

# Project Kris: Knowledge Reinforcement and Intervention for Student Performance: An Action Research

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## Abstract

This study aims to assess the significant improvement of the academic performance of Grade 12 learners in Cookery subject. This study utilized a one shot case study. The teacher-researchers introduced the interventions that are implemented inside the classroom; a. Care Tech Project; b. One Hand Project; c. Play Magic Box Project; d. Friendly Helping Project; e. Lend a Gift Project; f. Celebrity of the Weeks Project. A total of 25 Grade 12 TVL learners of Tabgon High School, Goa, Camarines Sur, Philippines who were enrolled in the class of teacher-researchers for the school year 2018-2019. The statistical tools used were Frequency and Percentage Distribution, Weighted Mean, and Mean for Dependent Samples to determine the significant improvement between 2nd semester midterm and final grade mean rating academic performance of the students.

The baseline data of this study obtained from midterm grades of the learners. As reflected in the results the midterm mean rating of the male learners is 84.80% which increased to 88% which has significant difference of 3.20 or High and for female learners' midterm rating is 88.85% which increased to 92.10% which 3.25 or High is the significant difference. That immense increased in their mean rating was made after the implementation of interventions. Based on the level of acceptability of the interventions implemented, all of the various interventions garnered Highly Acceptable with grand weighted mean rating of 4.83. It implies that Project KRIS interventions provided a big impact to the learners. Thus, that Project KRIS helped the learners that improved and enhanced their performances with its various interventions.

**Keyword:** *Improvement, Academic Performance, Learners.*

## Introduction

Education is needed to succeed; this is commonly uttered by the youth to shows the importance of education. It is about gaining ideas, knowledge and information for contextualization to all the social issues in this system. Apparently, it is a tool to combat poverty so, it is consistently advocated by our government and included on their Millennium

Development Goal(MDG's) and government thrust to provide education to all citizens to eradicate and end poverty with the support of the teachers, administrators and staff and family, community and other stakeholders as stated in the DepEd Mission “To protect and promote the right of every Filipino to quality, equitable, culture-based, and complete basic education...”.

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The Technical-Vocational-Livelihood Education (TVL) for senior high school is one of the track in the implementation of K to 12 Basic Education Program (BEC). The TLE/TVL Track has four strands namely: Agri-fishery Arts, Home Economics, Industrial Arts, and Information and Communication Technology. One of the courses of Home Economics is the Cookery Subject which is the part of the K to 12 Program to contribute to the attainment of the realization of the overall goal of Department of Education which is the holistic development of every Filipino student and to improve the academic performance in all subject areas.

According to Al-Zoubi and Bani Younes (2015) highlighted that academic achievement is very necessary to the students because it can be used in transferring the studying level to another. Also, he stated that “The problem of low academic achievement is one of the biggest problems that facing the modern educational institutions, which hindered them from the implementation of their educational mission appropriately.” Thus, it must be given attention by the students, teachers and parents that contribute in improving students' academic achievement. Although, there are various factors that may affect the student's academic achievement still, the teachers which have direct contact or relations to the students in teaching-learning process must do some interventions to address the problems.

On the other hand, student academic performance measurement has received considerable attention, the students' midterm mean rating in Cookery this S/Y 2018-2019 2<sup>nd</sup> Semester is 84.80%, so it is expected to improve the performance of the students. It is in this context that the researcher conceptualized to implement Project KRIS: Knowledge Reinforcement and Intervention for Students Performance that aimed to improve and increase their performances.

## Research Objectives

This initiative aimed to determine the significant improvement in academic performance through Project KRIS of Grade 12 TVL in Cookery Subject at Tabgon High School, Goa, Camarines Sur, Philippines for S/Y 2018-2019. Specifically, the research answered the following research objectives:

1. What is the 2<sup>nd</sup> semester midterm grade mean rating of Grade 12 TVL Cookery this SY 2018-2019?
2. What is the level of acceptability of using Project KRIS interventions to improve the academic performance of the Grade 12 TVL Students in Cookery?
3. What is the 2<sup>nd</sup> semester final grade mean rating of Grade 12 TVL Cookery this SY 2018-2019?
4. What is the significant difference as improvement of the mean final rating of the students in this S/Y 2018-2019 2<sup>nd</sup> Semester after the implementation of Project KRIS?

## Related Literatures

Carreon (2018) highlighted on his study the problems encountered by students-at-risk; teachers' employed interventions, and; teachers' level of practice in response to interventions. Overall results of the study revealed the empirical data that utilize to craft student and teacher development plan that aims to increase involvement, performance and receptiveness of students-at-risk.

Alzabut (2017) stressed the effectiveness of different mathematical instructions which applied to improve the grades of his students in Math 225 subject. He concluded that, application of varied

instructional approach would attract learners' attention and interests to learn.

Diaz and Dio (2017) conducted a study entitled "*Effectiveness of Tri-In-1 Strategic Intervention Materials For Grade 9 Students Through Solomon Four-Group Design*" that aims to determine the effectiveness of the developed Strategic Intervention Material (SIM) on the total enumeration of 60 Grade 9 mathematics as subject participant. The result of this study presents that the developed SIM is more effective in teaching. The study also revealed that the students exposed in SIM have improved their mathematics achievement.

Valera (2015) conducted a study on performance of Bachelor of Secondary Education (BSEd) Third year students in Technology and Home Economics (THE). One of the findings of the study shows that teachers are strengths of the school as such that they have direct relationship in delivering the curriculum. Also, teachers have a great impact to the students so that they are encouraged in pursuing post-graduate education for the benefits of all. Thus, teachers and students performance greatly depends with each other considering knowledge, skills, and attitudes. Also, it is highlighted in the recommendation of the study that even the students' level of performance attained the very satisfactory still there is always room for improvement to attain outstanding level of performance.

In 2015, Katamei and Omwono conducted a study entitled "*Intervention Strategies to Improve Students' Academic Performance in Public Secondary Schools in Arid and Semi-Arid Land of Kenya*". This study aims to improve the students' academic performance through varied interventions. There are six varied interventions namely: a] Parental involvement Strategy; b] Provision of Support Programs Strategy; c] Capacity Building Strategy; d] Behaviour

Modification Strategy; e] Provision of Life Skills Strategy, and; f] Academic Indicators Strategy. These interventions or strategies have different activities which students are involved. But, the general objective of these various interventions implemented was to improve the students' academic performance in in Arid and Semi-Arid Land of Kenya.

In 2014, Hott, Isbell & Montani constructed an Info Sheet filled with varied strategies and interventions to help and support the students to learn in Mathematics. It shows the importance of varied strategies and techniques to uplift student one's mathematical ability by addressing the gaps and building strong learning foundation with teacher's support and scaffold instruction.

Wenglinsky (2001) conducted a study entitled "*Teacher Classroom Practices and Student Performance: How Schools Can Make a Difference*" that explores the link between classroom practices and student academic performances by applying multi-level modeling to the 1996 National Assessment on Educational Progress (NAEP) in mathematics. The general finding of this study presents that learning of the students can contribute by their teachers as they can contribute by themselves. There are five variables in teacher quality namely: a] Teacher major; b] Professional Development in Higher Order Thinking Skills; c] Professional Development in diversity; d] Hand- on learning, and; e] Higher-order Thinking Skills that are positively associated with students' achievement.

The study of Carreon (2018), Alzabut 2017, Diaz and Dio (2017), Katamei & Omwono (2015) and Hott, Isbell & Montani (2014) have focus on importance of interventions and innovative instructional approaches to improve the student's achievement and performance. While, Valera (2015) and Wenglinsky (2001) emphasize the

significance of teacher's quality as strength of school which have link, direct connection and provide great impact to students' learning experiences during teaching-learning process.

### Research Gap

There are numerous researches undertaken that comprehensively focus on improving students' academic performance. Most of these researches evidently developed strategic intervention materials (SIM), interventions and varied techniques as assistance to elevate the students' performance with direct interactions with the teacher (Alzabut, 2017; Diaz & Dio, 2017; Hott, Katamei & Omwono, 2015; Carreon, 2015; Isbell & Montani, 2014). However, due to learners' diversity, as teachers we have to continuously invent strategies to cope up with fast changing needs of our students. Understanding their needs through listening to their voice help a lot to scale down their desired learning experiences and formulate with activities as strategy to attract their interests and motivations to learn. Thus, this study wants to fill the existing research gap by developing interventions packed with learning activities and injected during scheduled subject time slot that suited on learners' need specifically in Cookery subject to improve their accomplishment and performance through acquiring skills and competencies.

### Research Methodology

The main focus of this study was to determine the significant improvement in academic performance of the Grade 12 TVL learners in Cookery subject. Descriptive method of research was employed in responding to the different action research objectives posted. These interventions were implemented during the scheduled class hour of Cookery subject to have closed manipulation and directly injected to the students. Thus, this research

study was conducted embedded with various interventions that improve activities that involved the learners in authentic and factual learning.

- a. Care Tech Project- This was an intervention used to gain attention and interests of the students during teaching and learning process using video clips file, pdf file, audio file, slide deck presentation and other materials.
- b. One Hand Project– This intervention referred to the collaborative peer mentoring of students. This intervention provided collaborative training and activities for every end of the Quarter/weeks for those students who got low performance during the activity/laboratory.
- c. Play Magic Box Project- This intervention referred to the interactive game that helped the students to review their lessons who got lower score after the weekly assessment using the self-made Play box to engage them to unique learning experiences.
- d. Friendly Helping Project- This intervention referred to Dyad Learning. The students who failed during evaluation or recitation they undergone this peer mentoring.
- e. Lend a Gift Project – This intervention was all about rewarding system based on their performance of the students who excelled in the class.
- f. Celebrity of the Weeks Project- This was the visual management system that was displayed inside the classroom which served as the monitoring tool to boost the interests of the students.

### A. Participants and/or other Sources of Data and Information

A total enumeration of 25 (both male and female) Grade 12TVL students in Cookeryof Tabgon High School, Goa, Camarines Sur, Philippines which enrolled for the school year 2018–2019 were the respondents of the study.

### B. Data Gathering Methods

Upon the approval of the research proposal, the teacher-researchers asked permission to the School Head of the school for the approval to conduct this research study. Various survey questionnaires and class records were used in the study. The teacher-researchers are the one who made the survey questionnaire in measuring the acceptability level of implemented interventions validated by the School Head to make evidences that considered as

salient points that would contribute to the success of this research study.

Then, the integration of the innovation / intervention/strategy was formally incorporated to the teaching learning process. The students as respondents are informed on the first day of class to ask their permission. Fortunately, 100% of the students agreed to undergo the process.

### Discussion Of Results And Reflection

The discussion flow of the results and reflections are orderly followed the sequence of action research questions together with the reflections.

**Research Objective 1:** The 2nd semester midterm mean rating of Grade 12 Cookery this school year 2018-2019

**Table 1**  
**Percentage and Summary of 2<sup>nd</sup> semester midterm rating of Grade 12 TVL Male learners**

Project KRIS Data	Very High 92-100	High 84-91	Moderate 76-83	Low 68-75	Very low 60-67	Total No. of Male Learners
Learner's Frequency acquired per rating	0	3	2	0	0	5
Percentage	0%	60%	40%	0%	0%	100%
Computed Mean Rating	84.80%		High			

Table 1 shows the data on the Grade 12 TVL Male Learners' 2nd semester midterm grades. Among the five male learners, there are three male learners or 60% of the male respondents bagged a midterm grade ranging from 86-87 which interpreted as High. And, the remaining two male learners or 40%

of male learners got the same midterm grade of 82 which interpreted as moderate. The midterm mean rating of Grade 12 TVL male learners as shown in the table 1 was 84.80 which descriptively interpreted as High.

**Table 2**  
Percentage and Summary of 2<sup>nd</sup> semester midterm rating of Grade 12 TVL Female learners

Project KRIS Data	Very High 92-100	High 84-91	Moderate 76-83	Low 68-75	Very low 60-67	Total No. of Male Learners
Learner's Frequency acquired per rating	6	12	2	0	0	20
Percentage	30%	60%	10%	0%	0%	100%
Computed Mean Rating	88.85		High			

Table 2 reveals the data of the Grade 12 TVL Female Learners' 2nd semester midterm grade. Among the complete enumeration of 20 female learners which respondents of this study, six female learners or 30% got the midterm grade ranging from 92-100 which descriptively interpreted as Very High. Followed by, twelve or 60% of female learners obtained midterm grade ranging from 84-91 or High. And, two or 10% of female learners garnered 76-83 midterm grades which verbally interpreted as Moderate. Over all, the midterm mean rating of female learners is 88.85% which descriptively interpreted as High.

The result implies that male and female learners gained the concepts of this learning area (Cookery) as manifested on their midterm grade. It shows that during midterm quarter their willingness to acquire knowledge was visible.

However, as teacher-researchers that assigned to continuously develop and capacitate the skills of the learners, you must continue to think interventions and strategies on how to double-up the student's knowledge, skills and attitude to acquire the quality education. Thus, with this result which utilized as baseline data of this study, the teacher-researchers designed interventions that would suit to the diversity of learners to continuously provide them the quality learning and to further improve and capacitate them through the implementation of this program known as Project KRIS.

Research Objective 2: The level of Acceptability of using Project KRIS interventions to improve the academic performance of the Grade 12 TVL Students in Cookery.



**Table 3**  
**Tabulated result of survey in the level of acceptability of Project KRIS interventions**

Project KRIS Interventions Implemented	Level of Acceptability N=25					Weighted mean	Interpretation	Rank
		4	3	2	1			2
a. Care Tech Project	23	2	0	0	0	4.92	Highly Acceptable	3
b. One Hand Project	22	2	1	0	0	4.84	Highly Acceptable	5
c. Play Magic Box Project	21	2	2	0	0	4.76	Highly Acceptable	4
d. Friendly Helping Project	23	1	1	0	0	4.80	Highly Acceptable	1
e. Lend a Gift Project	24	0	1	0	0	4.96	Highly Acceptable	6
f. Celebrity of the week's Project	20	2	3	0	0	4.68	Highly Acceptable	
<b>Grand Weighted Mean</b>						<b>4.83</b>	<b>Highly Acceptable</b>	

Legend:

5.00 – 4.21 Highly Acceptable

4.20 – 3.41 Very Acceptable

3.40 – 2.61 Acceptable

2.60 – 1.81 Moderately Acceptable

1.80 – 1.0 Not Acceptable

Table 5 exhibits the result of conducted survey to determine the level of acceptability of the Project KRIS interventions implemented during the teaching and learning process. Based on the above table, Lend a Gift Project as intervention ranked 1st that garnered 4.96 or Highly Acceptable while Celebrity of the Week Project got the ranked 6th that bagged 4.68 or Highly Acceptable. Other interventions that include Care Tech Project ranked 2nd with 4.92, One Hand Project ranked 3rd with 4.84, Friendly Helping Project ranked 4th with 4.80 and Play Magic Box Project ranked 5th with 4.76. And, the grand weighted mean rating is 4.83 which descriptively interpreted as Highly Acceptable

The result implies that all of the interventions implemented are Highly Acceptable. It simply means that, all of the interventions implemented

have greater impact to the learners to enhance and improve their performances. Accordingly, the learners are motivated to learn their lessons and learning activities every day because of these interventions.

As teacher-researchers that spearheaded this initiative, it was very difficult to teach the lessons and ensure the retention of the learners without the aid of interventions formulated. It was very time consuming delivering the lessons through the use of traditional method that learners are used too since then. The main point was, this kind of initiative answered the dilemma of the students regarding the learning acquisition through collaboration and participation.

**Research Objective 3:** The 2nd semester final mean rating of Grade 12 Cookery this school year 2018-2019.

**Table 4**  
**Percentage and Summary of 2<sup>nd</sup> semester final grade meanrating of Grade 12 TVL Male learners**

Project KRIS Data	Very High 92-100	High 84-91	Moderate 76-83	Low 68-75	Very low 60-67	Total No. of Male Learners
Learner's Frequency acquired per rating	1	3	1	0	0	5
Percentage	20%	60%	20%	0%	0%	100%
Computed Mean Rating	88.00%		High			

As shown in table 4, the frequency and percentage of the gathered data depicts that one male learner or 20% got the Very High rating. Accordingly, three male learners or 60% acquired the High rating and the remaining one male learner or 20% got Moderate rating. The mean rating of the final grades of the respondents is 88.00 which descriptively interpreted as High.

The result implies that the majority of the male learners got the rating ranging from 84-91 or High which a good indicator that the learners learned the required knowledge and competency through the implementation of the intervention. Totally, the result shows the good impact and outcome of the interventions associated in this study.

**Table 5**  
**Percentage and Summary of 2nd semester final grade mean rating of Grade 12 TVL Female learners**

Project KRIS Data	Very High 92-100	High 84-91	Moderate 76-83	Low 68-75	Very low 60-67	Total No. of Male Learners
Learner's Frequency acquired per rating	11	8	1	0	0	20
Percentage	55%	40%	5%	0%	0%	100%
Computed Mean Rating	92.10%		High			

As gleaned in table 5 the final grade of the female learners after the implementation of the Project KRIS. The result shows the majority of the female learners which counted as 11 female learners or 55% acquired the final grade that suited to 92-100 or Very High rating. Followed by, eight female learners or 40% got the final grade ranging from 84-91 or High. The final grade mean rating result is 92.10% or descriptively interpreted as Very High. However, there is one female learner who got Moderate rating or final grade ranging from 76-83.

The result implies that almost of the female learners acquainted on the designed interventions to aid them in their lessons in Cookery subject.

Their knowledge was reinforced through various interventions. It is proved through empirical data as the results shown in the above tables.

As teacher-researchers reflected in the results, the teacher-researchers were very glad to the triumph of this study to improve the student's performance with this kind of initiative. It was a timely accomplishment as reward to both respondents and teacher-researchers who both gained in this study.

**Research Objective 4:** The significant difference as improvement of the mean final rating of the students in this S/Y 2018-2019 2nd Semester after



the implementation of Project KRIS?

In this research objective, the teacher- researchers

computed the significant difference between the midterm and final grade to determine its improvement.

**Table 6**  
**Comparison of 2<sup>nd</sup> semester midterm and final grade mean rating of Grade 12 TVL Male learners in Cookery SY 2018-2019**

MALE LEARNERS	2ND semester midterm and final grade SY 2018-2019			
	MIDTERM	FINAL	DIFFERENCE	INTERPRETATION
COMPUTED MEAN RATING	84.80%	88.00%	3.20	High

Legend:

4.01– 5.00aboveVery High

3.01– 4.00High

2.01– 3.00Moderate

1.01– 2.00Low

1.00– belowVery Low

Table 6 reveals the comparison of 2nd semester midterm and final grade mean rating of male learners this school year 2018-2019. The computed mean rating for midterm grades is 84.80 while the computed mean rating for final grades is 88.00. The computed difference between the midterm mean rating and final mean rating is 3.20 which have descriptive rating of High.

This result shows the significant difference as improvement of the students after the implementation of various interventions

associated in Project KRIS. It simply means that Project KRIS enhanced and improved the performances of the male learners in their subject.

As reflection, the teacher-researchers are very glad and amazed to the results of this conducted research study that enhanced the performances of the students. All the tiredness, efforts, dedications and commitment in providing interactive discussions are worth it as such that the results of this initiative showed the certain immense improvement of the learners that embraced quality education.

**Table 7**  
**Comparison of 2nd semester midterm and final grade mean rating of Grade 12 TVL female learners in Cookery SY 2018-2019**

MALE LEARNERS	2ND semester midterm and final grade SY 2018-2019			
	MIDTERM	FINAL	DIFFERENCE	INTERPRETATION
COMPUTED MEAN RATING	88.85%	92.10%	3.25	High

Legend:

4.01– 5.00aboveVery High

3.01– 4.00High

2.01– 3.00Moderate

1.01– 2.00Low

1.00– belowVery Low

Table 7 demonstrates the comparison result of 2nd semester midterm and final mean rating of female learners to determine its differences and their improvement. As shows in this table, the computed mean rating difference between midterm and final mean rating of female learners is 3.25 which descriptively interpreted as High. The result implies that the various interventions embedded in Project KRIS have impact to the learners' grade.

At the end of the semester, the teacher-researchers were amazed on the result of the computed mean rating which increased from 88.85% to 92.10% or interpreted as High. With that result, it can be concluded that the interventions made were very useful that encourage 100% participation of learners and ensured the 100% retention of the learning embedded in the subject.

Furthermore, this initiative entitled Project KRIS: Knowledge Reinforcement and Intervention for Student's Knowledge catered the learners' multi-cultural diversity that recognized their talents through outputs and efforts in all learning activities that provided them authentic learning experiences for their holistic development as 21st century learners.

## Conclusions

This study focuses on improving the performance of the students in Cookery subject through employing various interventions. These interventions were implemented during the scheduled class hour to have direct and intensive connection to the students. The process of this research started with the defining the problem, problem analysis through root-cause analysis, defining the solutions, roll-out of solutions in classroom setting, assessment, monitoring and evaluation of results. Based on the findings of the study and feedback of the students, it can be concluded that this initiative help to elevate the

students' performances and engage them in day to day learning experiences. Thus, it is highly recommended to associate these interventions continuously to capture and maintain the interests of the learners.

## Recommendations

Based on the findings, it is recommended that: 1] Teachers must continue the association of interventions during teaching-learning process; 2] Teachers should constantly encourage or motivate the students to participate and engage in all learning experiences; 3] Students must intensify the importance of the lessons- intrinsically motivated and; 4] School administrators must support and inspire teachers on making this kind of initiative through providing adequate funds, trainings and needed physical resources/materials for the benefit of the whole institution.

## Scope For Further Research

There are various researches steered in this field yet still progressing. Research must be done in all levels and learning areas- elementary, both junior and senior high school and college level to plot their needs to sustainably improve their performance in different learning areas. Moreover, other variables can be added in future research like teacher's effectiveness in delivering instructions, student's motivations, student anxiety and the likes to expound the findings to generate new knowledge.

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