital education coaching and mentoring practices in Paracale District in terms of:
 - 3.1. individualized guidance;
 - 3.2. skill development;
 - 3.3. career advancement; and
 - 3.4. holistic development?
4. Is there a significant relationship between the profile of the respondents and the digital education coaching and mentoring practices?
5. Is there a significant relationship between the coaching and mentoring practices and the barriers encountered by the respondents?
6. What intervention may be proposed to enhance the digital education mentoring and coaching among educational leaders?

2. Methodology

This study utilized a quantitative method using a descriptive-correlational research design. The researcher employed a descriptive study to determine the practices in digital education coaching and mentoring Practices and the barriers on the digital education coaching and mentoring Practices in Paracale District in terms of individualized guidance; skill development; career advancement; and holistic development. Also, this determined the significant relationship between the profile of the respondents and the digital education coaching and mentoring Practices.

This study utilized a researcher-made survey questionnaire. The instrument was validated using the dry run to the selected 20 teachers. A Cronbach test was made by the statistician and was found to be valid and reliable. Part 1 of the survey questionnaire involved the profile of the respondents in terms of their age, sex, civil status, major/specialization, rank/position, and years in service. In this part, the respondents had written their answers from the space provided. Part 2 encompassed the mentoring and coaching practices in digital education in terms of individualized guidance; skill development; career advancement; and holistic development. Part 3 were the barriers in coaching and mentoring in digital education and the Practices in coaching and mentoring in digital education. In this part, respondents rated the indicators presented from 1-4, 4 being the highest and 1 being the lowest.

This study employed stratified random sampling of 13 school heads, 13 IT coordinators, and 167 teachers in Public Elementary Schools of Paracale District participated in this study. For data tabulation and analysis in this study, Frequency and Percentage were used to determine the profile of the respondents. The Weighted Mean was used to determine the level of effectiveness of digital education leaders for digital education in mentoring and coaching. Pearson r correlation coefficient measured the significant relationship between the profile of the respondents and the digital education coaching and mentoring Practices. An online application was used in the computation of Pearson r correlation coefficient.

3. Results and Discussion

3.1. Profile of the Respondents

This part presents the profile of the respondents in terms of their age, sex, civil status, major/specialization, rank/position, and years in service. The age profile of the respondents is presented in Table 1.

Age. The data in Table 1 indicates a notable concentration of respondents in the 41-50 age bracket across all groups, particularly among school heads, where this age group represents 100% of the respondents. Among teachers, the 41-50 age group constitutes the largest portion at 44.91%, followed by those in the 31-40 age group at 32.93%. The 21-30 age bracket accounts for 16.77% of teachers, while those in the 51-60 age group represent only 5.39%. For ICT coordinators, the 41-50 age group also dominates at 69.23%, with smaller representations in the 31-40 age group (23.08%) and the 21-30 age group (7.69%).

Table 1. Profile of the Respondents Along Age

Age	Teachers		ICT Coordinators		School Heads	
	f	%	f	%	f	%
21-30	28	16.77	1	7.69	-	-
31-40	55	32.93	3	23.08	-	-
41-50	75	44.91	9	69.23	13	100
51-60	9	5.39	-	-	-	-
Total	167	100	13	100	13	100

Sex. Table 2 presents the sex profile of respondents categorized into three groups: teachers, ICT coordinators, and school heads. The table indicates a noticeable difference in the gender distribution across the three roles. Among teachers, the distribution is relatively balanced, with females slightly outnumbering males. However, in the roles of ICT coordinators and school heads, females dominate overwhelmingly. Among the teachers, females slightly outnumber males, with 53.29% being female and 46.71% male.

Table 2. Profile of the Respondents Along Sex

Sex	Teachers		ICT Coordinators		School Heads	
	f	%	f	%	f	%
Male	78	46.71	1	7.69	-	-
Female	89	53.29	12	92.31	13	100
Total	167	100	13	100	13	100

Civil Status. Table 3 provides an overview of the civil status profile of respondents categorized as teachers, ICT coordinators, and school heads. Among teachers, the majority are married, with 117 out of 167 respondents (70.06%) reporting this status. A smaller proportion, 53 teachers (31.74%), are single. This indicates that the teaching profession, within this sample, includes a significant number of individuals who are in stable, long-term relationships.

Table 3. Profile of the Respondents Along Civil Status

Civil Status	Teachers		ICT Coordinators		School Heads	
	f	%	f	%	f	%
Single	53	31.74	2	15.38	6	46.15
Married	117	70.06	11	84.62	7	53.85
Total	167	100	13	100	13	100

Major/Specialization. Table 4. The specialization distribution among educational roles reveals distinct patterns. Teachers predominantly specialize in English (36.53%) and Mathematics (31.14%), with smaller percentages in Filipino (15.57%), MAPEH (8.98%), and Social Studies (7.78%). ICT coordinators show a more varied distribution, leading with MAPEH (30.77%), followed by English and Mathematics (each at 23.08%), Filipino (15.38%), and Social Studies (7.69%). In contrast, school heads are overwhelmingly specialized in Mathematics (92.31%), with a minor representation in Filipino (7.69%) and none in English, MAPEH, or Social Studies. This indicates a strong emphasis on Mathematics among school heads, while teachers and ICT coordinators exhibit more diverse specializations.

Table 4. Profile of the Respondents Along Major/Specialization

Major / Specialization	Teachers		ICT Coordinators		School Heads	
	F	%	F	%	f	%
English	61	36.53	3	23.08	0	0.00
Mathematics	52	31.14	3	23.08	12	92.31
Filipino	26	15.57	2	15.38	1	7.69
MAPEH	15	8.98	4	30.77	0	0.00
Social Studies	13	7.78	1	7.69	0	0.00
Total	167	100	13	100	13	100

Rank/Position. Table 5 provides an overview of the rank or position of respondents categorized into three groups: teachers, ICT coordinators, and school heads. The majority of teachers (58.08%) hold the rank of Teacher I. The distribution among ICT coordinators shows a balanced representation across several ranks, suggesting that individuals in these roles have diverse teaching backgrounds. This balance indicates that ICT

coordinators bring a mix of fresh ideas and seasoned experience to their role, contributing to the integration of technology in education.

Table 5. Profile of the Respondents Along Rank/Position

Rank/Position	Teachers		ICT Coordinators		School Heads	
	f	%	f	%	f	%
Teacher I	97	58.08	5	38.46	-	-
Teacher II	47	28.14	2	15.38	-	-
Teacher III	12	7.19	3	23.07	-	-
Master Teacher I	7	4.19	1	7.69	-	-
Master Teacher II	4	2.39	2	15.38	-	-
Principal I	-	-	-	-	6	46.15
Principal II	-	-	-	-	7	53.85
Total	167	100	13	100	13	100

Years in Service. Table 6 provides a detailed breakdown of the years of service for teachers, ICT coordinators, and school heads within an educational setting. Among the teachers, the highest years in service are 6-10 (51.49%). This means that this year range marks a period when teachers have established themselves in their roles and are less likely to change professions or schools.

Table 6. Profile of the Respondents Along Years in Service

Years in Service	Teachers		ICT Coordinators		School Heads	
	f	%	f	%	f	%
0-5 years	20	11.98	0	0.00	1	7.69
6-10 years	86	51.49	0	0.00	0	0.00
11-15 years	37	22.16	5	38.46	8	61.54
16-20 years	18	10.78	6	46.15	2	15.38
21 years and above	6	3.59	2	15.38	2	15.38
Total	167	100	13	100	13	100

3.2. Practices in Digital Education Coaching and Mentoring in Paracale District

This part discusses the results of the survey with respect to the digital education coaching and mentoring Practices in Paracale District in terms of individualized guidance, skill development, career advancement, and holistic development.

Individualized Guidance. Table 7 provides a comprehensive overview of how teachers, ICT coordinators, and school heads in the Paracale District perceived the effectiveness of various digital education coaching and mentoring Practices, particularly in the context of individualized guidance.

Table 7. Digital Education Coaching and Mentoring Practices along Individualized Guidance

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
Learning objectives, practices, and resources are tailored to the needs and goals of each educator	3.12	Agree	2.85	Agree	2.85	Agree
Mentors and coaches provide timely and targeted feedback to educators based on their unique strengths, challenges, and progress in digital education.	3.74	Strongly Agree	3.77	Strongly Agree	3.77	Strongly Agree
Mentoring and coaching programs offer flexible and adaptable learning pathways that accommodate educators' diverse learning styles, preferences, and pace of learning.	3.42	Strongly Agree	3.46	Strongly Agree	3.46	Strongly Agree
Mentors and coaches engage in regular one-on-one consultations with educators to provide individualized	3.45	Strongly Agree	3.85	Strongly Agree	3.85	Strongly Agree

support, guidance, and mentorship in digital education.

Mentoring and coaching programs offer tailored professional learning opportunities, such as workshops, webinars, and online courses, that address educators' specific interests, needs, and skill levels in digital education.

		3.22	Agree	3.77	Strongly Agree	3.62	Strongly Agree
	Overall Weighted Mean	3.39	Strongly Agree	3.54	Strongly Agree	3.51	Strongly Agree
Rating Scale:	Descriptive Interpretation:						
3.26 – 4.00	Strongly Agree						
2.51 – 3.25	Agree						
1.76 – 2.50	Disagree						
1.00 – 1.75	Strongly Disagree						

Skill Development. Table 8 presents an analysis of how the teachers, ICT coordinators, and school heads perceive the effectiveness of digital education coaching and mentoring Practices focusing on skill development. The overall weighted mean indicates a strong consensus among ICT coordinators and school heads, both scoring 3.55 and 3.62, respectively, with an interpretation of Strongly Agree. Teachers have a slightly lower weighted mean of 3.12, interpreted as "Agree."

Table 8. Digital Education Coaching and Mentoring Practices along Skill Development

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
Mentors and coaches conduct initial assessments to identify educators' existing digital competencies and skill gaps.	2.97	Agree	3.38	Strongly Agree	3.54	Strongly Agree
Mentoring and coaching programs incorporate structured skill-building activities that provide educators with hands-on experiences and opportunities to practice using digital tools and technologies relevant to their instructional context.	3.14	Agree	3.69	Strongly Agree	3.69	Strongly Agree
Mentors and coaches regularly monitor educators' progress in developing digital skills and provide timely feedback to support their growth and improvement.	3.29	Strongly Agree	3.62	Strongly Agree	3.62	Strongly Agree
Mentoring and coaching programs offer educators access to personalized learning resources, such as online modules, instructional videos, articles, and toolkits, tailored to their identified skill development needs and learning preferences.	2.90	Agree	3.85	Strongly Agree	3.85	Strongly Agree
Mentoring and coaching initiatives foster collaborative professional learning communities where educators can share experiences, insights, and best practices related to digital education.	3.31	Strongly Agree	3.23	Agree	3.38	Strongly Agree
Overall Weighted Mean	3.12	Agree	3.55	Strongly Agree	3.62	Strongly Agree
Rating Scale:	Descriptive Interpretation:					
3.26 – 4.00	Strongly Agree					
2.51 – 3.25	Agree					
1.76 – 2.50	Disagree					
1.00 – 1.75	Strongly Disagree					

Career Advancement. Table 9 presents the digital education coaching and mentoring Practices along career advancement, revealing insights into how teachers, ICT coordinators, and school heads perceive these initiatives in the context of their professional growth. The overall weighted means for teachers, ICT coordinators, and school heads are 2.93, 3.06, and 3.03, respectively, all interpreted as "Agree."

Table 9. Digital Education Coaching and Mentoring Practices along Career Advancement

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
Mentors and coaches work collaboratively with educators to establish clear professional goals related to digital education and career advancement.	2.99	Agree	3.15	Agree	3.00	Agree
Mentoring and coaching programs create individualized professional development plans that align with educators' career aspirations and growth areas in digital education.	2.66	Agree	3.00	Agree	3.23	Agree
Mentors and coaches facilitate access to training, workshops, conferences, and other professional development opportunities that enhance educators' digital teaching skills and credentials.	2.67	Agree	3.08	Agree	3.15	Agree
Mentoring and coaching initiatives offer leadership development opportunities that empower educators to take on leadership roles in digital education initiatives.	3.35	Strongly Agree	3.23	Agree	2.92	Agree
Mentors and coaches advocate for recognition and advancement pathways that reward educators' contributions to digital education and support their career progression.	3.09	Agree	2.85	Agree	2.85	Agree
Overall Weighted Mean	2.93	Agree	3.06	Agree	3.03	Agree
Rating Scale:	Descriptive Interpretation:					
3.26 – 4.00	Strongly Agree					
2.51 – 3.25	Agree					
1.76 – 2.50	Disagree					
1.00 – 1.75	Strongly Disagree					

Holistic Development. Table 10: Digital education coaching and mentoring practices have been effective in promoting holistic development among educators. Teachers reported the highest agreement (weighted mean: 2.88), followed by school heads (2.75) and ICT coordinators (2.70). Notably, the integration of socio-emotional learning (SEL) components into mentoring programs received the highest ratings, with teachers strongly agreeing (3.31) and school heads agreeing (2.78). This highlights the importance of SEL in helping teachers manage classroom dynamics and support students' emotional well-being.

Table 10. Digital Education Coaching and Mentoring Practices along Holistic Development

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
Mentoring and coaching programs incorporate socio-emotional learning (SEL) components to support educators' holistic development.	3.31	Strongly Agree	2.56	Agree	2.78	Agree
Mentors and coaches prioritize the promotion of work-life balance among educators engaged in digital education.	2.57	Agree	2.54	Agree	2.74	Agree
Mentoring and coaching initiatives cultivate a growth mindset among educators, encouraging them to embrace challenges, learn from failures, and persist in their professional development journey.	2.69	Agree	3.08	Agree	2.75	Agree
Mentors and coaches nurture educators' creativity and innovation in digital education, encouraging them to explore innovative teaching approaches, adapt digital tools to diverse learning contexts, and design engaging learning experiences for students.	3.10	Agree	2.69	Agree	2.69	Agree
Mentoring and coaching programs emphasize reflective practice as a key driver of holistic development in digital education.	2.75	Agree	2.65	Agree	2.77	Agree
Overall Weighted Mean	2.88	Agree	2.70	Agree	2.75	Agree
Rating Scale:	Descriptive Interpretation:					
3.26 – 4.00	Strongly Agree					
2.51 – 3.25	Agree					
1.76 – 2.50	Disagree					

1.00 – 1.75

Strongly Disagree

3.3. Barriers to the Digital Education Coaching and Mentoring Practices in Paracale District

This section discussed the barriers on the digital education coaching and mentoring Practices in Paracale district along individualized guidance, skill development, career advancement, and holistic development.

Individualized Guidance. The findings from Table 11 highlight the perceived barriers to the application of digital education coaching and mentoring Practices across teachers, ICT coordinators, and school heads, with an emphasis on individualized guidance. The weighted mean for teachers is 2.12, for ICT coordinators 2.24, and for school heads 2.11, all interpreted as "Sometimes." These scores reflect occasional challenges in implementing individualized guidance effectively. The indicator "Insufficient resources such as funding and time for planning and execution" got the highest weighted means of 2.30 (for teachers), 2.50 (for ICT coordinators), and 2.50 (for school heads), respectively. This means that teachers lack access to the necessary digital tools and resources, which hinders their ability to implement coaching Practices effectively.

Table 11. Barriers to Digital Education Coaching and Mentoring Practices along Individualized Guidance

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
They do not receive adequate training in digital coaching techniques and tools	2.26	Sometimes	2.47	Sometimes	2.10	Sometimes
Limited support from administration or technical teams	2.00	Sometimes	2.12	Sometimes	1.85	Never
Insufficient resources such as funding and time for planning and execution	2.30	Sometimes	2.50	Sometimes	2.50	Sometimes
Poor communication that leads to misaligned goals	1.88	Sometimes	1.90	Sometimes	1.77	Sometimes
Differences in technological skills	2.15	Sometimes	2.19	Often	2.25	Sometimes
Overall Weighted Mean	2.12	Sometimes	2.24	Sometimes	2.11	Sometimes
Rating Scale: Descriptive Interpretation:						
3.26 – 4.00	Strongly Agree					
2.51 – 3.25	Agree					
1.76 – 2.50	Disagree					
1.00 – 1.75	Strongly Disagree					

Skill Development. Table 12: Educators face recurring barriers in implementing digital education coaching and mentoring practices, particularly in skill development. Teachers, ICT coordinators, and school heads reported overall weighted means of 2.39, 2.43, and 2.26, respectively, indicating that these challenges occur "Sometimes." The most significant barrier identified was "Limited time to engage in skill-building activities," with teachers rating it at 3.12 ("Often"), ICT coordinators at 3.36 ("Always"), and school heads at 2.88 ("Often"). This suggests that extensive teaching responsibilities and administrative duties leave educators with insufficient time for professional development, hindering the effective advancement of digital skills within educational institutions.

Table 12. Barriers to Digital Education Coaching and Mentoring Practices along Skill Development

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
Limited access to professional development programs that focus on digital skill enhancement	2.00	Sometimes	2.15	Sometimes	2.11	Sometimes
Gap in technological access and proficiency levels	2.66	Often	2.54	Often	2.47	Often
Limited time to engage in skill-building activities	3.12	Often	3.36	Always	2.88	Often
Reluctance to adopt new digital tools and methodologies	1.88	Sometimes	2.07	Sometimes	2.14	Sometimes
Lack of ongoing technical and instructional support	2.29	Sometimes	2.05	Sometimes	1.69	Never
Overall Weighted Mean	2.39	Sometimes	2.43	Sometimes	2.26	Sometimes

Rating Scale:	Descriptive Interpretation:
3.26 – 4.00	Strongly Agree
2.51 – 3.25	Agree
1.76 – 2.50	Disagree
1.00 – 1.75	Strongly Disagree

Career Advancement. Table 13: Educators, including teachers, ICT coordinators, and school heads, face occasional barriers to career advancement within digital education coaching and mentoring practices. Weighted mean scores of 2.04 for teachers, 2.06 for ICT coordinators, and 1.94 for school heads indicate that such obstacles are experienced "Sometimes," suggesting they are present but not consistently hindering progress. These barriers often stem from factors such as limited time for professional development due to heavy workloads, insufficient institutional support, and financial constraints. Additionally, resistance to change and a lack of confidence in using digital tools can impede educators' growth in digital competencies. Addressing these challenges requires targeted support, including accessible training opportunities, mentorship programs, and institutional policies that prioritize and facilitate continuous professional development in digital education.

Table 13. Barriers to Digital Education Coaching and Mentoring Practices along Career Advancement

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
Inadequate availability of experienced mentors	2.76	Often	2.58	Often	2.61	Often
Absence of well-defined career advancement opportunities linked to digital education competencies	1.87	Sometimes	2.00	Sometimes	1.72	Sometimes
Inconsistent recognition of digital skills	2.00	Sometimes	2.11	Sometimes	2.16	Sometimes
Lack of support from the school administration	1.56	Never	1.65	Never	1.59	Never
Lack of strong institutional policies for integrating digital education Practices	2.00	Sometimes	1.98	Sometimes	1.63	Never
Overall Weighted Mean	2.04	Sometimes	2.06	Sometimes	1.94	Sometimes

Rating Scale:	Descriptive Interpretation:
3.26 – 4.00	Strongly Agree
2.51 – 3.25	Agree
1.76 – 2.50	Disagree
1.00 – 1.75	Strongly Disagree

Holistic Development. Table 14 presents the barriers encountered in implementing digital education coaching and mentoring Practices that focus on holistic development for teachers, ICT coordinators, and school heads. The weighted means for teachers (2.48), ICT coordinators (2.44), and school heads (2.10) are all interpreted as "Sometimes." This suggests that while some barriers are present, they are not consistent or pervasive across the different groups. The weighted mean indicates that barriers to holistic development are perceived occasionally across all respondent groups. Teachers report a slightly higher mean (2.48) than ICT coordinators and school heads, suggesting that teachers experience these barriers more frequently. School heads got the lowest mean (2.10), indicating that they encounter these barriers less often, likely due to their leadership roles and the support systems available to them.

Table 14. Barriers to Digital Education Coaching and Mentoring Practices along Holistic Development

Indicator	Teachers		ICT Coordinators		School Heads	
	WM	Interpretation	WM	Interpretation	WM	Interpretation
A. Lack of integrated training programs that address both digital competencies and broader personal growth	2.76	Often	2.45	Sometimes	2.22	Sometimes
Overemphasis on technical skills	2.65	Often	2.44	Sometimes	2.12	Sometimes
Insufficient opportunities for collaboration across different departments	2.49	Never	2.53	Sometimes	2.00	Sometimes
High workload and stress levels	2.82	Often	2.79	Often	2.33	Sometimes
Lack of personalized growth plans and personal	1.67	Sometimes	2.00	Often	1.82	Sometimes

development goals	Overall Weighted Mean	2.48	Sometimes	2.44	Sometimes	2.10	Sometimes
Rating Scale:	Descriptive Interpretation:						
3.26 – 4.00	Strongly Agree						
2.51 – 3.25	Agree						
1.76 – 2.50	Disagree						
1.00 – 1.75	Strongly Disagree						

3.4. Relationship between the Profile of the Respondents and the Level of Application of Digital Education on Coaching and Mentoring Practices

Statistical analysis using Somers' Delta and the Contingency Coefficient revealed significant relationships between educators' profiles and the application of individualized digital coaching and mentoring. Specifically, age ($d = -0.155$, $p < .05$), sex ($C = .284$, $p < .01$), and specialization ($C = -.383$, $p < .01$) were significantly associated with the implementation of individualized instruction. In contrast, civil status, rank/position, and years in service showed no significant correlation. These findings suggest that certain demographic factors influence the adoption of personalized digital mentoring practices.

The negative relationship between age and individualized guidance means that as the age of the respondents increases, the level of application of coaching and mentoring along individualized guidance tends to decrease. This can be observed in the individualized guidance indicator, which refers to the learning objectives, Practices, and resources that are tailored to the needs and goals of each educator.

Table 15. Relationship between the Profile of the Respondents and the Level of Application of Digital Education

Profile	Application of Digital Education on Coaching and Mentoring							
	Individualized Guidance		Skills Development		Career Advancement		Holistic Development	
	Test Statistics	p-value	Test Statistics	p-value	Test Statistics	p-value	Test Statistics	p-value
Age	-.155*	.014	.126*	.029	-.023	.752	-.039	.550
Sex	.284**	.000	.185*	.033	.514**	.000	.342**	.000
Civil Status	.111	.297	.143	.135	.282**	.000	.278**	.001
Specialization	-.383**	.000	.489**	.000	.506**	.000	.434**	.000
Rank/Position	.091	.177	.232**	.001	-.163**	.007	-.195**	.002
Years in Service	-.081	.055	.144*	.017	.045	.304	-.118*	.036

*Correlation is Significant @ 0.05 level

**Correlation is Significant @ 0.01 level

3.5. Relationship between the Coaching and Mentoring Practices and the Barriers Encountered by the Respondents

The significant association or relationship between the level of application and the barriers encountered by the respondents was tested using the Pearson Product-Moment Correlation Coefficient (r). Table 16 reveals that the barriers encountered by the respondents and the level of application of digital education on coaching and mentoring practices obtained significant relationship along individualized guidance ($r = -.317$, $p < .01$), career advancement ($r = .338$, $p < .01$) and holistic development ($r = .524$, $p < .01$). These results suggest that as the level of application on career advancement and holistic development increases the barriers encountered by respondents also increases particularly on lack of necessary digital literacy skills to effectively utilize digital tools and platforms for coaching and mentoring practices.

Table 16. Relationship between the Level of Application of Digital Education and the Barriers Encountered by the Respondents

Mentoring and Coaching Practices	Barriers Encountered by the Respondents		Remarks
	r	p-value	
Individualized Guidance	-.317**	.000	Significant

Skills Development	.088	.225	Not Significant
Career Advancement	.338**	.000	Significant
Holistic Development	.524**	.000	Significant

**Correlation is Significant @ .01 level.

3.6. Intervention to Enhance the Digital Education Mentoring and Coaching among Educational Leaders

Based on the findings, this study recommends a proposal for coaching and mentoring activities to address the barriers encountered by the teachers, ICT coordinators, and school heads in the digital education mentoring and coaching in terms of individualized guidance, skill development, career advancement, and holistic development. The study revealed the following: Insufficient resources such as funding and time for planning and execution (2.30, 2.50, 2.50); Limited time to engage in skill-building activities (3.12, 3.36, 2.88); Inadequate availability of experienced mentors (2.76, 2.58, 2.61); and High workload and stress levels (2.82, 2.79, 2.33). Therefore, a capacity-enhancement training program is necessary as an output of this study. Echeche (2022) supported the findings of this study as it stressed the importance of training programs for educational leaders.

The dominance of the 41-50 age bracket presents the critical role of mid-career professionals in educational leadership and specialized roles. This trend is driven by factors such as accumulated experience, career stability, professional development, and institutional retention strategies. Conversely, the low representation in the 51-60 age group points to the impact of retirement, career transitions, health considerations, and the challenges of adapting to new technologies. Tuyan (2023) supported the findings of this study which mid-career professionals were the respondents with the age range of 40-45 years old.

The high female representation in ICT coordinators and school head roles suggests that professional development opportunities, career pathways, or organizational support structures are more effectively catering to females. The data highlights the need to explore the career pathways that lead to roles like ICT coordinator and school head. The findings of this study conformed in the study of Caneva et al. (2023) which employed higher female respondents in their study.

The educational roles contribute to a dynamic and diverse working environment. This enriches the educational experience for students, as teachers and leaders bring a wide range of life experiences and perspectives. The findings of the study agreed with those of Caneva et al. (2023) which showed most of their respondents were married.

The prevalence of English and Mathematics as major specializations among teachers suggests a strong emphasis on these core subjects in educational institutions. The data suggests that certain specializations have clearer pathways to leadership roles. In this connection, the findings of this study did not conform to Echeche (2022), which found higher participation rates among English majors compared to Mathematics and MAPEH majors.

The exclusive presence of Principal I and Principal II among school heads reflects the leadership structure in schools, where the highest levels of responsibility are assigned to these ranks. This concentration in top-tier positions underscores the importance of strong leadership in driving school performance and achieving educational goals. The varied ranks among ICT coordinators indicate that this role is open to educators. The findings of this study are supported by Zuniga (2020), who used higher participation among Teacher I.

For the ICT Coordinators, most of them are about 16-20 years (46.15%) in service. This means that they have accumulated substantial expertise, making them valuable assets in integrating technology within educational settings. The lowest is 21 years and above which got 2 (15.38%). This means that ICT coordinator roles require specific qualifications or experience, which can limit the entry of new professionals into the field.

Among the School Heads, majority of them are 11-15 years (61.54%) in service. This implies that school heads have substantial teaching experience before moving into leadership roles, which typically aligns with the 11-15-year service range. School heads in this range are likely to have found stability and success in

their leadership roles, contributing to longer tenures. On the other hand, school heads with 0-5 years in service got the lowest frequency of 2 (7.69%). This means that there is limited turnover in school head positions, reducing the frequency of new appointments within the 0-5 years range. The data suggests clear career progression patterns among teachers, ICT coordinators, and school heads. Institutions should focus on providing structured professional development and mentorship to support these pathways. Zuniga (2020) supported the findings of this study as it found that most of the respondents were 8 to 15 years in service.

Findings revealed that the indicator "Mentors and coaches provide timely and targeted feedback to educators based on their unique strengths, challenges, and progress in digital education" got the highest weighted mean of 3.74, with an interpretation of Strongly Agree among the teacher respondents. This means that the ability to provide timely and targeted feedback ensures that they can immediately apply insights, which enhances the learning process and fosters continual improvement. Along the ICT coordinators and school heads, the indicator "Mentors and coaches engage in regular one-on-one consultations with educators to provide individualized support, guidance, and mentorship in digital education" got the highest weighted mean of 3.85 with an interpretation of Strongly Agree. This means that flexibility in learning pathways ensures that, regardless of their learning preferences, they benefit from the programs. Conversely, the findings revealed that the indicator "Learning objectives, strategies, and resources are tailored to the needs and goals of each educator" got the lowest weighted mean among the respondents, 3.12 for teachers, 2.85 for ICT coordinators, and 2.85 for school heads, which are interpreted as Agree. This means that tailoring learning objectives and resources to each of their needs is resource-intensive and challenging to implement consistently. The findings were supported by Nugent et al. (2023), which revealed that the coach-teacher relationship was promoted by building rapport and reciprocal trust, timely feedback, and with use of "we" language, demonstrating that coach and teacher were working as a partnership.

The overall weighted mean indicates a strong consensus among ICT coordinators and school heads, both scoring 3.55 and 3.62, respectively, with an interpretation of Strongly Agree. Teachers have a slightly lower weighted mean of 3.12, interpreted as "Agree." These findings corroborated by Dreer-Goethe (2023) which found that collaboration enhances the well-being of both mentors and mentees, and it was connected to the school context in which the mentoring takes place.

The highest weighted mean for teachers (3.35) and ICT coordinators (3.23) is attributed to the indicator "Mentoring and coaching initiatives offer leadership development opportunities that empower educators to take on leadership roles in digital education initiatives." For school heads, the highest weighted mean (3.23) corresponds to the indicator "Mentoring and coaching programs create individualized professional development plans that align with educators' career aspirations and growth areas in digital education." This means that teachers and ICT coordinators likely perceive leadership development opportunities as a significant benefit, as these roles allow them to influence digital education practices and policies within their institutions.

On the other hand, the lowest weighted mean for teacher respondents is 2.67 for the indicator "Mentors and coaches facilitate access to training, workshops, conferences, and other professional development opportunities that enhance educators' digital teaching skills and credentials." For ICT coordinators and school heads, the lowest weighted mean is 2.85 for the indicator "Mentors and coaches advocate for recognition and advancement pathways that reward educators' contributions to digital education and support their career progression." This means that teachers perceive limited access to training and workshops due to logistical challenges, such as scheduling conflicts or a lack of local opportunities, affecting their ability to participate in these professional development activities.

The findings from this study highlight the critical role that digital education coaching and mentoring strategies play in career advancement for teachers, ICT coordinators, and school heads. While there is general agreement on the positive impact of these strategies, the differences in weighted means reveal areas where improvements can be made. On the other hand, the lower ratings for access to training and advocacy for recognition highlight the need for more accessible professional development opportunities and stronger advocacy efforts to ensure that educators' contributions to digital education are recognized and rewarded.

appropriately. The findings, corroborated by Zuniga (2020) which revealed that career advancement has been mentoring and coaching initiatives helped in leadership development and empowered educators to take on leadership roles in digital education initiatives.

The data revealed that the indicator "Mentoring and coaching programs incorporate socio-emotional learning components to support educators' holistic development" got the highest weighted mean of 3.31, interpreted as Strongly Agree (for the teachers) and 2.78 interpreted as Agree (for the school heads). This means that teachers are on the front lines, directly interacting with students. The incorporation of SEL components into mentoring programs helps them manage classroom dynamics better and support students' emotional well-being. On the other hand, the indicator "Mentors and coaches prioritize the promotion of work-life balance among educators engaged in digital education" got the lowest weighted mean as rated by teachers (2.57), ICT coordinators (2.54), and school heads (2.74), all interpreted as Agree. This implies that teachers feel that work-life balance is not adequately addressed in mentoring programs, given the demanding nature of their profession.

The findings indicated that while digital education coaching and mentoring strategies are generally perceived positively across teachers, ICT coordinators, and school heads, there are areas for improvement, particularly in promoting work-life balance. The high ratings for SEL components and growth mindset suggest that these elements are valued and effectively support holistic development. In contrast, the lower ratings for work-life balance indicate a need for more robust and practical strategies to help educators manage their professional and personal lives effectively. These findings were supported by Blake and Fielding (2023), who explored the mentoring needs and revealed the importance of the mentor being a "critical friend" as part of socio-emotional learning among teachers.

The weighted mean for teachers is 2.12, for ICT coordinators 2.24, and for school heads 2.11, all interpreted as "Sometimes." These scores reflect occasional challenges in implementing individualized guidance effectively. The indicator "Insufficient resources such as funding and time for planning and execution" got the highest weighted means of 2.30 (for teachers), 2.50 (for ICT coordinators), and 2.50 (for school heads), respectively. This means that teachers lack access to the necessary digital tools and resources, which hinders their ability to implement coaching strategies effectively. On the other hand, the findings revealed that the indicator "Poor communication that leads to misaligned goals" got the lowest weighted means along the respondents, 1.88 for the teachers, 1.90 for the ICT coordinators, and 1.77 for the school heads, all interpreted as Sometimes. Findings of this study was corroborated by Hankerson and Williams (2023) which revealed the key challenges such as (1) invest time and effort in the mentor-mentee relationship, (2) share relevant knowledge and expertise about education research and (3) serve as sponsors to support and promote their mentees' educational research goals and endeavors.

Findings further revealed that the indicator "Limited time to engage in skill-building activities" got the highest weighted mean, 3.12 for the teachers interpreted as Often, 3.36 for the ICT coordinators interpreted as Always, and 2.88 for the school heads interpreted as Often. This means that teachers have extensive teaching responsibilities, leaving little time for additional skill-building activities. The findings also revealed that the indicator "Reluctance to adopt new digital tools and methodologies" got the lowest weighted mean along the teachers, which got 1.88 interpreted as Sometimes, and along the ICT Coordinators, which got 2.07 interpreted as Sometimes. Along the school heads, the indicator "Lack of ongoing technical and instructional support" got the lowest weighted mean of 1.69, interpreted as Never. This means that some teachers prefer traditional methods they are comfortable with showing resistance to new tools.

The primary barrier to digital education coaching and mentoring across all educator groups is limited time for skill-building activities, highlighting the need for improved time management and structured professional development. Conversely, reluctance to adopt new digital tools is less frequently perceived as a barrier, indicating a general openness to technology among educators. These findings align with Saclarides (2022), who identified time management and logistical challenges as significant obstacles in co-teaching scenarios.

Findings revealed that the indicator "Inadequate availability of experienced mentors" got the highest weighted mean along the teachers (2.76), ICT coordinators (2.58), and school heads (2.61), interpreted as Often. This means that the relatively new integration of digital education results in a scarcity of seasoned mentors who can guide teachers effectively. According to the teachers, as more seek to enhance their digital competencies, the demand for mentors exceeds the available supply. The most prominent barrier across all groups is the inadequate availability of experienced mentors, emphasizing the need for more structured mentorship programs and the development of mentoring capacities within educational institutions. On the other hand, the lack of support from school administration is perceived as a minimal barrier, indicating that existing support structures are generally effective in facilitating digital education initiatives. These findings were supported by Njenga (2023) that mentoring practices are limited to basic introductions and incidental supportive dialogue between teachers, as new teachers are not adequately mentored.

Findings further revealed that the indicator "High workload and stress levels" got the highest weighted mean along the respondents, 2.82 for the teachers, 2.79 for the ICT Coordinators, and 2.33 for the school heads, which are all interpreted as Sometimes. For the teachers, this means that they have multiple responsibilities which elevates their stress levels. Additionally, the ICT coordinators are responsible for maintaining digital infrastructure, which can be time-consuming and stressful, especially during technical failures. Among the school heads, they often have numerous administrative duties, such as managing staff, overseeing school operations, and ensuring compliance with educational policies, which can be overwhelming.

The findings imply that barriers to holistic development in digital education coaching and mentoring strategies reveal that while these barriers are not consistently pervasive, they are significant enough to warrant attention. The findings were supported by McFarlane (2023), which showed that coaching and training provided with a goal-focused, judgement-free strategy to address issues related to stressors such as burnout.

The negative relationship between age and individualized guidance means that as the age of the respondents increases, the level of application of coaching and mentoring along individualized guidance tends to decrease. This can be observed in the individualized guidance indicator, which refers to the learning objectives, strategies, and resources that are tailored to the needs and goals of each educator.

The significant relationships between holistic development and profile variables, except for age, suggest that demographic factors play a crucial role in the application of holistic mentoring strategies. The positive correlations with sex, civil status, and specialization indicate that educators in these groups may have better support systems or greater emphasis on social-emotional learning components. The negative relationship with rank and years in service implies that those in lower ranks or with more years of service may face challenges in applying holistic development strategies, possibly due to resource constraints or entrenched practices. The findings, corroborated by Echeche (2022) which showed a significant moderate positive correlation with their coaching and mentoring practices in the profile of the respondents. However, the performance of the respondents had a low positive correlation with their coaching and mentoring practices in terms of skills development.

The positive relationship between barriers and the level of application in career advancement ($r=.338$, $p<.01$) indicates that as educators strive to integrate digital education into their career development practices, they encounter more barriers.

The lack of a significant relationship between barriers and the level of application in skills development ($r=.088$, $p=.225$) suggests that the challenges faced by respondents in this area may not directly impact their ability to apply digital education strategies. This could indicate that while skills development is essential, the barriers encountered are either less significant or more easily overcome compared to other areas. It may also reflect that skills development initiatives are already well-supported, reducing the impact of potential barriers. The findings were supported by Saclarides (2023), which revealed that the six barriers were encountered when engaging in episodes of co-teaching, which spanned the broad categories of management and logistics, pedagogical dilemmas, and teacher learning.

The study revealed the following: Insufficient resources such as funding and time for planning and execution (2.30, 2.50, 2.50); Limited time to engage in skill-building activities (3.12, 3.36, 2.88); Inadequate availability of experienced mentors (2.76, 2.58, 2.61); and High workload and stress levels (2.82, 2.79, 2.33). Therefore, a capacity-enhancement training program is necessary as an output of this study. Echeche (2022) supported the findings of this study as it stressed the importance of training programs for educational leaders.

4. Conclusion and Recommendations

The conclusions drawn from the study's findings are as follows:

1. The majority of respondents are in the 41-50 age range, predominantly female, married, with significant numbers of teachers specializing in English, ICT coordinators in MAPEH, and school heads in Mathematics. Most teachers hold the rank of Teacher I, and the years of service vary across roles, with a notable number of teachers having 6-10 years of experience. This implies that coaching and mentoring practices greatly influence the teachers, ICT coordinators, and school heads based on their profiles.

2. There is a strong agreement on the effectiveness of digital education coaching and mentoring Practices, especially in individualized guidance and skill development, with teachers, ICT coordinators, and school heads largely perceiving these Practices as beneficial in their roles. This implies that coaching and mentoring practices must be enhanced to continuously develop their skills and capabilities.

3. Key barriers identified include insufficient resources for individualized guidance, limited time for skill-building activities, lack of experienced mentors for career advancement, and high workload and stress levels affecting holistic development. This implies that coaching and mentoring practices faced several challenges that must be addressed.

4. A significant relationship exists between the profile of respondents and the applied digital education Practices, indicating that demographic factors influence the effectiveness of these Practices. Additionally, a significant relationship is found between the barriers encountered and the level of application of digital education in coaching and mentoring practices. This means that the profile of the respondents, the coaching and mentoring practices, and the barriers were associated.

5. The study emphasizes the need for capacity-enhancement training programs to overcome the barriers faced by educators in digital education mentoring and coaching.

Based on the conclusions, the following recommendations are proposed:

1. Schools may develop targeted professional development programs that consider the demographic profile, specialization, and experience levels to better address the specific needs of teachers, ICT coordinators, and school heads.

2. Schools may enhance and expand the current digital education coaching and mentoring programs, focusing on areas of agreement such as individualized guidance and skill development to further improve career advancement and holistic development outcomes.

3. Schools may implement resource allocation Practices and time management solutions to address these barriers and increase the availability of experienced mentors, and create support systems to reduce workload and stress levels.

4. Mentors and coaches may customize digital education Practices to align with the demographic characteristics of educators.

5. Schools may design and implement coaching and mentoring activities focusing on individualized guidance, skill development, career advancement, and holistic development to empower educators and improve the effectiveness of digital education practices.

6. Future researchers may conduct a study on innovative and sustainable Practices to enhance digital education coaching and mentoring practices, taking into account educators' profiles, perceived challenges, and the need for mentoring and coaching programs.

Acknowledgment

The researcher sincerely thanks everyone who contributed to the completion of this study. Their collective support and generosity were instrumental in making this research possible. For this, the researcher offers his deepest appreciation.

References

- Blake, C. and Fielding, M. (2023). The mentoring needs of recently appointed female middle leaders: an Australian case study. *International Journal of Mentoring and Coaching in Education*, Vol. 12 No. 3, pp. 316-332. <https://doi.org/10.1108/IJMCE-06-2022-0045>
- Caneva, C., Monnier, E., Pulfrey, C., El-Hamamsy, L., Avry, S. and Delher Zufferey, J. (2023). Technology integration needs empowered instructional coaches: accompanying in-service teachers in school digitalization. *International Journal of Mentoring and Coaching in Education*, Vol. 12 No. 2, pp. 194-215. <https://doi.org/10.1108/IJMCE-04-2022-0029>
- Department of Education, (2018). DepEd Computerization Program. <https://www.deped.gov.ph/2018/04/06/deped-computerization-program>
- Driscoll, M., (2023). Education in the 21st Century. <https://thinkstrategicschools.com/education-21st-century/>
- Echeche, G. (2022). Coaching and Mentoring Practices of Master Teachers towards Effective Teaching. <https://www.ijer.net/archive/v11i7/SR22630083559.pdf>
- Hankerson, S. & Williams, O. (2023). Mentoring Underrepresented Racially Minoritized Undergraduate Students in an Education Research Apprenticeship Program: Practices for Success. <https://doi.org/10.1108/IJMCE-01-2022-0007>
- Kaputa, V., Loucanova, E., & Gaite, F., (2022). Digital Transformation in Higher Education Institutions as a Driver of Social Oriented Innovations. https://link.springer.com/chapter/10.1007/978-3-030-84044-0_4
- McFarlane, J. (2023). The Impact of a Coach Training Intervention on Undergraduate Students. *International Journal of Mentoring and Coaching in Education*. DOI: 10.1108/IJMCE-07-2022-0057
- Njenga, M. (2023). TVET Teacher Mentoring in Kenya: Valued but Poorly Implemented. <https://eric.ed.gov/?q=source%3a%22International+Journal+of+Mentoring+and+Coaching+in+Education%22&id=EJ1376247>
- Nugent, G., Houston, J., Kunz, G. and Chen, D. (2023). Analysis of instructional coaching: what, why and how. *International Journal of Mentoring and Coaching in Education*, Vol. 12 No. 4, pp. 402-423. <https://doi.org/10.1108/IJMCE-08-2022-0066>
- Reimers, S. (2020). Leading Educational Change During a Pandemic Reflections of Hope and Possibility. <https://www.roomtoread.org/media/fe0psjdv/leading-educational-change-during-a-pandemic-reflections-of-hope-and-possibility.pdf>
- Saclarides, E. (2023). Coaches and Teachers Co-Teaching: Exploring the Challenges and Support of Co-Teaching as a Coaching Activity. *International Journal of Mentoring and Coaching in Education*, DOI: 10.1108/IJMCE-11-2022-0100
- Tuyan, S.E. (2023). Dialogic research mentoring in pre-service teacher education. *International Journal of Mentoring and Coaching in Education*, Vol. 12 No. 3, pp. 267-283. <https://doi.org/10.1108/IJMCE-12-2021-0110>
- World Bank (2020). Education in the EU: Diverging Learning Opportunities? An analysis of a decade and a half of skills using the Program for International Student Assessment (PISA) in the European Union. <https://thedocs.worldbank.org/en/doc/180421529688002726-0080022018/original/EUGUSkillSupplyfinal5302018.pdf>
- Zuniga, R. (2020). Master Teacher Perceptions on the Impact Mentoring Programs Have on Teacher Retention. *Digital Commons*. <https://digitalcommons.acu.edu/cgi/viewcontent.cgi?article=1272&context=etd>