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Editor's Note

While the COVID-19 pandemic has changed how research and learning is conducted, our mission has not. The University of Rizal System remains committed to nurture and produce upright and competent graduates and empowered community through relevant and sustainable higher professional and technical instruction, research, extension and production services. Despite the adversities that the pandemic has presented to the education sector, our researchers have persevered to continue their studies in pursuit of learning and enlightenment. In light of this, it is my pleasure to present to you the fruit of the patience and determination of our researchers which is the first issue of Volume 2 of the University of Rizal System Research Journal. This certainly has proved that while the times have changed, we still remain dedicated to our promise to seek knowledge and wisdom guided by the process of research.

Now that the threat of pandemic has slowly diminished and as more and more educational institutions transition back to integrating in-person with other modalities of learning, educators and students are both navigating how education can be done in the new normal. It is in this line of thought that we compiled these articles for this issue to focus on various concerns that surround education in anticipation of the conduct of full face-to-face classes for the coming years.

One common theme that unites the articles in this issue is the practice of education while ensuring safety of the people. Even in the modern era where information could be easily accessed through the internet and where creative works such as essays and pictures could be generated by AIs, education remains as an important pillar of human society. On the contrary, it is precisely because of these changes in the information age that the value of education and learning has to be accentuated. With the societal shifts brought to us by the exponential developments in technology and innovation, the challenge to modern learners is no longer about information retention but the development of the skills to utilize and process these data to create their own ideas and further contribute to the development of society. Moreover, one article centers on the preparedness for school resilience offering ways on what specific preparations can be made toward strengthening disaster preparedness at school level since it is critical to save lives, reduce the risk of educational services disruption and strengthen recovery from disasters and crises.

If these would be achieved, the delivery of educational services would be free from disruptions, hence, quality would not be compromised. In addition to ensuring quality, other articles deal with various strategies that promote in-depth learning that are contextualized in these modern times where innovation and creativity are the by-words.

As we traverse the modern times, learning should be more advanced, more dynamic, and that research is to be advanced further for more informed and more evidence-based decisions and actions.

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Municipal Environmental Disaster Vulnerability and Preparedness for School Resilience

Domingo E. Chavez Jr.

domingo.chavez@deped.gov.ph

Abstract

Environmental disaster is when a society or one of its subdivisions undergoes physical destruction and social disruptions, such that all or some essential functions of the society or subdivision are impaired. The study purported to investigate the relationship of community vulnerabilities in terms of the presence of physical hazards and natural event risks and disaster preparedness in terms of capacity building, climate literacy, life skills development of the community, and access to resources in Angono, Rizal as the basis for crafting a DRRM program. Angono is a disaster-prone area due to its location, hazards, and the scarcity of resources, such as workforce and equipment, to deal with natural disasters. The respondents' level of preparedness was high in all aspects except climate literacy, which had a moderate level of preparedness. SCROLL: School-Community Contingency and Readiness for Operational Leadership of Learners was created to encourage school-government-community collaboration in strengthening resilience in the municipality of Angono against natural disasters and strengthening the adaptation of a holistic, comprehensive, and proactive disaster risk reduction and management approach.

Keywords: *environmental disaster, vulnerability, preparedness, school resilience, DRRM*

Introduction

The Philippines is susceptible to various natural hazards due to its location and physical environment. Over the past decades, it has been labeled as one of the most disaster-prone countries in the world. Disasters have long-term effects on the socioeconomic situation in the country, including the education sector. Dropouts, absenteeism, and psychological traumas of school children and teachers have been recorded because of the outbreak of different natural disasters. In times of disaster, teachers, educators, and classroom advisers play an essential role in protecting and mitigating the safety of learners. Schools have offered protection and shelter to those displaced by disasters as evacuation centers. In such circumstances, continuity of education is greatly affected. Schools should also be ready even before any calamity. Adequate preparedness can mitigate the effects of disasters on schools, school personnel, and learners and on the continuation of education.

Angono is one of the municipalities of Rizal Province, Philippines, which is considered susceptible to landslide, flood, fire, and earthquake, including its nearby places like Antipolo City, Taytay, Rodriguez, and San Mateo. Angono is a first-class urban municipality in the province of Rizal located 29.38 kilometers (19 mi) east of Manila, and with the continuous expansion of the metropolis, it is now considered part of Metro Manila's conurbation. Boliwan (2012) claimed that Angono is one of the high-risk geohazard areas not for human habitation to avoid endangering people and prevent incurring loss of more lives and property.

This study assessed the vulnerabilities and preparedness of the community in Angono, Rizal, as the basis for crafting a school DRRM program for its municipality. Specifically, it answered the following questions: 1. What is the community's vulnerability level in terms of the presence of physical hazards and natural event risks?; 2. What is the level of community preparedness regarding capacity building, climate literacy, life skills development, and access to resources?; and 3. Is there a significant relationship between community vulnerability and disaster preparedness? Lastly, What DRRM program for the community of Angono may be crafted to involve school - government - community partnership?

The presence of potentially damaging physical hazards present in schools in Angono, Rizal; its history of natural event risks;

and the access to resources such as mode of transportation, distance to vital economic enterprises such as malls, stores, open ground, etc., including possible evacuation area were identified and assessed in the school and community levels. UNICEF (2006) claimed that there was increasing evidence that teachers could work with students and other adults in the community to minimize risk before, during, and after disaster events. UNICEF's added value was its capacity to link work at the school and community levels with the education sector and system planning and policies. Through the child-friendly schools initiative, relevant and quality education reaches the most threatened and marginalized communities with knowledge, skills, and attitudes on the local environment and how to reduce risks. Children were prepared and empowered to cope with and find solutions to the effects of climate change in their own lives and their communities. Similarly, McEntire (2006) reviewed arguments from an assorted collection of literature to increase the theoretical understanding of disasters and attempted to integrate various concepts, paradigms, and policy proposals. He pointed out the strengths and weaknesses of alternative viewpoints about disasters. He suggested that a broad conceptualization of vulnerability may be best suited to assimilate findings for academia and simplify policy guidance for professionals in the field. Because this is a cursory exploration of the casting of vulnerability management regarding liability reduction and capacity building, additional research will undoubtedly be needed. Furthermore, Bilowan (2012) claimed that high-risk geohazard areas should not be used for human habitation to avoid endangering people and prevent the loss of more lives and property. The Department of Environment and Natural Resources (DENR) regional office announced that the Province of Rizal areas susceptible to floods and landslides include Antipolo City, Taytay, Rodriguez, San Mateo, Angono, Binangonan, Cardona, Morong, Baras, Tanay, Pililla, and Jalajala.

Gaillard and Pangilinan (2010) documented recent research conducted in the Philippines that used participatory mapping to raise disaster risk awareness among the youth. Maps are cheap, easy to reproduce, and help visualize hazards, vulnerabilities, and risks, thus allowing the youth to appraise disaster risks in their immediate environment concretely. This is particularly important among marginalized communities. The next step was to scale up the activity to the level of disaster risk reduction within schools and colleges. Scholars and experts agreed that there are specific intervention

planning that has to be framed for an institution like the academe to become resilient on the impact of natural disasters (Anderson, 2010; Cadag & Gaillard, 2011; Gaillard & Pangilinan, 2010; Narksompong & Limjirakan, 2015; Seeds, 2008; Shiwaku & Shaw, 2008; Tayag & Punongbayan, 2010). These are similar to the present study, which gave emphasis on vulnerability, preparedness, and planning but different in terms of respondents and locale of the study.

Methodology

The descriptive-correlational design was used in the study. The descriptive method aided in determining the demographic characteristics of Angono, Rizal, the vulnerabilities in terms of the presence of physical hazards and natural event risks, and the preparedness of the community in terms of capacity building, climate literacy, life skills development, and access to resources as the foundation for developing a DRRM program for the municipality through the collaboration of the school, government, and community. The correlational method was used to determine the significant relationship between community vulnerability and disaster preparedness as necessary inputs in developing a DRRM program for the community of Angono.

This study was limited to five public elementary school principals/school heads. This also included 11 teachers and 69 Grade 6 pupils of Angono Elementary School (Central), three teachers and 15 pupils of Doña Justa Guido Elementary School, seven teachers and 51 pupils of Doña Nieves Songco Memorial School, seven teachers and 53 pupils of Joaquin Guido Elementary School and eight teachers and 39 pupils of San Vicente Elementary School.

The youth was represented by 5% of the total population of the Grade 11 pupils of the secondary schools of Angono, namely Angono National High School (25), Regional Lead School for the Arts in Angono (15), Carlos Botong V. Francisco Memorial National High School (9), and Dr. Vivencio B. Villamayor National High School (9).

This study also included representatives from the Local Government Unit (LGU) and Municipal DRRM Office (10), Business Sector (10), and Women sector and NGO (10). Utilizing a stratified sampling design considering its large population size, only Grade 6 and Grade 11 students of the public elementary and secondary schools of Angono were included.

As school stakeholders, this study also included heads of offices from the government, such as the Mayor, Vice Mayor, Sangguniang Bayan Members, Chief of Police, Fire Marshall Officer, Municipal Social Welfare and Development Officer, Municipal Disaster Risk Reduction and Management Officer, Municipal Health Officer, Barangay Disaster Coordinator, and Barangay Chairpersons. Added to these were the representatives from parent-teacher associations, parents, non-government organizations, businesses, youth, and religious sectors as respondents using a convenience sampling design. Their responses as core partners of the schools in times of disasters are necessary inputs in crafting the DRRM program.

Before the study was conducted, permission was secured from the Office of the Schools Division Superintendent, Municipal Mayor, and Principals of various schools. The questionnaire was administered personally to gather needed data. How it would be accomplished was explained and it was made sure that the responses to options were provided legibly and comprehensively. Enough time was provided so respondents could answer the questionnaire correctly. The interview was conducted in person with the respondents upon retrieval of the questionnaire.

Results and Discussion

Level of Vulnerability of the Community

This study examined the community's level of vulnerability to the presence of physical hazards and risks from natural events. The data show the level of vulnerability of public elementary schools of the Municipality of Angono, Rizal, in terms of physical hazards. Five factors were used to identify physical hazards in the said community. These are Slips, Fire, Electricity, Trips, and Falls. Most of the respondents agreed that Slips, Fire, Electricity, and Trip hazards have a High level of vulnerability in terms of physical hazards. Among these four factors, Slip hazards got the highest weighted mean of 3.83. It was inferred that most of them experienced the danger of having frequent wet floors, especially during the rainy season and stormy days. They also observed low light levels and uneven or sloped walking surfaces inside the campus, which caused accidents, especially for the pupils, parents, teachers, and school personnel. On the other hand, respondents agreed that Falls has a moderately hazardous level of vulnerability in terms of physical hazard, interpreted as Medium or M with WM = 3.32.

It was further inferred that most public schools in the Municipality of Angono, Rizal have open pits, open-sided floor and platforms, and floor and wall holes. Some schools had no guardrails or safety precautions for falling debris, while some schools cordoned off and had post safety signage for ongoing construction and unfinished, damaged, and condemned buildings. This implied that schools should ensure the safety of students, and they should be made aware of the presence of physical hazards through Student-led Hazard Mapping. Note that UNICEF (2006) claimed that there was increasing evidence that teachers could work with students and other adults in the community to minimize risk before, during, and after disaster events. Moreover, Cadag and Gaillard (2011) showed how participatory mapping can help foster integrative Disaster Risk Reduction (DRR) through the involvement of many stakeholders. It also indicates that they should anticipate the possible risks of building-related accidents through the posting of signage and warning signs.

The data show the level of vulnerability of the public schools in the Municipality of Angono, Rizal, regarding natural event risks. Five natural events that the municipality may have experienced at the time were identified such as typhoons, floods, landslides, earthquakes, and tsunamis. Based on the data gathered, most of the respondents agreed that typhoons, floods, and landslides possess a high level of vulnerability in terms of natural event risk. But among these four natural events, typhoons had the highest weighted mean of 4.04. It could be inferred that almost all of the respondents believed that they felt unsafe in their community during the typhoon. It could be because of their past bad experiences during typhoons in their community wherein their lives were put at high risk of being in danger of death.

On the other hand, tsunami was rated the lowest level of vulnerability among the five identified natural events. It was interpreted as a moderately hazardous level of vulnerability in terms of natural events as Medium or M with WM = 2.89. It could be inferred that people in the community consider tsunamis moderately hazardous in their lives despite having no personal experience with regard to it.

In general, the computed value of the weighted mean was 3.67, interpreted as High (H). It could be inferred that the geographical location of Angono is vulnerable in terms of natural hazards. In the same way, the Department of Environment and

Natural Resources (DENR) regional office announced that the Province of Rizal areas are susceptible to floods and landslides. This implied that the community location was vulnerable to natural hazards. Due to this, the continuity of learning suffered, and business operations and livelihood were interrupted. In like manner, Delfin Jr. and Gaillard (2008) underscored the natural hazards as amplifiers of everyday hardship for many Filipinos and the Philippine disaster management system's orientation towards extreme-event response.

Level of Preparedness of the Community

This study determined the level of knowledge, capabilities, and access to resources developed by schools, governments, professional response and recovery organizations, and individuals to effectively anticipate, respond to, and recover from the impacts of likely imminent or current hazardous events or conditions.

Fifteen DRRM trainings were identified to measure the community's preparedness level in terms of capacity building. Respondents believed that the first 14 trainings enumerated were already given in their community, making them moderately aware of these things. Climate Change Adaptation and First Aid and Psychosocial First Aid (PFA) got the highest weighted mean of 3.87, interpreted as Moderately Aware (MA). Child-centered DRRM and Student-Led School Watching got the lowest weighted mean of 3.24. It could be inferred that the community was Somewhat Aware (SA) of this matter. It implied that the Department of Education-Angono has been placing emphasis on the preparedness of teachers in times of disasters, especially on first aid and psychological first aid. It also indicated that they need attention to the readiness and leadership of pupils in times of disaster. Shiwaku et al. (2007) reposted that disaster education in school should be active learning for students. Similarly, Johnson et al. (2016) revealed the effectiveness of disaster education programs for children was based on measuring children's knowledge of disaster risks and protective actions and child reports of preparedness actions.

Regarding capacity building through DRRM education, the study used eight indicators to measure the community's level of preparedness. The data revealed that the school heads and personnel received at least three DRRM/CCA/EiE training from the division, region, or partners, with a weighted mean of 3.87. It was followed by the indicator: school has a DRRM/CCA/EiE capacity building plan for teachers and personnel (MWn=3.72), and at least

more than 10 DRRM/CCA/EiE resource materials are available in the school (MWN=3.61).

The level of preparedness in terms of capacity building through DRRM education got an average weighted mean of 3.58, interpreted as Moderately Aware (MA). It could be inferred that most of the respondents were able to acquire training relative to disaster risk reduction management. It could be inferred that the region, division, and district office were serious about capacitating teachers in preparation for disasters through a capacity-building plan. The lowest indicator, on the other hand, suggests that these IEC materials shall be updated regularly and distributed or posted in the classroom. For an in-depth understanding of pupils, it shall be seriously integrated into the curriculum and discussed in the classroom. This is similar to the claims of Shiwaku et al. (2007) and Johnson et al. (2016). Moreover, Shiwaku and Shaw (2008) pointed out in their study that disaster education should be developed in each school, adapting to the local situation.

Sixteen indicators were identified to measure the preparedness of the community in terms of climate literacy. Schools of Angono can provide first aid interventions and basic life support to those who need it with a weighted mean of 4.22, interpreted as Extremely Aware (EA). It could be inferred that they were highly literate in the said indicator. This was followed by literacy to enumerate the different education in emergency supplies and advocate logistic strategies needed by the schools during emergencies (WM=4.04) and understand and facilitate psycho-social first-aid sessions with teachers and learners affected by disasters (WM=4.02). The indicator "Efficiently coordinates assessment response and recovery information and activities with internal and external education stakeholders" got the lowest weighted mean of 2.51, interpreted as Slightly Aware (SA).

Data revealed that most respondents were moderately aware of the following six indicators, somewhat aware of the following five indicators, and slightly aware of the last four. It could be inferred that the school had a weak Climate Literacy program. They might have used the seminars and training offered in the past but did not fully awaken the community's consciousness about this matter. This implied that the schools were ready to provide first aid, essential life support, and psycho-social first aid sessions since they were provided with more training on these. It also implied that they advocate for

logistic strategies to provide necessary emergency supplies in times of education. The lowest indicator suggests that teachers may be given opportunities to design, deliver, and manage a DRRM contingency plan and activities for internal and external education stakeholders. In like manner, Shaw et al. (2006) believed that school education, coupled with self, family, and community education, can help a student develop a "culture of disaster preparedness," which, in turn, will urge them to make the right decisions and actions as adults.

In terms of life skills development in an enabling environment, the researcher used seven life skills development needed in an enabling environment to measure the preparedness of the said community. The indicator assigned a School DRRM Focal Person and formed a School DRRM Team consisting of personnel from different offices/chairpersons, with defined membership and roles and responsibilities anchored in RM 14 s. 2015 got the highest weighted mean of 3.91. It was followed by the indicator, adopted/adapted/localized existing policies related to DRRM/CCA/EiE in education/school safety with a weighted mean of 3.71; and the School has partnerships that could be tapped to support its DRRM programs and activities, including those after a disaster (WM=3.61). The indicator, data collection, and consolidation of programs and activities on DRRM, covering the 3 Pillars to monitor results and impact, got the lowest weighted mean of 3.41. In general, the computed value of the weighted mean is 3.59, interpreted as Moderately Aware. It could be inferred that the school-assigned focal person can take the lead in all DRRM activities in coordination with the school DRRM team, and also, the school was serious about conducting life skills training with the community. It could be inferred that the school placed emphasis on the significance of adopting all existing policies related to DRRM and school safety and valued the support of stakeholders such as parents, LGUs, NGOs, and business sectors in times of disaster. On the other hand, the lowest indicator implied that there was a need for regular monitoring and evaluation of all DRRM activities. Congruently, (Norris Fran et al., 2008) referred to the DRRM program as the planning and implementation of adaptive capacities—economic development, social capital, information and communication, and community competence—that provide a disaster readiness strategy.

In terms of life skills development in school disaster risk management, 12 indicators were used, as listed above, to measure the community's preparedness. The data revealed that most of the respondents were moderately aware of the first ten indicators and

somewhat aware of the last two indicators listed above. It could be inferred that the school was moderately ready for evacuation before, during, and after disasters. The school had identified evacuation plans and spaces for putting up Temporary Learning Spaces / Shelters in the aftermath of the disaster with a weighted mean of 4.01. It was followed by the indicator that the School has at least two necessary and functioning pieces of equipment in case of a disaster (WM=3.99), and the School has trained personnel to administer first aid to students and personnel (WM=3.92).

Meanwhile, the indicator, School DRRM Plan, and SIP with DRRM integration, were reviewed annually and got the lowest weighted mean of 3.45. It could be inferred that most of the respondents were aware of the need for the school to regularly review the school DRRM plan and its integration into the curriculum. This implied that the school is prepared for evacuation during and after disasters.

However, this implied that there was a need for regular review of the school DRRM plan and its integration into the curriculum, integrating DRRM in SIP, and ensuring the allocation of budget in DRRM program through e-SIP and/or Local School Board. Likewise, Narksompong and Limjirakan's (2015) United Nations Framework Convention on Climate Change, through its Article 6 on Education, Training, and Public Awareness, calls on governments to implement educational and training programs on climate change to educate, empower, and engage all stakeholders.

In terms of access to resources in early warning signs, seven indicators were listed to measure the said level of preparedness. The data revealed that the Local Typhoon Monitoring Bureau (WM=3.73) and Fire Alarm System Signaling (WM=3.72) were interpreted as Accessible (A). Flood devices situated in major run-off areas and overflow areas and local advance detecting seismic devices or a projected seismic event occurrence were Moderately Accessible (WM=3.34), respectively. Data revealed that the respondents considered the first five indicators as Accessible, and the last two indicators were considered as Moderately Accessible. It could be inferred that they were aware of the resources needed for early warning signs in their community. It implied that Angono, as a disaster-prone area, has resources accessible in the community but needed more facilities to be highly accessible. In the same way, the current achievements of disaster prevention education in Taiwan (Boon et al., 2011) included the development of operation and support

mechanisms, curricula development and experimental schools selection, development of teacher training programs, the popularization of disaster prevention education, the development and use of learning materials, and the determination of a practical assessment mechanism.

Lastly, 11 indicators were used to measure the access to resources in information and communication facilities. The data revealed that Fire Alarm System Signaling connected to local fire stations (WM= 4.03) was available and provided alternative sources and/or maintained supply of drinking water within the school and posted a directory of emergency contact numbers of relevant government agencies and offices, in various areas of the school (WM=3.90) while house/barangay/ municipal campaign got the lowest weighted mean of 3.44. Moreover, the data revealed that all resources were accessible in the community for public and private use anytime in the area in conspicuous places. It could be inferred that the respondents were aware of the presence of these different resources in their community. This implies that there is a need to strengthen a local broadcasting system, barangay, and municipal awareness campaign in times of disasters for early interventions, information, and communication purposes.

The summary of the respondents' level of preparedness for environmental disasters, as presented in the data, revealed that six out of seven indicators were interpreted as High (H). It could be inferred that the respondents adopted existing policies related to DRRM and school safety. Access to Resources in Information and Communication Facilities got the highest weighted mean of 3.74, among other indicators. It was inferred that there were available resources in terms of information and communication facilities. As reflected in the data, only one indicator, Climate Literacy, was interpreted as Medium (M) with a weighted mean of 3.34. It could be inferred that the school had a weak Climate Literacy program, and they might have offered several Seminars and Training in the past but had not fully awakened the community's consciousness about this matter.

Generally, the overall computed weighted mean of 3.60 was interpreted as a High (H) level of preparedness. This could be inferred that people in Angono had an understanding of what they needed to protect themselves and their loved ones. The government encouraged training, practicing, and volunteer programs, as the

Municipal Mayor, Hon. Gerardo V. Calderon, described. Moreover, government Officials through MDRRMO ensured emergency responders had adequate skills and resources and provided services to protect and assist their citizens. Furthermore, Dr. Maribeth R. de Dios said that the Department of Education, Angono District, had continuing disaster preparedness training for teachers, learners, the community, and parents. It implied that adequate disaster planning for everyone in a community must include people of all ages and those with various access and functional needs.

Table 1. Significant relationship between community vulnerability and disaster preparedness

Vulnerability	Preparedness	r	P-value	Interpretation
Physical Hazard	Capability-training	.552	.000	Significant
	Capability DRRM	.200	.000	Significant
	Climate literary	.648	.000	Significant
	Life skills development EE	.362	.000	Significant
	Life skills development – DRRM	.461	.000	Significant
	Access WR	.467	.000	Significant
	Access IC	.105	.048	Significant
	Natural Hazard	Capability-training	.731	.000
Capability DRRM		.599	.000	Significant
Climate literary		.563	.000	Significant
Life skills development EE		.556	.000	Significant
Life skills development – DRRM		.533	.000	Significant
Access WR		.525	.000	Significant
Access IC		.596	.000	Significant

Reference: Appendix E

Legend: P<.05 = Significant

P>.05 = Not Significant

Pearson's Product-Moment Correlation was utilized to determine the correlation between community vulnerability and disaster preparedness in Angono, Rizal. It shows the relationship between vulnerability in terms of physical and natural hazard risk to

readiness regarding capacity building, climate literacy, life skills development, and access to resources.

It can be gleaned from the result that the relationship between the level of preparedness in terms of capacity building, climate literacy, life skills development, and access to resources in early warning signs with $p\text{-value}=.000$ was significant to the level of vulnerability in terms of physical hazard. The relationship between the level of preparedness in terms of access to resources in information and communication with an $r\text{-value}$ of $.105$ and $p\text{-value}=.048$ was interpreted as significant.

The data revealed a significant relationship between the level of preparedness with $p\text{-value}=.000$ and the level of vulnerability in terms of natural hazards. It implied that levels of vulnerability (and exposure) help explain why some non-extreme hazards can lead to extreme impacts and disasters while some extreme events do not (IPCC, 2012). Vulnerable groups find it most challenging to reconstruct their livelihoods following a disaster, and this, in turn, makes them more vulnerable to the effects of subsequent hazardous events (Wisner et al., 2004). Moreover, vulnerability reflected the susceptibility of people and economic assets to suffer loss and damage (UNISDR 2015). Consequently, there is a need to reduce vulnerability and heighten disaster preparedness.

The result of this study affirmed the hypothesis that a significant relationship exists between community vulnerability and disaster preparedness. It implied that regular assessment of community vulnerability and disaster preparedness is needed for the resiliency of the locality. This study recognized the importance of disaster preparedness and management. It recommended that local communities—governments, schools, and other sectors incorporate resiliency into the principal planning process to produce a sustainable community and mitigate the effects of disasters. Hence, crafting the DRRM Program is vital for building a more equitable and sustainable community.

CONCLUSION

The study answered the questions related to the level of vulnerability in terms of the presence of physical hazards and natural event risks and the level of preparedness in terms of capacity building, climate literacy, life skills development, and access to community resources. It also tested the hypothesis that there are

significant relationships between community vulnerability and disaster preparedness as necessary inputs in developing the DRRM program.

This study applied the descriptive-correlational method. The primary respondents were public elementary school principals/school heads, Grade 6 pupils, and teachers in five public elementary schools of Angono District. The youth was represented by 5% of the total population of the Grade 11 pupils of the secondary schools of the said district. The study also included the LGUs, religious and women's sectors, NGOs, and business sectors as respondents.

Data were generated using questionnaires, unstructured interviews, and documentary analysis and were treated using frequency count, ranking, weighted mean, and Pearson's Product-Moment Correlation. The study was based on Adger's Social-ecological Resilience Theory; Bandura's Social Cognitive Theory; Lindell's Protective Action Decision Model (PADM); and Hochbaum, Rosentock, and Kegels' Health Belief Model (HBM).

Regarding the level of vulnerability, the average weighted mean was 3.56 for the presence of physical hazards and 3.67 for natural event risks. The level of vulnerability in terms of the presence of physical hazards was high, with slips having the highest level of vulnerability; the presence of physical hazards also increased, with typhoons having the highest level of vulnerability. Schools should improve their physical structures and complete their facilities and equipment based on the standard requirement of DRRM. The municipality of Angono may consider the following: 1) Conduct hazard mapping and regular monitoring among critical constituents and post the results for widest dissemination; 2) Maximize the available resources into a concrete solution like tree planting to avoid flash floods and landslides during typhoons; (3) Encourage total engagement among business sectors in DRRM activities such as conferences, seminars, consultation training, drills, etc.

The level of preparedness of the respondents was indicated by $W_m=3.72$ for capacity building through DRRM training, $W_m=3.58$ for capacity building through DRRM education, $W_m=3.34$ for climate literacy, $W_m=3.59$ for life skills development on enabling environment, $W_m=3.71$ for life skills development on school disaster risk management, $W_m=3.52$ for access to resources in early warning sign, and $W_m=3.74$ for access to resources in information and communication facilities; the overall level of preparedness of the respondents was indicated by $W_m=3.60$.

Generally, the overall level of preparedness of the respondents was high; the level of readiness was increased in all aspects except in climate literacy, which was at a moderate level of readiness. The schools conduct more seminars, training, and life skills development connected to Child-Centered DRRM and climate literacy. The community's vulnerability in terms of physical hazards and natural event risks was significantly related to its disaster preparedness. Regular assessment of community vulnerability, adaptation of disaster risk reduction management, and disaster preparedness are needed; a holistic, comprehensive, and proactive disaster risk reduction management program should be crafted.

Everyone must be made aware of what natural hazards they are likely to face in their own communities. They should know in advance what specific preparations to make before an event, what to do during a flood, earthquake, fire, or other likely events, and what actions to take in its aftermath. Herewith, SCROLL: School-Community Contingency and Readiness towards Operational Leadership of Learners is a joint effort to empower the school and community. This program will support the disaster management team in developing contingency plans that are simple, participatory, and realistic, and learners' guidance to be appropriately prepared to assist others in times of emergency. It aims to develop school disaster management planning, including risk assessment, risk reduction, standard operating procedures, and school contingency planning. Introduce the basic skills necessary to respond to emergencies and prepare the learners and stakeholders in times of disaster. Lastly, to teach the learners the unselfish way of helping those in need of support or aid and impart the value of solidarity to them.

SCROLL: School-Community Contingency and Readiness towards Operational Leadership of Learners is a program that strengthens the adaptation of a holistic, comprehensive, and proactive disaster risk reduction and management approach. This program will support the disaster management team in developing contingency plans that are simple, participatory, and realistic, and learners' guidance to be appropriately prepared to assist others in times of emergency. Strengthening disaster preparedness at the school level is, thus, critical to saving lives, reducing the risk of educational services disruption, and enhancing recovery from disasters and crises.

The comprehensive action plan named SCROLL: School-Community Contingency and Readiness towards Operational Leadership of Learners was crafted to facilitate the partnership of the school- government- community. It aims to foster school-government-community partnership in strengthening resilience in the municipality of Angono, Rizal against natural disasters; enhances the adaptation of a holistic, comprehensive, and proactive disaster risk reduction and management approach focused on effective preparedness for and response to disasters and crises of all magnitudes. Strengthening disaster preparedness at the school level is thus critical to saving lives, reducing the risk of educational services disruption, and enhancing recovery from disasters and crises.

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PERFORMANCE ANALYSIS OF GURONASYON AWARDEES

Paulo Martin M. Aquino

paulomartin.aquino@deped.gov.ph

Abstract

The study described and summarized the profile and current status of the Guronasyon awardees in different categories and parameters. The respondents were 16 elementary and secondary teachers and 15 elementary and secondary principals. Their school records were collected and analyzed. Results revealed that elementary and secondary teachers and principals are Master Teachers I and II with monthly salaries ranging from PHP 23,381.00 to PHP 46,672.00. The outstanding elementary and secondary principals were grouped according to their rank or position: lower middle class (Php 23,381 to Php 46,671) to middle-class monthly incomes (Php 46,672 to Php 81,832). The awardees' performance sustainability was also analyzed. Outstanding elementary and secondary teachers' performance in school was "Moderately Sustained." It also explains that the elementary and secondary principal Guronasyon awardees' performance is maintained at a specific rate or level. However, the Outstanding Principals have "Much Sustained" performance ratings, which implies many accomplished school tasks.

Keywords: *sustainability of performance, Guronasyon awardees, outstanding teachers and principals, performance analysis*

Introduction

Worldwide, exceptional awards and recognitions given to extraordinary individuals, such as in education, are considered key factors for educational progress and development. Awardees engage themselves in tasks and technically support colleagues to enhance and make their work meaningful. Awardees in education have been exceptional in the different levels of education they are in. That is why they received recognition given to them by award-giving bodies, either private or public.

Integrating it in educational institutions, especially in public elementary and secondary schools, principals are critical leaders who drive internal stakeholders and the entire school toward improvement and productivity. According to the DO 9, S. 2002 – Establishing the Program on Awards and Incentives for Service Excellence (PRAISE) in the Department of Education, "The DepEd PRAISE aims to encourage, recognize and reward employees, individually or in groups, for their suggestions, innovative ideas, inventions, discoveries, superior accomplishments, heroic deeds, exemplary behavior, extraordinary acts or services in the public interest and other personal efforts contributing to efficiency, economy and improvement in government operations which lead to organizational productivity."

In Rizal, the Guronasyon Foundation, Inc. has given awards to exceptional teachers, faculty members, principals, and college administrators for 25 years. It has also published its first coffee table book to celebrate its 25th year. In these years, however, no study shows the sustainability performance of Guronasyon awardees; hence, this study.

Methodology

Research Design

Descriptive research design is a methodology that describes and summarizes the characteristics, behaviors, or phenomena being studied. It aims to provide a comprehensive and detailed account of a subject without manipulating or altering it. In this study, school records were collected to analyze the profile parameters of the Guronasyon awardees.

Respondents

There was a total of 31 respondents in the study. Sixteen were elementary and secondary teachers, and 15 were elementary and secondary principals. The total enumeration of the respondents was considered.

Instrument

School records were used to collect the needed data. Experts were consulted in designing the researcher-made tool utilized in the study to determine the sustainability of the performance of Guronasyon awardees in different categories and its criteria.

Procedure

The profile of the Guronasyon awardees in the different categories was in terms of outstanding elementary and secondary teachers: plantilla position, monthly family income, outstanding elementary and secondary principals: plantilla position, and monthly family income. The sustainability of the performance of the Guronasyon awardees in the different categories, along with its criteria, was also determined.

After the respondents had accomplished the instrument, scores were consolidated, gathered, evaluated, and interpreted. Statistical treatments such as frequency and percentage distribution and other quantitative statistical methods were utilized for each category and criterion's profile and sustainability performance.

Ethical Considerations

Informed Consent. It was ensured that the awardees' records used for research were given informed consent or that appropriate permissions were obtained from relevant authorities. Teacher and principal respondents were fully aware of the research purpose, how their data will be used, and the potential risks and benefits.

Privacy and Confidentiality. To safeguard the privacy and confidentiality of respondents, anonymization and de-identification techniques were done to protect their identities. Researchers must prevent unauthorized access to and disclosure of sensitive information.

Data Security. Implement robust data security measures to protect the records from breaches or unauthorized access. This

includes encryption, access controls, and secure storage.

Results and Discussion

Table 1. Plantilla position of teachers

Level	Plantilla Position	Frequency	Percentage
Elementary	MT 1	4	25.0
	MT 2	5	31.25
Secondary	MT 1	1	6.25
	MT 2	6	37.5
Total		16	100

Out of the 16 elementary and secondary teachers, there were 11 Master Teacher II and five Master Teacher I. It reflects that most teachers are Master Teacher II and are higher in rank.

It supports the study of Michael et al. (2016) that a teacher's professional development shows essential steps they can take to succeed in their personal lives and jobs. Teachers can get promoted and keep their jobs in many different ways. This study is critical because it concerns the plantilla position, which is based on how long a teacher has been working and whether or not the position is open. It is especially true for Master Teacher I and II positions, where there are limits on following a ratio of 1:7 or 1:10. The people who won the Guronasyon Outstanding Teacher award are thought to be qualified for Master Teacher plantilla positions because there are strict limits on the number of Master Teacher positions.

Table 2. Monthly family income of teachers

Level	Monthly Family Income	Frequency	Percentage
Elementary	23,382 - 46, 761	4	25
	46,762 - 81,832	5	31
Secondary	23,382 - 46, 761	1	06
	46,762 - 81,832	6	38
Total		16	100

In terms of family income for elementary and secondary teachers, out of 16 teachers, 11 master teachers have a monthly family income of ₱46,762 - ₱81,832. Meanwhile, there are five master teachers with a monthly family income of ₱23,382 - ₱46,761.

It implies that the majority of the outstanding elementary and secondary teachers, in terms of monthly family income, receive ₱46,762 - ₱81,832.

It confirms the study of Hasbay et al. (2018) that the wage component had no discernible impact on teacher performance. Positive attitudes among teachers, effective and timely communication, and career investments and development have been identified as critical factors in improving student success.

Table 3. Plantilla position of principals

Level	Plantilla Position	Frequency	Percentage
Elementary	Principal I	1	6.67
	Principal II	1	6.67
	Principal III	3	20
	Principal IV	3	20
Secondary	Principal I	0	0
	Principal II	3	20
	Principal III	1	6.67
	Principal IV	3	20
Total		15	100

The outstanding elementary and secondary principals in the plantilla position have six principals in the Principal IV position. Following is the Principal III position with four elementary and secondary principals. The Principal I position is considered the lowest, having only one elementary principal.

It implies that most of the outstanding elementary and secondary principals in terms of plantilla position are Principals III and IV with a frequency of ten. Meanwhile, the Principal I and II positions have a frequency of five.

It supports the study of Bordoli (2019), who states that a person's determination, represented by his or her ability to advance through plantilla positions, is a sign. The recipients' ongoing success and, in some instances, promotion to new positions served as evidence and corroboration of this fact.

Table 4. Monthly family income of principals

Level	Monthly Income	Frequency	Percentage
Elementary	23, 382 - 46, 761	1	06.67
	46, 762 - 81, 832	7	46.67
Secondary	23, 382 - 46, 761	1	06.67
	46, 762 - 81, 832	6	40.00
Total		15	100

Regarding monthly family income, 13 out of 16 principals have a monthly family income of ₱46,762 - ₱81,832. It implies that the majority receive a much higher salary than others.

It supports the study of Tran et al. (2017) where they question if there is any connection between salary and principal advancement and student success. Examining what factors lead to higher pay for principals required analyzing survey data over three years. Fixed-effects regression analysis revealed that school principals who moved to leadership roles in other districts were paid more than their counterparts who moved schools within the same district. It was found that higher incomes were associated with higher literacy scores in school. It is because successful teachers deserve financial rewards for their efforts. Professional success has always necessitated strong reading and math skills.

Table 5. Performance of Guronasyon Awardees for Teachers

Awardee	Earned Points				Level of Sustainability
	2017	2018	2019	Average	
Elementary	45.61	49.06	47.97	47.55	Moderately Sustained
Secondary	47.64	48.96	52.86	49.82	Moderately Sustained
				48.69	Moderately Sustained

84 – 100 Very Much Sustained, 67 – 83 Much Sustained, 51 – 66, Sustained, 34 – 50 Moderately Sustained, 18 – 33 Slightly Sustained, 0-17 Not Sustained

Outstanding secondary teacher awardees earned 52.86 points in 2019, 48.96 points in 2018, and 47.64 points in 2017, for an average of 49.82 points, which was evaluated as modestly sustained. Outstanding elementary teacher awardees earned 47.97 points in 2019, 49.06 points in 2018, and 45.61 points in 2017, for an average of 47.55, which was evaluated as moderately sustained. It obtained a 48.69 average, which is moderately sustained.

It implies that there can be factors that explain why an awardee does not reach the highest level of sustainability. It could be the forte or mastery of an awardee, connections, linkages, or skills. However, as an awardee, the overall performance should be investigated. The abilities, responsibilities, and accomplishments will always be the basis of various criteria in any awarding. The skills and abilities of an awardee should be further developed and continued.

It supports the study of Shirley et al. (2020) that according to the research on educator well-being, teachers may be willing to sacrifice good feelings in the near term for long-term satisfaction. Teachers kept improving to keep up their high standards.

Table 6. Performance of Guronasyon awardees for principals

Awardee	Earned Points				Level of Sustainability
	2017	2018	2019	Average	
Elementary	44.53	48.33	46.11	69.49	Moderately Sustained
Secondary	45.13	47.31	46.89	69.67	Moderately Sustained
				69.58	Moderately Sustained

84 – 100 Very Much Sustained, 67 – 83 Much Sustained, 51 – 66, Sustained, 34 – 50 Moderately Sustained, 18 – 33 Slightly Sustained, 0-17 Not Sustained

The outstanding elementary principals earned a point of 69.49, and the outstanding secondary principals made a point of 69.67. Both elementary and secondary outstanding principals got a verbal interpretation of "Much Sustained."

It implies that they both gained a "Much Sustained" level of sustainability," as evaluated by the teacher-respondents. The overall average is 69. 58 is also equivalent to "Much Sustained."

It supports the study of Williams (2018), which found that successful school leaders exhibit a wide range of skills associated with emotional and social competence. Top-notch leaders engage in more boundary-crossing activities and with more diverse external

organizations. Principals, instructors, and the local community all ensure the school's long-term viability.

Conclusion and Recommendations

The Guronasyon awardees, based on their current plantilla positions, consider their income to have a desirable monthly family income. Their performance within the last three years, in line with the criteria included in the selection process of the Guronasyon Foundation, Inc. (GFI), showed the observance of their performance had been considered to be sustained as revealed by their IPCRF and OPCRIF ratings. Guronasyon principal awardees were found to be maintaining their performance to their functions as school administrators.

The study suggests that the PRAISE Committee design another salient criterion with clear domains that fit with national and international norms and that GFI may consider monitoring the progress and development of the awardees to evaluate their performance sustainability. Thus, post-award monitoring and reporting is essential. To ensure long-term success, the foundation may sponsor professional and personal growth for recipients. GFI may create a bureau of recipients to share their expertise with other instructors, students, and aspirants of the coveted award to achieve its vision and objective. Future researchers may conduct a parallel study with different variables, larger populations, and broader situations.

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Cooperative Learning Strategies in Enhancing the Oral Skills of Grade 4 Learners

Rodrigo C. Clarito Jr.

rodrigo.clarito@deped.gov.ph

Abstract

This research examines the efficacy of cooperative learning strategies in enhancing the oral skills of English language learners at Teresa Elementary School (TES). Three cooperative learning strategies—Numbered Heads Together (NHT), Round Robin (RR), and Think-Pair-Share (TPS) were implemented within the online distance learning (ODL) modality. A convenience sampling technique selected three distinct Grade 4 groups based on their initial oral skills assessment. This study employs an experimental research design to investigate the learners' oral skills in three areas: pronunciation, vocabulary and grammar, and interactive communication. The data were analyzed using mean scores, standard deviation, and one-way analysis of variance (ANOVA). Findings revealed that following exposure to the cooperative learning strategies, learners in the NHT group exhibited a significantly higher level of oral skills than their counterparts in the RR and TPS groups. These outcomes underscore the importance of targeted pedagogical approaches for fostering enhanced communicative competence among Grade 4 learners. As interactive communication skills are integral to the learning process, the study recommends that the Department of Education consider providing educators with comprehensive training to effectively use cooperative learning strategies. Future research may delve into additional facets of oral skills, learner behavior, motivation, and the use of larger respondent groups, thereby contributing to a more comprehensive understanding of language development

Keywords: cooperative strategies, numbered heads together, oral skills, round robin, think-pair-share

Introduction

Cooperative learning is an established pedagogical approach to organizing classroom activities to create a learner-centered environment, which is pivotal in shaping students' academic and social learning experiences. Rooted in educational theory, this study centers its framework on the Structure-Process-Outcome Theory proposed by Watson and Johnson (2019) and the Social Interdependence Theory by Koffka (1900). These theories provide a structured foundation for understanding the dynamics of cooperative learning and its potential impact on learners' communication skills.

Cooperative learning, as a method, revolves around organizing students into small groups, fostering collaborative learning experiences, and ensuring individual accountability for the shared academic content (Slavin, 2011). Emphasizing learners over instructors, this approach aligns with the contemporary educational landscape's evolving demands, where technology often diminishes traditional in-class social interaction. The decline in peer-to-peer communication raises concerns about the diminishing oral communication skills among students, a phenomenon observed across private and public schools, posing challenges to the educational system.

This study aligns with educational policies, such as Republic Act No. 10533 and the K to 12 Basic Education Curriculum, which advocate constructivist, reflective, and collaborative approaches. Effective communication skills, encompassing the ability to express ideas and feelings clearly, are pivotal in these policies. Given the diverse socio-economic landscape in the Philippines, it is imperative to address the challenges that learners face, especially those who may lack access to digital resources. Cooperative learning strategies offer a solution by creating low-risk, interactive environments that allow learners to practice and enhance their oral communication skills.

Oral skills stand as one of the most challenging aspects of language acquisition. Factors affecting learners' oral proficiency include teaching strategies, curriculum design, and personal attributes such as self-esteem, anxiety, and motivation (Pangket, 2019; Leong et al., 2017). Shyness among learners often inhibits participation in classroom discussions, leading to inadequate oral development (Godoy et al., 2021).

To address the challenges, this study focuses on Grade 4 learners, seeking to assess and enhance their oral skills in pronunciation, vocabulary and grammar, and interactive communication. Anchored on the theories mentioned, the study also explores the efficacy of cooperative learning strategies such as NHT, RR, and TPS in elevating these oral skills. As cooperative learning strategies have been proven effective in diverse contexts worldwide, this research aims to contribute to the existing body of knowledge by investigating their applicability and effectiveness among elementary school learners in the Philippines.

This research aims to refine the teaching strategies that foster oral proficiency and identify the most effective methods for the local context, ensuring that learners are well-equipped to express their thoughts, feelings, and ideas with clarity and confidence.

Methodology

The study utilized an experimental research design to investigate whether cooperative learning strategies can enhance the oral skills of Grade 4 learners in Teresa Elementary School, District of Teresa. The experimental research design is well-suited for this study as it allows the researcher to investigate the causal relationships between cooperative learning strategies and enhancing oral skills in Grade 4 learners. It provides the necessary control, comparisons, and quantitative data to draw valid and meaningful conclusions.

Sixty randomly selected Grade 4 learners belonging to three sections were equally assigned to the three cooperative learning strategies groups, Numbered Heads Together Group, Round Robin Group, and Think-Pair-Share Group, after determining their age and the homogeneity of their oral skills level based on the result of the oral skills assessment as the study's participants. These learners were enrolled in the Online Distance Learning (ODL) modality and were selected using a convenience sampling technique. Grade 4 is typically an age group where students still develop their oral skills, including pronunciation, vocabulary, and grammar. They are at an age where significant language development occurs, making it a necessary time to address and improve these skills. An unstructured interview and class observation were conducted to determine teachers' common cooperative learning strategies in the teaching and learning process.

The three most common cooperative learning strategies, Numbered Heads Together, Round Robin, and Think-Pair-Share,

were analyzed from the responses and the data gathered from both the interview and in-class observation.

The adapted Oral Skills Test and Scoring Rubric from Argudo (2021), which was taken from the Cambridge Key English Test (KET) (2011) for the A2 level, was utilized. The test consisted of two parts: Part one was an interview covering personal questions about the respondents' hobbies and interests. In contrast, part two was an independent speaking test in which respondents were asked to discuss different pictures. Specific modifications were made on some items to ensure the suitability of the questions to the respondent's level of English and the cultural appropriateness of the content. Five experts in the field conducted a validation process to ensure the instrument's validity.

Lesson plans detailing the lesson procedures were used as intervention material to guide the researcher and the classroom teachers in the activities flow. These lesson plans were validated by three master teachers, two school principals, and three critical teachers, including the grade level coordinator and the subject coordinator. The lesson plans were evaluated based on four indicators: the essential learning competency (50%), objectives (10%), content (30%), and integration of cooperative learning strategies (10%) using a 5-point scale. Consent from the respondents' parents was obtained before the study was conducted. The respondents underwent intervention after their initial oral skills assessment. They were exposed to the three cooperative learning strategies through synchronous online classes for one hour and 30 minutes per session, lasting four weeks. The post-oral skills test was administered toward the end of the third quarter to measure the effect of the cooperative learning strategies on the learners' oral skills.

The data collected during the study were analyzed using descriptive and inferential statistics. Mean and standard deviation were calculated to describe the learners' performance on oral skills in three areas: pronunciation, vocabulary and grammar, and interactive communication. The results were used to determine the learners' overall level of oral skills. One-way analysis of variance (ANOVA) was used to compare learners' performance across the three strategies and to assess the significance of the cooperative learning strategies. Post hoc tests were employed to identify which strategies significantly impacted learners' oral skills with a significance level 0.05.

The study also involved content analysis of the oral skills test, comparing learners' performance on different topics before and after exposure to cooperative learning strategies. This analysis aimed to understand the effect of these strategies on specific aspects of oral skills.

Results and Discussion

Grade 4 learners obtained an average performance in all areas of oral skills: pronunciation, vocabulary and grammar, and interactive communication. As shown in the sample transcripts below, learners tend to answer in a single word or a phrase whenever they are asked an open-ended question. An example of this is the question, "What is your idea about family?" most of the responses were "good," "happy," and "kind," as opposed to giving elaborations. Learners also committed several grammatical errors in responding to the question, "What is/are the most memorable things you did with your family?". They responded, "Every Saturday coz my father is always going here every Saturday coz he do not have work, and that is our family day."

In interactive communication, learners were also observed to give words instead of describing or telling something about a picture shown. When they were asked to say something about a set of pictures showing the different places to eat, their responses were "Happy family, eating, restaurant, outside." These observations imply that teachers must focus on developing the learners' interactive communication, vocabulary, and grammar skills among the three areas of oral skills. Teachers and facilitators of learning must emphasize oral skills enhancement when teaching the lesson content by providing vocabulary activities and oral recitations to encourage learners to improve their speaking skills. Conforming to these observations is the study of Pangket (2019), which reiterates that the teacher should think of better strategies to enhance the learners' oral skills. He stressed that mastery of oral skills could lead to better class participation.

Table 1. Learners’ oral performance after exposure to the different cooperative learning strategies with respect to the different topics in terms of pronunciation, vocabulary and grammar, and interactive communication

Oral Skills	Numbered Heads Together			Round Robin			Think-Pair-Share		
	Mean	Sd.	VI	Mean	Sd.	VI	Mean	Sd.	VI
Pronunciation	16.33	1.18	H	14.21	1.78	A	14.72	2.36	A
Vocabulary and Grammar	33.65	4.61	H	28.70	5.70	A	30.25	6.29	A
Interactive Communication	23.45	3.46	H	20.42	4.35	A	19.09	5.25	A
Overall	73.43	9.25	H	63.33	11.83	A	64.06	13.9	A

Legend: H- High A- Average

The table reveals that NHT consistently outperforms RR and TPS across all aspects of oral skills, resulting in an overall "High" rating for its effectiveness. This analysis underscores the significance of selecting the appropriate cooperative learning strategy to enhance various facets of oral skills among learners.

The results presented in the table imply that the cooperative learning strategy NHT is highly effective in enhancing the oral skills of Grade 4 learners, particularly in pronunciation, vocabulary and grammar, and interactive communication. The mean scores indicate that learners exposed to this strategy consistently performed better than those exposed to the Round-Robin and Think-Pair-Share strategies. Moreover, the lower standard deviations associated with NHT suggest a higher level of consistency in performance, further reinforcing its efficacy.

The findings align with the studies of Novibriawan (2021) and Fajria (2016), which also recognized the effectiveness of cooperative learning strategies, albeit in different contexts. Novibriawan's study might have focused on the impact of cooperative learning strategies on learners' speaking skills, while Fajria's research could have explored how these strategies improved oral production. While the specific contexts and methodologies of these studies may differ, the consistent theme of cooperative learning strategies being beneficial for enhancing learners' oral skills is evident.

Table 2. Significant difference in the performance of Grade 4 learners after exposure to the different cooperative learning strategies with respect to the different topics

Topics	F	Sig.	Ho	VI
Understanding Adverbs	3.600	.034	R	S
Giving Accurate Directions	7.971	.001	R	S
General vs. Specific Statements	1.580	.215	FR	NS
Highlighting Details from What You Heard	1.750	.183	FR	NS
Getting to Know Graphic Organizers	9.312	.000	R	S
What is the Speaker Saying	5.632	.006	R	S
Elements of Stories	5.690	.006	R	S
Total	6.374	.003	R	S

The cumulative analysis across all topics confirms a significant difference in learners' performance, supported by an F-statistic of 6.374 and a significance level of .003. It underscores the collective impact of cooperative learning strategies on learners' overall performance. The findings emphasize the efficacy of cooperative learning strategies in enhancing Grade 4 learners' performance in specific language and communication skills, particularly in understanding adverbs, giving accurate directions, using graphic organizers, and comprehending spoken content and narrative elements. While these strategies may not significantly affect the learners' ability to differentiate between general and specific statements or to extract details from auditory input, the overall positive impact of cooperative learning strategies is evident. These results have implications for educators seeking effective pedagogical approaches to enhance learners' language and communication skills.

It implies that cooperative learning strategies, such as NHT, RR, and TPS, can effectively enhance specific language skills among Grade 4 learners. It suggests that educators can adopt these strategies to target and improve the understanding of adverbs, giving accurate directions, working with graphic organizers, and comprehending spoken content and narrative elements. However, it is essential to note that the impact of cooperative learning may vary across different language skills. This variability underscores the need for tailored and skill-specific instructional approaches. Curriculum developers and instructional designers can use these insights to

create more effective language programs aligned with specific learning goals. Additionally, this study paves the way for further research into the nuanced effects of cooperative learning strategies, facilitating the development of more targeted and efficient teaching methods.

Al-Tamimi (2014), Vellayan et al. (2021), and Raba (2017) similarly recognize the role of cooperative learning in enhancing speaking and communication skills. They underscore the importance of cooperative learning activities in encouraging learners to engage in oral discussions, express their ideas, and gain confidence in language use. It resonates with the current study's focus on enhancing learners' oral skills, particularly in pronunciation, vocabulary and grammar, and interactive communication, whereby collaborative learning strategies are utilized to create a supportive and interactive environment that fosters language development and communication competence among learners.

Conclusion

This study underscores the effectiveness of cooperative learning strategies, notably Numbered Heads Together, Round Robin, and Think-Pair-Share, in enhancing the oral skills of Grade 4 learners. Of these strategies, Numbered Heads Together emerged as the most potent means of advancing oral proficiency. The study's findings also reveal a correlation between low mean scores in interactive communication and vocabulary and grammar and the learners' limited command of essential English vocabulary and usage. As a recommendation, educators could benefit from comprehensive training to adeptly integrate diverse cooperative learning strategies and interactive activities into the teaching-learning process, thereby fostering improved oral skills among learners.

However, it is imperative to recognize certain limitations within this research. The study's modest sample size, reliance on convenience sampling, and exclusive focus on the academic year 2021-2022 may restrict the broader generalizability of the findings. Moreover, while the study acknowledges resource disparities and their potential impact on learning, it must extensively delve into this matter. The use of subjective measures for evaluating oral skills, coupled with the study's relatively brief duration, raises questions regarding the robustness of the assessment. External factors, such as home environments and socio-economic status, still need to be addressed, and variability in teaching quality among educators

implementing cooperative learning strategies warrants further exploration. Additionally, the study's absence of a follow-up assessment and its limited examination of the implications of online learning underscores areas for future research and methodological refinement. These considerations emphasize the need for more comprehensive investigations into the efficacy and adaptability of cooperative learning strategies for enhancing oral skills among elementary school learners.

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Enhancing Competencies of Students in Probability Using Games

Arjon Paul D. Dela Paz

arjonpauldelapaz@gmail.com

Abstract

The study's main aim was to investigate the efficacy of teaching Probability through the use of games versus the traditional teaching method in Grade 10 students of Bagong Silangan High School. Experimental research methods were employed to collect data. The research focused on assessing the enhancement of competency in probability when using games. The study was conducted over the School Year 2019-2020, with two groups formed as experimental and control. The experimental group was instructed through games, and the control group used traditional teaching methods. Both groups took a pretest and posttest to measure their competencies in learning probability. The research instruments included a pretest and posttest. The findings indicate that students needed help with mastering problem-solving competencies in probability, irrespective of the teaching method used (i.e., traditional lecture and discussion or games). Games were found to be effective in enhancing performance on moderately mastered competencies.

Keywords: competencies, , effectiveness, games, probability, traditional lecture

Introduction

Games have been a part of human history since ancient times. Evidence suggests that ancestors used games for gambling, trading, cultural ceremonies, and even teaching the younger generation. Games come naturally as part of the human experience, and understanding their evolution can help one make more informed decisions about which elements to include in their teaching strategies.

In the 21st century, students are often so obsessed with playing games that they spend much of their time on them, leaving less time for other activities. With the development of technology and the proliferation of gadgets, students have easy access to different gaming sites. They can become addicted to playing games, often to the detriment of their studies.

While playing games is not necessarily bad in and of itself, it can be beneficial in moderation. Playing games can be a great way to relax and pass the time. Additionally, games can have positive effects in the classroom, such as increased overall motivation, more attentive students, and increased participation.

Games are also an excellent way to manage peer competitiveness, especially in male-dominated classrooms. By using games in school, students can learn to compete respectfully and healthily. Games made by students can also be practical tools. As students create their games, they use their knowledge and memory of the content to create questions and answers and then apply that knowledge and memory to play the game.

Mathematics is an essential subject with many applications, from business and finance to medicine, engineering, and basic sciences. It can also be rewarding, as it involves abstract thinking and offers a sense of accomplishment. One of the most essential concepts in mathematics is probability, a formal encapsulation of intuitive views of chance that lead to assigning numbers to uncertain events.

The study is anchored on two theories: Experiential Learning and Constructivism. Kolb (2015) stated that "Learning is a process whereby knowledge is created through the transformation of experience," Constructivism, on the other hand, is based on the principle that learning occurs as learners are actively involved in the process of meaning and knowledge construction as opposed to

passively receiving information.

This research aims to use games to learn probability subjects as stated in DepEd Order 31, s. 2012 K to 12 Curriculum Guide in Mathematics (2012). It is hoped that the understanding and competencies of the Grade 10 learners in learning probability will be improved with games. The research questions are: (1) What are the least mastered competencies of the respondents? (2) What are the mean scores of the experimental and control groups in the pretest and posttest regarding the least mastered competencies? (3) Is there a significant difference between the pretest and the posttest mean scores of the experimental and control groups? (4) Is there a significant difference between the post-test mean scores of the experimental and control groups?

Methodology

The experimental design used in the study focused on using games in teaching probability to enhance the competency of Grade 10 students. The games used were Permute-All-You-Can, Block-out Game, Win and Boom, Rescue Game, Date-Me-A-Minute, Bite No More Game, and Proba-Race. Two sections with a total of 80 students were selected as a sample. A diagnostic test was administered after the Third Quarter Examination to identify the least mastered skills of the learners in probability lessons. Experimentation was done in four weeks. The control group underwent a lecture or traditional approach, while games were used after every lesson in the experimental group. The pretest and posttest were constructed and validated by the experts. After grouping the respondents into two, a pretest was administered.

Results and Discussions

The performance of the respondents in the diagnostic test resulted in six least mastered competencies, such as illustrating the permutation of objects with 5.56% correct responses, solving problems involving permutations with 12.22% correct responses, deriving the formula for finding the number of combinations of n objects taken r at a time with 13.33% correct responses, solves problems involving permutations and combinations with 14.44% accurate, illustrates events, and union and intersection of events with 14.44% correct responses, and solves problems involving probability with 11.11% correct responses. They are all verbally interpreted as very low mastery; students need help with these competencies.

Hence, these competencies became the basis of developing games.

Least Mastered Competencies of the Respondents as Revealed by the Diagnostic Test on Probability

Both the experimental and control groups registered very little enhancement of their competencies in probability as their mean scores slightly increased from pretest to posttest. The increase in the values of standard deviations also signifies that students need clarification when exposed to either of the two techniques. It means neither of the two groups' techniques can address the problem of low-mastered competencies in the problematic topics/lessons in probability. It further implies that though games could help enhance the competencies of students, particularly in illustrating events, union, and the intersection of events in probability, it could be better if they were utilized simultaneously with other techniques.

Mean Scores of the Experimental and Control Groups in Pretest and Posttest in terms of the mentioned Least Mastered Competencies in Probability

Statistically, it can be said that the techniques utilized by the two groups of respondents, especially the experimental group, effectively enhanced students' probability competencies as the two groups registered significant increases in their mean scores from the pretest to the posttest. However, it can also be noted that the substantial increase in the mean scores of performances of the two groups did not even meet the passing score or percentage of the probability subject. A significant increase in the mean scores does not necessarily mean substantial enhancement in student competencies. It implies that neither of the two techniques, using games and the usual, effectively enhances students' competencies in the problematic topics/lessons in probability.

Significant Difference on the Mean Scores of the Experimental and Control Groups in the Pretest and Posttest in terms of Different Least Mastered Competencies in Probability

Generally, it can be inferred from Table 4 that none of the two techniques can significantly enhance the student's competencies in probability. However, it can be noticed that significant enhancement in the students' competencies was observed in illustrating events and union and intersection of events. Compared to the least mastered competencies, illustrating events and the union and intersection of

events can be considered the least difficult, with a standard deviation of 1.17. Hence, it can be said that using games in probability may be good in enhancing efficiently to moderately mastered competencies. Lastly, findings signify that it will take a lot of techniques to improve the least mastered competencies of the students in probability.

Table 4. Significant difference on the mean scores of the experimental and control groups as revealed in the posttest in terms of the different least mastered competencies

Competencies		Mean	Sd	Mn Df	t	df	Sig	Ho	VI
Illustrates the permutation of objects	Experimental	1.45	0.90	.200	.995	78	.323	FR	NS
	Control	1.65	0.89						
Solves problems involving permutations	Experimental	4.20	2.02	.225	.500	78	.619	FR	NS
	Control	4.43	2.01						
Derives the formula for finding the number of combinations of n objects taken r at a time.	Experimental	5.45	2.86	.575	.904	78	.369	FR	NS
	Control	6.03	2.82						
Solves problems involving permutations and Combination	Experimental	4.05	1.55	.250	.656	78	.514	FR	NS
	Control	3.80	1.84						
Illustrates events, and union and intersection of events	Experimental	2.38	1.03	1.03	4.165	78	0.00	R	S
	Control	1.35	1.17						
Solve problems involving probability.	Experimental	3.70	1.98	0.35	.897	78	.372	FR	NS
	Control	3.35	1.48						
Grand Total	Experimental	21.23	6.45	0.63	.454	78	.651	FR	NS
	Control	20.60	5.83						

Legend: R - Reject, S - Significant, NS - Not Significant

Feedback from the Students after being Exposed to Games in Learning Probability

Focus Group Discussion (FGD) was conducted to gather feedback from the students after they were exposed to games in learning probability. Here are some of the feedback from the experimental group.

The students find the games/activities more enjoyable and exciting to widen their knowledge. They can quickly solve the problem by helping each other and sharing their thoughts and ideas, showing their thinking skills, developing unity to finish the game, and collaborating with other students to learn the lesson. They also find the games more engaging than the usual learning method.

Based on their experience, they can easily recall the lessons learned after remembering the games they performed. Games can help their mind to be active in the process of learning. It motivates

them to perform mathematical problems in solving Probability.

However, it was found that the students' feedback manifested in the classroom discussion using games. Students could engage themselves in every game prepared by the teacher/researcher. Based on the observation, games can attract students' attention, have greater involvement, and share their ideas with their classmates.

Conclusion

Problem-solving competencies in Probability can be challenging for students to master, even when using traditional lecture and discussion methods or games. Games can effectively develop students' understanding of quickly to moderately mastered competencies, such as an illustration of union and intersection of events but are less successful for more complex tasks such as problem-solving and derivation of formulas. Games can help motivate and engage students with probability topics; however, teachers need to use different teaching techniques and tailor their approach to suit their students' learning styles and mathematical abilities. Schools should provide a variety of approaches to enable students to enhance their learning competencies. Further research is needed to determine how best to address students' learning difficulties by exploring existing teaching and learning practices and beliefs. This research should also seek to identify any limitations to provide meaningful insights.

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Performance of Multi-Purpose Cooperatives in the Province of Rizal

Ma. Linda R. Fernandez

malinda.fernandez@urs.edu.ph

Abstract

The study focused on the financial and non-financial performance of multi-purpose cooperatives in the Province of Rizal. A total of 24 multi-purpose cooperatives in the province participated in the study with 83 boards of directors, 24 managers, and 240 members as respondents. Descriptive and analytical methods were employed to analyze the financial and non-financial performance of the cooperatives. Data were gathered through a validated questionnaire checklist and financial statements from 2016 to 2018. The results revealed that leadership, human resources management, members, structure, system and mechanism, and economic and social aspects were rated as excellent. It was also found that cooperatives had adequate capital to finance their operations and meet current obligations. However, they needed to be more efficient in using their assets to earn money, resulting in low net profit and a lack of working capital-generating sales.

Key Words: finance, non-financial performance, multi-purpose cooperatives

Introduction

Performance measures, both financial and non-financial, are used for different purposes, including resource allocation, evaluation of foreign subsidiaries, incentive compensation, budgeting and planning, and setting targets. They are used to monitor and manage performance in many company areas, including financial, internal processes, employees, customers, and suppliers (Delaney & Whittington, 2011).

Non-financial performance measures (NFPMs) provide businesses with feed-forward, future-oriented information and are thus more relevant for planning purposes (Guilding, 2014). NFPMs are also progressive regarding meeting and exceeding customers' expectations and gaining and maintaining a competitive advantage over competitors, hence achieving profitability and other long-term strategic goals (Micheli & Manzoni, 2010). The study measured non-financial performance in terms of organizational, social, and economic aspects.

According to Cho and Dansereau (2010), organizational performance refers to a company's performance compared to its goals and objectives. In addition, Tomal and Jones (2015) define organizational performance as the actual results or output of an organization as measured against the organization's intended outputs.

Social entrepreneurship is a new concept undergoing debates about its very nature. It consists of innovative social value creation by public, private, civic, and hybrid organizations. It is a source of social change, particularly when the organization can be replicated in other environments (Ogliastri et al., 2015).

On the other hand, financial performance is measuring the results of a firm's policies and operations in monetary terms. It includes analysis and interpretation of financial statements to determine the profitability and financial soundness of the business (Verma, 2018). In the study, financial performance is anchored on the CAMEL Model: Capital adequacy, Assets quality, Management efficiency, Earnings quality, and Liquidity.

Capital adequacy is assumed to be a crucial reflector of the financial soundness of a business. In order to survive, it is indispensable to protect the stakeholder's confidence and prevent bankruptcy. Capital is assumed to be a cushion that offers protection to stakeholders, and it enhances stability and efficiency. Capital

adequacy represents the overall financial position and reflects whether the enterprise has sufficient capital to bear unexpected losses in the future (Aspal & Dhawan, n.d.).

Asset quality determines the healthiness of financial institutions against loss of value in the assets. The solvency of financial institutions is typically at risk when their assets become impaired, so it is essential to monitor indicators of the quality of their assets in terms of overexposure to specific risks, trends in nonperforming loans, and the health and profitability of borrowers (Hussein, n.d.).

Management efficiency ratio provides the role of management to the investor. If the management efficiently tackles the daily movements of the situation, the company makes money (Bansal, n.d.).

Earnings quality should reflect the firm's current operating performance and indicate future performance. The quality of earnings is a highly significant parameter that expresses the quality of profitability and capability to sustain quality and earnings consistently. It primarily reflects profitability and enlightens the consistency of future earnings (Aspal & Dhawan, n.d.).

An adequate liquidity position refers to a situation where the institution can obtain sufficient funds by increasing liabilities or converting its assets quickly at a reasonable cost. It is, therefore, generally assessed in terms of overall assets and liability management, as mismatching gives rise to liquidity risk. Efficient fund management refers to a situation where a spread between rate-sensitive assets (RSA) and rate-sensitive liabilities (RSL) is maintained (Hussain, n.d.).

Globalization and liberalization have resulted in more competitive business environments, so cooperatives are not exempted. They are also exposed to solid competition (Sibal, 2011).

Cooperative has been a government policy instrument promoting social justice and economic development. The policy is well spelled out in the 1987 Philippine Constitution and the enabling laws passed by the Philippine legislature. The 2008 Cooperative Code declared that it is a state policy "to foster the creation and growth of cooperatives as a practical vehicle for promoting self-reliance and harnessing people's power towards the attainment of economic development and social justice."

The development of micro and small cooperatives would enormously improve the social and economic development of the rural and agricultural economy, in particular, and the national economy, in general (Castillo, 2018). However, despite its positive effect, the cooperative movement still faces challenges.

According to the study of Kraenzle and Gray (2002), the following are the identified problems of cooperatives: high and overdue accounts receivable, customers' inability to pay accounts, credit and cash flow problems, those associated with the internal operations such as business survival and profitability, financing, debt management, equity management, keeping co-op solvent, and lack of income-producing sales. Other studies also show financial management and leadership weaknesses, the absence of a viable marketing system, and a lack of capable financial managers.

Hence, this study was conducted to determine the financial and non-financial performance of multi-purpose cooperatives in Rizal. The results may be used to formulate a plan of action to address the issues and problems.

Methodology

The study used descriptive method and financial ratio analysis to determine the performance of multi-purpose cooperatives in the province of Rizal. There were two sources of data: the primary data, which came from the respondents through questionnaires and interviews, and the secondary data, which was gathered from audited financial statements, books, and other references.

The research instrument on cooperative performance was adopted from the questionnaire prepared by the Cooperative Development Authority.

The researcher aimed for two cooperatives to represent each municipality/city. However, only one cooperative in Pililla, Rodriguez, San Mateo, and Teresa allowed her to include their cooperative as part of the study. The number of BOD members for each of the cooperatives under study ranged from 5 to 7, with five as the more predominant or 120 of 120 (5 x 24 cooperatives). However, only 83 questionnaires were retrieved. Each cooperative was represented by a manager and ten active members.

Permission was sought from the manager/officer of the multi-purpose cooperatives to gather the necessary data by

administering a questionnaire checklist and conducting interviews. After the approval, the research instrument was administered personally to the respondents. Most of the questionnaires were retrieved on the same day of distribution, and some were retrieved after a week. It took three weeks to gather the necessary data.

To determine the non-financial performance of multi-purpose cooperatives, a mean score was used. The following adjectival rating was utilized: Excellent (91-100), Very Satisfactory (81-90), Satisfactory (71-80), Fair (61-70), and Needs Improvement (60 and below).

To analyze the financial performance of multi-purpose cooperatives, the study used different financial ratios such as debt-equity ratio, total asset turnover, working capital turnover, net profit ratio, and current ratio.

Results and Discussion

Performance of Multi-Purpose Cooperatives in Rizal with respect to Non-Financial and Financial Aspects

Non-Financial Performance

Leadership, Human Resources, and Management, Members, Structure, System, and Mechanism obtained mean scores of 22.29, 10.67, 10.25, 4.00, and 20.21, respectively, with a grand total mean score of 91.17, interpreted as "Excellent."

According to the interview conducted with the managers of the cooperatives under study, once a year, CDA visits them to ensure that they comply with all the requirements. Otherwise, they will receive notice of non-compliance. Hence, they make sure that all requirements are complied with.

The findings imply that with the above aspects considered, the multi-purpose cooperatives in Rizal are doing well. However, perspectives and views from other stakeholders may also be considered to validate the findings.

Financial Performance of Cooperatives Using the CAMEL Model

1. Capital Adequacy

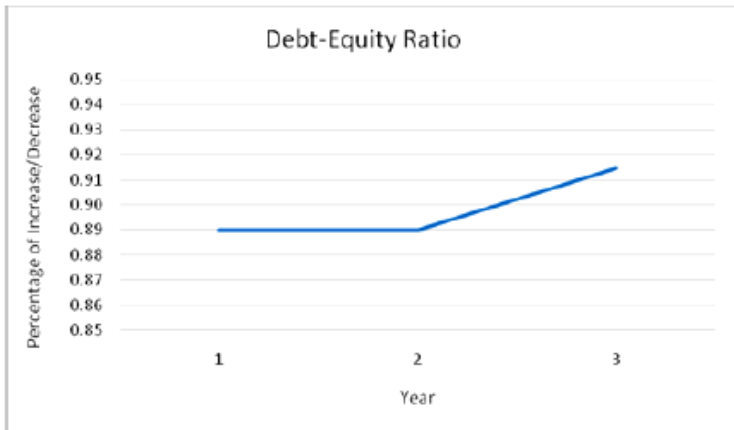


Figure 1: Trend on Debt-Equity Ratio for the Last Three Years

Capital adequacy measures a financial institution's ability to pay its debt. One can measure capital adequacy through the debt-equity ratio.

According to Horne and Wachowicz (2009), the debt-to-equity ratio shows how much of the firm is financed by debt. The ratio shows that creditors are providing the company's financing amount. Sugiarto (2015), on the other hand, said that the debt-equity ratio (DER) reflects the company's ability to meet all its obligations, shown by how much a part of its own capital is used to pay the debt.

The graph shows that the debt-equity ratio for 2016 and 2017 was the same, with a slight increase in 2018 by .02. It means that liabilities and equity were almost the same for the last three (3) years. The higher the ratio, the higher the creditors' claims on the assets, possibly indicating that the cooperative is extending its debt beyond its ability to repay.

The result of the study reveals that although multipurpose cooperatives in Rizal have enough capital to settle their obligations, they still need to manage debts to be more profitable.

2. Asset Quality

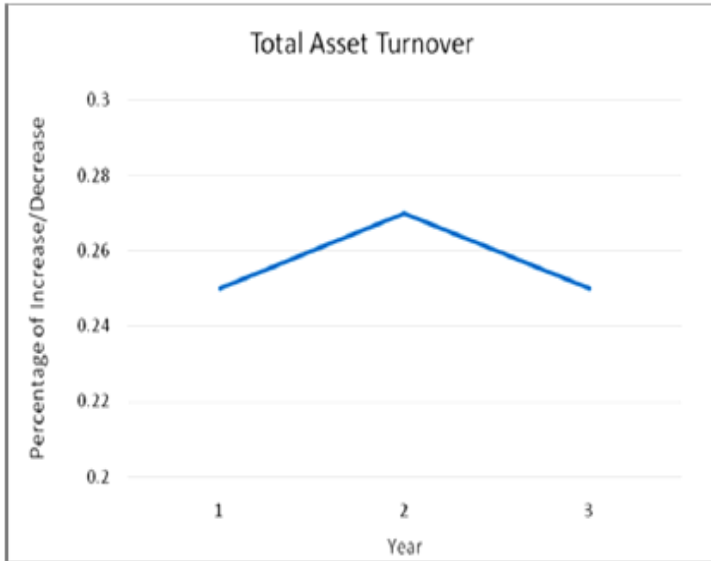


Figure 2: Trend on Total Asset Turnover for the Last Three Years

The figure shows that total asset turnover slightly increased in 2017 by .02 and slightly decreased in 2018 by .02. It means that for the last three years, the assets of the multipurpose cooperatives were not fully utilized to generate sales. However, there needed to be more growth in 2017. It could be a sign of over investment in assets that are not being used, cash that is only in the bank or inventory that has not been sold.

The study's result is similar to the research conducted on agricultural cooperatives in Iowa, which had a significantly lower assets turnover ratio. Improvements in asset utilization efficiency (asset turnover ratio) lead to higher debt-to-asset ratios in cooperatives (Jacobs, 2015).

3. Management Efficiency

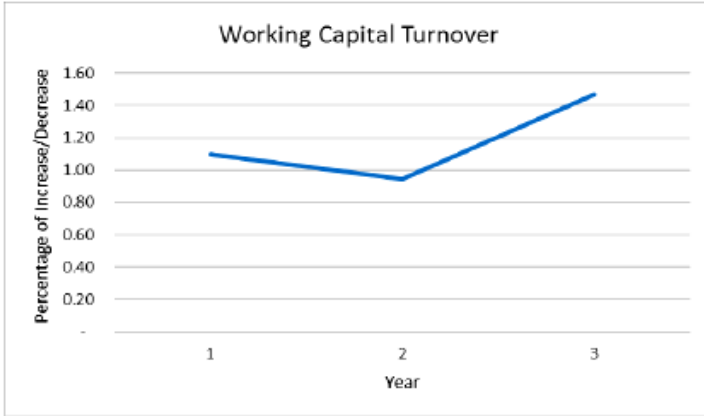


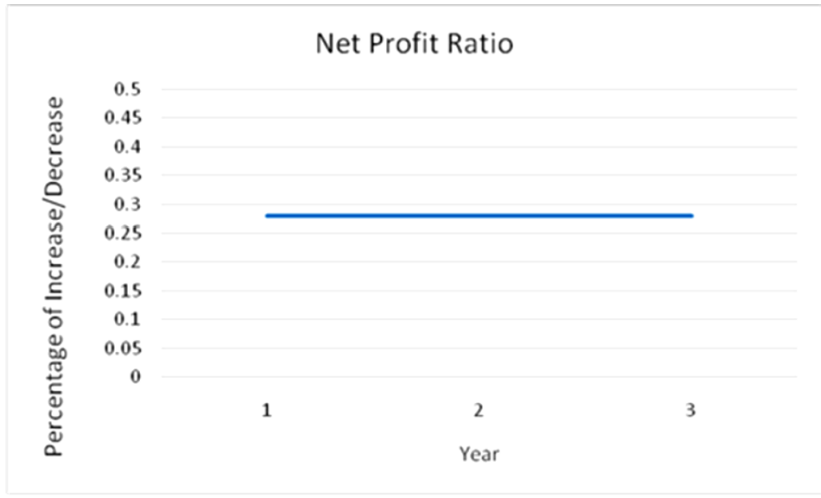
Figure 3: Trend on Working Capital Turnover for the Last Three Years

Management efficiency is the output a management team creates relative to the capital they direct and the expenses they expend (Spacey, 2018). Working capital turnover is a measure of management efficiency.

The graph shows a decrease of .15 in 2017 and an increase of .52 in 2018. The increase was attributed to new business endeavors of some cooperatives such as café, stores, and food processing.

Lasque's study (2016) revealed that, generally, the cooperatives of the different state universities and colleges in Caraga had implemented working capital management well regarding cash management, receivable management, and inventory management. Most respondents believed that all areas concerned were "very effective."

4. Earnings Quality



The quality of earnings refers to the amount of earnings attributable to higher sales or lower costs. It is considered poor during times of high inflation. One measure that analysts like to track is net income. It provides an overview of the company's performance from an earnings perspective (Kenton, 2018).

The net profit margin, or net margin, indicates how much net income a company makes with total sales achieved. A higher net profit margin means a company is more efficient at converting sales into actual profit. An extremely low-profit margin formula would indicate that the expenses are too high, and the management needs to budget and cut costs (Wilkinson, 2013).

The figure shows that the net profit ratio of multipurpose cooperatives in Rizal remained the same for the last three (3) years. A stable trend indicates that although profitability did not deteriorate, no significant progress was made. They need to devise new business strategies to earn more and minimize expenses to be more profitable.

5. Liquidity

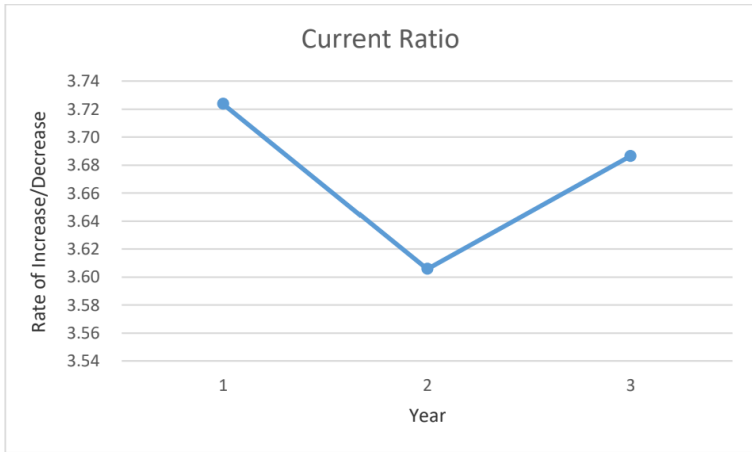


Figure 5: Trend on Current Ratio for the Last Three Years

The current liquidity ratio measures a company's ability to pay short-term obligations or those due within one year. It tells investors and analysts how a company can maximize the current assets on its balance sheet to satisfy its current debt and other payables. A current ratio that aligns with the industry average or is slightly higher is generally acceptable. A current ratio lower than the industry average may indicate a higher distress risk or default. Similarly, if a company has a high current ratio compared to its peer group, management may need to use its assets more efficiently (Kenton, 2019).

The graph shows a decrease of .11 in 2017 and an increase of .09 in 2018. Higher ratios indicate a more remarkable ability to pay debts. However, too high a ratio may indicate poor asset management. Although multipurpose cooperatives remain liquid, they need to reduce administrative and financing costs, which caused the decrease in 2017.

The study by Ramos (2018) on the multipurpose cooperatives in Tarlac City also revealed that the majority were very liquid. They had excessive idle cash reserved to pay maturing debts and obligations.

Composite Table of the Financial Performance of Multi-Purpose Cooperatives in Rizal

CAMEL Model	Ratio	Average	Verbal Interpretation
Capital Adequacy	Debt-Equity Ratio	.90	Enough capital to settle obligations
Asset Quality	Total Assets Turnover	.26	Not efficient with the use of assets
Management Efficiency	Working Capital Turnover	1.17	Working capital produces low sales revenue
Earnings Quality	Net Profit Ratio	.28	Low profit
Liquidity	Current Ratio	3.67	More assets than liabilities

The table shows that multipurpose cooperatives in Rizal have enough capital to settle obligations and have more assets than liabilities. However, they could be more efficient in using assets and working capital that produce low sales revenue; hence, profit is low.

Conclusion

The non-financial performance of multipurpose cooperatives in Rizal can be described as "Excellent." Policies are aligned with the provisions of the by-laws, rules, and regulations. All activities are based on the Operations Manual, Code of Governance and Ethical Standard, Accounting Manual, and Annual Development Plan.

The multipurpose cooperatives have adequate capital to finance their operations and can meet current obligations with readily available assets. However, they could be more efficient in using their assets to produce more income. The capital invested in working capital is generating little sales.

Although the Cooperative Development Authority provides training and seminars, the officers may consider pursuing higher education or graduate studies related to business administration. Since cooperatives conduct business activities, the management must learn new strategies and models to help them improve their business operations. They may also attend short-term courses offered by business schools.

The multipurpose cooperative may consider utilizing its assets more efficiently. Obsolete or unused assets may be liquidated quickly. They may also limit inventory purchases and increase income without purchasing new assets. Though profitability is not the primary concern of cooperatives, they also need income to continue their operation and provide dividends and other services to members. Hence, there is a need to improve profitability. They may also consider adding new business ventures. Moreover, they may minimize waste and errors by training the staff and devising a system to reduce utility expenses.

Management of accounts receivable is another way of improving financial performance. While multipurpose cooperatives would like to be of service to their members, collection policies should be addressed. They may ask the co-maker to bear the outstanding liability, including the interest and penalty charges. They may immediately terminate the borrower's membership and close the member's share capital contribution against his/her outstanding balance if the loan remains unpaid.

Multipurpose cooperatives may also use the CAMEL Model to analyze their financial performance, as this model is used by financial institutions such as banks.

Future researchers may conduct similar studies employing other types of cooperatives in the CALABARZON area and using other factors or variables to substantiate this study's findings further.

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