



IMPROVING THE COMPETENCE OF GRADE 9 STUDENTS ON THE CONCEPT OF DEMAND THROUGH SIM-BAHAN



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Abstract

Learners have had difficulty in grasping necessary knowledge regarding the concept of demand in conventional way of teaching. Thus, this study aimed to assess the effectiveness of Strategic Intervention Material (SIM) with Barkada sa Tahanan in improving on one of the least mastered competencies of Grade 9 students' which on the concept of demand. Strategic Intervention Material, a teacher-made tool, was employed to supplement regular teaching and enhance competency-based skills. Buddy system was employed to make the learning more engaging and fun. A True Experimental design was utilized, involving two groups to establish causality. The experimental group which composed of 40 students from Grade 9 Love, experienced the intervention, while the control group which consisted of 39 students from Grade 9 Charity where in it followed conventional way of teaching. Participants were enrolled in Claveria Rural and Vocational School during School Year 2022-2023. Various analyses were used, including Mean and standard deviation to gauge pretest and posttest scores of both groups, T-test to identify significant differences, Independent Sample T-test to compare control and experimental groups, and Paired Sample t-test to assess changes within the experimental group. Cohen's D measured the impact of Strategic Intervention Material with peer tutoring on the concept of demand. Results indicated notable enhancement in Grade 9 learners' competence after utilizing the intervention. Statistical analyses confirmed significant differences between pretest and posttest scores. The intervention demonstrated a substantial effect size on learners' competence. Recommendations include devising action plans to sustain Strategic Intervention Materials' development and usage. Furthermore, Araling Panlipunan teachers, particularly Economics teachers, are encouraged to adopt and disseminate the approach for broader implementation.

Keywords: Strategic Intervention Material, Peer Tutoring, Learners Competence, Concept of Demand



I. Introduction

The word “boring” has always been associated with Araling Panlipunan subject for years, perhaps decades or centuries. It has always been a challenge to make the subject more engaging and lively right before the eyes of the learners. Be it in a narrow or broad sense, it is really a struggle for students and teachers to seek ways on how to get rid of difficulties especially in the lense of learning (Bangayan-Manera, 2019).

Tomines, Tipolo, & Pantao (2021) reported that teaching social studies has become challenging for schools nowadays. Inefficient instructional strategies employed by teachers have led to low learner proficiency, thus putting them at risk. The complexity and breadth to social studies pose a significant obstacle for students, resulting in various challenges during the learning process (Andres, 2019).

Republic Act 10533, also known as the Enhanced Basic Education of 2013, outlines standards and principles for the DepEd to follow in creating the enhanced basic education curriculum. These objectives support the acceptability of a teacher-made intervention to enhance learners' competence. This encourages the development of teaching materials at the local level, with approval authority moving to regional and division education units (Abana, 2020).

The study of Lazo & De Guzman (2021), revealed that after the utilization of SIM, the academic performance of the participants landed in “Satisfactory” level. Meaning to say, the SIM had an impact on the performance of the students.

Additionally, based on the results of the study of Adonis (2022), it concluded that the use of Contextualized Strategic Intervention Materials (CSIMs) developed by the researcher has improved the students conceptual understanding based on the results of the formative and summative assessments. Therefore, utilization of contextualized intervention material was found effective to improve the competence of the learners.

In the 2018 National Achievement Test (NAT) for Grade 6, as per memo released on May 24, 2019, specifically about Information Literacy Skills, HEKASI had the lowest Mean Percentage Score (MPS) at 30.04%. Looking at Region 2's data, none were highly proficient in HEKASI, with only 0.28% being proficient.

Another concern is evident in the 2018 NAT for Grade 10. Just 0.01% were highly proficient, while 10.93% were proficient. This means that a combined 89.06% were considered low proficient learners. This highlights the necessity for addressing learning gaps in Araling Panlipunan.

The strategic intervention material was aligned with Claveria Rural and Vocational School's plan for Basic Education Learning Recovery and Continuity in the 2022-2023 school year. It aimed to bridge learning gaps through intervention activities. The material used practical real-life situations to enhance students' knowledge, skills, attitudes, and values. It employed a learning-barkadahan system, making learning an enjoyable and engaging experience.

The Mean Percentage Score for the second quarter for school year 2021-2022 was 32.8% and the first quarter for school year 2022-2023 was 35.4% which imply that they have had difficulty in grasping necessary information in Araling Panlipunan. Hence, there was really a need for intervention.

The researcher being a classroom teacher, observed that students could hardly grasped the different concepts of the different representations in showing and analyzing the concept of demand. These observations become more evident based on their scores on given activities, quizzes, and other classroom performances.



It was in this premise that SIM-BAHAN was conceived. SIM-BAHAN: Strategic Intervention Material with **Barkada sa Tahanan** is a learning intervention material which helped to improve the competence of learners on the concept of demand by giving them fun-filled weekend tasks.

Innovation, Intervention, and Strategy

The Strategic Intervention Material and the innovation was titled, SIM-BAHAN or Strategic Intervention Material with **Barkada sa Tahanan**. The researcher reiterated that it was not just merely an intervention using the Strategic Intervention Material but with a combination of peer tutoring. Since the researcher firmly believed that if the intervention material served merely as a remediation tool, it was not ideal because the learner might think that it was another burden and work that needs to be done alone. The outputs were not also reliable because the researcher was not sure if it was done by the student, or by some member/s of the family or by a friend. Thus, a project that promoted peer tutoring and collaborative learning was designed.

As defined, Strategic Intervention Material (SIM) is a learning material that helps the students to master competency-based skills which are not developed during a regular class. This tool was personally made by the teacher to guide the students understand more the concept of demand.

The material was sophisticatedly crafted and strictly based according to the basic standards of Division Memorandum No. 16 series of 2022 which comprises different tasks and targets to hone the knowledge of the learners especially on the concept of demand which is identified as least mastered competency. The teacher-made material used were divided into five (5) parts which included the guide card, activity card, assessment card, enrichment card and answer key card. On the guide card, the least mastered competency was seen. This also played a vital role in the whole intervention material because this was where all the information needed by the learner was found. It also served as a blueprint to the users of this material on what was expected to be learned. The aim of this part of the intervention was to motivate the learners to continue and finish the whole intervention material. The second part as the activity card that comprised of four (4) different activities that the students surely enjoyed while answering. It was a series of tasks which aimed to sharpen their knowledge on the identified least mastered competency. Furthermore, the researcher also made sure that these activities were relatable and easily understood by the learners.

The third part was the assessment card which included a 10-item multiple choice test that measured of what were the learners learned from the previous activities. This also identified their level of mastery and understanding on the information presented and answered activities. The fourth part was the enrichment card. The main objective of this part was to further improve their competence especially on the identified least mastered competency. It also provided as a follow-up activity to connect all the information that they learned. Next was the answer card. This included all the answer key of the material for self-checking. Finally, the reference card. In this part, includes the title of the books utilized and its authors, websites where the graphics were lifted from, and the personal information of the author of the SIM.

The intervention undergone three (3) stages. On the first stage, the development stage, the researcher crafted the Strategic Intervention Material based on the Least Mastered Competency, which was on the concept of demand. The second stage was the validation stage. In this stage, the material was validated as to its acceptability, reliability, and validity. It was reviewed by a Master Teacher in Araling Panlipunan who also served as the content editor, then it was inspected by two



language editors to review the language used and grammatical construction. Next, it was submitted to the School Screening Committee for review and recommendations. Then, it was forwarded to the District Quality Assurance Team for further review and feedback. Basic ethics were also observed. All inputs, comments, and suggestions were noted for revision of the material. The third and final stage was the implementation and utilization of the material.

There were two groups in this study, the control group where conventional teaching was employed, and experimental group where the intervention was utilized.

In the experimental group, students were paired based on their pretest scores - high scorers with low scorers and so on. The convenience of students' residences was considered for the "barkada sa tahanan" approach. Students took the material home to work on during weekends with their assigned partners, answering activities in staggered sequence. All tasks within the intervention material were completed over 6 weekends: Activity 1 on the first weekend, Activity 2 on the second, and so forth. Their weekly accomplishments were checked every first meeting of the week to monitor their progress.

The teacher-made material underwent assessment by Master Teachers and Department Heads to ensure quality, reliability, and validity. The researcher, also the subject teacher, oversaw students' work, monitoring their weekly progress. The study culminated in the presentation of results, discussions, and reflections.

The study focused on Grade 9 students from sections Love and Charity during the 2022-2023 school year. The implementation of the intervention material was every Saturday and Sunday from January 28, 2023 to March 19, 2023.

After implementation, a posttest was administered, then the result was gathered.

Statement of the Problem

This action research generally aimed to improve the competence of Grade 9 learners on the concept of demand by utilizing a Strategic Intervention Material with peer tutoring.

Specifically, it aimed to answer the following questions:

1. What are the mean scores in the pretest and posttest of the control and experimental groups?
2. Is there a significant difference in the:
 - 2.1 Pretest and posttest of the control and experimental groups
 - 2.2 Posttests of the experimental group and control group
3. What is the effect size of the Strategic Intervention Material with peer tutoring in improving the competence of the learners on their posttest?
4. What activity plan of action will be done to improve/develop/sustain the intervention and its utilization?

II. Methodology

In this study, the researcher employed True Experimental in which two groups were involved to establish cause-and-effect relationship between different variables. This statistical approach was one of the most accurate forms of research designs because it provided substantial backing in supporting the existing relationship. It also identified the causal relationship by integrating a treatment or condition to one group and comparing the results and used it in a broader array of data collection techniques. In this study, the experimental group was exposed to the SIM-BAHAN intervention and the control group was through conventional approach.



a. Participants and /or Other Sources of Data Information

The first group was the experimental group composed of 18 male and 22 female or a total of 40 students in Grade 9 Love where the intervention was employed while the control group were the 19 male and 20 female or a total of 39 learners in Grade 9 Charity where the conventional strategy was utilized. The participants were officially enrolled in Claveria Rural and Vocational School for the School Year 2022-2023. In this study, participants' pretest and posttest of both groups were used. Both tests were 40-item test, parallel, and the type of it were a combination of multiple choice and computation. To establish the validity and reliability of the pretest and posttest, it was quality assured by the school screening committee and by a Master Teacher in Araling Panlipunan in the District of Claveria. Finally, the data was organized, interpreted, and analyzed.

Commented [LM1]: Consider 1 section of participants only

b. Data Gathering Procedure

After securing the necessary approval from the school authorities, School Research Committee, parents and/or guardians, this research was implemented. The data gathering period for the administration of pretest, implementation of the intervention and posttest were done from January 28, 2023 to March 19, 2023. The experimental group was categorized into two (2), based on the result of their pretest. Top-most scorer was paired with the bottom-most scorer. The second top scorer was paired with the second bottom most scorer and so on. However, residence of the learners was considered making the *barkada sa tahanan* more convenient to them. The material was taken home and served as a weekend work, and they answered it with their assigned partners. They answered all the activities in staggered basis. The duration of answering all the tasks reflected on the SIM was within 6 weekends. For the first weekend, they answered Activity 1 while Activity 2 for the second weekend. Then, Activities 3 and 4 for the third and fourth weekends respectively. During the fifth week of implementation, they answered the assessment card and on the sixth weekend, the enrichment card was answered to finish all the given tasks. Every first meeting of the week, their accomplishments were checked by the researcher for monitoring purposes and checking their progress. After the implementation, a posttest was given. Then, the results were tabulated and organized. Finally, the results, discussion, and reflection were written to complete the study.

The teacher-made material was quality assured by the Master Teachers and Department Heads to ensure its reliability and validity.

The study catered the Grade 9 students specifically the learners of section Love and Charity during the School Year 2022-2023. Their outputs were checked, and their progress were monitored every week by the researcher who was also the subject teacher.

c. Ethical Issues

Letter of intent to conduct the research was sent to the proper school authorities. Letter of consent was sent to the parents and/or guardians of the target participants of the study. Identity of the learners were not revealed. Results and participants' responses were reported and presented as a whole to further protect their anonymity. Other ethical issues prescribed in the Research Management

Guidelines under DepEd Order No. 16, s. 2017 were strictly followed. Proper citation of authors was also observed.

III. Discussion of Results and Reflections



Tables

This section shows the results of the data analysis and discussion of results.

Table 1. Pretest and Posttest Results

Group	Tests	N	Mean	Standard Deviation
Control	Pretest	39	17.26	8.16
	Posttest	39	21.49	8.39
Experimental	Pretest	40	22.65	7.60
	Posttest	40	31.73	7.30

Mean and standard deviation were used to determine the mean score of the pretest and posttest scores of the control and experimental groups.

In the control group, where conventional teaching was employed, the mean score increased from 17.26 to 21.49, or a 5.08% increase, as shown in Table 1.

The experimental group's mean score, where the intervention was used, have increased significantly as well. That is evident from their mean score of 22.65, which increased to 31.73. In other words, it improved by 28.62%.

Both groups increased on their mean scores, however, comparing the difference of both groups' mean scores, the experimental group is pointedly higher from the control group. With these data, it can be concluded that before the implementation of the intervention, their competence on the concept of demand was low compared to their posttest mean score wherein the intervention was utilized.

The result is in line with earlier studies conducted by Arisi (2018), Jotia and Matlale (2021), Bunagan (2019), Joan and Barredo (2017), and others. They've found out that using SIM has a positive impact on the children's performance. The study further supported that using SIM can enhance students' academic performance and scientific education.

This also confirms the result of the study of Hughes and Hebbani (2019) where they claimed that there was a positive impact of peer tutoring on academic achievement, engagement, and the development of interpersonal skills.

Table 2.1 Test of Difference between the pretests and posttests of control and experimental groups

	Test	N	Mean(x)	Df	t-value	t-critical	P-value	Remarks
Experimental	Pretest	40	22.65	38	-5.45	1.99	5.78E-07	Significant
	Posttest	40	31.73					
Control	Pretest	39	17.26	38	2.02	1.99	1.25E-03	Significant
	Posttest	39	21.49					

Table 2.1 shows the test of difference between the pretests and posttests of control and experimental groups. In the case of Experimental group, pretest and posttest were 22.65 and 31.73 respectively. Comparing the critical and computed values of t for the experimental group, it reveals that the t-computed value of -5.45 is less than the critical value which is 1.99 while the p-



value, $5.78E-07$ is less than the significant difference which is 0.05. Therefore, this rejects the null hypothesis.

On the other hand, control group exhibited a 17.26 as their mean score for their pretest while 21.49 on their posttest. Looking into the computed value, 2.02, is greater than the critical value, 1.99, which lead to $1.25E-03$ as its P-value. Therefore, it can be concluded that there is a significance and rejects the null hypothesis.

This further tells that the scores of the participants have significantly improved after the intervention SIM-BAHAN was employed. It also indicates that using Strategic Intervention Material and peer tutoring helps to hone the competence of learners and has a positive effect in terms of improving their academic well-being.

Table 2.2 Test of Difference between the posttests of experimental and control group

Group	Test	N	Mean(x)	Df	t-value	t-critical	P-value	Remarks
Experimental	Posttest	40	31.73	39	5.79	1.99	$1.45E-07$	Significant
Control	Posttest	39	21.49	38				

The participants' original level of knowledge or skill prior to exposure to the intervention is reflected by the posttests mean scores of experimental and control groups which are 31.73 and 21.49 respectively. The 10.24 difference in the posttest scores of the experimental group from the control group, it signifies that intervention's mean scores was a sign that it had a favorable effect on the participants' knowledge or abilities.

Moreover, the t-value is 5.79 which is higher than the t-critical, 1.99. According to the degree of data variability, it denotes the difference in averages between the posttests scores wherein it resulted into $1.45E-07$ as its P-value which connotes that it is less than the significant difference which is 0.05.

The result opposes the study of Barlis & Fajardo III (2013) that resulted to no significant difference in the mean gain scores of students who had a traditional method of instructions and students who had been given an intervention material. Moreover, it contradicts those of Bassey (2012), who reported that students taught with the conventional instructional materials had the highest achievement.

Table 3. Test of Effect-size

Test	N	Mean	SD	Cohen's d value	Scale	Remarks
Pretest	40	22.65	7.60	2.03	Above 2.0 - Huge	Huge
					1.2 -1.19 - Very Large	
					0.80 - 1.19 - Large	
Posttest	40	31.73	7.30		0.50 - 0.79 - Medium	
					0.20 -0.49 - Small	
					0.01 - 0.19 - Very small	



Cohen's D was used to determine the effect size of the Strategic Intervention Material with peer tutoring as an intervention tool in improving the learning competencies in the concept of demand to the experimental group.

The computed Cohen's d value of 2.03 indicates that the intervention utilized in this study has a huge effect size. Therefore, it corresponds to a noticeable and practical change. This is valuable for educators, policymakers, and practitioners seeking meaningful improvements in teaching the concept (Decena, 2021).

Likewise, it agrees to the study of Kitto et al. (2020), wherein competency-based SIM will depend more and more on lifelong learning, which will depend on the information-sharing era to encourage movement across educational institutions. Additionally, it facilitates earlier learning awareness in order to personalize the educational experience. It uses curriculum that is skills-based and looks into how the teaching and learning process is organized (Kitto et al., 2020).

On that note, it makes the intervention compelling for dissemination and implementation.

In the light of peer tutoring, it concurs with the study of Kim, S., Jillapadi, R., & Boyd, S. (2021), and they found out that overall course failure rate was 3.47% for the class with peer tutoring compared to 7.02% without peer tutoring ($\chi^2 = 3.87; p = 0.049$). That's why they've concluded that there was a positive association between the improvements in exam scores and the frequency of tutoring sessions attended.

Hence, peer tutoring has a very positive impact on the process of learning.

Table 4. Activity Plan to Sustain the Utilization of the Intervention

Strategies	Program	Activities	Tasks	Resources			Timeli ne
				Physical	Materia l	Financial	
To sustain and maximize the utilization of the intervention on the concept of demand through SIM-BAHAN	Research Development to intensify the competence of Grade 9 students on the concept of demand through SIM-BAHAN	Sustaining and maximizing the utilization of the intervention on the concept of demand through SIM-BAHAN	Disseminate the findings and results of the study to the school and district teachers and personnel	Researcher, Teachers, and PSDS	Printing Folders	Php 500.00 Php 50.00	March 18-27, 2024
			Establish stronger partnership linkages with other stakeholders for continuous finding	Researcher, SK Officials through Punong Barangays, and Parents	Printing Folder	Php 250.00 Php 50.00	April 1-5, 2024



			of the reproducti on of the SIM.				
			Float solicitatio n letters	Research er, SK Officials , Punong Barangay s, and Parents	Printin g Folder	Php 250.00 Php50.00	April 1-5, 2024
			Reproduce interventio n Material	Research er and students	Printin g	Php1,999. 00	April 8-10, 2024
			Distributio n of interventio n to teachers	Research er and students	Printin g of receivi ng forms	Php 10.000	April 11-12, 2024
GRAND TOTAL						Php 3,159.00	

Summary of Findings

1. There was an increase on the competence of the experimental group from their pretest mean score of 22.65 with a standard deviation of 7.60 to their posttest mean score of 31.73 with a standard deviation of 3.73.
2. The t-computed value of -5.45 is less than the critical value which is 1.99 while the p-value, 5.78E-07 is less than the significant difference which is 0.05.
3. The intervention, Strategic Intervention Material- Barkada sa Tahanan, has a computed Cohen's d value of 2.03 which indicate a huge effect size.
4. An activity plan was crafted to sustain the utilization of the intervention.

Conclusion

The conclusions that were formed in response to the findings discussed above are as follows. The mean percentage score of the participants' pretest and posttests, as recorded in the statistical data, showed that their performance had improved. The data also demonstrated a substantial difference between the participants' pretest and posttest results on the subject. The participants' performance was significantly impacted by the utilization of the intervention materials. This



suggests that the Strategic Intervention Material—Barkada sa Tahanan—was an effective intervention to improve the Grade 9 students' performance skill in relation to concept of demand.

Recommendations

The following actions are advised in light of the facts that have already been provided and discussed regarding the study's conclusions:

1. Teachers may use the SIM-BAHAN to augment the provided modules and enhance students' learning, particularly when teaching Concepts of Demand.
2. To create instructional materials that meet the needs of diverse students and produce better learning outcomes, teachers may take advantage of free webinars that will improve their craft.
3. Teachers may use the intervention materials in their classrooms and participate in the school improvement plan to suggest potential research subjects.
4. School administrators may encourage district-wide webinar sessions for teachers to help them create Strategic Intervention Materials.
5. Officials from each barangay may start Citizen-Teacher programs so that students can learn additional things outside of the classroom.

Reflection

The use of peer tutoring and strategic intervention materials as supplemental learning tools was very successful in closing gaps. The participants' pretests, weekly modules, and posttests were effectively delivered thanks to the extraordinary work put forth by the researcher, the participants, and the participants' parents. Tracking the trainees' progress was greatly aided by the weekly monitoring. Both the participation rate and the retrieval rate for the intervention materials were 100%. Additionally, parents demonstrated their unwavering support for the intervention program and took up the task for their kids. During the intervention program's implementation, there were difficulties. Bond paper and ink were in short supply, which caused a delay in the printing of the intervention materials. Due to the dispersed location of the participants, going from house to house presented another obstacle in monitoring them. Due to participants unavailability, the pretest, responses sheets, and posttest submission deadlines were missed. As a result, the researcher changed a few things such as adjustments on scheduled time such as allowing them to finish the necessary task during class hours. Significant learning moments were released as a result, which fueled the researcher's method of work. He made sure that students had a better means of identifying their challenges, provided more possibilities for participation, and offered dialogues to be more sensitive to problems developing. Undoubtedly, the academic intervention was both rewarding and difficult.

IV. Action Plan

Strategies	Program	Activities	Tasks	Resources			Timeline
				Physical	Material	Financial	



Improving the competence of Grade 9 students on the concept of demand through SIM-BAHAN	Research Development on improving the competence of Grade 9 students on the concept of demand through SIM-BAHAN	Dissemination of research findings.	Writing of Request to authorities for dissemination of research findings in the form of PTC, flyers and Teachers Meeting	Researcher, PTC, SRC, SDRC Teachers, Respondents	Printing Folders	10050	March 18-27, 2024
			Coordinate with the District Office through the PSDS to request other teachers to utilize the intervention	Researcher and PSDS	Printing Folder Load Allowance	1,500.00 1,500.00 1,999.00	March 18-27, 2024
		Research Dissemination and Utilization	Implementation of the Intervention to other teachers/schools	Researcher	Printing Folder	50036	April 10-12, 2024
			Paper Presentation and Introduction of Intervention	Researcher, School Head, SRC Members (TA) SDRC, LRMD, Teachers, Students	Load Allowance Printing	1,999.00 1,500.00	April 15-19, 2024



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