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PROFESSIONAL DEVELOPMENT AND 21ST CENTURY SKILLS AS DETERMINANTS OF LIFE-LONG LEARNING AMONG PUBLIC SCHOOL TEACHERS

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Abstract:
The primary aim of the study is to find out if professional development and 21st-century skills are determinants of lifelong learning of teachers. Using a correlational technique and a quantitative non-experimental research design, data were obtained from 305 public elementary teachers working in Baganga North and South, Davao Oriental. The researcher used the total enumeration sampling technique and the statistical tools mean, Pearson r, and regression analysis. From the results of the study, it was found that there are very high levels of professional development, 21st-century skills, and lifelong learning. Additionally, there are significant relationships between professional development and 21st-century skills, and 21st-century skills and lifelong learning. Further, professional development and 21st-century skills are significant determinants of lifelong learning for teachers.

SDG #4: Quality Education

Keywords: education, professional development, 21st century skills, lifelong learning, correlation, teachers, Philippines

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1. Introduction

The study by Niu and Liu (2021) highlighted that there is a low level of lifelong learning among disadvantaged teachers who are also disadvantaged in active learning that requires self-reflection, a spirit of inquiry, and cooperation with peers, making them less active in student–teacher interactions. Such teachers tend to perform poorly in embracing a culture of lifelong learning. Additionally, there is a low number of training opportunities to promote lifelong learning for teachers in schools. Teachers also lack advanced skills, innovative thinking and problem-solving skills in day-to-day challenges in the workplace (Abiddin, 2023).

Lifelong learning is important as it enables teachers to stay updated with the latest educational trends, technologies, and methodologies, improving their teaching effectiveness. In the study by Debbarma and Shivam (2024), it also improves teaching innovation by incorporating new strategies that enhance student engagement and student outcomes. Moreover, the research by Garcia-Toledano *et al.* (2023) found out that lifelong learning is important in the personal, educational and professional lives of citizens, as it offers numerous possibilities, namely: adapting to change, tackling complex problems, keeping the mind active, exploring new ideas, and making informed decisions, among others. Through lifelong learning, teachers are assured the ability to learn to be, to learn to know, to learn to do and to learn to live together.

In another study by Zhou and Tu (2021), professional development has a significant relationship with lifelong learning. Teachers need to be lifelong learners themselves in order to be able to positively influence students in their thoughts, behaviors and lifestyles. Relatedly, in the study by Owusu-Agyeman (2024), there is also a positive link between professional development and lifelong learning. Professional development encourages staff participation in various lifelong learning modes.

A previous study by Sogor (2021) found a positive link between 21st-century skills and lifelong learning. In order for one to develop 21st-century skills, it is important to first develop the critical skill of being a lifelong learner. In a similar vein, the study by Herlinawati *et al.* (2024) determined that 21st-century skills have a significant relation with lifelong learning. There is a focus on individual skills and attitudes that are aligned with the demands of the 21st century.

Moreover, the research by Cahulugan *et al.* (2024) highlighted that schools should invest in professional development programs that equip teachers with the knowledge and strategies to effectively teach and assess 21st-century skills. Integrating such professional development programs and 21st-century skills fosters lifelong learning, which is essential to better prepare individuals for global challenges. Relatedly, the study by Ahn (2024) identified the need for professional development in response to evolving societal demands, which demand 21st-century skills enhancement. These result in lifelong learning, which is essential for fostering adaptability, resilience, and sustained employability in a knowledge-based economy.

2. Literature Review

Presented in this section is a brief discussion of related literature on the variables of the study, which will support the results of the study. Thematic knowledge refers to teachers' ideas that are related to students' life experiences, which increase student interest and involvement in learning (Wardani *et al.* 2020). Meanwhile, the learning environment is defined as the area where physical, academic, behavioral, and social aspects of learning take place (Mempin, 2024). On the other hand, cooperation refers to teachers sharing a goal and responsibility while contributing to a common task (Pozas & Letzel-Alt, 2023). Further, educational technology is defined as the structured method of implementing modern technology to enhance educational output (Balalle & Weerasinghe, 2021). In addition, research base refers to the extensive research-based knowledge and skills of teachers to support student learning (Toom & Husu, 2024). A high research base means that the teachers know how to construct functioning interactions with students, colleagues, and parents to enhance learning and development. Relatedly, in the study by Caspersen and Smeby (2023), a high research base implies that the teachers conduct practice-oriented research and teach the appropriate and relevant research methods to students. Research-active teachers learn from each other and jointly find ways to improve practice.

Moreover, educational design is defined as developing teacher understanding of what good teaching involves and planning for such teaching (Gravett & van der Merwe, 2023). On the other hand, evaluation refers to the process of giving and receiving feedback, implementing feedback, and improving student achievement (Krasniqi & Ismajli, 2022). Meanwhile, human resource development is defined as a series of teacher planning, recruiting, selection, placement, compensation, awards, development, and dismissal activities (Nurchayati & Baya'gub, 2023). High human resource development increases knowledge, adds skills, and changes attitudes. In a similar vein, the research by Belinova *et al.* (2021) emphasized that high human resource development results in a rich educational environment and positive, human-directed relationships between teachers.

In addition, knowledge and technology literacy skills refer to teacher skills in the gathering of knowledge through the internet and also the integration of technology into pedagogy (Khan & Gul, 2022). Meanwhile, critical thinking and problem-solving skills are defined as the ability to analyze information, evaluate evidence, and the capacity to identify and devise solutions for complex issues (Rusmin *et al.*, 2024). High critical thinking and problem-solving skills foster innovation and adaptability. Similarly, Amanda *et al.* (2024) in their study ascertained that high critical thinking and problem-solving skills enable teachers to analyze, evaluate problems and apply various knowledge and skills. Critical thinking and problem-solving skills are important skills that need to be mastered. Further, the study by Varlik (2024) refers to entrepreneurship and innovation skills as the entrepreneurial and innovative skills that are purpose-oriented, continuously guided and can turn risks into success.

In addition, the recent study by Chang and Chen (2025) defines social responsibility and leadership skills as community engagement and leadership effectiveness skills. In terms of career consciousness, Nderitu *et al.* (2024) refer to such as having broad insight into the types of work that exist in the world, setting goals professionally and achieving goals. A high career consciousness results in success and resilience in overcoming various situations. Also, a high career consciousness influences interests and aspirations, thus enhancing self-concept. Career consciousness is linked with the expression of career-related goals, and ultimately, occupational choice (Silva & Taveira, 2025).

In another study by Nganga *et al.* (2025), goal setting is defined as a self-regulated learning strategy that promotes the growth of teachers. On the other hand, application of knowledge and skills refers to showing reasoning, comprehending content and solving problems through the transfer of knowledge (Almazroa & Alotaibi, 2023). Meanwhile, self-direction and evaluation are the outcome of creating an experience that empowers teachers to make decisions about the information they want to become proficient in (Robinson & Persky, 2020). High self-direction and evaluation instil autonomy and a sense of purpose. To add, the recent study by Morris *et al.* (2025) assessed that self-direction and evaluation enable teachers to upskill and improve their teaching practice. Teachers with self-direction and evaluation have the ability to pursue self-directed learning with success and efficiency.

In terms of locating information, Smith (2022) refers to efficiently using the internet to locate information. Additionally, adaptable learning strategies are the innovative teaching strategies and initiatives used by teachers to address the changing needs of students (Lausa & Embao, 2023). Finally, in the research by Du Plooy *et al.* (2024), high levels of adaptable learning strategies result in student success and engagement. Adaptable learning strategies contribute to holistic development, foster deeper engagement with the material and enhance skills for lifelong learning.

There is an urgent need to conduct this study because as a researcher and who is presently teaching in Baganga, North District, Davao Oriental is determined to find out the levels of professional development, 21st century skills, and lifelong learning particularly on how the teachers are able to manage and cope with the challenges related to professional development, 21st century skills, and lifelong learning which has highly impacted the teaching and learning activities for both the teachers and the students resulting to the adjustments on their professional development, 21st century skills, and lifelong learning.

3. Material and Methods

There were 2 areas identified where the study was conducted: Baganga North and South districts, Davao Oriental. In this study, from the total population of 684 elementary teachers (398- Baganga North and 286- Baganga South), there were 305 elementary teachers who were represented as the sample size and became respondents of the study.

The sample size was determined using the Raosoft Sample Size Calculator available online. It was computed considering a response distribution of 50%, a confidence level of 95%, and a margin of error of 5%.

The study utilized a total enumeration sampling technique to allow everyone to become part of the study. In Laerd (2012), the total enumeration sampling technique is a design where you choose to examine the entire population that has a particular set of characteristics, such as specific experience, knowledge, skills, and exposure to an event.

The researcher considered the criteria of inclusion, exclusion and withdrawal. In particular, the respondents who were included in the study are public elementary teachers who are currently employed for the Academic Year 2025-2026. The respondents are permanent teachers and have been teaching for at least 2 or more years in the identified areas of the study. Excluded were those teachers who are not in the elementary department and those who are not teaching under Baganga North and South districts, under the division of Davao Oriental, for they were in a different work environment and supervision. Also, teachers who are working in private schools, whether in the same or other departments, were also excluded, including those teachers who also hold managerial or supervisory positions, even in the areas under study, for the withdrawal criteria. Respondents were not compelled to complete the research questionnaire and could return it unfilled for automatic disposal by the researcher. They had the freedom to withdraw at any stage of the research process if they felt uncomfortable participating. No penalties or consequences were imposed for withdrawing from the study. If a respondent wished to withdraw, they were encouraged to inform the researcher and, if possible, provide a valid reason for leaving the study. This withdrawal policy ensured that participation remained ethical, voluntary, and without coercion, upholding the rights and well-being of all respondents.

The study utilized three survey instruments, each adapted from established sources to measure key variables: The first instrument on the first independent variable professional development was adapted from Ayyoobi *et al.* (2016)) entitled "Codification and validation of professional development questionnaire of teachers" and has its indicators namely: thematic knowledge, learning environment, cooperation, educational technology, research base, educational designing, evaluation, and human resource development

The second independent variable is 21st century skills, which has its indicators, namely: knowledge and technology literacy skills, critical thinking and problem solving skills, entrepreneurship and innovation skills, social responsibility and leadership skills, and career consciousness, which was taken from Cevik & Senturk (2019) on "Multidimensional 21st century skills scale: Validity and reliability study". The dependent variable of the study, lifelong learning, is taken from Meerah *et al.* (2011) entitled "Measuring life-long learning in the Malaysian Institute of Higher Learning context" which has its indicators, namely: goal setting, application of knowledge and skills, self-direction and evaluation, locating information, and adaptable learning strategies.

To evaluate professional development, 21st century skills and life-long learning, the study utilized a 5-point Likert scale, with the following range of means and corresponding descriptions: 4.20 – 5.00 (Very High) – measures are always manifested, 3.40 – 4.19 (high) – measures are often manifested, 2.60 – 3.39 (moderate) – measures are sometimes manifested, 1.80 – 2.59 (low) – measures are seldom manifested, and 1.00 – 1.79 (very low) – measures are not manifested at all. This rating scale allowed for a clear and structured assessment of how frequently the respondents experienced or demonstrated behaviors related to professional development, 21st century skills and life-long learning. The study period covered January to December 2025.

4. Design and Procedures

This study employed a non-experimental, quantitative-descriptive correlational research method. Quantitative research focuses on the statistical analysis of collected data using survey questionnaires and computational approaches (Trefry, 2017). The researcher gathered numerical data from the population to ensure accuracy and objectivity in the findings. Descriptive research involves the precise selection of respondents through surveys, providing a clear representation of the population (Kowalczyk, 2018). The study aimed to describe and analyze the relationship between. professional development, 21st century skills and life-long learning.

In correlational research, independent and dependent variables are identified, and the effects of the independent variables professional development, 21st century skills) on the dependent variable (life-long learning) are examined (Patidar, 2013). This research design was chosen as it aligns with the study's objective of determining significant relationships between these variables, as discussed in the related literature.

For the systematic data collection procedure, the researcher followed a structured approach to ensure ethical compliance and efficient data gathering: The researcher first obtained approval from the Schools Division Superintendent, followed by the District Supervisors and School Heads, to facilitate the participation of 305 teachers as respondents. Before conducting the actual data collection, the researcher secured a Certificate of Approval from UMERC (UMERC 2024-409) to ensure adherence to ethical research standards. To ensure a fast and efficient survey process, the researcher employed a face-to-face data gathering method, allowing for direct interaction with respondents. After retrieving the completed questionnaires, the collected data were collated and tabulated for organization, and processed using appropriate statistical tools by a Statistician to derive meaningful interpretations and insights. Based on the study's findings, conclusions were drawn, and recommendations were formulated to address the key issues related to professional development, 21st-century skills and life-long learning.

For a comprehensive interpretation and analysis of the data, the study employed the following statistical tools: Mean was used to assess the level of professional development, 21st century skills and life-long learning, addressing research objectives 1, 2, and 3. Pearson r was applied to determine the significance of relationships between

professional development, 21st century skills and life-long learning, answering research objective 4. Regression analysis was used to determine whether professional development and 21st-century skills are determinants of lifelong learning, addressing research objective 5.

In this study, ethical issues and considerations are observed. The researcher secured a Certificate of Compliance from the UM Ethics and Review Committee. There were 300 public elementary teachers who were respondents of the study, whose participation was completely voluntary and anonymous to protect their privacy. The researcher ensured that the data gathered was kept confidential, and each target respondent was given an informed consent form prior to the gathering of data. The study did not involve high-risk situations, and some mitigating measures were also considered, to include the psychological, financial and physical preparations. There was no conflict of interest (COI), no deceit, as everything that is written and reflected is true and underwent validation and thorough checking from different experts in the field of research. For purposes of the publication, the adviser becomes a co-author of the study.

4. Results and Discussion

Table 1: Level of Professional Development

Thematic Knowledge	0.41	4.50	Very High
Learning Environment	0.43	4.62	Very High
Cooperation	0.41	4.64	Very High
Educational Technology	0.40	4.60	Very High
Research Base	0.47	4.49	Very High
Educational Designing	0.41	4.63	Very High
Evaluation	0.40	4.65	Very High
Human Resource Development	0.41	4.68	Very High
Overall	**0.18**	**4.60**	**Very High**

Presented in Table 1 is the level of professional development, which is measured by the indicators, namely: thematic knowledge, learning environment, cooperation, educational technology, research base, educational design evaluation, and human resource development. The level of professional development revealed an overall standard deviation of 0.18 and a total mean rating of 4.60, labelled as very high. This means that the measures on professional development are always observed. It can also be viewed from the table that the indicator human resource development gained the highest mean score of 4.68, described as very high, with a standard deviation of 0.41. On the other hand, the indicator with the lowest mean is research-based, with a mean score of 4.49 or very high and a standard deviation of 0.47.

The very high level of human resource development implies that there is very high evidence of teacher planning, recruiting, selection, placement, compensation, awards, development, and dismissal activities. The result is consistent with authors (Belinova *et al.*, 2021; Nurchayati & Baya'gub, 2023), wherein high human resource development

increases knowledge, adds skills, and changes attitudes. Also, high human resource development results in a rich educational environment and positive, human-directed relationships between teachers.

Moreover, the very high level of research base implies that the teachers have highly extensive research-based knowledge and skills to support student learning. The result is aligned with authors (Caspersen & Smeby, 2023; Toom & Husu, 2024) who stated that a high research base means that the teachers know how to construct functioning interactions with students, colleagues, and parents to enhance learning and development. Further, a high research base implies that the teachers conduct practice-oriented research and teach the appropriate and relevant research methods to students. Research-active teachers learn from each other and jointly find ways to improve practice.

Table 2: Level of 21st Century Skills

Indicators	SD	Mean	Descriptive Level
Knowledge and Technology Literacy Skills	0.46	4.67	Very High
Critical Thinking and Problem-Solving Skills	0.62	4.52	Very High
Entrepreneurship and Innovation Skills	0.48	4.61	Very High
Social Responsibility and Leadership Skills	0.60	4.58	Very High
Career Consciousness	0.44	4.69	Very High
Overall	**0.41**	**4.61**	**Very High**

Presented in Table 2 is the level of 21st-century skills with an overall mean of 4.61, described as very high and a standard deviation of 0.41. This explains that the measures of 21st-century skills are always manifested. The results revealed that 21st-century skills is rated very high across all items. In addition, the indicator career consciousness gained the highest mean score of 4.69 with a standard deviation of 0.44. Meanwhile, the indicator with the lowest mean is critical thinking and problem-solving skills, with a mean score of 4.52 and a standard deviation of 0.62.

The very high level of career consciousness implies that the teachers have very high insight into the types of work that exist in the world, set goals professionally and achieve goals. The result is aligned with the authors (Nderitu *et al.*, 2024; Silva & Taveira, 2025), who highlighted that a high career consciousness results in success and resilience in overcoming various situations. To add, a high career consciousness influences interests and aspirations, thus enhancing self-concept. Career consciousness is linked with the expression of career-related goals, and ultimately, occupational choice.

The very high level of critical thinking and problem-solving skills implies that the teachers have a high ability to analyze information, evaluate evidence, and the capacity to identify and devise solutions for complex issues. The result is consistent with authors (Amanda *et al.*, 2024; Rusmin *et al.*, 2024) who emphasized that high critical thinking and problem-solving skills foster innovation and adaptability. Further, high critical thinking and problem-solving skills enable teachers to analyze, evaluate problems and apply various knowledge and skills. Critical thinking and problem-solving skills are important skills that need to be mastered.

Table 3: Level of Lifelong Learning

Indicators	SD	Mean	Descriptive Level
Goal Setting	0.58	4.52	Very High
Application of Knowledge and Skills	0.46	4.57	Very High
Self-Direction and Evaluation	0.52	4.58	Very High
Locating Information	0.74	4.48	Very High
Adaptable Learning Strategies	0.57	4.45	Very High
Overall	**0.46**	**4.52**	**Very High**

Shown in Table 3 is the level of lifelong learning, which revealed an overall standard deviation of 0.46 and a total mean rating of 4.52, labelled as Very High. It can also be viewed from the table that the indicator self-direction and evaluation gained the highest mean score of 4.58, labelled as very high, and a standard deviation of 0.52. Additionally, the indicator with the lowest mean score is adaptable learning strategies, with a mean score of 4.45, labelled as very high and a standard deviation of 0.57.

The very high level of self-direction and evaluation implies that the teachers are greatly empowered to make decisions about the information they want to become proficient in. The result is coherent with authors (Morris *et al.*, 2025; Robinson & Persky, 2020), wherein high self-direction and evaluation instill autonomy and a sense of purpose. Self-direction and evaluation enable teachers to upskill and improve their teaching practice. Teachers with self-direction and evaluation have the ability to pursue self-directed learning with success and efficiency.

The very high level of adaptable learning strategies implies that the teachers utilize highly innovative teaching strategies and initiatives. The result is aligned with the authors (Du Plooy *et al.*, 2024; Lausa & Embao, 2023), stating that adaptable learning strategies address the changing needs of students. High levels of adaptable learning strategies result in student success and engagement. Adaptable learning strategies contribute to holistic development, foster deeper engagement with the material and enhance skills for lifelong learning.

Table 4: Overall Significance on the Relationships between Professional Development, 21st Century Skills, and Lifelong Learning

	Professional Development	21st Century Skills	Lifelong Learning
Professional Development	1	.381**	.064**
21st Century Skills	.381**	1	.225**
Lifelong Learning	.064**	.225**	1

Presented in Table 4 are the results of the correlational analysis on professional development, 21st-century skills, and lifelong learning. It can be seen from the table that when professional development is correlated with the measures of lifelong learning, the overall r-value results in 0.064 with a p-value of 0.000, which is lower than the 0.05 level of significance. This implies that professional development has a significant relationship with lifelong learning. In addition, when 21st-century skills are correlated with the measures of lifelong learning, the overall r-value results in 0.225 with a p-value of 0.000,

which is lower than the 0.05 level of significance. This implies that 21st-century skills have a positive relationship with lifelong learning.

The correlation between measures revealed that there are significant relationships between professional development, 21st-century skills, and lifelong learning. The result of the study confirms the authors (Herlinawati *et al.*, 2024; Zhou & Tu, 2021), wherein professional development has a significant relationship with lifelong learning. Teachers need to be lifelong learners themselves in order to be able to positively influence students in their thoughts, behaviors and lifestyles. Moreover, 21st-century skills have a significant relation with lifelong learning. There is a focus on individual skills and attitudes that are aligned with the demands of the 21st century.

Table 5: Multiple Regression Analysis of Professional Development and 21st Century Skills as Determinants of Lifelong Learning

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.870	.784	4.149	4.770	.000
	Professional Development	.175	.145	.069	1.003	.000
	21st Century Skills	.254	.103	.227	3.274	.001
	R	.235				
	R^2	.055				
	F	5.780				
	P	.004				
a. Dependent Variable: Lifelong Learning						

Presented in Table 5 are the regression coefficients to test if professional development and 21st-century skills are determinants of lifelong learning. The results show that professional development and 21st century skills are determinants of lifelong learning, as shown with an F-value of 5.780 and p-value of 0.004 which implies that the overall determinant is significant. Therefore, the null hypothesis that professional development and 21st-century skills are not determinants of lifelong learning is rejected. The data also revealed that when professional development and 21st-century skills are regressed on lifelong learning, an R2 of .055 is generated, which implies that 55% of the variance of lifelong learning can be explained by professional development and 21st-century skills, and the remaining 45% is attributed to other factors.

The overall result of the regression analysis on professional development and 21st-century skills as determinants of lifelong learning revealed that professional development and 21st-century skills are significant determinants of lifelong learning. This is aligned with authors (Ahn, 2024; Cahulugan *et al.*, 2024), who state that schools should invest in professional development programs that equip teachers with the knowledge and strategies to effectively teach and assess 21st-century skills. Integrating such professional development programs and 21st-century skills fosters lifelong learning, which is essential to better prepare individuals for global challenges. There is a need for professional development in response to evolving societal demands, which demand 21st-

century skills enhancement. These result in lifelong learning which is essential for fostering adaptability, resilience, and sustained employability in a knowledge-based economy.

5. Recommendations

The researcher came up with recommendations based on the results of the study. On the very high ratings of professional development, 21ST century skills and life-long learning, the researcher recommends that the school management continue to implement the school plans and programs as mandated in the vision, mission and goals of the school. The best practices of the school may be continued, and if there are some deficiencies and inadequacies, then those areas may be improved, for there is always room for continuing quality improvement (CQI).

On the very high level result of professional development, the teachers may be provided with chances to continue their schooling in the graduate or post graduate degrees to be able to equip themselves with the qualifications standards needed when the time comes when reclassification or promotion in work are available, re-tooling for updates of latest teaching strategies and attendance to seminar and trainings which may allow the teachers to improve their communication skills, ICT skills, critical thinking and maybe seminar on teachers' mental well-being like Mental Awareness, Stress Management or Anger Management.

Furthermore, it is recommended that teachers be allowed to expand their linkages by intensifying their membership in professional local or national organizations. The teachers may be given the chance to avail themselves of whatever benefits are available or open in school, whether in their personal or official capacity. This may include benefits for promotion, reclassification, study in local or abroad or attendance at conferences and trainings at the local, national or international levels.

On the matter of the very high result of 21st-century skills, it may be recommended that regular retooling of teachers may be conducted. In the advent of technology, teachers should be able to cope with the times and should be able to equip themselves with the technological know-how to be incorporated in their teaching strategies. For the school management, it may be recommended that teachers be provided with seminars and training on the use of computers, their updates, and that should encourage all teachers to utilize the technology available in school. In this case, students may also be able to understand well and be inspired to study using the technology around. These technologies may become a tool to improve the students' academic performances in the class and enable them to speak, read and write the knowledge that they learn from their teachers.

Also, the school may conduct an evaluation of the school's plans and programs versus its level of implementation. Also, a peer performance evaluation for teachers and a teacher performance evaluation to be done by the students may be a regular annual activity. The conduct of orientation (for new teachers/staff) and re-orientation for existing

teachers may be conducted with emphasis on the school's direction and mandate. This is a good action as this will enable everybody to be always aware of its commitment to the school, to the students and even to the parents and to the community as a whole.

On the very high level of lifelong learning, the researcher recommends that there should always be an open policy of communication in school. The school management may always respect the teachers' academic freedom, and the school management may always listen to the sides of the teachers before any drastic action is taken in case of some problems and issues among teachers or teachers and students' relationships. The school may always instill in the minds of the school staff and teachers that sincerity, commitment and dedication of everybody count most and that everybody is always willing to extend a helping hand to those who are in need and that what matters most is the education of the students.

There may be an annual get-together activity in school or an annual conduct of spiritual activity (ecumenical), like retreats or recollection, may be added to ensure that everybody in the school continues to exercise his/her strong faith in God Almighty. With the intention of maintaining good rapport with students, regular dialogue or focus group discussions between teachers and students may be conducted to address concerns in class, subjects, or even among the teachers, ensuring open communication among them.

The results of this study may be a reasonable basis for future researchers to replicate the study to other regions in a bigger scope using quantitative- structural equation model or a quantitative study using additional variables to determine whether the results may differ from this study and a qualitative study- a phenomenological one depicting the best practices of schools which may somehow be duplicated by other schools as basis for improvement and/or enhancement.

6. Conclusion

Based on the results of the study, conclusions are presented in this section. There are very high levels of professional development, 21st-century skills, and lifelong learning. Moreover, there are significant relationships between professional development and lifelong learning, and 21st-century skills and lifelong learning. Finally, professional development and 21st century skills are significant determinants of lifelong learning. The result of the study implies that there is high evidence of teacher human resource development. Also, the teachers have high insight, set goals professionally and achieve goals. The teachers are also highly empowered to make decisions about the information they want to become proficient in. In addition, professional development has a significant relationship with lifelong learning. In a similar vein, 21st-century skills have a positive relationship with lifelong learning. Further, professional development and 21st century skills are significant determinants of lifelong learning.

The results of the study clearly confirm the notion that professional development and 21st century skills are significant determinants of lifelong learning. The conclusions affirm the anchor theory, the Constructivism Theory by Mayer (1996), wherein teacher

professional development in the 21st century should have effective professional development programs that are learner-centered, allowing teachers to engage in active learning, collaborative problem-solving, and reflective practices. Lastly, the findings of the study are also supported by the Adult Learning Theory by Knowles (1978) and the Technological Pedagogical Content Knowledge (TPACK) Model by Mishra and Koehler (2006).

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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