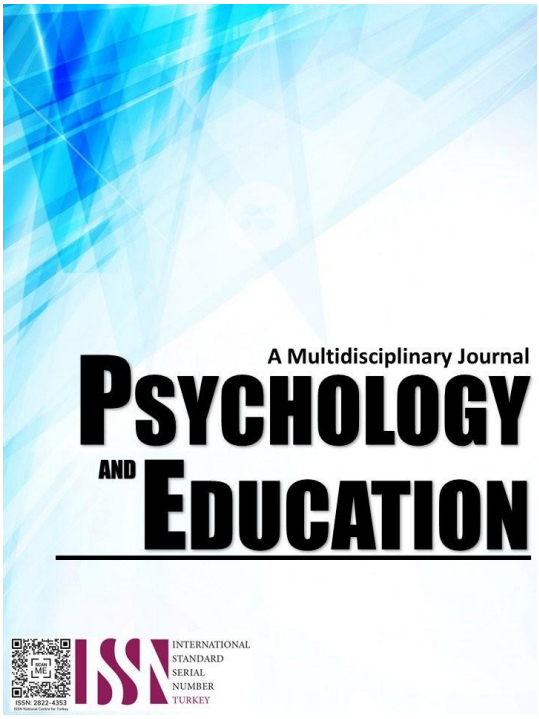
ELEMENTARY TEACHERS' READINESS IN IMPLEMENTING STRUCTURE OF THE OBSERVED LEARNING OUTCOME (SOLO) TAXONOMY IN THE CLASSROOM: ACTION PLAN



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Research Article

Elementary Teachers' Readiness in Implementing Structure of the observed Learning Outcome (SOLO) Taxonomy in the Classroom: Action Plan

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Abstract

This study assessed the readiness of 105 elementary teachers in a designated public school to implement the Structure of the Observed Learning Outcome (SOLO) Taxonomy in their classroom instruction. It assessed readiness across knowledge and understanding, pedagogical skills, and professional development and support, identified challenges to implementation, and proposed an action plan to strengthen practice. A descriptive research design was employed, and data were gathered using adapted questionnaires from the National Educators Academy of the Philippines' Higher Order Thinking Skills Professional Learning Packages for Mathematics, Science, and English teachers. Results showed that teachers demonstrated moderate readiness across the three parameters: knowledge and understanding, pedagogical skills, and professional development and support. While teachers showed foundational knowledge, their ability to translate this into practical strategies was limited. The moderate level of support indicates a need for targeted training. School heads, however, displayed higher proficiency in pedagogical application, suggesting a resource for mentoring teachers. A significant relationship was found between teacher readiness, particularly knowledge and understanding, and the degree of challenges encountered. Based on these findings, it was concluded that among the three parameters considered for the level of teachers' readiness, knowledge and understanding can directly affect the teachers' challenges, highlighting their critical role in shaping their classroom practices and overall professional effectiveness. These recommendations formed the basis for a fully structured action plan that aimed to improve teacher readiness and significantly enhance student learning outcomes through effective integration of the taxonomy.

Keywords: *administration and supervision, SOLO taxonomy, descriptive research design, Moalboal, Cebu*

Introduction

Education, as the foundation of societal development, continually seeks innovative methodologies to enhance learning outcomes. Among these, the Structure of the Observed Learning Outcome (SOLO) Taxonomy, a framework developed by Tolba and Youssef (2024), stood as a beacon of pedagogical advancement. It provided a comprehensive structure for understanding the cognitive complexity of learning tasks and offered a powerful tool for educators to design learning experiences that fostered deeper understanding and critical thinking skills. In recognition of its potential, the Department of Education issued an order to transition from the established Bloom Taxonomy to the SOLO Taxonomy, heralding a paradigm shift in pedagogical practices. However, the extent to which teachers were prepared to embrace this change effectively remained a crucial area of investigation.

Several research studies have probed the SOLO Taxonomy and its influence on student learning in a wide range of disciplines, with a pattern indicating increased learning achievement when tasks are structured by degrees of understanding. Students are more engaged, have clearer progress, and make more uniform improvement in higher-order thinking when instruction aligns with the SOLO framework. Empirical studies have repeatedly found a positive relationship between the SOLO application and increased conceptual development. For example, Hattie and Purdie (2014) discovered higher conceptual understanding and higher-order thinking in students taught with lessons that were SOLO-mapped. Moreover, Meyer and Shanahan (2019) highlighted the adaptability of the framework in a wide range of learning contexts and the possibility of integration into a variety of curricula.

Given the multitude of studies demonstrating the positive effects of SOLO Taxonomy on student learning outcomes across disciplines, including stronger engagement, clearer progression, and more consistent gains in higher-order thinking, teachers were identified as needing thorough training in incorporating the SOLO Taxonomy into their instruction. To maximize student learning potential and ensure effective conceptual development through structuring tasks by levels of understanding, teachers needed the requisite knowledge and skills. As Hattie and Purdie's (2014) findings demonstrated, students taught through SOLO-aligned lessons exhibited greater understanding, highlighting the need for teachers to deeply grasp SOLO Taxonomy. Furthermore, Meyer and Shanahan's (2019) emphasis on SOLO's adaptability underscored the importance of equipping teachers to tailor it to diverse environments. Therefore, comprehensive teacher training, prioritizing SOLO principles and flexible implementation strategies, was deemed essential for widespread success.

However, a critical gap persisted amid the ongoing shift of the Department of Education from Bloom's Taxonomy to the SOLO Taxonomy. An immediate challenge has emerged because many teachers have not yet received sufficient preparation to implement the new framework with fidelity. Successful integration depends on teachers' capacity to grasp SOLO's levels, design tasks that elicit progressively deeper responses, and assess evidence of learning accordingly. In the district context, requests for training have been raised, yet comparable preparations have not taken place relative to other divisions. This discrepancy signals a pressing readiness concern that, if unaddressed, can limit student gains that SOLO is positioned to deliver.

In response, this study assessed teacher readiness for SOLO implementation, mapped knowledge and skill gaps, and proposed a targeted action plan. The goal was to enable teachers to incorporate SOLO in planning, instruction, and assessment, ensuring students experience tasks that build from surface to deep understanding. Consequently, teachers must be trained to apply SOLO effectively, ensuring tangible improvements in student learning.

Research Questions

This research assessed the teachers' level of readiness in SOLO Taxonomy at Moalboal District, Moalboal, Cebu, for the School Year 2023-2024 as the basis for an action plan. Specifically, it sought to answer the following problems:

1. What is the profile of the respondent groups in terms of:
    1.1. age and gender;
    1.2. highest educational attainment;
    1.3. length of service;
    1.4. present position;
    1.5. ancillary services; and
    1.6. relevant seminars and training attended?
2. As perceived by the respondent groups, what is the level of teacher readiness in the utilization of SOLO Taxonomy in teaching in terms of:
    2.1 knowledge and understanding;
    2.2 pedagogical skills; and
    2.3 professional development and support?
3. As perceived by the respondent groups, what is the degree of challenges encountered by teachers in getting ready for the implementation of the SOLO taxonomy?
4. Is there a significant relationship between the level of teacher readiness and the degree of challenges they encounter in utilizing SOLO Taxonomy for teaching when grouped and compared based on the aforementioned variables?
5. Based on the findings of the research, what action plan could be proposed?

Literature Review

The literature surrounding the integration of the SOLO Taxonomy in the Philippine educational context was rich and diverse, with several authors providing valuable insights and practical guidance for educators and administrators.

Alonzo and Castillo (2018) offered a comprehensive guide specifically tailored for teachers and administrators in the Philippines. Their work not only introduced it but also provided practical applications within the local educational framework. This guide served as a foundational resource for educators looking to implement taxonomy effectively. Bautista (2019) further emphasized the integration of it in teaching and learning in the Philippines. Her work provided practical strategies and examples, making it a valuable resource for educators seeking to apply taxonomy in the classroom. The book served as a practical companion for teachers looking to enhance their instructional practices. Brillantes (2016) took a focused approach by addressing the development of teacher readiness in it, offering a Philippine perspective. His work highlighted the importance of preparing educators to implement taxonomy effectively. This perspective was crucial in ensuring that teachers felt equipped and confident in utilizing the taxonomy to its fullest potential.

Cabrera (2017) provided further insights into it as a tool for enhancing student learning in the Philippine context. The book underscored taxonomy's applicability in promoting deeper levels of understanding and critical thinking among students. This perspective aligned closely with the overarching goals of the Philippine educational system. Daludag (2018) offered a practical guide tailored specifically for teachers in the Philippines. His work provided actionable steps and examples, making it a valuable resource for educators looking to implement it in their instructional practices. This guide was a hands-on companion for teachers seeking to enhance their teaching methods (Enario et al., 2022). Domingo (2019) focused on using it to improve teaching and learning in the Philippines. Her work emphasized taxonomy's potential to elevate the quality of education by promoting higher-order thinking skills among students. This perspective aligned with the broader goals of educational reform in the country.

Gonzales (2016) delved into the implications for teacher education in the Philippines. His work highlighted the importance of incorporating taxonomy into teacher training programs. This perspective acknowledged the role of teacher education in preparing educators to implement the taxonomy effectively in the classroom. Hernandez (2017) offered a framework for assessing student learning in the Philippines. It provided practical strategies for educators to gauge and enhance student understanding (Cariaga et al., 2022; Gabales et al., 2025). This perspective aligned with the broader goals of promoting meaningful assessment practices within the Philippine educational system. Ledesma (2018) explored its applications within the Philippine classroom. His work provided practical examples and strategies for educators to implement taxonomy effectively. This perspective was crucial in ensuring the taxonomy was integrated seamlessly into everyday teaching practices. Santos (2019) offered a guide specifically tailored for teachers within the Philippine K-12 system. Her work provided practical insights and examples, making it a valuable resource for educators navigating the complexities of the curriculum. This guide served as a valuable tool for teachers looking to align their instructional practices with the objectives of the K-12 system.

In summary, the literature presented by these authors collectively provided a comprehensive and practical guide for educators and administrators in the Philippines seeking to integrate this into their teaching practices. These resources offered valuable insights, strategies, and practical examples, ensuring educators were well-prepared to leverage taxonomy to benefit student learning and educational outcomes. The reviewed studies collectively provided a nuanced understanding of the current state of readiness among teachers and pre-service teachers in the Philippines, reading using the SOLO Taxonomy. These findings served as crucial indicators for developing targeted interventions, including professional development programs and support structures, to enhance teachers' preparedness in effectively leveraging the taxonomy for improved teaching and learning outcomes.

Methodology

Research Design

This research utilized a descriptive research design, emphasizing the collection and presentation of factual information about a specific subject or phenomenon. It provided valuable insights for further analysis and exploration. In this context, the descriptive aspect of the research pertained to the approach taken to collect data.

Respondents

Balabagon Elementary School, ideally located along the road, enhanced the educational environment by ensuring accessibility for learners and the community. The school, led by an experienced school head, benefited from the skills of a knowledgeable master teacher and active kindergarten teachers who provided a welcoming environment. They worked tirelessly with a dedicated team of 12 grade school teachers to provide quality education while creating a lively and engaging learning environment. Tuble Elementary School, another medium-sized school, had a dynamic school head and a hardworking master teacher who oversaw a staff of 13 and one non-teaching personnel. Their coordinated efforts provided students with a supportive and enriching learning environment. Saavedra Elementary School, located in the scenic hinterland, took pride in its well-rounded school head, two dedicated kindergarten teachers, and a team of 16 committed grade school teachers. This joint commitment sought to provide all students with an extensive and meaningful learning experience. Despite its far-flung location, Buguil Elementary School benefited from a dedicated team of six educators, including a kindergarten teacher, and an approachable school head who worked relentlessly to provide quality education and community support. Tomonoy Elementary School, a small barrio school in a peaceful lowland location, had a caring school head and a dedicated faculty of one kindergarten teacher and six committed grade school teachers, all guided by a master teacher.

Finally, Lanao Elementary School, a small school situated only five kilometers from the district office, served as an important hub. Six committed grade school teachers, one passionate kindergarten teacher, and an energetic school head led the enthusiastic team in creating a supportive and engaging learning environment for students' growth and development. The selection of schools for this study was purposeful, with the researcher choosing institutions situated in her working environment. The rationale behind this choice was the accessibility of these schools, ensuring that the researcher could reach them without significant disruptions to her work schedule. Furthermore, these selected schools aligned with the criteria established by the research committee, ensuring a targeted and relevant sample.

Additionally, the researcher was cognizant of the expressed concerns among educators within this district, particularly in elementary schools, regarding the imminent implementation of the SOLO Taxonomy. It was noteworthy that, to the best of the researcher's knowledge, there had been limited preparation or training programs for teachers in anticipation of this pedagogical shift. This observation underscored the significance of investigating the current state of readiness and the potential challenges teachers might have faced as they adapted to the upcoming implementation of the SOLO Taxonomy in these educational settings.

Instrument

The study utilized two sets of questionnaires for data gathering. The first set assessed the teachers' level of readiness in the utilization of the SOLO Taxonomy. This questionnaire contained a total of 30 items, distributed into three areas: knowledge and understanding (10 items), pedagogical skills (10 items), and professional development and support (10 items). All items were adapted from the Higher Order Thinking Skills Professional Learning Packages (HOTS-PLPs) for Mathematics, Science, and English Teachers, a resource developed by the National Educators Academy of the Philippines (NEAP) in collaboration with the Research Center for Teacher Quality (RCTQ) (Department of Education [DepEd], 2023). Each item was rated on a four-point Likert scale with the following anchors: 4 – Very High, 3 – High, 2 – Low, and 1 – Very Low. Both teachers and school heads completed parallel versions of this questionnaire to provide corroborating perspectives.

The second set measured the degree of challenges encountered by teachers in getting ready for the SOLO Taxonomy. This questionnaire consisted of 10 items, focusing on challenges such as limited knowledge of SOLO concepts, alignment with curriculum and instructional materials, time for planning and implementation, assessment design, adapting instruction for diverse learners, limited resources, need for additional training, tracking student progress, student resistance, and balancing depth with curriculum coverage. School heads also rated a parallel 10-item checklist on the challenges they observed among teachers. Each item used the same four-point Likert scale with anchors of 4 – Very High, 3 – High, 2 – Low, and 1 – Very Low, where higher scores indicated greater difficulty. All items were adapted from the Higher Order Thinking Skills Professional Learning Packages (HOTS-PLPs) for Mathematics,

Science, and English Teachers, a resource developed by the National Educators Academy of the Philippines (NEAP) in collaboration with the Research Center for Teacher Quality (RCTQ) (Department of Education [DepEd], 2023).

Procedure

A Certificate of Exemption from Review was requested from the University Research Ethics Office of Cebu Technological University for implementation approval. Following this, a transmittal letter was signed by the researchers' adviser and the District Supervisor of Moalboal. The District Supervisor provided the researcher with an endorsement letter seeking a permit to gather data, which was addressed to the Schools Division Superintendent, Division of Cebu Province. Once the letter was signed, the District Supervisor sent a letter addressed to the school principals, requesting them to allow the researcher to distribute and administer the questionnaires to them and their grade school teachers during their free periods.

The teachers were also provided with a comprehensive orientation on the nature and purpose of the study to ensure their full understanding and cooperation. One week was allocated for the retrieval of the instrument. The data collected were handled with proper confidentiality and disposed of properly.

Data Analysis

The following tools were used to analyze and interpret the data:

A simple percentage was applied to describe the respondents' profiles. The weighted mean was computed to assess the teachers' level of readiness in the SOLO Taxonomy, particularly in terms of knowledge and understanding, pedagogical skills, and professional development and support. Finally, Spearman's rho correlation was employed to test the significant relationship between the teachers' level of readiness and the degree of challenges they encountered in implementing the SOLO Taxonomy.

Results and Discussion

This part presented a table displaying essential information about teachers and school heads. The table included details such as age, gender, highest educational attainment, length of service, present position, ancillary services, relevant seminars, and training for teachers and school heads in one consolidated view.

Age

It referred to the number of years a teacher has been alive since birth. This assessment was based on self-reported data from the teachers in the survey. Understanding the demographic distribution of age among teacher respondents and school leaders in Moalboal District, Cebu, revealed a varied landscape. There was no dominant age group among teachers, indicating a blend of experienced educators and mid-career professionals. This diversity suggested a range of experiences that could influence the implementation of innovative pedagogical approaches (Caballes et al., 2021). Similarly, insights into the age profiles of school leaders provided a valuable understanding of the experience and leadership styles prevalent within educational institutions.

The study by Caballes et al. (2021) showed that 47 teachers, or 44.76 percent of the total respondents, were in the 41–50 age range, making up the largest group among teacher respondents. This age group comprised a significant portion of the teaching population, which most likely had a combination of expertise and receptivity to new teaching approaches like SOLO Taxonomy. In the same way, five (5) heads made up 62.50 percent of the total number of respondents who were school heads, with the majority of them being in the 41–50 age range. The established leadership styles and substantial experience of this generation of educational leaders were crucial for skillfully navigating the intricacies of educational leadership.

The findings highlighted the need to harness the experience and adaptability of educators and school leaders aged 41 to 50 to promote continuous learning and innovation in educational practices. Gamala and Marpa's (2022) research showed that educational leaders aged 41–50 frequently displayed a mix of traditional and innovative management methods. Their vast knowledge provided a solid platform for decision-making, and their ability to change allowed them to incorporate new ideas and approaches. This emphasized the need to utilize the expertise of leaders in this age group to foster a culture of continuous learning and innovation in educational institutions.

Gender

It was the biological traits that categorized an individual as male, female, or intergender. It included physiological and anatomical characteristics. Gender was considered a factor that could influence health outcomes and the availability of healthcare services. The gender distribution of respondents in this research revealed a significant overrepresentation of females among teachers and school administrators, emphasizing substantial gender discrepancies in educational roles and underscoring the continued imperative for greater inclusivity and equity in the education system (Cameron et al., 2019; Cullen & Lewis, 2020).

Among teachers, females constituted 87.68 percent of respondents, with males accounting for 12.32 percent. This discrepancy highlighted the gender gap in teaching positions and reflected larger institutional and cultural variables that influenced learning environments. In the realm of educational leadership, the proportion of male school heads was significantly higher (75.00 percent) than that of female school heads (25.00 percent). This disparity drew attention to the pervasive gender differences in leadership roles in the

education sector, which may have been caused by institutionalized biases and obstacles that prevented women from achieving these positions. To promote diversity and inclusivity in educational settings, efforts had to be made to rectify these disparities. To create more equitable educational systems, policies, and activities that supported gender equity and removed obstacles to women's advancement into leadership positions were crucial (Ismail et al., 2021).

Highest Educational Attainment

It referred to a teacher's highest degree of formal education. It was a significant indicator that could help us understand educational inequalities and affect policy decisions. It significantly enhanced school administrators' and teachers' performance and work preparation (Smith, 2019). Professional standards were raised because teachers with advanced degrees or specialized training were more equipped to manage changing demands, adjust to new practices, and deliver high-quality instruction. Similar to this, the greatest academic accomplishments of school heads provided information about their leadership skills and intellectual backgrounds, enabling them to run educational institutions and make well-informed decisions effectively.

The educational attainment of teacher respondents underscored a predominantly qualified cohort, with a majority holding at least a bachelor's degree (50.48 percent). Additionally, 11.43 percent had incomplete master's degrees, indicating potential areas for further professional development and upskilling. Furthermore, 29.52 percent of respondents held an MA.ED with CAR, suggesting a commitment to continuous learning and advancement within the field of education. Addressing the diverse educational backgrounds of teachers through tailored development initiatives could enhance readiness for integrating the SOLO Taxonomy into classroom practices effectively.

Buenvenida et al. (2020) indicated a positive correlation between higher educational attainment and readiness to adopt new teaching methodologies. Teachers with advanced degrees, such as Master's or Doctorate holders, demonstrated a deeper understanding of pedagogical concepts and were more adept at integrating innovative approaches into their teaching practices. This underscored the importance of investing in continuous professional development and supporting educators in furthering their education to enhance readiness for implementing SOLO Taxonomy.

The majority of school heads held advanced degrees, with either a full-fledged master's degree (50 percent) or an MA.ED with CAR (37.50 percent). This indicated a high level of educational attainment among educational leaders, potentially enhancing their capacity to provide informed guidance and support to teachers. Educational leaders with advanced degrees were likely well-equipped to understand and navigate complex educational challenges. Their expertise could be leveraged to develop and implement effective strategies for supporting teachers in adopting innovative pedagogical approaches like SOLO Taxonomy. Continued investment in leadership development programs could further enhance their ability to lead educational change effectively. Research by Suyitno (2020) investigated the relationship between educational attainment and leadership effectiveness in educational settings. They found that educational leaders with advanced degrees often demonstrated higher levels of strategic thinking and decision-making skills. This highlighted the importance of investing in the professional development of educational leaders to enhance their capacity to drive positive change in schools.

Length of Service

This referred to the length of relevant teaching experiences counted in years across both private and public institutions. It reflected a teacher's accumulated expertise, exposure to diverse teaching environments, and professional growth over time. Learning from experience imparts wisdom, enhancing the efficiency and effectiveness of educators and school heads alike. Teachers with extensive teaching experience were anticipated to demonstrate improved instructional practices. Similarly, school heads with substantial leadership experience were expected to exhibit heightened efficiency and effectiveness in their administrative roles.

The spread across different lengths of service among teacher respondents reflected a blend of experienced educators and those newer to the profession. Notably, the six- to ten-year (6-10) range stood out as the most prominent tenure category, with 30.48 percent of respondents falling within this range, indicating a significant portion of mid-career educators. Despite this dominance, the overall distribution highlighted the diversity of career stages within the teaching cohort. Understanding the varying needs and experiences of teachers at different career stages was crucial for designing targeted support and development programs to facilitate the successful implementation of SOLO Taxonomy. A study conducted by Undar and Madrigal (2021) revealed that mid-career teachers, with six to fifteen years of experience, often faced a transitional phase characterized by a balance between established teaching practices and openness to adopting new methodologies. This suggested that targeted support and professional development initiatives tailored to the specific needs of mid-career educators were crucial for facilitating the successful implementation of innovative pedagogical approaches like SOLO Taxonomy.

The majority of school administrators had advanced degrees, with 50 percent holding a full master's degree and 37.5 percent holding an MA.ED. with CAR. This suggested that educational leaders had a high degree of knowledge, which may have improved their ability to advise and competently assist teachers. Advanced degree holders in education were probably well-suited to comprehend and handle challenging issues in the classroom. Their knowledge may have been used to create and execute practical plans to inspire educators to use innovative instructional methods like SOLO Taxonomy.

Present Position

This referred to their current position in the Department of Education (DepEd), which signified their role, responsibilities, and level of authority within the organization. It encompassed designations such as teacher or master teacher, reflecting their professional standing and contributions to the educational system. The present position held by teachers and school heads reflected their levels of responsibility and authority within the educational institution, typically determined by merit and performance. Teachers in higher positions were required to exhibit more competence, which was frequently accomplished by experience, advanced studies, and professional training. Similarly, the current position of school leaders emphasized their capacity to manage and lead, hence improving the institution's overall educational quality.

The distribution of teacher respondents across different levels within the school hierarchy sheds light on the tasks and responsibilities of the education system. The majority of respondents held positions as Teacher 2 (42.86 percent) or Teacher 3 (23.81 percent), representing the most common teaching roles in schools. However, there were relatively few respondents in leadership positions, such as master teachers, showing potential gaps in representation or potential for development for prospective educational leaders. Addressing the specific requirements and objectives of teachers in different roles was essential for creating a supportive and inclusive atmosphere in which to adopt innovative instructional approaches such as SOLO Taxonomy.

According to Soriano and Vargas (2023), teachers in leadership roles, such as master teachers or department heads, played an important role in stimulating innovation and cultivating a collaborative culture in schools. These leaders served as mentors and role models for their colleagues, providing advice and assistance in implementing new teaching methods and, as a result, harnessing the experience and influence of educational leaders. Half of the school head respondents held the position of Principal I (50 percent), followed by Head Teacher 3 (25 percent) and Principal II (25 percent). Principal I accounted for half of all school head respondents (50 percent), followed by Head Teacher 3 (25 percent), and Principal II (25 percent). This distribution reflected the hierarchical organization of schools, with Principal I holding the most prevalent leadership position. Understanding the distribution of leadership roles was important for identifying key decision-makers and influencers in schools. Educational initiatives such as SOLO Taxonomy implementation may have required buy-in and assistance from leaders in various positions. Collaborative leadership approaches that incorporated stakeholders at all levels could have helped with effective decision-making and implementation processes vital to improving readiness and buy-in for programs such as SOLO Taxonomy.

Menteşe (2021) investigated the effect of leadership structures on instructional innovation in schools. They found that collaborative leadership models, in which decision-making was divided across many levels of leadership, frequently resulted in the successful implementation of new practices. This highlighted the necessity of encouraging collaboration and shared ownership of activities among leaders at multiple levels within schools.

Ancillary Services

This referred to additional roles or duties performed by educators alongside their primary teaching responsibilities within the Department of Education (DepEd). These services included tasks such as serving as coordinators for school programs, managing student organizations, or overseeing specific administrative functions, which contributed to the holistic development and smooth operation of the school. In the evolving education landscape, teachers took on diverse roles beyond traditional teaching. They engaged in ancillary services such as academic advising, curriculum development, extracurricular coordination, emotional support, and technology integration. Unlike school heads, teachers actively contributed to creating a holistic and dynamic educational environment, making them indispensable to a comprehensive educational framework.

Table 1 illustrates that most teachers in Moalboal District, Cebu, held ancillary roles, with 92.38 percent serving in one to two (1-2) 1-2 coordinatorship positions. This widespread involvement highlighted the multifaceted nature of educators' roles, which included tasks such as subject coordination and committee participation. These roles offered professional growth opportunities but also presented challenges in time management. The distribution across different coordinatorship levels underscored varying degrees of commitment, potentially impacting teachers' capacity for professional development and readiness for initiatives like SOLO Taxonomy implementation. Addressing the needs of teachers in ancillary roles was critical, as it required specific support and an environment of collaboration that fostered effective participation in educational endeavors and the adoption of innovative teaching methods such as the SOLO Taxonomy.

Nguyen and Smith (2021) explored the impact of ancillary roles on teacher workload and professional development. Their findings showed that teachers who provided ancillary services, such as subject coordination or extracurricular activities, frequently experienced greater demands on their time and resources. This heavy workload frequently hampered their capacity to participate completely in professional development opportunities, such as training sessions aimed at improving teaching skills. The study highlighted the importance of recognizing and addressing the challenges faced by teachers with ancillary roles to ensure their effective participation in school improvement initiatives. These results agreed with what was seen in Table 2, which stressed the need for customized support plans to fit the specific needs of teachers who worked in ancillary services, especially when it came to implementing new teaching methods like SOLO Taxonomy.

None of the school head respondents reported involvement in ancillary services, indicating a potential gap in direct engagement with

hands-on teaching practices or ancillary responsibilities within their schools. The absence of involvement in ancillary services raised questions about school heads' understanding of the day-to-day challenges faced by classroom teachers. To effectively support initiatives like SOLO Taxonomy implementation, school leaders needed a comprehensive understanding of the realities of teaching and learning. Encouraging greater collaboration and communication between school administration and classroom teachers could bridge this gap and foster a more supportive and cohesive educational environment.

Garcia and Martinez (2022) investigated the role of school leaders in supporting teacher development and collaboration. They found that school leaders who actively engaged with teachers and understood their needs were better positioned to facilitate meaningful professional development and collaboration. This underscored the importance of school leaders' involvement in ancillary services and their ability to bridge the gap between administration and classroom practice.

Table 1. *Respondent Group's Profile*

Profiles	*Teachers*		*School Heads*	
	Frequency	*Percentage*	*Frequency*	*Percentage*
Age				
51-60	20	19.05	1	12.50
41-50	47	44.76	5	62. 50
31-40	32	30.48	2	25.00
21-30	6	5.71	0	0.00
Total	105	100.00	8	30.48
Gender				
Male	13	12.38	6	75.00
Female	92	87.62	2	25.00
Total	105	100.00	8	100.00
Highest Educational Attainment				
Full - Fledged Doctor Degree Holder	1	0.95	1	12.50
CAR in Doctorate	0	0.00	0	0.00
With Units in Doctorate	1	0.95		
Full – Fledged Master's Degree Holder	7	6.67	4	50.00
MA. ED with CAR	31	29.52	3	37.50
With Units in Masters	53	50.48	0	0.00
Bachelor's Degree	12	11.43	0	0.00
Total	105	100.00	8	100.00
Length of Service				
31-35 years	6	5.71	1	12.50
26-30 years	13	12.38	1	12.50
21-25 years	8	7.62	1	12.50
16-20 years	22	20.95	4	50.00
11-15 years	16	15.24	1	12.50
6-10 years	32	30.48	0	0.00
1-5 years	6	5.71	0	0.00
Less than a year	2	1.91	0	0.00
Total	105	100.00	8	100.00
Present Position				
Principal II	-	-	2	25.00
Principal I	-	-	4	50.00
Head Teacher 3	-	-	2	25.00
Head Teacher 2	-	-	0	0.00
Head Teacher 1	-	-	0	0.00
Master Teacher 2	6	5.71	-	-
Master teacher 1	6	5.71	-	-
Teacher 3	25	23.81	-	-
Teacher 2	45	42.86	-	-
Teacher 1	23	21.91	-	-
Total	105	100.00	-	-
Ancillary Services				
5 or more Coordinatorships	0	0.00	0	0.00
3 - 4 Coordinatorships	8	7.62	0	0.00
1-2 Coordinatorships	97	92.38	0	0.00
None	0	0.00	8	100.00
Total	105	100.00	8	100.00
Seminars and Training Attended Related				
33-40 hours	0	0.00	0	0.00
25-32 hours	0	0.00	0	0.00
17-24 hours	0	0.00	0	0.00
9-16 hours	0	0.00	0	0.00
0-8 hours	0	0.00	0	0.00
None	105	100.00	8	100.00
Total	105	100.00	8	100.00

Relevant Seminars and Training Attended

Attending relevant seminars and training sessions was crucial for school heads and teachers in professional development. These opportunities enhanced their skills and readiness to implement innovative teaching methodologies, fostering a culture of continuous improvement within schools. By investing in their development, school heads and teachers were better equipped to lead, support teaching staff effectively, and continuously improve educational outcomes. Concerning related seminars and training attendance, there was a notable absence of responses from teachers within the specified hours, indicating potential gaps or limitations in professional development opportunities. None of the teacher respondents reported attending seminars or training sessions within the stated periods, implying difficulties in obtaining or participating in these kinds of activities. Addressing barriers to professional development and offering accessible, relevant training opportunities were necessary for enhancing teacher preparation and competency for employing the SOLO taxonomy effectively. Creating a culture of continual learning and professional development was important for supporting educators on their journey to implement innovative teaching methods.

Findings from a study by Hafeez (2021) highlighted the significant impact of ongoing professional development on teacher readiness for implementing new teaching methodologies. Teachers who participated in regular, sustained professional development activities demonstrated higher levels of confidence and competence in integrating innovative approaches into their teaching practices. This underscored the importance of investing in accessible, relevant, and continuous professional development opportunities to enhance readiness for implementing the SOLO Taxonomy effectively.

Similarly, in the area of seminars and training attendance, there was a notable absence of responses from school heads during the specified hours, indicating potential gaps or limitations in professional development opportunities. The lack of attendance suggested challenges in accessing or participating in such activities, emphasizing the need to address barriers to professional development and provide accessible and relevant training opportunities. Enhancing school heads' preparation and competency in effectively utilizing the SOLO Taxonomy required investing in their professional development and fostering a culture of continuous learning.

Research conducted by Hafeez (2021) highlighted the significant impact of ongoing professional development on the readiness of school heads to implement new teaching methodologies. School heads who engaged in regular and sustained professional development activities demonstrated increased confidence and competence in integrating innovative approaches into their leadership and instructional practices. Thus, prioritizing accessible, relevant, and continuous professional development opportunities was crucial in enhancing school heads' readiness for effectively implementing the SOLO Taxonomy. By investing in continuous professional development for both teachers and school heads, schools could foster an environment that encouraged the effective use of innovative teaching methods, ultimately leading to improved educational outcomes.

Teachers' Readiness in the Utilization of Solo Taxonomy in Teaching

This section presents an exploration of teachers' readiness to utilize SOLO Taxonomy in their teaching practices. SOLO Taxonomy, renowned as a framework for comprehending levels of understanding, was progressively acknowledged as a valuable tool for enriching teaching and learning outcomes. Understanding teachers' readiness to implement SOLO Taxonomy was paramount for seamlessly integrating this pedagogical approach into educational practices.

Knowledge and understanding

Knowledge and understanding pertained to the level of familiarity, comprehension, and application of key principles, structure, terminology, alignment with standards, instructional strategies, challenges, and available resources associated with the SOLO Taxonomy. This section focuses on examining teachers' knowledge and understanding, particularly about the utilization of the SOLO Taxonomy in teaching practices. The analysis delved into various aspects of teachers' familiarity with the SOLO Taxonomy, their comprehension of its underlying principles, and their ability to apply its hierarchical structure in instructional settings. By exploring these dimensions, this section aimed to provide insights into teachers' readiness to incorporate the SOLO Taxonomy effectively into their teaching practices.

Table 2 presents the level of teachers' and school heads' knowledge and understanding of the SOLO Taxonomy. The composite mean of 2.39 (Low) for teachers indicated that their readiness in this area was limited. In contrast, the composite mean of 3.15 (High) for school heads showed a stronger familiarity with the framework. This contrast highlighted a gap in perceptions between classroom practitioners and their supervisors.

Among the ten indicators, all items for teachers were rated Low. These included their familiarity with the underlying principles of the SOLO Taxonomy, understanding its hierarchical structure, knowledge of key terminology, ability to differentiate between levels of complexity, and awareness of misconceptions. Teachers also rated themselves low in applying SOLO across disciplines, recognizing its benefits, aligning it with curriculum standards, and knowing instructional strategies and resources. These results suggested that teachers lacked consistent exposure to the taxonomy and needed structured opportunities to deepen their foundational understanding.

By contrast, the school heads' ratings reflected High to Very High levels across the same indicators. They rated particularly high in recognizing the benefits of SOLO, understanding curriculum alignment, identifying misconceptions, and applying the taxonomy across subject areas. This indicated that school heads perceived themselves as more knowledgeable and better prepared to integrate SOLO in

supervisory or curriculum functions compared to teachers' self-assessment in classroom application. The divergence may be attributed to their broader training access and leadership responsibilities, which placed them in contexts where frameworks like SOLO are often emphasized.

Findings from a related study by Bader (2020) supported these results, indicating that targeted professional development focusing on understanding the principles and benefits of instructional frameworks led to improved implementation outcomes. Their research underscored the importance of providing ongoing support and resources to enhance educators' knowledge and understanding of pedagogical approaches like the SOLO Taxonomy.

Table 2. *Knowledge and Understanding*

Indicators	*Teachers*			*School Heads*		
	WX	*SD*	*D*	*WX*	*SD*	*D*
1. Familiarity with the underlying principles of the SOLO Taxonomy.	2.33	0.89	L	3.13	0.64	VL
2. Understanding the hierarchical structure of the taxonomy.	2.36	0.89	L	3.13	0.64	H
3. Knowledge of key terminology associated with the taxonomy.	2.37	0.89	L	3	0.76	H
4. Ability to differentiate between different levels of cognitive complexity within the taxonomy.	2.4	0.89	L	3	0.76	H
5. Awareness of how the SOLO Taxonomy aligns with curriculum standards and learning objectives.	2.36	0.89	L	3.25	0.71	VH
6. Recognition of the potential benefits of using the SOLO Taxonomy in teaching.	2.43	0.89	L	3.25	0.71	VH
7. Understanding how to apply the taxonomy in different subject areas or disciplines.	2.44	0.89	L	3.25	0.71	VH
8. Knowledge of effective instructional strategies that align with the taxonomy.	2.47	0.91	L	3.13	0.64	H
9. Awareness of common misconceptions or challenges related to the implementation of the SOLO Taxonomy.	2.33	0.9	L	3.25	0.71	VH
10. Familiarity with resources and tools available for supporting the use of the taxonomy in instruction.	2.37	0.88	L	3.13	0.71	H
Composite Mean	2.39	0.89	L	3.15	0.7	H

Legend: 3.25- 4:00 – Very High, 2.50 - 3.24 - High, 1.75 - 2.49 Very Low, 1.00 - 1.74 Low

Pedagogical skills

This section assessed teachers' pedagogical skills and readiness to integrate the SOLO Taxonomy. It examined lesson planning, activity development, feedback provision, adapting instruction for diverse learners, and SOLO-aligned assessment. Successful SOLO implementation required specific instructional abilities: lesson preparation using SOLO principles promoted systematic scaffolding and deeper engagement Tan et al. (2024); classifying learning outcomes guided lesson design, assessment creation, and effective teaching strategies Rumie (2020); and the SOLO Taxonomy frameworks helped identify and classify student thinking quality, improving learning objectives and reflective practices (Corwin Connect, 2021). Teacher professional development focused on SOLO-based methods significantly improved instruction and engagement Damopoli, 2023), bridging the gap between surface and deep learning to achieve higher-order cognitive skills (Brown & Henderson, 2022; Mabanto et al., 2025). This ultimately led to improved student learning outcomes and a more effective classroom environment. The successful integration of the SOLO Taxonomy required a multifaceted approach encompassing both pedagogical skill development and targeted professional training.

Table 3. *Pedagogical Skills*

Indicators	*Teachers*			*School Heads*		
	WX	*SD*	*D*	*WX*	*SD*	*D*
1. Proficiency in designing lesson plans that incorporate the SOLO Taxonomy.	2.42	0.85	L	3.13	0.71	VH
2. Ability to create learning activities that target different levels of cognitive complexity within the taxonomy.	2.5	0.86	H	3.25	0.71	VH
3. Skill in providing clear and actionable feedback to students based on their performance within the taxonomy.	2.46	0.83	L	3	0.71	H
4. Competence in adapting teaching methods to accommodate diverse learners while utilizing the taxonomy.	2.44	0.9	L	3.13	0.64	M
5. Proficiency in using technology or other instructional aids to enhance the application of the taxonomy.	2.52	0.87	H	3.25	0.64	VH
6. Skill in assessing and evaluating student work in alignment with the SOLO Taxonomy.	2.51	0.87	H	3.13	0.64	H
7. Ability to scaffold instruction effectively to guide students toward higher levels of cognitive complexity.	2.48	0.91	L	3.13	0.64	H
8. Competence in facilitating class discussions or activities that promote critical thinking as per the taxonomy.	2.53	0.88	H	3.38	0.74	VH
9. Proficiency in differentiating instruction to meet the varying readiness levels of students within the taxonomy.	2.60	0.85	H	3.13	0.64	H
10. Skill in using formative assessment techniques to monitor student progress within the taxonomy.	2.55	0.92	H	3.25	0.71	VH
Composite Mean	2.5	0.87	H	3.18	0.68	H

Legend: 3.25- 4:00 – Very High, 2.50 - 3.24 - High, 1.75 - 2.49 Very Low, 1.00 - 1.74 Low

Table 3 presents the level of teachers' and school heads' pedagogical skills in applying the SOLO Taxonomy. The composite mean of 2.50 (High) for teachers indicated that they showed some readiness in applying SOLO pedagogical practices. In contrast, the composite mean of 3.18 (High) for school heads reflected a stronger perception of teachers' skills. Both groups rated the domain as generally high, but notable differences emerged across specific indicators.

For the teachers, four items were rated Low. These included designing lesson plans that incorporate SOLO (2.42), providing feedback based on SOLO levels (2.46), adapting teaching methods for diverse learners (2.44), and scaffolding instruction (2.48). The low ratings revealed that while teachers understood the taxonomy in principle, they struggled to embed it consistently into practical aspects of planning, feedback, and differentiation. Without the ability to translate SOLO concepts into concrete classroom applications, lessons tended to remain at surface levels of learning, and feedback often lacked explicit guidance on how to move students forward through the taxonomy. This indicated the need for more structured lesson planning, clinics, and feedback training anchored on SOLO-aligned exemplars.

Conversely, six items were rated High. These included creating SOLO-based learning activities (2.50), using technology to enhance instruction (2.52), assessing and evaluating student work (2.51), facilitating discussions that promote critical thinking (2.53), differentiating instruction (2.60), and using formative assessments (2.55). The higher scores suggested that teachers were more comfortable with practices that aligned with their existing approaches, such as classroom discussions, technology integration, and formative checks. However, these strategies were not consistently framed within the SOLO framework, which meant they did not always ensure progression from surface to deep to relational understanding. Embedding SOLO rubrics and level descriptors into these familiar practices could strengthen their effectiveness and provide clearer evidence of learning growth.

When compared with school heads, the latter consistently rated teachers' pedagogical skills higher, even marking several indicators as Very High, notably in creating learning activities, using technology, facilitating discussions, and employing formative assessment. This showed that school heads viewed teachers as more capable than the teachers perceived themselves (Quilestino et al., 2025). The difference might be explained by the supervisory perspective of school heads, who saw outputs and observable practices but were less exposed to the day-to-day planning difficulties teachers faced (Consolacion et al., 2025). Bridging this gap would require closer alignment between supervisory observations and teachers' expressed challenges, possibly through joint lesson studies or peer coaching cycles that make planning and feedback processes more transparent.

The findings aligned with Bautista (2019), who emphasized that targeted professional development significantly enhances teachers' pedagogical skills and leads to more effective classroom practices. Guisadio et al. (2025) highlighted that while teachers may already apply general strategies such as group work, discussions, or ICT use, structured training is necessary to anchor these in frameworks like SOLO so that student learning is deliberately advanced through levels of complexity.

Professional Development and Support

This section assessed professional development and support for SOLO Taxonomy implementation, including teacher training participation, mentoring, resource access, and collaborative planning opportunities. The availability of ongoing, taxonomy-specific professional development and administrative support influenced teacher readiness.

This section examined teachers' knowledge and understanding of the SOLO Taxonomy, focusing on their familiarity with its principles and ability to apply its hierarchical structure in instruction. This assessment was crucial for determining their preparedness to integrate the SOLO Taxonomy effectively. The findings provided insight into how teachers utilized the taxonomy to foster higher-order thinking skills among students. Additionally, it underscored the need for further capacity-building initiatives to address gaps in knowledge and application.

Table 4 presents the level of professional development and support for teachers in applying the SOLO Taxonomy. The composite mean of 2.40 (Low) for teachers showed that they had limited access to training, mentoring, and resources. In contrast, the composite mean of 3.35 (Very High) for school heads indicated that administrators perceived these supports to be widely available. This contrast highlighted a clear discrepancy between how teachers experienced access to professional growth opportunities and how school heads perceived the situation.

All ten items for teachers were rated Low, pointing to consistent gaps across every indicator. Teachers reported limited participation in workshops or training sessions, minimal access to mentoring, and a lack of readily available resources and curriculum guides. They also identified a few opportunities for collaborative planning, rare ongoing professional development sessions, and insufficient access to professional communities. Time and resources for curriculum planning were constrained, while administrative support and acknowledgment of their efforts were perceived as weak. Teachers also indicated minimal exposure to research and literature that could inform best practices. These findings suggested that teachers struggled with systemic barriers that hindered their readiness to implement the SOLO Taxonomy effectively.

School heads, on the other hand, rated most of the indicators as High to Very High, particularly in areas such as access to resources, opportunities for collaborative planning, ongoing professional development, supportive communities, and administrative encouragement. They also perceived that teachers' efforts in applying the SOLO framework were being recognized. This divergence

implied that school heads saw structures and opportunities for support in place, but teachers did not experience them consistently in practice (Cabello et al., 2025). Such misalignment revealed the need for stronger communication, better monitoring of actual teacher participation, and more equitable distribution of resources across schools.

These findings were supported by Alexander and Winne (2020), who highlighted the positive impact of supportive school environments and access to professional development opportunities on the effective implementation of instructional frameworks. Their research emphasized the importance of investing in sustained mentorship, professional learning communities, and access to resources to make innovations like the SOLO Taxonomy part of everyday teaching. The results of this study affirmed that while administrative structures may exist, without teachers' actual access to and engagement in these supports, readiness remains low. Aligning the perspectives of school heads and teachers through collaborative professional development programs, open sharing of best practices, and recognition of teacher initiatives could ensure that the SOLO Taxonomy is not only introduced but also successfully integrated into classroom instruction.

Table 4. *Professional Development and Support*

Indicators	*Teachers*			*School Heads*		
	WX	*SD*	*D*	*WX*	*SD*	*D*
1. Participation in workshops or training sessions focused on the SOLO Taxonomy.	2.42	0.96	L	3.13	0.99	H
2. Availability of mentoring or coaching for teachers seeking to implement the taxonomy.	2.35	0.95	L	3.13	0.99	H
3. Access to resources, such as guides, materials, or curriculum frameworks related to the taxonomy.	2.44	0.93	L	3.5	0.76	VH
4. Opportunities for collaborative planning and sharing of best practices for using the taxonomy.	2.46	0.96	L	3.63	0.74	VH
5. Availability of ongoing professional development opportunities specific to the taxonomy.	2.39	0.95	L	3.5	0.53	VH
6. Access to a supportive community or network of educators implementing the SOLO Taxonomy.	2.34	0.96	L	3.25	0.71	VH
7. Availability of dedicated time or resources for curriculum planning and development with the taxonomy.	2.4	0.95	L	3.25	0.71	VH
8. Recognition and acknowledgment of teachers' efforts in applying the taxonomy in their teaching.	2.49	0.96	L	3.75	0.46	VH
9. Availability of administrative support and encouragement for implementing the SOLO Taxonomy.	2.35	0.94	L	3.25	0.46	VH
10. Access to research or literature that informs best practices for utilizing the taxonomy in instruction.	2.36	0.96	L	3.13	0.64	H
Composite Mean	2.4	0.95	L	3.35	0.7	VH

Legend: 3.25- 4:00 – Very High, 2.50 - 3.24 - High, 1.75 - 2.49 Very Low, 1.00 - 1.74 Low

Summary of the Level of Teacher Readiness in the Utilization of SOLO Taxonomy

This section provides a summary of the findings related to teachers' readiness to utilize the SOLO Taxonomy in teaching. It presented the composite mean scores for knowledge and understanding, pedagogical skills, and professional development and support. Additionally, it highlighted the overall interpretation of the data, indicating the level of readiness demonstrated by teachers and school heads across these parameters. By synthesizing the data from previous sections, this summary offered a comprehensive overview of teachers' preparedness for implementing the SOLO Taxonomy and identified areas that may have required further attention or support.

Table 5. *Summary of the Level of Teacher Readiness in the Utilization of SOLO Taxonomy*

Parameters	*Teacher*			*School Head*		
	Mean	SD	D	Mean	SD	D
Knowledge and Understanding	2.39	0.89	L	3.15	0.7	H
Pedagogical Skills	2.5	0.87	H	3.18	0.68	H
Professional Development and Support.	2.4	0.95	L	3.35	0.7	VH
Composite Mean	2.43	0.90	L	3.22	0.69	H

Table 5 provided a summary of teachers' and school heads' perceptions regarding knowledge and understanding, pedagogical skills, and professional development and support related to the SOLO Taxonomy. The composite mean for teachers was 2.43, indicating a moderate level of readiness across the three parameters. School heads perceived a slightly higher level of readiness among teachers, with a composite mean of 3.22, also indicating moderate readiness. This alignment in perception suggested a shared understanding between teachers and school leaders regarding teachers' overall readiness for implementing the SOLO Taxonomy. Implications included the need for continuous collaboration and investment in professional development to sustain and enhance teachers' readiness over time.

Overall, the findings underscored the importance of addressing gaps in knowledge, pedagogical skills, and access to professional development opportunities to support teachers in effectively implementing the SOLO Taxonomy. By fostering a culture of continuous learning and providing targeted support, schools could ensure that teachers were well-equipped to integrate innovative pedagogical approaches into their teaching practices and enhance student learning outcomes.

A study conducted by Alonzo and Castillo (2018) investigated the impact of professional development programs on teachers' readiness to implement new instructional frameworks. The researchers found that teachers who participated in comprehensive professional development initiatives demonstrated higher levels of readiness and competence in utilizing innovative pedagogical approaches. Furthermore, the study highlighted the importance of ongoing support and collaboration among educators and school leaders in sustaining teachers' readiness over time. These findings aligned with the implications drawn from Table 6, emphasizing the significance of investing in professional development and support mechanisms to enhance teachers' readiness for implementing the SOLO Taxonomy.

Degree of Challenges Encountered by Teachers

This section examined the degree of challenges encountered by teachers in preparing for the implementation of the SOLO Taxonomy. It presented the mean scores and standard deviations for various challenges faced by teachers, along with their interpretation based on the scoring procedure. Additionally, it highlighted the comparison between teachers and school heads in terms of their perceptions of these challenges. By analyzing the challenges encountered by teachers, this section provided insights into potential barriers that may have hindered the effective implementation of the SOLO Taxonomy in educational settings.

Table 6 showed the degree of challenges teachers and school heads perceived in the implementation of the SOLO Taxonomy. The composite mean of 2.48 (Low) for teachers indicated that they experienced only a modest degree of difficulty overall. In contrast, the composite mean of 3.14 (Moderate) for school heads reflected a stronger perception that teachers faced more frequent challenges. This revealed a divergence between how teachers assessed their own struggles and how administrators perceived the extent of these difficulties. For the teachers, five items were rated Low, including limited knowledge of SOLO concepts (2.40), aligning the taxonomy with curriculum materials (2.37), adapting instruction for diverse learners (2.48), limited access to resources (2.40), and student resistance (2.47). These results suggested that although teachers recognized gaps in familiarity and resources, they did not perceive them as severe barriers, possibly because they had adapted to constraints or had not yet attempted full integration of SOLO into practice. In contrast, five items were rated High, notably time constraints for planning and implementation (2.50), designing appropriate assessments (2.50), acquiring additional training (2.60), tracking student performance (2.50), and balancing deep understanding with curriculum coverage (2.53). These areas indicated that when teachers did attempt to apply SOLO principles, the practical workload and assessment demands became pressing concerns.

School heads, however, rated all ten items from High to Very High, with particularly elevated scores on aligning SOLO with curriculum, adapting instruction for diverse learners, and striking the right balance between coverage and depth. This suggested that administrators saw the integration of SOLO as significantly more challenging for teachers than the teachers themselves acknowledged. The discrepancy pointed to a potential underestimation of challenges by teachers, or alternatively, an overestimation by school heads based on their supervisory perspective. Such gaps emphasized the need for more open dialogue between teachers and administrators regarding the realities of classroom implementation.

These findings were supported by Castro-Guzmán (2021), who identified that one of the main difficulties in curriculum reform was ensuring continuous professional development to align new frameworks with existing teaching practices. Teachers often struggled to integrate innovations like SOLO without targeted training, adequate time, and practical resources. The study stressed that sustained professional development tailored to building specific skills and knowledge was essential, as well as allocating sufficient time for teachers to adapt and integrate new methodologies effectively. In this context, providing structured workshops on assessment design, collaborative planning sessions, and access to exemplar tasks would directly address the high-rated challenges identified in the study and bridge the perception gap between teachers and school heads.

Test of Significant Relationship

Table 7 examined the relationship between the teachers' level of readiness and the degree of challenges encountered in utilizing the SOLO Taxonomy. The results revealed varying degrees of correlation across the three parameters: knowledge and understanding, pedagogical skills, and professional development and support.

Table 7. *Test of Significant Relationship*

Parameters	*Sr-value*	*Degree of Correlation*	*P-value*	*Interpretation*	*Decision*
Degree of Challenges & Knowledge,, and Understanding	0.56	Moderate	0.09	Significant	Reject Ho.
Degree of Challenges & Pedagogical Skills	0.09	Very Low	0.81	Not Significant	Failed to Reject Ho.
Degree of Challenges & Professional Development, and Support	0.49	Low	0.15	Not Significant	Failed to Reject Ho.

Alpha: 0.05

For knowledge and understanding, the correlation with challenges yielded an Sr-value of 0.56 with a p-value of 0.09, indicating a moderate positive relationship that was statistically significant. This suggested that as challenges increased, teachers' familiarity and grasp of SOLO concepts were directly affected. Limited knowledge of the taxonomy amplified the difficulties they encountered in practice, such as aligning lessons or distinguishing levels of complexity. Without a strong conceptual foundation, teachers struggled to

integrate SOLO effectively. This finding aligned with Martínez-Sánchez and García-Díaz (2020), who found that teachers with higher familiarity with educational frameworks demonstrated greater competence in managing curriculum alignment and instructional challenges. Their study reinforced that deepening teachers' conceptual understanding is essential for overcoming implementation barriers.

For pedagogical skills, the analysis showed a very weak correlation with challenges, with an Sr-value of 0.09 and a p-value of 0.81, which was statistically insignificant. This implied that teachers' core teaching abilities, such as managing classrooms, conducting discussions, or designing general instructional activities, remained relatively stable regardless of the challenges they faced with SOLO. In other words, difficulties in applying the taxonomy did not undermine their general competence as teachers. Instead, the issue lay in integrating SOLO's unique demands with their existing skills. This supported the view of Bautista (2019), who stressed that teachers often possess established pedagogical practices but require targeted professional development to anchor these practices to specific frameworks like SOLO. The implication was that training should focus on bridging and contextualizing existing skills to the framework, rather than retraining teachers entirely.

For professional development and support, the results produced an Sr-value of 0.49 with a p-value of 0.15, showing a low but positive correlation that was not statistically significant. While the relationship was weak, the data suggested that teachers who faced more challenges expressed a greater need for access to workshops, coaching, and supportive communities. The result underscored that professional development was perceived as a potential solution to difficulties in implementation, even if not all teachers had equal access to such opportunities. This observation was consistent with Alexander and Winne (2020), who found that sustained professional learning communities, mentorship, and access to instructional resources played a crucial role in easing teachers' integration of pedagogical innovations. The implication was that strengthening professional development systems could help teachers better cope with their challenges in the SOLO application. In summary, the analysis confirmed that challenges were most strongly linked with knowledge and understanding, while pedagogical skills were largely unaffected, and professional development had a mild but meaningful influence. These findings collectively emphasized that targeted capacity-building, conceptual deepening, and accessible support structures were necessary to strengthen teacher readiness and reduce barriers in implementing the SOLO Taxonomy.

Conclusions

Based on the findings, it can be concluded that teachers were not ready in terms of their knowledge and understanding of the SOLO Taxonomy, as their limited familiarity with the framework affected their ability to fully integrate it into instruction, highlighting the need for targeted training to build a stronger conceptual foundation. In terms of pedagogical skills, they were partially ready, demonstrating strengths in using formative assessments, facilitating discussions, and employing technology, but faced difficulties in lesson planning, scaffolding, and providing SOLO-based feedback. For professional development and support, they were also not ready, as opportunities for training, mentoring, collaborative planning, and access to resources were minimal, limiting their capacity to sustain SOLO integration. In addition, teachers experienced moderate challenges, particularly in designing assessments, managing planning time, and balancing depth of understanding with curriculum coverage, along with issues such as limited knowledge, lack of resources, difficulty in adapting instruction, and the absence of sustained professional development.

Based on the research findings, an action plan is recommended as the primary output to strengthen teachers' readiness and address the challenges in implementing the SOLO Taxonomy. This plan should include tailored professional development programs focused on the core concepts of SOLO, its practical applications across subjects, and assessment design aligned with its levels, supported by regular workshops, coaching, and demonstration lessons. Adequate resources such as curriculum guides, exemplar lesson plans, SOLO-based rubrics, and instructional materials should be made accessible, along with technical support to help teachers align SOLO with curriculum standards, adapt strategies for diverse learners, and manage student resistance. The plan must also institutionalize collaborative planning structures where teachers redesign lessons, share best practices, and peer-review SOLO-based assessments, complemented by administrative support through encouragement, recognition, and allocation of time and resources. To ensure effectiveness, the action plan should incorporate professional development, resource provision, mentoring, and monitoring mechanisms, with clear objectives, timelines, and success indicators to guide the systematic integration of the SOLO Taxonomy into teaching practice and enhance student learning outcomes.

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