

The Initial Impact of Instructional Development Intervention on: Teaching Style and Student Learning Style: A Case Study of Primary 3 Basic Mathematics Classes

Parichat Hongplang

An Action Research Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Management in Organization Development and Management Faculty of Graduate School of Business Assumption University Academic Year 2010 Copyright of Assumption University

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Action Research Title	The Initial Impact of Instructional Development Intervention on		
	Teaching Style and Student Learning Style: A Case Study of		
	Primary 3 Basic Mathematics Classes		
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The Graduate School/Faculty of Graduate School of Business, Assumption University, has approved this action research as a partial fulfillment of the requirements for the Degree of Master of Management in Organization Development and Management.

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ABSTRACT

The main purpose of the study in this research is to find out the initial impact of IDI on Student Learning style and Teaching Style: A Case Study of Primary 3 Basic Mathematics classes. This study aimed to achieve three main objectives including (1) To describe and analyze the current status of the Primary 3 room 1 and 2 in terms of the teaching style and student learning style, (2) To identify propose, and implement appropriate Instructional Development Intervention's in Primary 3 room 1 on the teaching style and student learning style (3) To determine the initial impact of Instructional Development Intervention in Primary 3 room 1 on the teaching style and student learning style.

The respondents of this research are the 30 students from Primary 3 Room 1 in Basic Mathematics classes of academic year 2009 was taught by the using academic game, competition, and quick answer.

For the research methodology, the researcher focused on paper test, observation checklist, and questionnaire which were applied for gathering primary data. The research instruments that were developed for the study are the Pre-test and Post-test of the knowledge of Basic Mathematics, having 30 questions. The questionnaire identified the Learning Style of the respondents by using the VAK learning style model that related to Visual style , Auditory Style and Kinesthetic style. Then, research design used questionnaire about the students' opinion on Teaching Style analysis which referred to any approach that attempts to describe the data. The appropriate tools applied to conduct this study were questionnaires and observations checklist, the statistical package software program, T-test and percentile were used to analyze the data. From the findings, the researcher could conclude that most of the respondents were Kinesthetic Style that percentile is 44. For IDI, the researcher created the Teaching Style by using game, competition and quick answer to motivate students from Room 1 to learn and they got the higher score in paper test when compared with Room 2. After intervention, the researcher collected the data to check the impact of ID Intervention on Student Learning Style and Teaching Style. The results showed students from Room 1 agree in Teaching Style by using game or activities more than the old teaching style.

Therefore, based on the research hypothesis, there is a significant difference between Pre and Post IDI. And ID interventions bring impact on Student Learning Style and Teaching Style.



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Any mistakes that remain despite the wise counsel of my colleagues are solely the responsibility of the author.

Parichat Hongplang

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TABLE OF CONTENTS

Top	Dic	Page
Abs	stract	i
Ack	knowledgment	ii
Tab	e of Contents	iii
List	t of Table	vii
List	t of Figures	ix
	NIVERSIT	
Cha	apter 1: Introduction	1
1.	Background of the Study	1
	1.1 Global context	2
	1.2 Asian Context	3
	1.3 National Context	4
	1.4 St. Gabriel's College Background	5
	1.5 Current Situation LABOR	6
	1.6 SWOT Analysis	8
2.	Research Objective 773 NEITASIAAA31200	11
3.	Statement of Problem	11
4.	Research Question	11
5.	Research Hypothesis	12
6.	Definition of Terms	12
7.	Significance of the Study	14
8.	Scope and Delimitation of the Research	16

Topic

Chapter 2: Review of Related Literature and Conceptual Framework	17
1. Organization as a System	17
2. Change Management	20
3. Instructional Development	23
4. Teaching Style	25
5. Student Learning Style	28
Chapter 3: Research Design and Methodology	32
1 Decemb Decim	22
1. Research Design	32
2. The sample / The Respondents	34
3. Instrument	36
4. Data Collection – Techniques, Procedure	37
5. Data Analysis	38
Chapter 4: Research Finding and Analysis of Data	39
1. Demographic Profile of the Respondents	39
2. Findings	39
3. Result of Hypothesis Testing	67
Chapter 5: Summary, Conclusions and Recommendations	69
1. Summary of Findings	69
2. Conclusion	69
3. Recommendations	71

Topic

4.	Recommendations for Future Research	72

Epilogue 73 Reference 75

Appendix



ลัยอัสสัมข์เป

Page

78

LIGI OF TRULE	L	IST	OF	TA	BLF	1
---------------	---	-----	----	----	-----	---

Table	Page
1.1 The total students in Primary 3 on Academic year 2009	7
1.2 SWOT analysis of Mathematics class in Primary 3	8
2.1 Kotter's Eight - Step Change Management Model	23
2.2 Concept Framework	33
3.2 The total students in Primary 3 on Academic year 2009 (Respondents)	35
3.3 Basic Mathematics Teachers in Primary 3, academic year 2009	36
4.1 Classroom frequency	39
4.2 Time table to do the research	41
4.3 Mean on he Perception of Student Learning Style on Primary 3 room 1	41
4.4 The perception of respondent on Primary 3 room 1	42
4.5 The perception of respondent toward the Student Learning Style on	
Auditory Learning Style	43
Kinesthetic Learning Style R	44
4.7 The perception of respondent toward the Student Learning Style on	
Visual Learning Style ?? ທີ່ຢາລັຍລັສລິມ	45
4.8 Mean on the Perception of Teaching Style before IDI	46
4.9 The perception of respondent toward the Teaching Style on	
Authoritarian Teaching Style	47
4.10The perception of respondent toward the Teaching Style on	
Detached Teaching Style	48
4.11The perception of respondent toward the Teaching Style on	
Authoritative Teaching Style	49

4.12The perception of respondent toward the Teaching Style on	
Permissive Teaching Style	50
4.13Mean on the perception of respondent of Student Learning Style after IDI	52
4.14The perception of respondent toward the Student Learning Style on	
Auditory Learning Style after IDI	53
4.15 The perception of respondent toward the Student Learning Style on	
Kinesthetic Learning Style after IDI	54
4.16The perception of respondent toward the Student Learning Style on	
Visual Learning Style after IDI	55
4.17Mean on the Perception of Teaching Style after IDI	56
4.18The perception of respondent toward the Teaching Style on	
Authoritarian Teaching Style	57
4.19The perception of respondent toward the Teaching Style on	
Detached Teaching Style	58
4.20The perception of respondent toward the Teaching Style on	
Authoritative Teaching Style	59
4.21 The perception of respondent toward the Teaching Style on	
Permissive Teaching Style	61
4.22The score of Pre – Post test semester 2 of Primary 3 room 1	62
4.23The score of Pre – Post test semester 2 of Primary 3 room 2	63
4.24The score between Post test and Pre test of Primary 3 room 1 and 2	67
4.25The result of Pre and Post IDI of Student Learning Style of Primary 3 room 1	68
4.26 The result of Pre and Post IDI of Teaching Style of Primary 3 room 1	68
5.1 Conceptual Framework in Classroom field	71

LIST OF FIGURES

Fig	ure	Page
21	The Organization as a System: A10 - Sten Process	° 10
2.1	Dree: Change Management Matarity Madel	19
2.2	Prsci Change Management Maturity Model	22
3.1	Instructional Development Intervention	32
4.1	Pre – Post Test Graph semester 2 of Primary 3 room 1	65
4.2	Pre – Post Test Graph semester 2 of Primary 3 room 2	66



Chapter 1

Introduction

Background of the Study

The world education is changes from school to business, the schools have competition themselves and with other schools, many schools focus on quality of students, then high performances of teachers or human who works in school and satisfy of parents are necessary to get goal and success on their school business.

Education in any social environment is influenced in many ways by the traditions of these environments. As a consequence the results of such education will naturally differ with different traditions in different environments.

Indeed, this is necessary since one of the intentions of education is to support the traditional continuity of structure and function of a special environment.

On the other hand, today we are observing a growing interdependence between environments like regions, states, countries, and different cultural areas of the world. In many respects they have to rely on corresponding or equivalent standards of education, and differences can cause irritations.

In mathematics education also, taking an international and intercultural point of view, we face this split phenomenon of difference and correspondence, linked with the perpetual challenge to improve the quality of mathematics education. A study attempting a comparison between mathematics educations in different traditions will be helpful to understand this phenomenon in detail and to exploit it for the sake of mathematics education.

http://www.springerlink.com

Global Context

World Education is dedicated to improving the lives of the poor through education, and economic and social development programs.

World Education is well known for its work around the globe in environmental education, community development, maternal and child health, school governance, integrated literacy, small enterprise development, HIV and AIDS education and prevention and care, and refugee training. World Education also works to strengthen literacy and adult basic education programs in the United States. Projects are designed to contribute to individual growth, as well as to community and national development.

http://www.worlded.org

Education in the United States is mainly provided by the public sector, with control and funding coming from three levels: federal, state, and local. Child education is compulsory.

Public education is universally available. School curricula, funding, teaching, and other policies are set through locally elected school boards with jurisdiction over school districts with many directives from state legislatures. School districts are usually separate from other local jurisdictions, with independent officials and budgets. Educational standards and standardized testing decisions are usually made by state governments.

The ages for compulsory education vary by state. It begins from ages five to eight and ends from ages fourteen to eighteen. A growing number of states are now requiring compulsory education until the age of 18.

Compulsory education requirements can generally be satisfied by educating children in public schools, state-certified private schools, or an approved home school

~ 2 ~

program. In most public and private schools, education is divided into three levels: elementary school, middle school (sometimes called junior high school), and high school (sometimes referred to as secondary education). In almost all schools at these levels, children are divided by age groups into grades, ranging from kindergarten (followed by first grade) for the youngest children in elementary school, up to twelfth grade, the final year of high school. The exact age range of students in these grade levels varies slightly from area to area.

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http://en.wikipedia.org

Asian Context

The Asian region has had nations which are enthusiastic in education since ancient times. The system of the imperial civil-service examinations in China was epoch-making system positively appointing talents to the public service being the first in the world. Now the meaning which the educations in Asian region have is changing including these historical backgrounds. A lot of countries such as Southeast Asia heighten their enthusiasm for education day by day along the courtiers' economic development. Also, in the countries such as South Korea, Japan, and Singapore socially important meaning of one's background causes the heated educational phenomenon called the exam war. So forth, a lot of excellent talents are born from Asian countries.

But it is the fact that there is another side of the Asian education status quo. There are countries with education not spreading through the farm villages. There are countries with big educational difference because of a gap such as between urban and rural regions and rich and poor. Also excessive elite education broadens this gap. As you see the education in Asian countries to develop with various problems.

http://park.org

National Context

From 1978, a reform of educational system was carried out. The old system consisted of elementary education (junior:4 years / senior:3 years), secondary education (jun:3 / sen:2), and higher education (University, training school for teachers, vocational school, military/police school) was renewed into 6-3-3 system which is basically the same as Japan.

The school attendance rate is more than 90% in elementary school, but in secondary education, the rate goes down to a little over 40% at the first half of secondary education, and a little over 20% at the 2nd half. The Government has started extending compulsory education into 9 years (including 1st half of secondary education), and making efforts to popularize secondary education. Therefore, the rate will presumably rise in the future. The Government is also hurrying the expansion of technical and vocational education set in the stage of the 2nd half of secondary education.

There are 20 national universities and 26 private universities. across the nation, and the total number of students are about 680,000(1991). Educational administration in Thailand is divided into the Ministry of Education and the Agency of University. While M.E. is engaged in issues of elementary and secondary education(including private school) such as curriculum, A.U. controls all the national and private universities.

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There are 2 sessions a year in Schools in Thailand. From elementary school to high school, the 1st semester starts late in May and ends in the middle of October, and the 2nd semester starts in November and ends at the end of March. In college, class

~4~

begins early in June. Summer vacation starts late in March till May. Universities in Thailand are rather exclusive against foreigners so far. There are some Japanese students but few. However, a tendency to welcome Japanese students is seen in some prestige universities in recent years.

Lately, many people are interested in studying Japanese. Japanese course is established in many universities such as Chulalongkorn University, Thammasat University, Kasetsart University, and the University of the Thai Chamber of Commerce.

http://park.org

St. Gabriel's College

Saint Gabriel's College was founded in 1920. Saint Gabriel's College has only boy students and on the first time Saint Gabriel's College has only man to be a teacher. The firs group of teachers came from other country who was a Catholic religious that we call Brothers' Saint Gabriel. On second war of the world the brother got a lot problem with religion, they must to hide from other people until the war finished.

The first time of Saint Gabriel's College taught every subject in English Language because the Brother came from other country, when school got Thai people to be a teacher, the school curriculum try to a little bit change to Thai Language, finally every subject aught in Thai Language.

On this time Brother Anusak has a best vision, the Brother try to change curriculum from Thai Language to English Language, I think because the Brother point on the future, our students must survive by themselves, the world can connect in every where by internet or communicate and English Language as same is an International Language for everybody.

Primary 3

In 2009, Primary 3 has eight classrooms that is special level because another level has seven classroom, the total of students 499, 16 master teachers, and 5 assistant teachers.

Students learn total eight groups of subject and five subjects separate into two groups, that is Basic group and Intensive English (teach in English Language).

Mathematics Subject classes

Mathematics Subject is a main subject and academic subject of school, every student need to get high score.

Mathematics Subject as same complex subject, students must to understand step by step and less activity to matching with the lesson.

In Primary 3 has four Mathematics teachers, one teacher teach Math IE (teach mathematics in English language), on Basic Mathematics has three teachers, two teachers teach three classrooms and another teacher teach two classrooms.

The researcher teaches Basic Mathematics two classes (room 1 - 2) use old teaching style and TTT style.

Table 1.1 the total students in Primary 3 on Academic year 2009

room	Number of students	
1	64	
2	63	
3	63	
4	62	
5	63	
6	63	
7	ER 62/2	
8	59	2
Total	<u>499</u>	~

Situation Analysis

Mathematics subject is an important subject of student, because it it's a main subject, the student must pass an exam, got the best score and absolutely understand in the subject. Many teachers try to use a lot of things in classroom to let the student pay attention and easy to understand on lesson.

The researcher never have study about technical teaching style because graduated in Bachelor degree of Arts but the researcher love to teach and researchers' work is a teacher, then must change or improve the teaching style that can helpful in the work life.

Then SWOT analysis is the first tool that the researcher to used to classify problem of the teaching style and student learning style. It separated to four parts. The first part focuses on the strength points (S) of the teaching style and student learning style. The second part focuses on Weakness points (W) of the teaching style and student learning style. The third part focuses on the opportunity (O) of the teaching style and student learning style. And the last part focuses on the Treat (T) of the teaching style and student learning style.

Then must think about the teaching style and the reflection of student or student learning style, and put it into the figure of SWOT Analysis by;

S (Strengths)	W (Weaknesses)
School	School
An academic school	 Many school activities
Best vision of director	• A lot of opinion teachers
Training course teacher	 Lack of knowledge to use
Monthly committee	technology
High technology	
Mathematics classroom	Mathematics classroom
Experience teachers	Lack of collaborate between
• Three Mathematics teachers in	teacher
level	• 63 – 64 students in a classroom
Smart students	• Talkative students outside the
da	lesson
O (Opportunities)	T (Threats)
School SIN	School School
Good foundation	Many tutor centers around school
 Good relationship between school 	Many academic schools
and parents	
• Good relationship between school	
and alumni	
Mathematics classroom	Mathematics classroom
• Exchange teaching with other	• Only Intensive English (IE.)
schools	teacher go to exchange teaching
• Exchange teaching with abroad schools	Some curriculum different from government
 National test for students 	• Same group of students go to
• St. Gabriel's students are socially	competition with other schools
accepted	
• Competition with other schools	

 Table 1.2 SWOT analysis of Mathematics class in Primary 3

Strengths (S)

School: Saint Gabriel's College (SG.) is an academic school, many parents want to send their children to SG. their believe on strong academic of school and SG. has director of best vision that focus on develop human resource of school, support every training course to improve school goal, and build high technology for human resource of school to adapt and apply to work.

Mathematics classroom: In Primary 3 has three Basic Mathematics teachers, two of three teachers have more than ten years on experience Mathematics teaching and SG. Students are smart because they must to pass the test before start to study in SG.

Weaknesses (W

School: SG. is an academic school but SG. has many activities specifically on semester two example Loy Kratong Day, Father Day, Constitution Day, X'mas Day New Year Day, ... etc. then students will lose more then 20 days for do activities. More than 300 people work altogether than mean more opinion same as SG. teachers some of teacher have good knowledge on technology and try to learn more to use in classroom, some of teacher lack of knowledge on technology and SG. has training course but more teachers not matching time with training course then they can get more knowledge on technology

Mathematics classroom: In classroom has 63 - 64 students and has two teachers in a period, some students joy in activity or lesson in class but some students are very shy to give any answers to the teacher or shy to do activity in class or they like to talk outside the lesson with their friends and two teachers not enough for a

~9~

classroom to have participate together and three Mathematics teachers taught difference styles that are not matching together.

Opportunities (**O**)

School: SG. has a very better foundation that is Saint Gabriel's Brother Foundation to support anything in school and SG. has very good strong relationship between school with parents and SG. alumni to help anything that our school want to do to help students get more knowledge or success the goal of school.

Mathematics classroom: six to ten Mathematics teachers went to other schools in Thailand and abroad schools to exchange teaching, sharing teaching and knowledge to adapt and apply in school. Every ideas and knowledge the teachers have to do in classroom to help students when they have national test and go to competition with other schools. In every year Mathematics subject has to sent more then 50 students in each level to go competition outside school and teachers must to training them to go to top five or top ten of competition then every students in SG. will proud in SG. and got socially accepted from other people.

Threats (T)

School: Saint Gabriel's College is a famous academic school in Bangkok, Thailand, parents are not focus on study in SG. but they hope their children must to got the best knowledge then around school has more than 10 tutor centers to help the parents to prepare lesson of students when they study in classroom that are easy to understand the lesson but the tutor centers not only focus to prepare the lesson they focus on students come to them and try to give information about they can give knowledge more than school give to students because they have small classroom,

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have five to ten students in a classroom then many student pay attention in school classroom less than tutor centers classroom.

Mathematics classroom: The experience of teachers to teaching with other school in Thailand or abroad just focus on Intensive English (IE.) as same with students who go to competition that are the same group of students to go to and some of SG curriculum different from government, curriculum of SG. difficult more than the government curriculum.

Research Objectives

1. To describe and analyze the current status of the Primary 3 room 1 and 2 in terms of the teaching style and student learning style.

2. To identify and implement appropriate IDI's in Primary 3 room 1 on the teaching style and student learning style.

3. To determine the initial impact of IDI's in Primary 3 room 1 on the teaching style and student learning style.

Statement of the Problem

- The main purpose of this study focuses on the initial impact of Instructional development intervention on the teaching style and student learning style

in Primary 3 room 1.

Research Questions

1. What is the current status of the teaching style and student learning

style in Primary 3 room 1 and 2?

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2. What are the appropriate Instructional Development Interventions

(IDI's) for the teaching style and student learning style?

3. What is the initial impact of IDI on the teaching style and student learning style?

Hypothesis

Ho 1 : There is no initial impact of IDI on the teaching style and student learning style in Primary 3 room 1.

Ha 1 : There is initial impact of IDI on the teaching style and student learning style in Primary 3 room 1.

Definition of Terms

Definition of Teaching Style

Authoritarian Teaching Style The authoritarian teacher is often described by students as a screamer. This teacher expects children to obey and when they do not, this type of teacher has little management abilities beyond constant yelling at the students to get them back in line. Very little is allowed past this teacher as every little infraction is caught and disciplined. Students may obey this teacher but mostly out of fear, and the teacher will blame the discipline problems in class on the students. [1-2-3 Magic for Teacher, ParentMagic inc., 2004]

Permissive Teaching Style The permissive teacher is one who really just wants to be friends with her students. She may plead with students to raise their hand or follow other simple rules, but does not have a firm discipline plan in place. While students may say they like this type of teacher, when it comes down to a difficulty,

students know that the teacher will not take care of a problem and will often try to take matters into their own hands as a result. [1-2-3 Magic for Teacher, ParentMagic inc., 2004]

Detached Teaching Style The detached teacher is one who really does not care. This teacher has become desensitized to the discipline problems and may not even care what kind of grades her students receive in class. She will sit behind her desk while students are working and grade papers during class or when on duty. There is no emotional support or behavioral management from the detached teacher. This teaching style is often the result of an illness or depression. [1-2-3 Magic for Teacher, ParentMagic inc., 2004]

Authoritative Teaching Style The authoritative teacher is one who has an orderly classroom, a strong discipline plan and is caring and supportive. Students respect this teacher and know that they can go to her with problems of any kind no matter how big or small. While this style of teaching is ideal, it can be difficult to achieve. [1-2-3 Magic for Teacher, ParentMagic inc., 2004]

Formal Authority is the teacher focus on content or lesson only don't add anything in classroom.

Definition of Student learning style

Visual Learner Style is this who learns things best through seeing them. Visual learning students like to keep an eye on the teacher by sitting in the front of the class and watching the lecture closely. Often, visual learners will find that information "clicks" when it is explained with the aid of a chart or picture.

(http://homeworktips.about.com)

Auditory Learner Style is this who learns best through hearing things. They may struggle to understand a chapter they've read, but then experience a full understanding as they listen to the class lecture.

(http://homeworktips.about.com)

Kinesthetic Learner Style typically learn best by doing. They are naturally good at physical activities like sports and dance. They enjoy learning through handson methods. They typically like how-to guides and action-adventure stories. They might pace while on the phone or take breaks from studying to get up and move around. Some kinesthetic learners seem fidgety, having a hard time sitting still in class. (http://712educators.about.com)

Significance of the Study

How to help the student

Now is 21's students or children is different from 20's, almost like to study by activity more than listening and writing. Then the old style teaching will be get bored and unsuccessful for new generation. The teacher must add more activity in class to get them interest in class, use game for help them understanding in Mathematics because almost people think Mathematics is difficult if they can change the opinion from difficult to challenge and start change opinion form the children the word of Mathematics is difficult it will not happened again and their will enjoy get more knowledge.

The activities that use in classrooms can motivate students, let them enjoy and pay attention, finally they can get more knowledge.

How you study help teacher

Many teachers are lack of education media or lack of activity, when this research finish, the ways of activity and education media will help the teachers have many choice to use on their class or adapt with the lesson, just not only on Mathematics subject but it can helpful every subjects.

How you study help St. Gabriel's College in journal

St. Gabriel's College is an Academic school then Mathematics is the main subject of school, every student must improve understanding, success and pass an exam in Mathematics.

When this research finish, the school can use summarize to develop the teaching style and student learning style or the school can build the center education media room to support in any lesson.

How you study help your class

In Primary 3 al of students as same the big brother of group 1 (Primary 1-3) and the students want to know more in their subject but different from the last two years, they want study on interesting things or more excited. Then the old teaching style or TTT styles are not matching with them. The teaching style must to

change. Finally, when teaching style can motivate students to joy in class, and the student learning style will be change too. The students are not written everything down into notebook, they can practicing by doing or thinking more than copying.

Scope and Delimitation of the Study

The scope of this research studies the impact of instructional development intervention on the teaching style and student learning style on Primary 3 Basic Mathematics classes. This study will concentrate on two classes which are Room 1 and Room 2. For Room 1 use the impact of IDI but Room 2 do not use. When get the result will be compare together.



Chapter 2

Review of Related Literature and Conceptual Framework

This chapter presents the review of related literature on Organization as a system, organization development, change management and instructional development

2.1 Organization as a system

By defining a system in this way, we can link the means of production with the aim or purpose of the organization in order to continually improve. "Aim" means the connection to the underlying social or community need. The aim also considers the environmental issues that may effect the future of the organization. General systems theory, originally proposed by Von Bertalanffy and then by others in biology, psychiatry, management, and engineering, is all related. An "open system" is a system that permits continued access from "outside" of the system itself.

Organization as a System: A 10 – Step Process, the first step focus on Output by seek on the question to answer is: What do you produce? Or what do you make? From the question, the answer must be including list of the important, listing service or products, not the activities necessary to produce. The second step fo is Customers, focus on the question: Who uses or receives these services or products?, the answer from this question is a clarification of the identity of those who benefit from what we make. The third step is Environment / Community Need focus on the question: What is the underlying need that those customers have for what you make? The purpose of this question is to help to gain insight into the underlying need for what we do. The fourth step is Customer Knowledge that focuses on the question: What measures or

characteristic do customers use when they assess and judge the goodness or quality of what you make? The answer from these questions help to develop further insight into the ways in which improvements in what is done can be guided by the specific quality concerns of those who benefit from what we do. The intention here is to build further knowledge of the customer that we serve. The fifth is Processes focus on the question: What methods or activities do you use to make your service or product? The answer from this question reveals that there are several processes at work to generate what we produce. The sixth step is Inputs focus on the question: What comes into the process and is changed by the regular actions of the process to create the services or products? The answer from this question builds knowledge of the needs, skills, materials or goods that regularly enter the system and which form the bedginning point for the work. The seventh step is Suppliers focus on the question: Who or what specific people, departments, or organizations provide the inputs? The answer from this question identifies those we depend on for what we do. The eighth step is Vision focus on the question: What we know about the need for what we do, and our knowledge of the customers, what is the vision for the future in our organization? The ingredients of our shared view of the future for our organization underlie what will be needed to build a shared sense of that future. The shared sense of the future is what every worker needs in order to align what they do and how they might improve what they do with the future of the organization. The nineth step is Plan to Improve focus on the question: Based on your vision for the future, on your knowledge of the needs, on your knowledge of the customer, and on information from employees involved and knowledgeable about your work, what is strategically important to improve? The answers from this question provide the near – term fous (12 - 18 months) for work on the improvement of what we do. They intergrate the improvement efforts of the organization. The tenth step is Design and Redesign focus on the question: What specific processes will offer the greatest leverage in securing the strategic improvements we seek to make? The answers from this question offer greater precision for the immediate improvement plans and recognize that improvement will occur either y designing some new processes or by re – designing existing processes.

(http://mot.vuse.vanderbilt.edu)



http://mot.vuse.vanderbilt.edu

Figure 2.1 The Organization as a System: A 10 - Step Precess

2.1 Organization Development (OD)

"Organization development is a system-wide application of behavioral science knowledge to the planned development and reinforcement of organizational strategies, structures, and processes for improving an organization's effectiveness." (Cummings and Worley, 1997: p.2.)

"Most managers and scholars agree that if an organization is to thrive, it must change continually in response to significant developments in the environment, such as changing customer needs, technological breakthroughs, and new government regulations.

There are many ways to change organizations such as changing organizational jobs, organizational structure, technology, and human resources. By changing organization's rules and regulations, policies, and budgeting procedures. Some managers formulate appropriate changes and then implement them successfully, at least, in order to enable their organizations to be more flexible, innovative, efficient, and effective.

An essential concept, method or technique which can be brought to change the organizations to attain any desirable goal is "Organizational Development" or "O.D."." (Sriboonnark, http://blog.buu.ac.th/blog/nopparathapol/136)

2.2 Change Management

Prosci Change Management Maturity Model give 5 Levels of change management that start by Level 1 just want to know what the oranization need to change or make a project, attend change management training, purchase change management resources or engage change management consultants then apply change

management to isolated projects and use change management techiques to help projects that are current experiencing resistance to chang. Level 2 Isolated Project that are started by Create knowledge abou the different change management intiatives being used in the organization and begin research in change management best practices, create clusters of project team applying change management principles. Begin collection of knowledge and tools across the organization then celebrate change management successes and begin building support for using change management with executives and senior leaders who oversee multiple projects. Level 3 Multiple Projects that is enlist executive support for applying change management on every project and for building cange competencies at every level in the organization and select a common metodelogy that can be used throughout the organization. Being acquiring the tools and training necessary to rollout the common methodology. Level 4 Organizational Standards is create a formal position or staff group that is responsible for the effective deployment, training and improvement of change management compectencies. Correct non - compliance. Analyze gaps in the organization that are not applying the selected methodology and develop plans to evel 5 Oranizational Competency, when implement improvements. And Level organizations have developed a high level of change management competency, change management step ae completely integrated into project management. Planning and design phase have both project and change management elements and viewed as standard practice. (www.change-management.com)

Prosci Change Management Maturity Model

Level 5	Organizational Competency	Change management competency is evident in all levels of the organization and is part of the organization's intellectual property and competitive edge	Continuous process improvement in place	Highest profitability and responsiveness
Level 4	Organizational Standards	Organization-wide standards and methods are broadly deployed for managing and leading change	Selection of common approach	Ť
Level 3	Multiple Projects	Comprehensive approach for managing change is being applied in multiple projects	Examples of best practices evident	
Level 2	Isolated Projects	Some elements of change management are being applied in isolated projects	Many different tactics used inconsistently	ł
Level 1	Adhoc or Absent	Little or no change management applied	People-dependent without any formal practices or plans	Highest rate of project failure, turnover and productivity loss

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www.change-management.com/Prosci-CM-Maturity-Model-writeup.pdf

Figure 2.2 Prsci Change Management Maturity Model.

LABOR

Kotter's(1996) acknowledges that is his framework simplifies the change process and that "even successful change efforts are messy and full of surprises," he maintains that following the eight phases his outlines are important for achieving successful change and that skipping step creates only the illusion of speed and never produces a satisfying result. He argues that successful change follows a see – feel – change pattern in which problems need to be presented in a compelling way that captures the attention of others; this awakens in them fellings about the need for change; and the change itself reinforces new behaviors. Whithout dismissing an alternative "analysis - think - chang" pattern, he argues that the "see - feel - change"

pattern is more motivation for people to engage in change.

Step	Action
1. Establish the need for urgency	- Perform market analyses
	- Determine problems and opportunities
	- Use techniques to focus people's attention
	on the importance of change to meet these challenges
2. Ensure these is a powerful change	- Create team structures to help drive the
group to guide the change	change
	- Ensure teams have sufficient power to achieve the desired change
3. Develop a vision	- Develop a vision that provides a focus for
	the change
4. Communicate the vision	- Role model the behavior implied by the vision
	- Use multiple channels to constantly
	communicate the vision
5. Empower staff	- Remove organizational policies and
	structures that inhibit achievement of the
BRUTHERS	vision vision
	- Encourage risk taking
6. Ensure there are short – term wins	- Wins help support need for change
*	- Rewarding "wins" helps to provide
7 Congolidate going	motivation Continue etc. remove organizational
7. Consolidate gains	policies and processes that inhibit change
19Nei-	Reward those who engage positively with
	the change
	- Establish new, related change projects
8. Embed the change in the culture	- Link change to organizational performance
	and leadership

Table 2.1 Kotter's Eight - Step Change Management Model

Kotter, J.P. 1996. Leading change. Boston, MA:Harvard Business School Press.

2.3 Instructional Development (IDI)

In this part researcher will separate into three parts on:

Part I: Pre - IDI is current situation that on researchers' classes room.
- Only quizzing activities	- Do the questionnaire	- Can motivate students
in class	- Collaborate between	to pay attention in class
- Can't motivate the	teacher and students	- Interesting lesson
whole class	- Make a commitment	- Easily ways to explain
- Don't use any	- Follow by the	the lesson
technology in class	commitment	
- Focus only at the	- Finding activities	NOL 2
context of lesson	- Find picture or	
2	education media	M PAL
	- Use activities that is	
10	matching on the lesson	The D
	-R Show pictures or	RIEL
	education media to	
4	explain on the lesson	
	- Study on new	СП
\times	technology MNIA	×
୍	- Mix daily life to the	dial.
	lesson	1200
	- Check student's works	0-
	101212	
n an an an ann an an an an an an an an a		
Student Learning Style	Student Learning Style	Student Learning Style
- Difference Learning	- Give questionnaire	- Can be versatile in their
Styles in class	- Do the Pre – test	learning style
- Keep talking in class	- Collaborate between	- Students can join in
with their friends	teacher and students	activity
- Like to play activity by	- Make commitment	- Students freedom to
using game	- Follow by the	study
- Bored in Mathematics	commitment	- Ready to learning
	- Add an activity in class	- Happy in class
	- Check student's	- Students have
	workbook	responsibility by

Table 2.2 : Conceptual Framework

Pre-IDI

Teaching Style

IDI.

researcher teaches 2 classes on Primary 3 Room 1 and Room 2 but researcher does the IDI only on Room 1 and does not in Room 2.

Part II: IDI is the way that researcher chooses do in classes. The

Part III: Post - IDI is the respected on Room 1 that researcher does the

Post-IDI

Teaching Style

themselves

IDI

Teaching Style

- Do the questi

Do the Post – test

_

2.4 Teaching Style

Authoritarian Teaching Style The authoritarian teacher is often described by students as a screamer. This teacher expects children to obey and when they do not, this type of teacher has little management abilities beyond constant yelling at the students to get them back in line. Very little is allowed past this teacher as every little infraction is caught and disciplined. Students may obey this teacher but mostly out of fear, and the teacher will blame the discipline problems in class on the students.

The authoritarian teacher places firm limits and controls on the students. Students will often have assigned seats for the entire term. The desks are usually in straight rows and there are no deviations. Students must be in their seats at the beginning of class and they frequently remain there throughout the period. This teacher rarely gives hall passes or recognizes excused absences.

Often, it is quiet. Students know they should not interrupt the teacher. Since verbal exchange and discussion are discouraged, the authoritarian's students do not have the opportunity to learn and/or practice communication skills.

This teacher prefers vigorous discipline and expects swift obedience. Failure to obey the teacher usually results in detention or a trip to the principal's office. In this classroom, students need to follow directions and not ask why.

At the extreme, the authoritarian teacher gives no indication that he\she cares for the students. Mr. Doe is a good example of an authoritarian teacher. His students receive praise and encouragement infrequently, if at all. Also, he makes no effort to organize activities such as field trips. He feels that these special events only distract the students from learning. After all, Mr. Doe believes that students need only listen to his lecture to gain the necessary knowledge. (<u>http://www.drugstats.org</u>)

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Permissive Teaching Style The permissive teacher is one who really just wants to be friends with her students. She may plead with students to raise their hand or follow other simple rules, but does not have a firm discipline plan in place. While students may say they like this type of teacher, when it comes down to a difficulty, students know that the teacher will not take care of a problem and will often try to take matters into their own hands as a result.

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Detached Teaching Style The detached teacher is one who really does not care. This teacher has become desensitized to the discipline problems and may not even care what kind of grades her students receive in class. She will sit behind her desk while students are working and grade papers during class or when on duty. There is no emotional support or behavioral management from the detached teacher. This teaching style is often the result of an illness or depression.

Detached Teaching Style

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Authoritative Teaching Style The authoritative teacher is one who has an orderly classroom, a strong discipline plan and is caring and supportive. Students respect this teacher and know that they can go to her with problems of any kind no matter how big or small. While this style of teaching is ideal, it can be difficult to achieve.

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2.5 Student Learning Style

Learning style has been the focus of considerable study, and a number of colleges and universities have made it an important part of their work. The many approaches to learning style can be examined at four levels: (1) personality, (2) information processing, (3) social interaction, and (4) instructional methods. One researcher, however, speculates that several models in fact describe correlates of two fundamental orientations in learning: "splitters," who tend to analyze information logically and break it down into smaller parts, and "lumpers," who tend to watch for patterns and relationships between the parts (Kirby 1979). http://www.ntlf.com/html/lib/bib/88dig.htm

Visual Learner

This learning style will work well for anyone wanting to do course work via distance education. Although technology is now allowing for more auditory components, the written component in distance learning is still prevalent whether it be through text books, web sites, conference boards or e-mail. Distance education allows the learners to control their learning environment making it more conducive to their learning. (http://www.members.shaw.ca/mdde615/lrnstycats.htm#visual)

Visual Learner, the visual learner will often lose focus during long oral lectures, especially if these are not accompanied by drawings and illustrations. The visual learner takes mental pictures of information given, so in order for this kind of learner to retain information, oral or written, presentations of new information must contain diagrams and drawings, preferably in color. The visual learner can't concentrate with a lot of activity around him and will focus better and learn faster in a quiet study environment.

Visual learners are often:

- Good spellers
- Fast readers
- Great at seeing the big picture but often forgets smaller details
- Good at remembering faces but has a hard time remembering names

The visual learner will benefit from:

- Color-coded notes
- Using drawings to illustrate
- Outlining information
- Using mind maps and flash cards

(http://www.suite101.com/content/learning-styles)

Auditory Learner

Although this type of learner could have more difficulty with distance education than an auditory learner, it is still possible to be successful. Some distance education courses have audio and/or video taped components. These learners could read materials aloud or have it read to them. Also they can control their learning environment thereby avoiding unnecessary distracting noises.

(http://www.members.shaw.ca/mdde615/lrnstycats.htm#visual)

Auditory Learner, For the auditory learner, oral presentations are crucial for understanding a subject, as this kind of learner has the ability to remember speeches and lectures in detail but has a hard time with written text. Having to read long texts is pointless and will not be retained by the auditory learner unless it is read aloud.

The auditory learner often has:

- Strong language skills
- A well-developed vocabulary
- The ability to follow spoken directions well
- A hard time remembering faces but easily remembers names

For the auditory learner to get the most out of classes it can be helpful to:

- Record lectures
- Use word associations
- Listen to audiotapes
- Read notes aloud
- Sit in the front of the class where the teacher can easily be seen and heard.
- Study and discuss subjects with other students

(http://www.suite101.com/content/learning-styles)

Kinesthetic

These learners will have the most difficulty with the "typical" written distance education course. They need to look for courses which are more project oriented where course content can be learned by doing it or using it. Learning in their own space will allow for the desire for movement as there will be no expectation of sitting still for an extended period of time.

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(http://www.members.shaw.ca/mdde615/lrnstycats.htm#visual)

Kinesthetic Learner is described as the students in the classroom, who have problems sitting still and who often bounce their legs while tapping their fingers on the desks. They are often referred to as hyperactive students with concentration issues. Kinesthetic learners are often:

- Gifted performers
- Naturally athletic

To get the most of an education the kinesthetic learner can:

- Choose classes with hands-on labs
- Study with (loud) music in the background
- Use memory and flash cards
- Study in small groups
- Take breaks often during study

(http://www.suite101.com/content/learning-styles-a50930#ixzz17gfKpcLW)



Chapter 3

Methodology

This chapter is present about Research Design, The Responders, The Instruments, Data Collection, and Data Analysis.

3.1 Research Design

This research studied "The Impact of the Instructional Development Intervention on Teaching Style and Student Learning Style in Primary 3 Basic Mathematics" The researcher used the action research model to diagnose and analyze the problems of Teaching and Student Learning style to identify and develop instructional development intervention (IDI) and evaluate its impact in the post IDI. Therefore, this framework of research design consists of Pre – IDI, IDI activities and Post – IDI in the figure below:



Figure 3.1 Instructional Development Intervention

Table 3.1 Instructional Development Intervention

Phase 1 Diagnosis Situation Analysis	Phase 2 Identify, Development & Implement (IDI)	Phase 3 Evaluation Desired
• Step 1: Study about	• Step 1: Identify on	• Step 1: Compare between
Teaching style and Student	Teaching style and Student	Pre – test and Post – test
Learning style.	Learning style	• Step 2: Evaluate the result
• Step 2: Make the	• Step 2: Give Pre – test	• Step 3: Compare two
instruments to measure the	(Paper test) to students	classes between room 1
Teaching style and Student	• Step 3: Use new Teaching	and room 2
Learning style	style	H
• Step 3: Observation and	• Step 4 : Give Post – test	
survey the Learning style	(Paper test) to students	
and Teaching style	BROTHERS OF ST GABRIEL	ND

Phase I : Diagnosis Situation Analysis 273 SINCE 1969

This part, research studies about the current situation of Teaching style and Student Learning style, diagnosis and analysis in Primary 3 room 1 and 2, basic Mathematics classes by following the step:

Step 1: Study about Teaching style and Student Learning style by searching at the internet website, finding at the book or thesis, and try to understanding in every styles.

Step 2: Make the instruments to measure the Teaching style by give the questionnaire to do by myself and give to an assistants on my class to measure the researcher and Student Learning style by give them the questionnaire.

Step 3: Observation and survey the Teaching and Student Learning style to know and understand on the current situation.

Phase II : Identify, Development & Implement (IDI)

After studying on Teaching and Student Learning styles can identify styles of the student and the researcher, then give the Pre – test to two classrooms on Primary 3 room 1 and room 2 and provide teaching methods to use in Primary 3 room 1, finally give the Post – test to two classrooms.

Phase III : Evaluation Desired

Summarize the score of Pre – test and Post – test and compare between two classes with Primary 3 room 1 and room 2.

3.2 The Respondents

In Primary 3 an academic year 2009 has 8 classrooms and the researcher teach in two classrooms these are Primary 3 room 1 and room 2 then the researcher focus on Primary 3 room 1 to does the IDI and does not do IDI in Primary 3 room 2, finally the researcher will compare the result between Primary 3 room 1 and room 2

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Table 3.2 : the total student in Primary 3, academic year 2009

In Primary 3 room 1, there were 30 respondents. These were the students who volunteered to answers. Other students have difficulty understanding the questions and could not provide answers properly.

In Primary 3 have three main Mathematics teachers and one assistant to help the main teachers in classrooms. SG. has policy about a classroom is must to have two teachers in a classroom, one is the main teacher or own subject teacher and another is an assistant to help the main teachers to look around, checking for understanding of students, to control classroom, etc. Basic Mathematics subject in every classroom of

THE ASSUMPTION UNIVERSITY LIBRARY

Primary 3 has five periods per week. The main teachers have difference styles to teaching and research as same new teacher but use old style teaching to teach students then the researcher chooses the two classrooms that the researcher teaches to do on this research.



Table 3.3 : Basic Mathematics Teachers in Primary 3, academic year 2009

The Instruments

The researcher uses three instruments to collect data by questionnaires, paper test and observation checklist.

- Questionnaires as a primary instrument, researcher do two sets of questionnaires: the first set will be described to students on their learning style and the second set will be describing the teaching style of the researcher.

- Paper test is a pre – test and post – test to compare between before and after using new style and know on their score too.

Data Collection – Techniques,

The data collection, researcher will get step by step:

- Questionnaires

The researcher gives the questionnaires before begin the lesson and

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finished the lesson.

- Interviews

The researcher do the interview one by one with students, try to get; what are they understand on the lesson before study and after study by using short question? etc.

- Observation

class and do activity in class.

- Procedure

The researcher give pre - test to Primary 3 room 1 and 2. And

keep information by interview on question about the lesson.

Then researcher adds more activity on Primary 3 room 1 while do activity the researcher observe by participation and quick answer in class.

Finally, the end of each lesson the research give post – test to students. Then compare between Primary 3 room 1 and 2 who are more improve in lesson.

Data Analysis

- Qualitative Data

Interview analysis by using interview guideline Observation analysis by using observation guideline

- Quantitative Data

Questionnaires analysis by using paper test



CHAPTER 4

Presentation and Analysis of Data

This chapter is present about Demographic Profile of the Respondents, Findings, Pre IDI, IDI, Post IDI, and Results of Hypothesis Testing.

4.1 Demographic Profile of the Respondents

The researcher has a period per day or five periods in a week for tech the students on Primary 3 room 1 and room 2. In Primary 3 room 1 has 63 students (the total is 64 students and 1 student is drop of study) and Primary 3 room 2 has 63 students.

Table 4.1 Classroom frequency

Room	Total of students	Frequency	
\mathbb{R}_1	63 D S	30	
07	ROTHER	BRIEL	

4.2 Findings

The classroom of Primary 3 room 1 has atmosphere on the fifth floor that is an open air classroom, connected with a stair, has one door, the back classroom has eight windows, and the left side of classroom has six windows. The students can heard many things that happened out of the classroom.

Research Question:

Question 1 : What is the current status of the teaching style and student learning style in Primary 3 room 1 and 2?

From the first question, the researcher follows by doing on the Pre IDI:

4.2.1 Pre IDI

Step 1: The researcher study about Teaching style and Learning style:

For Teaching style is; TTT Style is teacher just stand in front of the class and talk (teach) in class, The Old Teaching Style is teacher use chalk (marker) and whiteboard and write the content, lesson and assignment on the board and let student write it down on their notebook, and Formal Authority style is the teacher focus on content or lesson don't add anything in classroom.

For Learning style is; Visual Learning Style is student like to watching to teacher when the teacher teach them; Auditory Learning Style is student like to listening to teacher when the teacher teach them; Kinesthetic Learning Style is student like to have role-play, experiential, and total physical involvement in learning; Tactile Learning Style is student like to learn by doing or hands – on; Individual Learning Style is student like to learn by doing or hands – on; Individual Learning Style is student like to learn by themselves, go to library to find more information; Group Learning Style is student like and easy to understand when they have group discussion; Activity Learning Style is students like to have game, song or activity in class, and Reflective Learning Style is students like to have competition in class

Step 2: Make the instruments to measure the Teaching style and Student Learning style by using questionnaire and focus on the students to do the questionnaires. The researcher makes a time table to conduct all of thing to follow during the reason. Table 4.2 Time table to do the research

	Start time date (December 2009 - January 2010)				ry 2010)
Process	21-25	4-8	11-15	18-22	25-29
	Dec 09	Jan 10	Jan 10	Jan 10	Jan 10
Preparing and make questionnaires					
to identify learning style and	← →				
teaching style					
Give the questionnaires and Pre –		4.			
test to students and other					
Mathematics teachers on Primary 3					
Make some rule between students					
and teacher on Primary 3 room 1					
Using game and doing activity on					
Primary 3 room 1					
Give Post test to students	ALT	00.			
	NE	K2/1			
Data analysis		- 7			

Table 4.3 Mean on the Perception of Student Learning Style on Primary 3 room 1

before IDI.

2 1 _{2 2} 1	Item DIS	Ν	Mean	Std. Deviation
1.	When the teacher tells me the instruction, I understand better	30	2.40	0.67
2.	I prefer to learn by doing something in class.	NCT30	2.10	0.88
3.	I learn more when I study with a group.	30	2.76	0.85
4.	I learn better by reading what the teacher writes on the board.	30	3.23	0.89
5.	When I do things in class, I learn better.	30	2.36	0.61
6.	When I study alone, I remember things better.	30	3.16	0.94
7.	I learn better by reading than by listening to someone.	30	2.66	1.12
8.	I enjoy learning in class by doing experiments.	30	2.50	0.82
9.	I learn more when I can make a model of something.	30	2.70	0.53
10.	I remember things I have heard in class better than things I have read.	30	2.63	0.49
	Pre Test (students)	30	2.65	0.72

For Table 4.3 The perception of respondents toward the Student Learning Style on Primary 3 room 1 before IDI, it shows that the total average means 2.65 the standard derivation was 0.72.

Step 3: Identify Learning style on student Primary 3 room 1 and identify Teaching style of the researcher

For Primary 3 room 1, the researcher set up students in to three groups,

0,

the groups are built by student's seat.

Table 4.4 the perception of respondent on Primary 3 room 1

Frequency	Percent	Valid Percent	Cumulative Percent	
8	26.70 D S	26.70	26.70	
12 BROT	HERS 40.00	40.00	66.70	
10 LAB	OR 33.30	33.30	100.00	
30	100.00	100.00		
	8 12 10 30	8 26.70 2 12 40.00 10 40.00 10 33.30 30 100.00	8 26.70 26.70 12 40.00 40.00 10 33.30 33.30 30 100.00 100.00	

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In this classroom is many style of learner and mostly they are on Visual Learning Style, students like to look at the teacher, what the teacher wrote on the board, the students prefer to sit and reading on the board or any things the they wrote on their notebook.

Questionnaire	Frequency	Percent
1. When the teacher tells me the instruction, I		
understand better.		
- Strong agree	1	3.30
- Agree	12	40.00
- Disagree	15	50.00
- Strong disagree	2	6.70
3. I learn more when I study and share with a		
group		TH
- Strong agree	7	23.30
- Agree	12	40.00
- Disagree	SI GABRIDE	33.30
- Strong disagree	VINCIT	3.30
10. I remember things I have heard in class better	×	
than things I have read.	69 โลลัมข์เร	'n
- Agree	19	63.30
- Disagree	11	36.70

Table 4.5 The perception of respondent toward the Student Learning Style on Auditory Learning Style

For Table 4.5 the summaries of students Primary 3 room 1 at Pre IDI, mostly prefer on Strong agree and Agree \sim 57% and Disagree and Strong disagree \sim 43%, then Primary 3 room 1 has different learning style on Auditory at 14% of 63 students.

Table 4.6 The perception of respondent toward the Student Learning Style on

Questionnaire	Frequency	Percent
2. I prefer to learn by doing something in class.		
- Strong agree	1.	3.30
- Agree	10	33.30
- Disagree	10	33.30
- Strong disagree	9	30.00
5. When I do things in class, I learn better.	0	
- Agree	13	43.30
- Disagree	15	50.00
- Strong disagree	2	6.70
8. I enjoy learning in class by doing experiments.		2
- Strong agree	2	6.70
- Agree S	15	50.00
- Disagree	9	30.00
- Strong disagree	GABRIAL	\$13.30
9. I learn more when I can make a model of	3	5
something.	VINCIT	
- Agree * OMNIA	22 *	73.30
- Disagree SINCE19	69 2 363	23.30
- Strong disagree	aa~1	3.30

Kinesthetic Learning Style

For Table 4.6 the summaries of students Primary 3 room 1 at Pre IDI, mostly prefer on Strong agree and Agree \sim 53% and Disagree and Strong disagree \sim 47%, then Primary 3 room 1 has different learning style on Kinesthetic at 6% of 63 students.

Table 4.7 The perception of respondent toward the Student Learning Style on Visual

	Questionnaire	Frequency	Percent
4. I le	arn better by reading what the teacher writes		
on	the board.		
-	Strong agree	15	50.00
-	Agree	8	26.70
-	Disagree	6	20.00
-	Strong disagree	1	3.30
6. W	hen I study alone, I remember things better.	SIT	
-	Strong agree	15	50.00
-	Agree	6	20.00
-	Disagree	8	26.70
-	Strong disagree		3.30
7. I le	earn better by reading than by listening to		P
sor	neone.	UN Fait	F
-	Strong agree	10	33.30
-	Agree BROTHERS OF	ST GABRIEL	16.70
-	Disagree	10	33.30
-	Strong disagree	5 *	16.70
		LO do	

Learning Style

For Table 4.7 the summaries of students Primary 3 room 1 at Pre IDI, mostly prefer on Strong agree and Agree $\sim 66\%$ and Disagree and Strong disagree $\sim 34\%$, then Primary 3 room 1 has different Learning style on Visual at 22%.

From the table 4.5 - 4.7, the mostly different Learning style is Visual about 22%, the second is Auditory Learning style 14% and the latest is Kinesthetic Learning style 6% that is explain the students on Primary 3 room 1 are mostly Visual Learning Style.

	Item	N	Mean	Std. Deviation
1	Whole Class Activities:			
	- Lecture / Teacher talk	30	3.83	0.37
	- Question & Answer	30	3.66	0.47
	- Overhead projector	30	1.03	0.18
	- White / Blackboard	30	3.93	0.25
	- Teacher led whole class discussion	30	3.20	1.27
2	Individual Activities			
	- Exam paper questions	30	2.86	0.97
	- Homework / private study	30	3.56	0.56
	- Individual assignments	30	3.43	0.67
	- Student personal choice in an assignment	30	3.40	0.62
	- Library research / information seeking	30	1.26	0.44
3	Individual Activities		7 3	
	- Self evaluation & Individual target setting	S 30	2.36	0.85
	- Pre-test BROTHER	30 BRIE	2.43	0.85
	- One – to one teaching	30	2.63	1.09
	- Question and answerBOR	30/01	3.76	0.62
	- Use of computerized spreadsheets	30	1.76	0.50
4	Small Group Activities SINCEI	969	63	
	- Small group role play ? 121 391	ລັ ລ 30 **	2.50	0.97
	- Large group role play	30	2.83	0.83
	- Student presentation in groups	30	2.06	0.44
	- Student presentation individually	30	2.00	0.45
	- Games	30	3.90	0.40
	Pre – test (Teacher)	30	2.82	0.52

Table 4.8 Mean on the Perception of Teaching Style before IDI.

For Table 4.8 The perception of respondents toward the Teaching Style on Primary 3 room 1 before IDI, it shows that the total average means was 2.82, the standard derivation is 0.52. Table 4.9 The perception of respondent toward the Teaching Style on Authoritarian

Item	Frequency	Percent
1.1 Lecture / Teacher talk		
- Often	5	16.67
- Very often	25	83.33
1.4 White / Blackboard		
- Often	2	6.67
- Very often	28	93.99
2.2 Home work / Private study	< X	
- Hardly	21	3.33
- Often	11	36.67
- Very often	18	60.00
2.3 Individual assignments	GABRIEL	5
- Never		3.33
- Often 🔆 OMNIA	14 *	46.67
- Very often	añalisel	50.00
3.3 One to one teaching		
- Never	7	23.33
- Hardly	4	13,34
- Often	12	40.00
- Very often	7	23.33

Teaching Style

For Table 4.9 the summarize of Authoritarian Teaching Style is Very often 62.00%, Often 29.34%, Hardly 3.33% and Never 5.33%

Item	Frequency	Percent
1.2 Question & Answer		
- Often	10	33.33
- Very often	20	66.67
3.4 Question and answer		
- Hardly	1	3.33
- Often	SITA	13.34
- Very often	25	83.33
4.1 Small group role play	-	1
- Never	5	16/67
- Hardly	10	33.33
- Often	10	33.33
- Very often	S S	16.67
4.2 Large group role play	SIGA	
- Never	VINCIT	3.33
- Hardly	10	33.33
- Often	ลลัง12	40.00
- Very often	7	23/34
4.3 Student presentation in groups		
- Never	1	3.33
- Hardly	27	90.01
- Often	1	3.33
- Very often	1	3.33

Table 4.10 The perception of respondent toward the Teaching Style on Detached

Teaching Style

For Table 4.10 the summarize of Detached Teaching Style is Very often 38.67%, Often 24.67%, Hardly 32.00% and Never 4.66%

Item	Frequency	Percent
1.3 Overhead projector		
- Never	29	96.67
- Hardly	1	3.33
2.1 Exam paper questions		
- Hardly	16	53.33
- Often	2	6.67
- Very often	12	40.00
3.2 Pre – test	2.	2
- Never	5	16.67
- Hardly	9	30.00
- Often 📆	14	46.67
- Very often	ST GABRIEL	6.66
3.5 Use of computerized spreadsheets	VINCIT	
- Never	80 ×	26.67
- Hardly	aá221	70.00
- Often	1	3.33
4.4 Student presentation individually		
- Never	2	6.67
- Hardly	27	90.00
- Very often	1	3.33

Table 4.11 The perception of respondent toward the Teaching Style on Authoritative

Teaching Style

For Table 4.11 the summarize of Authoritative Teaching Style is Very often 10.00%, Often 11.33%, Hardly 43.33% and Never 29.34%.

Item	Frequency	Percent
1.5 Teacher led whole class discussion		
- Never	7	23.33
- Often	3	10.00
- Very often	20	66.67
2.4 Student personal choice in an assignment	CIL	
- Hardly	2	6.66
- Often	14	46.67
- Very often	14	46.67
2.5 Library research / information seeking	LNG-	AP
- Never	22	73.33
- Hardly	8	26.67
3.1 Self evaluation & individual target setting	ST GABINICE	
- Never	VINCITS	10.00
- Hardly	17	56.67
- Often ⁷⁷ ວิทยาลังเอ้	ลลัมย	20.00
- Very often	4	13.33
4.5 Games		
- Hardly	1	3.33
- Often	1	3.33
- Very often	28	93.34

Table 4.12 The perception of respondent toward the Teaching Style on Permissive

Teaching Style

For Table 4.12 the summarize of Permissive Teaching Style is Very often 44.00%, Often 16.00%, Hardly 18.67% and Never 21.33%

The Teacher Style is mostly on Authoritarian Teaching Style, the researcher must to add more information, activities, games etc. into classroom, that are not only in the classroom, should to mix and change to have learning outside the classroom too.

Step 4: Choose the classroom to do the research.

The researcher chooses Primary 3 room 1 to do IDI.

4.2.2 ID Interventions

Question 2 : What are the appropriate Instructional Development Interventions (IDI's) for the teaching style and student learning style?

From this part, researcher point on students score to compare between before doing activity and after doing activity by:

Step 1: Give Pre – test to students Primary 3 room 1 and 2, before the researcher go to new lesson, students must to do Pre – test for about 30 minutes.

Step 2: Use new teaching style with students Primary 3 room 1, the researcher change classroom in to the market to use at Unit 10 on topic Money for one period on January 5, 2010. Make a group of six to seven students, one group for a seller and seven groups are customer then give each student five minutes to buy a good. For next day let students have discussion on their group then make a presentation in front of the class to find out what something wrong for example: the seller group forgot to write the description then they can summarize the real total that the group got money or selling, and the two customers group can bought a few goods because the customer take more time to thinking and counting the money on their hand and another customer group can't got any good because they separate the money in to every people but the money not enough for the good.

At Unit 11 on topic Shape, the researcher tells students to bring a paper by cut it into many shape are they want on January 20, 2010. The hole period the researcher give students to thinking, imagine a picture and make it into A4 paper, give the name of their picture, on the another side explain on the shape that they use, and how many pieces of shape.

Step 3: Give Post - test to students of Primary 3 room 1 and 2 for 40

minutes.

Table 4.13 Mean on the Perception of Student Learning Style on Primary 3 room 1

	Item	N	Mean	Std. Deviation
1.	When the teacher tells me the instruction, I understand better	30	3.13	0.77
2.	I prefer to learn by doing something in class.	30	2.56	0.97
3.	I learn more when I study with a group.	RIE30	3.06	0.73
4.	I learn better by reading what the teacher writes on the board.	30	2.23	0.97
5.	When I do things in class, I learn better.	30	*2.93	0.63
6.	When I study alone, I remember things better.	30	2.60	1.16
7.	I learn better by reading than by listening to someone.	30	2.46	1.10
8.	I enjoy learning in class by doing experiments.	30	2.80	0.80
9.	I learn more when I can make a model of something.	30	2.93	0.53
10.	I remember things I have heard in class better than things I have read.	30	2.80	0.55
	Post Test (students)	30	2.75	0.76

after IDI.

For Table 4.13 The perception of respondents toward the Student Learning Style on Primary 3 room 1 after IDI, it shows that the total average means 2.75, the standard derivation is 0.76.

Table 4.14 The perception of respondent toward the Student Learning Style on Auditory Learning Style after IDI.

Questionnaire	Frequency	Percent
1. When the teacher tells me the instruction, I	Tr	
understand better.	0	
- Strong agree	10	33.33
- Agree	15	50.00
- Disagree	1074	13.33
- Strong disagree	BRIEL	3.34
3. I learn more when I study and share with a group	NCIT	5
- Strong agree	2*	30.00
- Agree ???????????????????????????????????	312155	46.67
- Disagree	7	23.33
10. I remember things I have heard in class better than things I have read.		
- Strong agree	2	6.67
- Agree	20	66.67
- Disagree	8	26.66

For Table 4.14 the summaries of students Primary 3 room 1 after IDI, mostly prefer on Strong agree and Agree \sim 78% and Disagree and Strong disagree \sim 22%, then Primary 3 room 1 has different learning style on Auditory at 42% of 63 students.

Table 4.15 The perception of respondent toward the Student Learning Style on Kinesthetic Learning Style after IDI.

Questionnaire	Frequency	Percent
2. I prefer to learn by doing something in class.		
- Strong agree	5	16.67
- Agree	12	40.00
- Disagree	8	26.67
- Strong disagree	5	16.66
5. When I do things in class, I learn better.	NEL	
- Strong agree	BRIEL 5	16.67
- Agree	18	60.00
- Disagree	СГТ 7 Ж	23.33
8. I enjoy learning in class by doing experiments.	1361	
- Strong agree ไว้วิทยาลัยอัสส์	5	16.67
- Agree	16	53.33
- Disagree	7	23.33
- Strong disagree	2	6.67
9. I learn more when I can make a model of something.		
- Strong agree	3	10.00
- Agree	22	73.33
- Disagree	5	16.67

For Table 4.15 the summaries of students Primary 3 room 1 after IDI, mostly prefer on Strong agree and Agree \sim 72% and Disagree and Strong disagree \sim 28%, then Primary 3 room 1 has different learning style on Kinesthetic at 44% of 63 students.

Table 4.16 The perception of respondent toward the Student Learning Style on Visual Learning Style after IDI.

Questionnaire VFRC/>	Frequency	Percent
4. I learn better by reading what the teacher writes on the	1	
board.	~	
- Strong agree	5	16.67
- Agree	3 5	10.00
- Disagree	16	53.33
- Strong disagree		20.00
6. When I study alone, I remember things better.	6	
- Strong agree 🔆 OMNIA	10	33.33
- Agree SINCE1969	1916 4	13.34
- Disagree	10	33.33
- Strong disagree	6	20.00
7. I learn better by reading than by listening to someone.		
- Strong agree	8	26.67
- Agree	4	13.33
- Disagree	12	40.00
- Strong disagree	6	20.00

For Table 4.16 the summaries of students Primary 3 room 1 after IDI, mostly prefer on Strong agree and Agree \sim 38% and Disagree and Strong disagree \sim 62%, then the students on Primary 3 room 1 has most difference Learning style on Visual from Strong agree and Agree 66% to Disagree and Strong 62%, that tell about they change learning style to other kind of learning style.

	Item	S N	Mean	Std. Deviation
1	Whole Class Activities:	-11		
	- Lecture / Teacher talk	30	3.60	0.49
	- Question & Answer	30	3,83	0.37
	- Overhead projector	30	2.10	0.30
	- White/Blackboard	30	3.63	0.49
	- Teacher led whole class discussion	30	3.60	0.62
2	Individual Activities	S		
	- Exam paper questions	30 RIE	2.86	0.97
	- Homework / private study	30	3.26	0.58
	- Individual assignments	30/017	3.23	0.62
	- Student personal choice in an OMNIA assignment	30	3.46	0.50
	- Library research / information seeking	5a ³⁰²¹⁹	2.10	0.30
3	Individual Activities			
	 Self evaluation & Individual target setting 	30	2.66	0.84
	- Pre-test	30	2.43	0.67
	- One – to one teaching	30	2.76	0.85
	- Question and answer	30	3.83	0.37
	- Use of computerized spreadsheets	30	1.96	0.31

Table 4.17 Mean on the Perception of Teaching Style after IDI.

а с. к.	Item	N	Mean	Std. Deviation
4	Small Group Activities			
	- Small group role play	30	2.63	0.71
	- Large group role play	30	2.63	0.88
	- Student presentation in groups	30	2.30	0.53
	- Student presentation individually	30	2.06	0.25
	- Games	30	3.86	0.34
	Post – test (Teacher)	30	2.94	0.44

For Table 4.17 The perception of respondents toward the Teaching Style on Primary 3 room 1 before IDI, it shows that the total average means is 2.94, the standard derivation is 0.44

Table 4.18 The perception of respondent toward the Teaching Style on Authoritarian

Teaching Style

Item BROTHERS of	Frequency	Percent
1.1 Lecture / Teacher talk	VINCIT	
- Often * OMNIA	12 *	40.00
- Very often การิทยาลัยอั	ลลัมใช้	60.00
1.4 White / Blackboard		
- Often	11	36.67
- Very often	19	63.33
2.2 Home work / Private study		
- Hardly	2	6.67
- Often	18	60.00
- Very often	10	33.33

Item	Frequency	Percent
2.3 Individual assignments		
- Never	1	3.33
- Often	20	66.67
- Very often	9	30.00
3.3 One to one teaching		
- Never	2	6.67
- Hardly	9	30.00
- Often	13	43.33
- Very often	6	20.00

For Table 4.18 the summarize of Authoritarian Teaching Style is Very often 41.33%, Often 49.33%, Hardly 7.34% and Never 2.00%

Table 4.19 The perception of respondent toward the Teaching Style on Detached LABOR VINCIT *

GABRIE

Teaching Style after IDI.

Item รากวิทยาลัยอั	Frequency	Percent
1.2 Question & Answer		
- Often	5	16.67
- Very often	25	83.33
3.4 Question and answer		
- Often	5	16.67
- Very often	25	83.33

Item	Frequency	Percent
4.1 Small group role play		
- Hardly	15	50.00
- Often	11	36.67
- Very often	4	13.33
4.2 Large group role play		
- Never	4	13.33
- Hardly	7	23.34
- Often	15	50.00
- Very often	4	13.33
4.3 Student presentation in groups	< V~	
- Hardly	22	73.33
- Often 🤶 🗸	7	23.33
- Very often	1	3.34
	S SAL	

For Table 4.19 the summarize of Detached Teaching Style is Very often 39.33%, Often 28.67%, Hardly 29.33% and Never 2.67%

*

Teaching Style

*

Item	Frequency	Percent
1.3 Overhead projector		
- Never	27	90.00
- Hardly	3	10.00

Table 4.20 The perception of respondent toward the Teaching Style on Authoritative
	It	em	Frequency	Percent
2.1 Ex	am paper question	S		
-	Hardly		16	53.33
-	Often		2	6.67
-	Very often		12	40.00
3.2 Pr	e – test			
-	Never		3	10.00
-	Hardly	NED	11	36.67
-	Often	INIVER.	16	53.33
3.5 Us	e of computerized	spreadsheets	0	
-	Never		2	6.67
-	Hardly		27	90.00
-	Often E	+ +	1	3.33
4.4 St	ident presentation	individually DS	1 Ser	A
-	Hardly	BROTHERS of	ST GABRIEL	93.33
-	Often	LABOR	VINCT2	6.67
	>	OMNIA	*	

For Table 4.20 the summarize of Authoritative Teaching Style is Very often 8.00%, Often 16.00%, Hardly 72.67% and Never 3.33%.

Table 4.21 The perception of respondent toward the Teaching Style on Permissive

Item	Frequency	Percent
1.5 Teacher led whole class discussion		
- Never	2	6.67
- Often	8	26.67
- Very often	20	66.66
2.4 Student personal choice in an assignment	21-	
- Often	16	53.33
- Very often	14	46.67
2.5 Library research / information seeking	72.	2
- Hardly	27	90.00
- Often 🗕 🕂 🕂	3	10.00
3.1 Self evaluation & individual target setting	1 322	A
- Hardly	ST GABRIEL	56.67
- Often	VINCIT	20.00
- Very often	~ 20,*	23.33
4.5 Games การิทยาลัยอั	ลลัมย	
- Often	4	13.33
- Very often	26	86.67

Teaching Style after IDI.

For Table 4.21 the summarize of Permissive Teaching Style is Very often 44.66%, Often 22.66% and Hardly 30.67%.

4.2.3 Post IDI

In this part the researcher would present the conducted Post IDI and answer the **Question 3**: What is the initial impact of IDI on teaching style and student learning style in Primary 3 Basic Mathematics classes?

Step 1: Compare between Pre-test and Post-test

Table 4.22 The score of Pre – Post semester 2 of Primary 3 room 1.

Student ID	Pre – test	Post – test
1	3LASIA	24
2	8	25
3	5	16
4	26	29
5	14	27
6	9	9
7	15	14
8	17	17
9 ≥ ,	15	17
10	11 0 0	6
11	8 0 0	19
12	BROTHER 8	RIEL 9
13	or 15	15
14	20	12
15	LABOR 15	23
16 🔭	14INLA	* 27
17 🔍	SIN7 F1969	14
18	7720 15 2 18	16
19	<i>ที่ยา</i> ลัยอลต	15
20	17	22
21	11	13
22	20	20
23	20	17
24	8	14
25	9	16
26	6	10
27	18	26
28	11	22
29	5	21
30	14	18
31	5	6
32	14	9
33	18	20

Student ID	Pre – test	Post – test
34	9	16
35	15	16
36	11	10
37	9	16
38	12	13
39	15	16
40	21	18
41	17	10
42	9	9
43	dropout	dropout
44	5	10
45	11	18
46	15	24
47	IN PROV	13
48	18	18
49	9	17
50	14	16
51	11	9
52	9	19
53	24	27
54 🔍 🗧	14	18
55 🤍 🔰	6	14
56	12 -	13
57 🔵 💆		20
58	6	6
59	GAR 18 ST GAR	25
60	9	<u> </u>
61	LABOR 12 VIN	сп <u>1</u> 3
62	15	* 19
63	9	24
64	MOS SINFEIGOS	13
	<i>่งท</i> ยาลัยอัสลิ	3-3 C

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From Table 4.22 shows the paper test scores of students Primary 3 room 1 between before do IDI and after do IDI, the total score is 30.

Student ID	Pre – test	Post – test
1	24	27
2	21	27
3	17	24
4	14	26

Table 4.23 The score of Pre – Post semester 2 of Primary 3 room 2.

Student ID	Pre – test	Post – test
5	11	21
6	11	21
7	15	24
8	14	23
9	14	17
10	17	18
11	6	10
12	12	18
13	12	19
14	20	15
15	6	21
16	14	16
17	17	24
18	18 RC/>	25
19	18	12
20	9	9
21	15	22
22	15	17
23	15	19
24	20	25
25 🛰 🚽	18	19
26	20	25
27	17 -	19
28 💭 🔫		7
29 🗸	12 I2	20
30	GAL ST GAL	16
31	17	<u> </u>
32	LABOR 12 VINC	ит 17
33 💥	O9INLA	* 17
34	6 SINCE1040	13
35	173 STIN 8- L 1 7 0 7	20
36	้ "ทยาลัยอัลลิ"	6
37	14	23
38	12	24
39	20	27
40	20	28
41	5	3
42	9	18
43	14	14
44	6	19
45	9	7
46	14	20
47	14	20
48	15	29
49	15	19
50	18	26

Student ID	Pre – test	Post-test
51	8	20
52	17	18
53	12	11
54	5	6
55	11	15
56	15	24
57	8	11
58	14	11
59	12	12
60	20	12
61	18	16
62	12	23
63	6	19

From Table 4.23 shows the paper test scores of students Primary 3 room 2 between before do IDI and after do IDI, the total score is 30.

K21

The research put the scores in to a graph that easy to focus on between score between Pre – test and Post – test of Primary 3 room 1 and 2.







Figure 4.2 Pre – Post Test Graph semester 2 of Primary 3 room 2

Step 2: Evaluate the result, From the figure 4.1, the students total is 64 (dropout 1 student), the score between Pre test and Post test is the students got Post test more score than Pre test are 51 students (80.95%), got the same score are 3 students (4.76%) and got Post test less score than Pre test are 9 students (14.29%). The Highest of Post test is 29 point and the Lowest is 6 point.

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From the figure 4.2, the student total is 63, the students got Post test more score than Pre test are 50 students (79.37%), the students got the same score are 2 students (3.17%), and the student got Post test less score than Pre test are 11 students (17.46%). The Highest of Post test is 29 point and the Lowest is 3 point.

Step 3: Compare two classes between room 1 and room 2

Then the researcher put the number of student in to the table below to compare with two classes between Primary 3 room 1 and room 2.

The score between	Primary 3 room 1	(%)	Primary 3 room 2	(%)
Post and Pre test				5
Got more score	51	80.95	50	79.37
Got the same score	3	4.76	2	3.17
Got less score	9	14.29	7 11	17.46
Total	63	100	63	100

Table 4.24 the score between Post test and Pre test of Primary 3 room 1 and 2

4.3 Results of Hypothesis Testing

In this topic the researcher would discuss the result of both quantitative and qualitative data analysis. Furthermore, the researcher would answer the research question number three : What is the Initial Impact of Instructional Development Intervention on Student Learning Style and Teaching Style in Primary 3 Basic Mathematics classes

Eventually, the result of testing the research hypothesis would b concluded.

Ho 1 : There is no initial impact of IDI on the teaching style and student learning style in Primary 3 room 1.

Ha 1 : There is initial impact of IDI on the teaching style and student learning style in Primary 3 room 1

From summarize of Pre – Post test (figure 4.1, 4.2, and table 4.24), the results of score of Primary 3 room 1 is got better than Primary 3 room 2, therefore a little bit

score higher but the highest score of two classes are the same that is 29 point and the lowest score of two classes are different, room 1 got lowest score is 6 point and room 2 got lowest score is 3 point.

Table 4.25 The result of Pre and Post IDI of Student Learning Style of Primary 3 room 1

	N	Mean	SD	t	P-Value
Pre IDI	30	2.65	0.72	2.01	000
Post IDI	30	2.75	0.76	-2.21	.000

From the Table 4.25 is the result of Pre IDI and Post IDI of Student Learning Style. It shows the result of Primary 3 room 1 that using game, competition and quick answer, the total average mean of Pre IDI was 2.65 and the standard deviation was 0.72. After implementation IDI activities, the total average mean of Post IDI was 2.75 and the standard deviation was 0.76. Moreover, the significant was 0.000 which was less than the significance level of 0.005.

Table 4.26 The result of Pre IDI and Post IDI of Teaching Style of Primary 3 room 1.

LABOR

		Mean	SD	t	P-Value
Pre IDI	30	2.82	0.52	5.29	000
Post IDI	30	2.94	0.44	5.28 .0	.000

From the Table 4.26 is the result of Pre IDI and Post IDI of Teaching Style of Primary 3 room 1. It shows the total average mean of Pre IDI was 2.82 and the standard deviation was 0.52. After implementation IDI, the total average mean of Post IDI was 2.94 and the standard deviation was 0.44. Moreover, the significant was 0.000 which was less than the significance level of 0.005.

Chapter 5

Summary, Conclusions and Recommendations

This chapter consists summary, conclusion and recommendations of the IDI that the researcher do on Primary 3 room 1 and compare with Primary 3 room 2.

5.1 Summary of Findings

The target respondents for this research is students Primary 3 who has study with the researcher's class, that are about 127 students and the atmospheres of classroom are difficult to control them to do any thing, the researcher should to focus on manage classroom to go side by side with Student Learning Style and Teaching Style to improve more. The activity, games, song, competition ... etc. is interesting and exciting to have in the classroom, students can joy in the class, more students don't like to joy, just sit and write every thing down, then the researcher should to have many things to add, put and use in class to motivate all of students to pay attention and joy together in class activities, sometimes the new generation want to have decide, discuss as same they are a part of classroom, the teacher must give them do and should to be consultant for students more to be a coach..

5.2 Conclusion

The main purpose of the study is on the initial impact of IDI on Student Learning Style and Teaching Style.

The study design was developed into three phases: Pre – IDI, IDI and Post IDI. The Pre – IDI was the process to identify the problem in the Primary 3 Basic Mathematics classes. In IDI phase was the action phase and expected to change after IDI in each variable. In Post – IDI phase, the tests were a main point of this research to compare the difference between Pre - IDI and Post - IDI of the study. Moreover, in this phase, it also included the result from interview and observation.

The benefits of this research to school, teachers, and student in Basic Mathematics classes after implementing IDI activities as follows:

For Student Learning Style, after investigation IDI activities, the findings of students like to study as same Virtual Learning Style and the atmosphere of the classroom is most important to let student pay attention when teacher explain the lesson in front of class and the classroom has many students, some students can look around or outside of the classroom, they are children and like to know any things which are excited, they will pay attention or interesting to it then the activity, games or the competition that use in class, have to helpful for the teacher to let students pay attention in the classroom.

For Teaching Style, after investigation IDI activities, the findings show about the teacher can't stop to find new knowledge, skill, go together with the new generation and should to have training, workshop and discuss between teachers to share idea, knowledge and skill to go with the new generation.

GABRIEL

BROTHERS

The IDI activities should be keep walking, that aren't finish or be done just this time. The new thing will happened all the time then school or Mathematics department should to continuous to help teacher improve their skill.

Therefore, there is initial impact of instructional development intervention on: Teaching Style and Student Learning Style.

5.3 Recommendations

The activities to add on the lesson, some activities are not matching with the big group of student, hard to control and limited space to do the activities.

In each classroom has group of student is get more power to help teacher, they can lets their friends to joy in class, doing activities, go to get competition and cheerful with other students in class, but almost they sit at the same place then some students who far from them are unhappy to do the activities because in every group er of the grown NVERS/// field. need the student who is the leader of the group too.

Eindings of the Study	Dropogod IDI	Desired Descrite in the Entres
Findings of the Study	Proposed IDI	Desired Results in the Future
Student Learning Style		
Student Learning Style		
- Not enough time to	- Separate classroom to	- All of students can do an
finish activities for	do small groups	activity.
	BROTHER	RIEL
more 60 students.	activities.	
- Less of assistant to help	LABOR	Enough teacher coach or
	OWNER	
to do activities	OMNIA	consultant for student.
~	SINCE1969	Stores .
Teaching Style	^{(ว} ทยาลัยอัสสิ ³	2
	TOTAL	
- Lack of skill to do an	- Make a training course	- Have skill on activity.
activity	hetween main teacher	
aduvity		
×	and assistant.	
 Some game didn't 	- Follow and mix some of	- Have new game or activities
interest	norra concretions	to min in a planma and all the
micrest.	new generations	to mix in a classroom all the
		time.

Table 5.1 Conceptual Framework in Classroom field.

5.4 Recommendations for Future Research

- 1. Connect with the master teacher to switch the seat of students
- 2. Some time let the students choose the seat by themselves
- 3. Separate students into two small groups to do activities.
- Each small groups give a different activities to do, and has summarize, give feedback to discussion in classroom.
- 5. Have two main subject teachers in class because some period another is not main subject, then hard to control or give more information to do activities.

INIVERSITL

The researcher is a Mathematics teacher that is a serious teacher on student imagine, they think more writing or homework than interesting, almost students get board in class, not more than 10 students give answers or asks the questions when they don't understand, but after the researcher follow by IDI, more students pay attention, ask questions, give answers, and joyful in classroom, then the research will do and apply more to success on the classroom.

VINCIT

LABOR

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EPILOGUE

In MMOD program, I started to learn with ODT Integration Process that made me know how to integrate the 4 parts of our brain to work together, how to let the others work with us well and then, I learnt Organization Development & Management Fundamentals course, this course let me know about how we can develop or management organization to be better in the future and can be possible. After that, I learnt the overall perspectives of organization development and management course, it helps me see my organization picture in the past and look forward to the future then, and I learnt the theory of change management in communication, climate, and culture, fundamentals of management, OD&T Management of Creativity and Entrepreneurship etc. The entire course that I learned provided me valuable knowledge and helped me when I did this study. For the course of micro systems diagnosis, Change and Transformation, we have to implement diagnosis in the micro systems in the organization so, I can think and decide the problems solving on my own also. The important thing is the fundamental research course and action research course. It taught me how to collect data and how to analyze both quantitative and qualitative data etc. which motivates me to do the study in many different ways. SINCE1969

Earlier in my life, I thought about "Future" and considered "Change" a little. I never thought that, it is an important thing in human life. So, most of the time I just sat and waited for the chance and the problems to come to me. I never planed to do and I did not know what I should do for my future. As the time passed by, I learnt a lot of knowledge about these, especially organization development and management from MMOD Program. This program has made me to change my world to think positively, helped me to think better and better, work better than before and provided me valuable knowledge when I did this study. This thesis paper is one great result to impart the knowledge from instructors and the books to apply in the real situation in my work and my life.

In this thesis, I gained many things that are very useful for me. Not only skills, and experience, self-fulfillment, knowledge, but especially after implementation, all the results let me know, how to make Mathematics class interesting to learn, how to make activities interesting for students to join, how to change students' attitude to love and be happy to learn Mathematics, what are the needs of students in learning Mathematics class were, and also I can get the way to improve and integrate my competency to be better in teaching by using technology supplements, songs, games, group and individual presentations that I did in this study.

However, this thesis does not never seem 60 end here, as the intervention and the change is still going on in my organization in the future, I still will provide recommendations and keep a record of the following results and also I would like to contribute the knowledge and experience to my future work, to help my organization to always strive to be the best.

LABOR

* «1997]

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OMNIA

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Thesis

Surakit Srisrankulwong, (2005). <u>Factors affecting teacher commitment in Thai private</u> <u>schools</u>. The University of Nottingham

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www.change-management.com

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www.ntf.com

www.members.shaw.ca

www.sulte101.com

Teaching Style

www.drugstats.org

www.suite101.com



Questionnaire : Learning Style

Primary 3:	□ Room 1	□ Room 2	
Your seat:	□ In front	□ In middle	□ In back

Questionnaire Statements

		Strong	Agree	Disagre	Strong			
		agree	Agree	e	disagree			
1.	When the teacher tells me the instruction, I							
	understand better.							
2.	I prefer to learn by doing something in class.							
3.	I learn more when I study with a group.							
4.	I learn better by reading what the teacher writes on	í a						
	the board.	0	~					
5.	When I do things in class, I learn better.							
6.	When I study alone, I remember things better.							
7.	I learn better by reading than by listening to							
	someone.							
8.	I enjoy learning in class by doing experiments.							
9.	I learn more when I can make a model of something.	BRIET						
10.	I remember things I have heard in class better than							
	things I have read.	INCIT						
	* OMNIA	2	ĸ					
Rer	Remark:SINCE1969							
	^{1/วิ} ทยาลัยจัสใ	237-						
	101							

Questionnaire : Teaching Style

Sul	ojec	et:				
Lev	/el:			HALL I		
Cla	ISS 1	time per week:				
Qu	est	ionnaire Statements				
-			Very often	Often	Hardly	Never
1.	W	hole Class Activities:				
	-	Lecture / Teacher talk				
	-	Question & Answer				
	-	Overhead projector				
	-	White / Blackboard				
	-	Teacher led whole class discussion				
2.	In	dividual Activities.	1			
	-	Exam paper questions				
	-	Homework / private study				
	-	Individual assignments				
	-	Student personal choice in an assignment				
2	In	dividual Activities				
э.		Solf evaluation & Individual target setting	N P			
	-	Pre - test				
	-	One - to one teaching				
	-	Ouestion and answer				
	-	Use of computerised spreadsheets	Ring			Ц
4.	Sr	nall Group Activities	Ц	L.		
	-	Small group role play LABOR	CIT			
	-	Large group role play				
	-	Student presentation in groups				Ц
	-	Student presentation individually SINCE1969	303			
	-	Games ⁷⁷ วิทยาลัยอัสส์	376			

Remark:

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T-Test Paired Samples Statistics

.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre test (student)	2,6533	30	,72432	,13224
	post test (student)	2,7533	30	,76462	,13960
Pair 2	pre test (teacher)	2,8233	30	,52894	,09657
	post test (teacher)	2,9433	30	,44985	,08213

Paired Samples Correlations

ULEDO						
		ENS	Correlation	Sig.		
Pair 1	pre test (student) & post test (student)	30	,946	,000		
Pair 2	pre test (teacher) & post test (teacher)	30	,981	,000		

Paired Samples Test

1

		Paired Differences							
	SU	BROTHER		Std.	95% Confidence Interval of the Difference				Sig.
	S	Mean	Std. Deviation	Error Mean	Lower	Upper	t	df	(2- tailed)
Pair 1	pre test (student) – post test (student)	-,10000	,24775	,04523	N-,19251	-,00749	-2,211	29	,035
Pair 2	pre test (teacher) - post test (teacher)	-,12000	,12429	,02269	-,16641	-,07359	-5,288	29	,000
⁴⁷ ววิทยาลัยอัสสั ^{ธรภ} าจา									

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