

The Impact of Coaching in the Development of 21st Century Teaching Competencies and Teaching Performance of Pre-Service Teachers

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Abstract

As future teachers of 21st-century learners, “pre-service teachers” must possess 21st-century teaching skills to thrive in the modern classroom. Coaching is a powerful method for supporting “pre-service teachers” in acquiring these skills. This research aimed to determine the impact of coaching on the development of 21st-century teaching skills in “pre-service teachers” and their teaching performance. The descriptive-correlational study design was used involving the 200 randomly selected “pre-service teachers”. The correlational test was performed to establish the significance of the association between the extent of coaching and the level of 21st-century teaching skills of “pre-service teachers”. The data indicated that coaching “pre-service teachers” is significantly related to developing 21st-century teaching skills and teaching performance. It is suggested that teacher education institutions develop a coaching program to support “pre-service teachers” in developing their 21st-century teaching skills and enhance their teaching performance.

Keywords: Coaching, 21st Century Teaching Skills, Pre-service Teacher, 21st Century Skills of Learners.

Introduction

Education has undergone significant changes in the dynamic landscape of the twenty-first century to meet the increasing demands of learners. With the rapid integration of technology, globalisation, and the demand for future-ready skills, Teacher Education Institutions (TEIs) must prepare future teachers with 21st-century teaching skills to thrive in the modern classroom.

Coaching has been considered an effective way to help pre-service teachers acquire and develop 21st-century teaching competencies. Through coaching, they can gain individualised guidance that encourages reflective practice, encourages collaboration and feedback,

facilitates technological integration, introduces effective instructional methodologies, and builds a culture of lifelong learning.

However, as a teacher for a student internship, the researcher has received complaints from the “pre-service teachers” that they need more support from their cooperating teachers. This observation is supported by the research study of Larbi & Karachi (2018). Their study revealed that the pre-service teachers received little support from their mentors. This result also corresponds to the findings of Flores (2017), as quoted by Ocampo (2021), who discovered that pre-service teachers are given less time to focus on the skills teachers should have in the twenty-first century. Additionally, Ebrahim, A., Eyadat, and Alshammari (2017) discovered that one of the obstacles experienced by “pre-service teachers” in school and administration was that cooperating teachers needed to be more engaged in strengthening their teaching abilities.

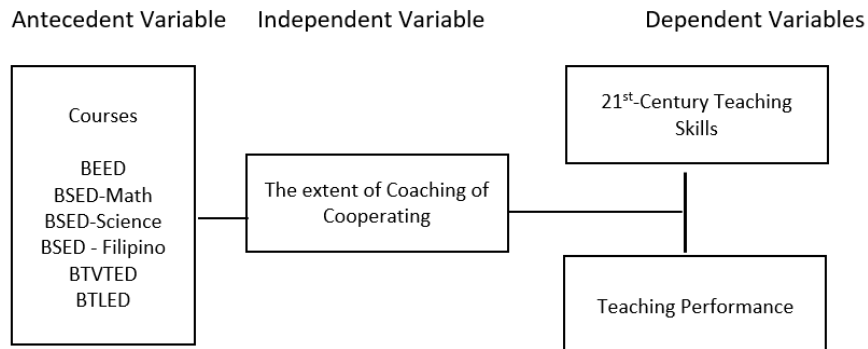
The issues cited above prompted the researcher to determine the extent of coaching their cooperating teachers provided and the level of 21st-century teaching skills of “pre-service teachers”. The researcher believed that by understanding the strengths and areas for improvement in “pre-service teachers” 21st-century teaching skills during their student internships, this study hopes to contribute to the continuous improvement of teacher education programs and, as a result, improve the quality of education provided to students in the “twenty-first century”.

Theoretical Framework

This research is anchored on the “Zone Proximal Development Theory”. The “zone of proximal development (ZPD)” is described by Vygotsky (1978), as quoted by Kamarudin et al. (2020), as the gap between what an individual can achieve on his or her own and what he or she can achieve with more professional guidance. He argued that “individuals learn best when working together with others in collaboration, and it is through such collaborative endeavours with more skilled people, that learners learn and internalise new concepts, psychological tools, and skills”. In this study, cooperating teachers who serve as coaches have a critical role in developing 21st-century teaching skills and pre-service teachers' performance. They can assist in various ways, including modelling, questioning, supplying resources, and exhibiting excellent teaching approaches. The positive feedback they provide, which focuses on the pre-service teacher's progress, strengths, and areas for growth, can dramatically enhance the pre-service teacher's learning experience.

Schematic Diagram

Figure 1. Schematic Diagram of the Study



Research Objectives

This study aims to determine the effect of coaching on the development of 21st Century Teaching skills of pre-service teachers at Iloilo Science and Technology University during the Academic Year 2022-2023.

“Specifically, this study seeks answers to the following questions:

1. What is the extent of coaching provided by cooperating teachers as perceived by pre-service teachers when classified according to the course?
2. What is the level of 21st-century teaching skills of pre-service teachers in terms of a) critical thinking, b) problem solving, c) creating, d) metacognition, e) communicating, f) collaborating, g) technology literacy, h) digital literacy, i) flexibility and adaptability, j) civic responsibility and citizenship, k) global understanding and leadership and responsibility when they are grouped according to the course?
3. Is there a significant relationship between the extent of coaching, the level of 21st-century teaching skills, and the teaching performance of pre-service teachers?”

Literature Review

Coaching and its Effect on Teaching Performance

Coaching gives tailored help to pre-service teachers as they build their teaching skills. It helps Improve teaching practice, with a particular emphasis on increasing the use of practices shown to be highly effective, including evidence-based practices (“Knight, 2009; Kretlow & Bartholomew, 2010; Neufeld & Roper, 2003; Snyder et al., 2015”) cited

by Pierce & Buyssee, (2014). It improves learner academic and behavioural outcomes through improved teaching practices (“Bean et al., 2000; Joyce & Showers, 2002; Kretlow & Bartholomew, 2010; Snyder et al., 2015”) referenced by Pierce & Buyssee, (2014).

Several studies highlighted the impact of coaching on the teaching performance of both pre-service and in-service teachers. For example, the study Peterson-Ahmad, M. (2018) disclosed that when pre-service teachers are taught, mentored, and given plenty of opportunity to practice when such teaching tactics are used, it is likely that student learning will improve and classroom behaviour will improve overall. Similarly, “the real-time coaching model developed by Stahl, Sharplin, and Kehrwald (2016) has been shown to foster a sense of confidence and ownership of learning by developing practical skills alongside affective attributes such as resilience, efficacy, and a disposition toward continuous improvement in pre-service teachers”.

21st Century Skills That Pre-Service Teachers Need to Possess and Develop Among Learners

Pre-service teachers should be fully aware of the 21st-century skills of their learners so they can tailor their teaching strategies and methods to develop these skills. According to Sang et al. (2018), to help learners develop twenty-first-century learning skills, teachers, as critical agents of education, need to have good perceptions of these skills.

The knowledge and skills of the twenty-first century are divided into three categories: thinking, acting, and living in the world. Critical thinking, problem-solving, metacognition, and creativity are all covered in the thinking component. Elder (2007), as cited by Greenstein (2012), defined it as that “mode of thinking about any subject, content, or problem in which the thinker improves the quality of his or her thinking and imposes intellectual standards upon them”. One way to develop this skill is by providing activities allowing learners to reason and make judgments, draw conclusions, or make generalisations about an issue or topic.

Identification of issues, consideration of solutions, and decision-making are the fundamental steps in problem-solving. Along with teamwork and communication abilities, it is the most important talent in the current world (“Education systems are not arming students with 21st-century skills, 2015”). This particular skill can be developed by providing activities that allow learners to identify and apply the steps in the problem-solving process. Moreover, teachers could provide activities allowing learners to describe problems with clarity and supporting evidence.

Another component of thinking is creativity. According to Michaels et al. (2015), creativity is the ability to generate, choose, and integrate novel, unusual, and inventive approaches to teaching and learning. By

developing students' creativity, pre-service teachers help them become successful problem solvers who can think outside the box, generate new ideas, and find inventive solutions to complicated situations. It helps learners survive, adapt, and succeed in their personal lives, education, business, and society (Carson, 2010).

As for metacognition, according to Flavell (1979), as cited by Greenstein (2012), it is the ability to manage and monitor one's thinking. This perception means being aware of, monitoring, and regulating one's thinking concerning oneself, others, learning, and action. Those with a strong level of higher cognitive awareness will have higher levels of learning achievement (Zhang et al., 2019).

Moreover, the acting component comprises the following skills: collaboration, communication, digital literacy, technology literacy, flexibility, and adaptability. "Effective communication is also vital for and leads to successful collaboration (Partnership for 21st Century Skills, 2016). Communication is the ability to successfully use interpersonal skills and components of literacy (reading, writing, speaking, and listening) to contribute to teaching, learning, and development (Michaels et al., 2015)". As aspiring teachers, pre-service teachers must be equipped with the skill of engaging learners in activities that would allow students to communicate clearly and effectively so that others can understand their message. They must be good at encouraging students to articulate their thoughts and ideas effectively using oral, written, and non-verbal communication.

Furthermore, collaboration is the ability to collaborate productively and fairly in various educational contexts while valuing others (Michaels et al., 2015). Pre-service teachers must master ensuring that every learner actively participates in problem-solving and creating new ideas and products. According to Care, Scoular, and Griffin (2016), as referenced by Stehle and Peters-Burton (2019), students who cooperate solve issues at a greater level than students who work alone because they respond to criticism and queries to design solutions that better match the situation.

Technology literacy is yet another talent required for the twenty-first century. Technological literacy is the understanding of what technology is, how it functions, the purposes it may be used for, and the best ways to use it to accomplish particular objectives (Lemke, 2002). For pre-service teachers to succeed in a knowledge economy, they must use digital technologies including computers, PDAs, media players, GPS, communication and networking tools, and social networks in the right ways to access, organise, integrate, analyse, and produce information (Greenhill, 2010). Furthermore, they must be able to apply a fundamental comprehension of the moral and egalitarian concerns related to the usage and accessibility of information technologies.

Greenstein (2012) cited Leu (2010), who defines digital literacy as "the skills, strategies, and dispositions required for successful reading comprehension on the internet." Pre-service teachers must proficiently use social media sites such as Facebook, Instagram, email, and other online platforms to communicate with their students. However, It is essential that they educate their learners on how to carefully search, organise, and collect information on the internet (Greenstein, 2012, p. 29) and comply with the ethical and legal rules in accessing and using the information.

Flexibility and adaptability are also crucial skills that pre-service teachers need to develop for 21st-century learners. "Adaptability is the capacity of individuals to adjust their thoughts, feelings, and behaviours in response to new, changing, or uncertain situations" (Martin et al., 2012). Developing these skills among 21st-century learners is vital to adapt to changes and to manage unexpected events without fuss or upset. Moreover, pre-service teachers must also be adaptable, considering that education is dynamic. They need to learn to adapt to changes in the curriculum, classroom dynamics, and teaching approaches.

"In the living in the world component, the following skills are included: civic responsibility and citizenship, global understanding, leadership and responsibility, and leadership and responsibility. Civic responsibility is defined as active involvement in a community's public life in an informed, dedicated, and constructive manner, emphasising the common good" (Gottlieb et al., G. (Eds.), 2006). Pre-service educators must develop activities that encourage students to consider how they might contribute to the well-being of others. This activity helps students become informed and engaged members of their communities and society.

Reimers (2009, p. 184) defines global understanding as the knowledge and abilities that assist people in comprehending the flat world in which they live, integrating across disciplinary domains to comprehend global concerns and events and creating opportunities to address them. Pre-service teachers should be able to teach students how to identify, assess, and evaluate current and developing global trends, issues, and difficulties. They should teach students to respect cultural differences and similarities and how each can contribute to growth (Greenstein, 2012, p. 147).

Lastly, pre-service teachers, like teachers of 21st-century learners, will be grooming future leaders. Hence, they must understand how to design activities that help learners develop leadership qualities. They must learn to engage students in activities that help them understand their role in contributing to the greater good. They should train learners to make decisions that will improve the outcome of their group when delivering group activities (Greenstein, 2012, p. 33).

Methodology

Research Design

In this study, the descriptive-correlational research design was utilised. In research investigations, the descriptive correlational design presents static depictions of circumstances and establishes the relationship between distinct variables (McBurney & White, 2009). This relationship is the ideal research design since the primary goal of this study is to explore the effect of coaching on the development of pre-service teachers' 21st-century teaching competence

Participants

The 200 randomly selected pre-service teachers from a state university in Iloilo City who were enrolled in the 2nd semester A.Y 2022-2023 took part in this study. These students were divided into groups based on the course in which they were enrolled.

Research Instrument

There were two sets of survey questionnaires created. The first was used to collect information on the amount of coaching provided to pre-service teachers by cooperating teachers. The second instrument consisted of 60 items that gathered information on pre-service teachers' level of 21st-century teaching skills. It is divided into three major domains: thinking, acting, and living in the world. It also has 12 sub-domains, which are as follows: a) critical thinking, b) problem-solving, c) creating, d) metacognition, e) communicating, f) collaborating, g) technology literacy, h) digital literacy, i) flexibility and adaptability, j) civic responsibility and citizenship, k) global understanding, and l) leadership and responsibility. These instruments were tested on pre-service instructors at a state university campus. Cronbach Alpha coefficients of .947 and .945 were achieved, indicating very high reliability.

Data Collection

A letter to seek permission to conduct the study for pre-service teachers enrolled in the 2nd semester of A.Y. 2022–203 was given to the head of the institution. Highlighted also in the letter was the permission to access the grades of pre-service teachers in their internship subject, which will serve as the basis for their teaching performance. Survey questionnaires were used to collect data for this study. When authorisation was given, a list of students was obtained from the Dean of the College of Education's office. The link to the Google form with the questions was then forwarded to a randomly chosen pre-service teacher. A specific component of the Google form was designed in which the consent form was embedded, ensuring that the pre-service teachers understood the aims and the benefits they may gain from the study's findings. In this section, participants were asked to click agree if they

wanted to participate and disagree if they did not. They were assured that the information they submitted would be kept entirely confidential.

Data Analysis

The weighted mean was used to determine the level of 21st-century teaching competence of pre-service teachers, teaching performance and the extent of coaching provided by cooperating teachers. Moreover, the correlational test was performed to determine the significance of the association between the extent of coaching and pre-service teachers' 21st-century teaching competence and their teaching performance.

Results and Discussion

Table 1. The extent of coaching Performed by The Cooperating Teachers as Perceived by the Pre-service Teachers When they are Grouped According to Course

Courses	Mean	Verbal Interpretation
BEED	4.84	Very High Extent
BSed - Math	4.67	Very High Extent
BSed – Science	4.56	Very High Extent
BSed – Filipino	4.83	Very High Extent
BVTED	4.75	Very High Extent
BTLED	4.71	Very High Extent

Legend: 4.51 – 5.00 (Very High Extent), Higher Extent (3.51 – 4.50), Average Extent (2.51 – 3.50), Limited Extent (1.51 – 2.50), Very limited Extent (1.00 – 1.50)

Table 1 shows the extent of coaching performed by the cooperating teachers as perceived by the pre-service teachers. All students across all courses indicated that the coaching activities provided by the cooperating teachers were to a very high extent. The cooperating teachers have helped the pre-service teachers acquire the knowledge on how to prepare suitable lessons, practical strategies to be used taking into consideration the diverse background of their learners and how to manage to learn in the classroom effectively. Additionally, the result may imply that the cooperating teachers were able to use feedback as a tool to improve their teaching performance. The results support the findings of Peterson-Ahmad, M. (2018), who disclosed that when pre-service teachers are taught, mentored, and given plenty of opportunity to practice when such teaching tactics are used, it is likely that student learning will improve and classroom behaviour will improve overall. The findings, conversely, contradict the conclusions of a study by Larbi and

Kuranchie (2018), who discovered that pre-service teachers received little help from their mentors.

Table 2. Level of 21st Century Teaching Competence of Pre-service teacher In Terms of Thinking Component When Grouped According to Course

Courses	Critical Thinking		Problem-Solving		Metacognition		Creating Thinking	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation	Mean	Verbal Interpretation	Mean	Verbal Interpretation
BEED	4.75	HC	4.69	HC	4.75	HC	4.81	HC
BSED - Math	4.53	HC	4.57	HC	4.60	HC	4.56	HC
BSED – Science	4.36	HC	4.27	VC	4.55	HC	4.53	HC
BSED – Filipino	4.76	HC	4.71	HC	4.79	HC	4.78	HC
BTVTED	4.67	HC	4.56	HC	4.72	HC	4.74	HC
BTLED	4.75	HC	4.66	HC	4.73	HC	4.74	HC

Legend: Highly Competent (4.51 – 5.00), Very Competent (3.51 – 4.50), Competent (2.51 – 3.50), Less Competent (1.51 – 2.50), Least (1.00 – 1.50)

As for developing learners' critical thinking skills, the results show that all pre-service teachers across courses indicated they are highly competent. The findings indicate that pre-service teachers have exhibited a very high level of skill in offering activities that allow students to reason out and make judgments, draw inferences, or generalise about an issue or topic. According to Greenstein (2012, p.13), Glaser (1941) argued that interpreting data, evaluating arguments, recognising relationships between ideas, drawing conclusions, and making generalisations are essential.

Moreover, when it comes to fostering learners' problem-solving skills, the table shows that pre-service teachers across all courses indicated that they are incredibly competent, except for the BSED - Science pre-service teachers, who evaluated themselves as very competent. The findings showed that pre-service instructors demonstrated a high level of proficiency in engaging learners in various sorts of real-world problem-solving. They provided learners with activities allowing students to generate multiple solutions to a given problem. Additionally, pre-service teachers across all courses described their teaching skills as highly competent in enhancing learners' creative skills. It could also signify that pre-service teacher displayed a high degree of proficiency in various creative strategies, such as fluency, elaboration, and originality. Lastly, in terms of developing the metacognition skills of learners, pre-service teachers in all education courses rated their ability as highly competent. This development may imply that the pre-service teachers demonstrated high competence in giving students opportunities to reflect on their performance. They were able to urge learners to be

responsible by evaluating the consequences of their decisions and behaviours on others, despite the fact that there is a periodic change from face-to-face learning to online learning owing to unavoidable circumstances. Metacognitive awareness, according to Rapchak (2018), is a critical component of online learning because completing online courses necessitates the capacity to control one's learning and remain motivated to complete coursework (Lee et al., 2013), as cited by Karatas & Arpaci, (2021).

Table 3. Level of 21st Century Teaching Competence of Pre-service teacher In Terms of Acting Component When Grouped According to Course

Courses	Communication		Collaboration		Technology Literacy		Digital Literacy		Flexibility & Adaptability	
	Mean	INTPN	Mean	INTPN	Mean	INTPN	Mean	INTPN	Mean	INTPN
BEED	4.74	HC	4.85	HC	4.31	VC	4.31	VC	4.80	4.74
BSED - Math	4.52	HC	4.71	HC	4.06	VC	4.06	VC	4.66	4.52
BSED – Science	4.60	HC	4.64	HC	4.14	VC	4.14	VC	4.79	4.60
BSED – Filipino	4.76	HC	4.89	HC	4.37	VC	4.37	VC	4.85	4.76
BTVTED	4.70	HC	4.80	HC	4.52	HC	4.52	HC	4.75	4.70
BTLED	4.71	HC	4.74	HC	4.56	HC	4.56	HC	4.72	4.71

Legend: Highly Competent (4.51 – 5.00), Very Competent (3.51 – 4.50), Competent (2.51 – 3.50), Less Competent (1.51 – 2.50), Least (1.00 – 1.50)

As gleaned in Table 3, the findings revealed that pre-service teachers displayed a high degree of competency in engaging students in activities that would help them to communicate knowledge clearly and effectively so that others could grasp their message. They enabled pupils to express themselves using many media and technologies successfully. Enhancing learners' communication skills could promote the practical expression of ideas, support academic success, foster collaborative learning and teamwork, improve critical thinking and problem-solving abilities, facilitate successful personal and social interactions, and prepare learners for future career opportunities.

Regarding developing learners' collaboration skills, the pre-service teachers rated their teaching competence as highly competent. The results suggest that the pre-service has demonstrated high competence in ensuring that every student is actively involved in solving problems and creating new ideas and products. According to Care, Scoular, & Griffin (2016), as cited by Stehle & Peters-Burton, (2019), students who collaborate solve problems at higher levels than students who work individually because students respond to feedback and questions to create solutions that better fit the problem. Nonetheless, developing learners' technology literacy, the result indicated that the pre-service teachers demonstrated a high level of proficiency in providing learners with activities that allowed them to access, gather, manage, integrate,

and generate information using technology. This finding contrasts with the findings of Dincer (2018), in which it was discovered that pre-service teachers had a low level of technology literacy in terms of knowledge and skills. However, Siregar et al. (2020) suggested that pre-service teachers' pedagogical competence should be focused on teachers' capability of integrating technology in classrooms and teachers' ability to exploit adjusted methods and materials that furnish students with skills appropriate to their future real-life careers.

As to teaching digital literacy, the pre-service teachers in all courses were highly competent. It expresses that pre-service teacher could engage with students through social media sites, including Facebook, Instagram, email, TikTok, and other online platforms. They effectively created activities requiring students to use their knowledge and abilities to acquire access to social media networks. This idea supports Alnasib's (2023) findings that most pre-service teachers assessed their digital competency as excellent. However, the findings contradict the findings of Barlow-Jones and van der Westhuizen (2013), who found that pre-service teachers need digital literacy. The findings suggest that pre-service teachers should master Digital Competency to incorporate it into their classroom instruction.

Finally, pre-service teachers believe they are highly competent when it comes to developing the flexibility and adaptability of 21st-century learners. This result may imply that pre-service teachers demonstrated a high degree of skill in delivering activities that help learners to maintain a good attitude when confronted with changes in assignments, responsibilities, timetables, and locations. The result indicates that pre-service is flexible and adaptive. Collie and Martin (2017) discovered that while teachers were more adaptive than non-pre-service, they also reported higher levels of well-being and organisational commitment, improving their well-being. The more adaptive they are in the classroom, they tend to adopt teaching approaches that adapt to the demands of the students (Loughland & Alonzo, 2019)

Table 4. Level of 21st Century Teaching Competence of Pre-service Teacher in Terms of Developing Learners' Skills in Living in the World When Grouped According to Course

Courses	Civic Responsibility		Global Understanding		Leadership and Responsibility	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation	Mean	Verbal Interpretation
BEED	4.79	HC	4.73	HC	4.90	HC
BSED - Math	4.66	HC	4.33	VC	4.79	HC
BSED – Science	4.73	HC	4.39	VC	4.51	HC
BSED – Filipino	4.70	HC	4.70	HC	4.90	HC
BTVTED	4.70	HC	4.52	HC	4.83	HC
BTLED	4.66	HC	4.55	HC	4.74	HC

Legend: Highly Competent (4.51 – 5.00), Very Competent (3.51 – 4.50), Competent (2.51 – 3.50), Less Competent (1.51 – 2.50), Least (1.00 – 1.50)

When it comes to developing civic responsibility and citizenship, the pre-service teachers believed that they demonstrated a high level of competence in creating activities that allowed students to think about how they could contribute to the well-being of others. They provided opportunities to students where they could demonstrate excellent and responsible citizenship. Moreover, pre-service teachers also regarded their skills as highly competent in terms of expanding global understanding, except for BSED - Math and BSED - Science pre-service teachers, who rated themselves as very competent. The findings reflect that pre-service teacher displayed a high degree of teaching competency in creating global understanding in their students. Lastly, the pre-service teachers across all courses rated their skills in promoting learners' leadership and accountability as highly competent. They may imply that pre-service teachers demonstrated high teaching competency in developing learners' skills, attitudes, and mindset to become influential leaders, responsible individuals, and agents of positive change in the twenty-first century.

Table 5. Relationship Between the Extent of Coaching and the 21st Century Teaching Competence of Pre-service Teachers

Competencies	Extent of Coaching		
	r	Description	p-value
21 st -Century Teaching Competency	.634	Intermediate	.000
Teaching Performance	-.140	Low	.048

Table 5 depicts the association between the extent of coaching offered by cooperating teachers and pre-service teachers' level of 21st-century teaching skills and teaching performance. According to Holtzman (2011), cited by Ocampo (2021), correlation coefficients below .30 are low, between 0.30 - .70 as intermediate and high if above 0.70. Based on the findings, the level of association between the extent of coaching and the level of 21st-century teaching skills was intermediate. In contrast, the level of correlation between the extent of coaching and pre-service teachers' performance was low. Moreover, despite the low level of correlation, the extent of coaching is significantly associated with pre-service teachers' teaching performance ($r = -.140$, $p\text{-value} = .048$ 05). The negative value does not imply that teaching performance will increase as the extent of coaching increases. A 1.0 rating in teaching performance implies excellent teaching performance, whereas a 5.0 score denotes an inferior performance.

Furthermore, the results denote that the extent of coaching is highly and significantly correlated to the level of 21st-century teaching skills of pre-

service teachers ($r = .813$, $p\text{-value} = .000 < .05$). The higher the extent of coaching the cooperating teachers provide, the more competent the pre-service teachers and their teaching performance becomes excellent. This finding backs up the findings of Mok and Staub (2021), who discovered a small but significant overall effect of coaching, mentoring, or supervision on the instructional skills of pre-service teachers.

Moreover, Guarino, Sanchez, & Daley's (2006) findings, as referenced by Afalla & Fabelico (2020), disclosed that pre-service teachers supported by their cooperating teachers are more committed to teaching. They look to their mentors as role models, and as a result, they provide very productive and effective teaching results for their students (Roness, 2010). Additionally, when pre-service teachers are taught, mentored, and given plenty of opportunities to practice, student learning will likely improve, and classroom behaviour will improve overall (Peterson-Ahmad, M., 2018).

Conclusions

Cooperating teachers who served as coaches or mentors is critical in building pre-service teachers' 21st-century teaching ability. They guide and effectively model behaviours, provide feedback and reflection opportunities, promote self-reflection and self-directed learning, and establish a supportive and collaborative learning atmosphere. This study found that the cooperating teachers have performed a very high extent of coaching support to pre-service teachers. The coaching support contributes significantly to pre-service teachers' highly competent skills. Furthermore, it was discovered that the extent of coaching provided by collaborating teachers is positively, highly, and significantly associated with the pre-service teachers developed 21st-century teaching competency. Finally, despite the low level of correlation, the extent of coaching is significantly connected to pre-service teachers' academic achievement.

Recommendations

Based on the findings and conclusions, the researcher would like to provide the following recommendations: First, teacher education institutions should create a coaching guide so that coaching sessions between pre-service teachers and cooperating teachers become clear and systematic. Second, training and seminars may be conducted to improve pre-service teachers' 21st-century teaching competencies. Finally, the outcome of this study is one-sided, with pre-service teachers assessing their 21st-century teaching competencies. Future researchers may do similar studies, considering cooperating teachers' and teacher

supervisors' assessments of pre-service teachers' 21st-century teaching skills.

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