



Research and Development of Integrated Learning Activities in Science, Mathematics and Thai Language for Students in Small-sized School in Thailand

By

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Outline

1. Introduction

2. Research questions

3. Objective

5. Conceptual Framework

4. Research Methodology

6. Results

7. Discussion

8. Recommendation

9. Public distribution





Introduction:

❖ Primary Education in Thailand

Small-sized schools

- Teachers
- Instructional medias and budget
- Students quality

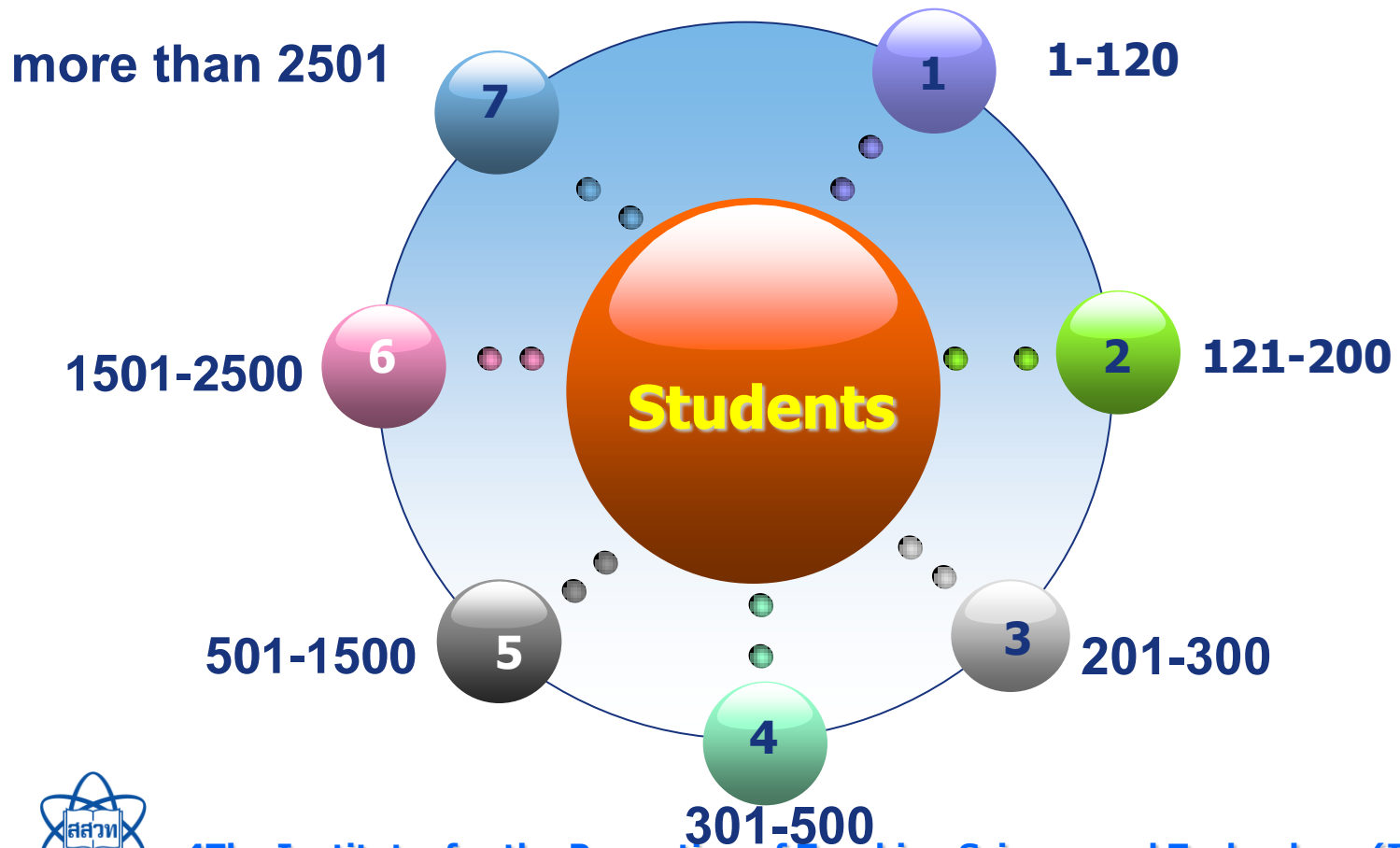
❖ Integrated Learning Model





School –sized

Office of the Basic Education Commission(OBEC)



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Research questions :

1

What is the problem of educational management in small-sized schools

2

What is the most effective way to implement integrated learning in Science Mathematics and Thai Language for Class level 1 small-sized school students?





Objective:

1

to study the status of educational management in small-sized schools

2

to develop effective Integrated Learning Activities (ILA) in Science, Mathematics, and Thai language.





Conceptual Framework:

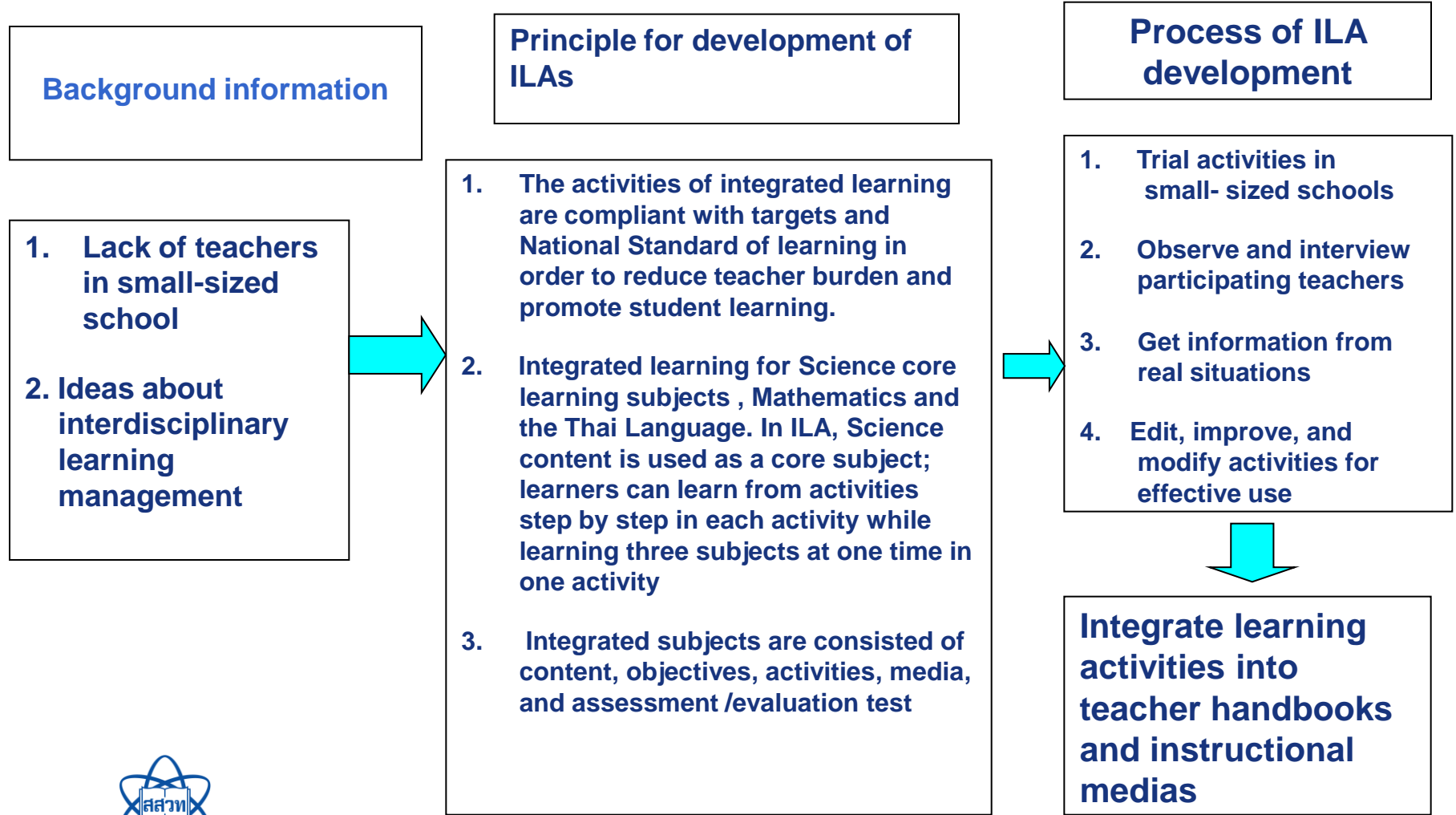


Figure 1 Framework on Research



Research Methodology

One –Group Pre-test Post-test Design



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Participants:

- ❖ **class level 1 teachers and students in Central Region, Bangkok and its vicinity.**
- ❖ **first semester of academic year 2009**
- ❖ **15 schools (Purposive Sampling)**
 - 15 schools
 - 39 teachers
 - 494 students





Instruments:

Nine assessment tests of learning units

Grade	Units test
1	We and Our Environment We Love Toys and Our Utensil Soil
2	Our Surroundings Plant: How to Plant and Care for Them Our Body
3	Around Our School test Valuable Natural Resources Valuable Material





Instruments:

- ❖ **Learning and behavioral observation form**
- ❖ **Assessment forms for assessing responsibility, group discussion, handwriting, experiment and note-taking.**





Process of activity development and Data collection

- ❖ **Survey the conditions of educational management in 3 small-sized schools**
- ❖ **Study the theory about learning and integrated learning management from literature**
- ❖ **Study about Science, Maths, Thai in National Curriculum**
- ❖ **Conduct workshops on development of integrated learning management attended by fifteen experienced scholars and teachers**
- ❖ **Test content validity by specialists in Science ,Maths and Thai**
- ❖ **Revise activities under suggestion of specialists before trial**
- ❖ **Tried on activities on five small-sized schools**
- ❖ **Collect data and summarize the results with teachers who use these activities to improve and modify activity plan**
- ❖ **Revise activities and learning plan to distribute to the public**





Process of activity development and Data collection

❖ Experiment procedure

- Hold a meeting of Grade 1-3 teachers (Unit 1)
- Try on unit 1 activities
- Collect data by observation method
- Interview (Focus group) for Unit 1 summarize and introduce Unit 2 and 3 to teachers
- Repeat step 1. for Unit 2 and 3 activities
- Collect data by observation method
- Summarize the result of unit 2 and 3
- Analyze data for further research





The Process for developing the Integrated Learning activities

Step 1 Literature review

- ❖ To study National Education Act B.E.2542, Policy of basic National education: principle, targets and structure and integrated learning

Step 2 Framework and Units

- ❖ To manipulate pattern and subject comply with activities plan, standard and indicator of each subject group, condition of students and school. To verify unit and idea flow.

Step 3 Integrated learning Formation

- ❖ To manipulate time, objective, activities media/instrument, tool for evaluation





The Process for developing the Integrated Learning activities

Step 4 Trial on activities and evaluation

- join meeting of scholars and teachers
- Pilot test (pre-test, post test, observe behavior,)
- interview (focus group)
- edit and improve activities in each learning unit
- test activities (pre-test/post-test)
- Interview (focus group) teachers that use integrated learning
- improve each activity in learning unit

Step 5 Report and public final edition





Data analysis

❖ Quantitative

- frequency,
- percent, mean
- and standard deviation.

❖ Qualitative

- group factor analysis,
- frequency,
- percent and content analysis





Conclusion and Recommendation

Status of small-sized school

- have 5 -10 teachers,
- 1-5 buildings with areas 2,000 -9,200 square meter
- Double or more class teachings
- use of distant learning (satellite television)
- some budget provided by the Local Community Organization
- vegetable garden,
- herb garden
- learning sites





Conclusion and Recommendation

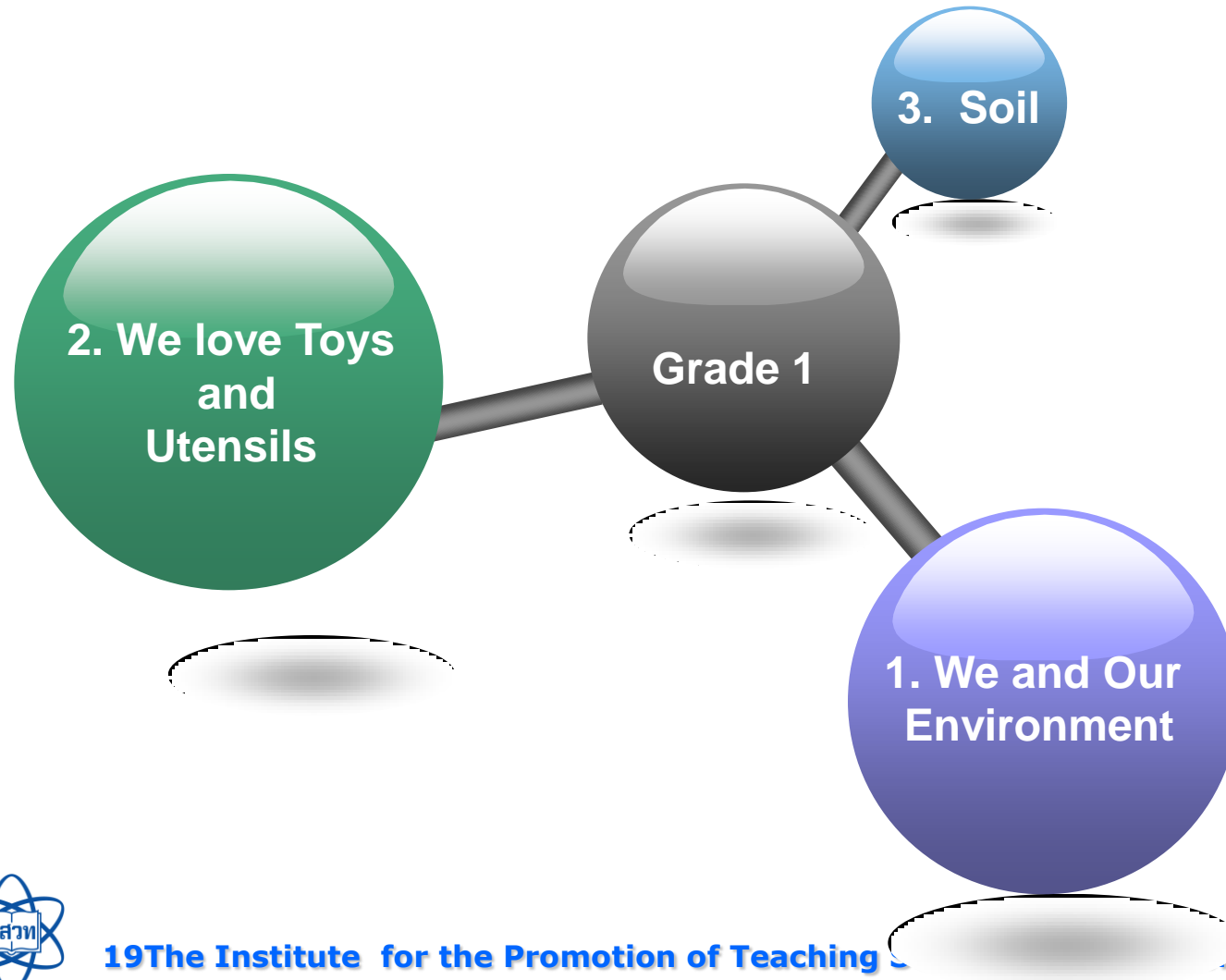
integrated
learning
activities
Grade 1 - 3

3 Units for each grade



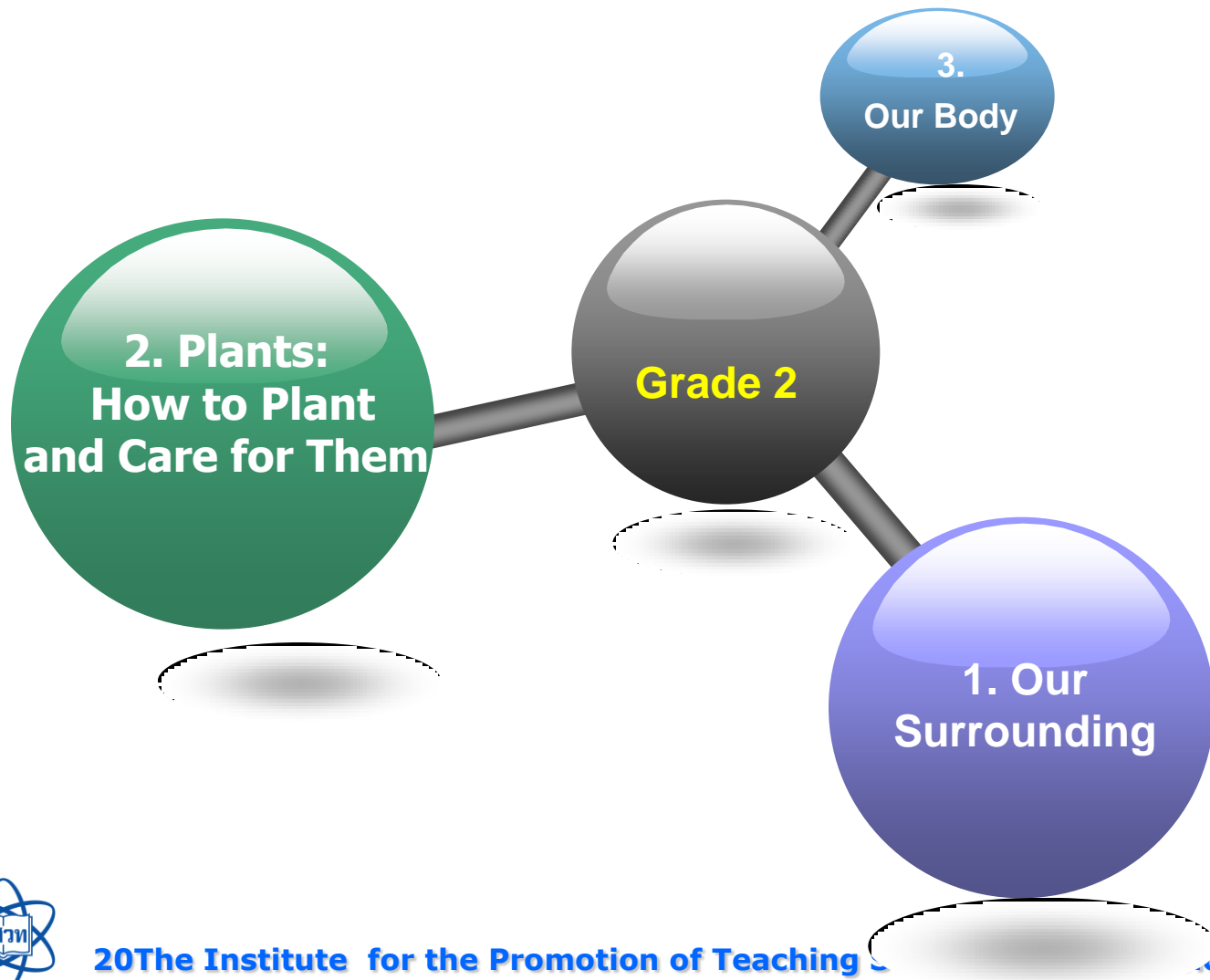


Integrated Learning Activities (ILA)



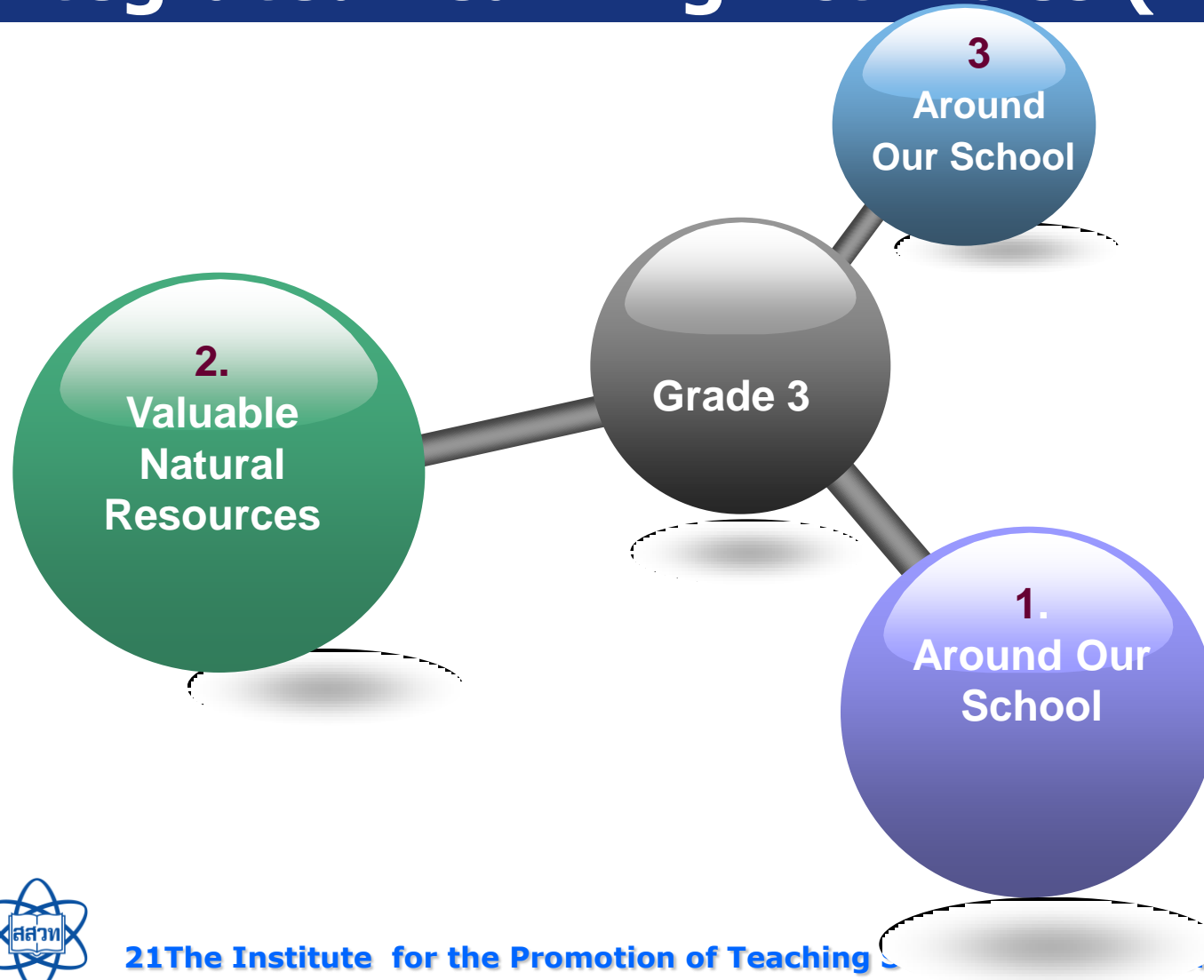


Integrated Learning Activities (ILA)





Integrated Learning Activities (ILA)





Integrated Learning Activities (ILA)

Grade 1 Unit 1 We and Our Environment Unit 2 We love Toys and Utensils test Unit 3 Soil	13 hour 15 hour 11 hour
Grade 2 Unit 1 Our Surroundings Unit 2 Plants: How to Plant and Care for Them Unit 3 Our Body	16 hour 17 hour 14 hour
Grade 3 Unit 1 Around Our School Unit 2 Valuable Natural Resources Unit 3 Valuable Material	16 hour 17 hour 14 hour





Results

Table.1 Comparison of the score between pre-test and post-test

Grade	Unit	N	Pre-test		Post-test		t-test
				S.D.		S.D.	
1	1	81	12.02	2.75	17.14	2.71	-31.69**
	2	81	13.59	3.42	17.96	2.38	-12.99**
	3	62	10.39	4.49	18.50	2.11	-13.79**
2	1	76	7.90	3.60	14.19	4.13	-18.58**
	2	86	11.15	4.06	16.37	2.63	-12.82**
	3	71	11.54	3.08	16.66	2.77	-16.46**
3	1	62	14.87	4.87	20.03	4.9	-12.74**
	2	76	9.79	3.78	14.66	3.28	-15.07**
	3	56	16.52	5.74	21.04	5.26	-8.21**

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Teacher and School Administrator Opinions

❖ Teacher

- Activities very useful and can help alleviate the burden on the teachers.
- Easily implemented and save time.
- Students can understand and enjoy learning ILA.
- Some teachers have problem about time teaching
- Students enjoy learning
- Provide Media and material





Teacher and School Administrator Opinions

❖ School Administrator

- Teacher behavior has changed in teaching and learning activities.
- talk and share ILA and plan to developing ILA.
- Students understand the scientific learning process, and understand the meaning of words.
- Media and teaching materials in school not available for ILA.
- Students are enjoy in learning with ILA.





Discussion

- ❖ **Higher score level after using activity for each units**
- ❖ **behavior assessment**
 - Group Participation.
 - Enthusiasm and questioning.
 - Discussion and exchange of ideas.
 - Reasoning, and expressing creative ideas with clear.
 - Speaking and writing skills.





Discussion

❖ Teachers

- Really use the series of ILA.
- Make own teaching equipment.
- Confidence of teaching.





Recommendation

❖ Policy Recommendations

- The integrated learning activities developed in this project should be disseminated to teachers in small-sized schools throughout the country.
- Institutions related to teachers' professional development should develop practicable learning activities that integrate several learning areas for the limited number of teachers in small-sized schools. They should also be supported by continuous training programs with post-teaching consultations, in order to probe the extent that the trainings are useful and the need for improvement.





Recommendation

❖ Recommendations for School Administrators

- Encourage teachers to participate in the training of integrated learning activities
- Participate in planning the instructions involving integrated learning activities and specify the use of integrated learning activities as one of the school academic strategies.





❖ Recommendations for Further Research

- Integrated learning activities based on other learning areas should be developed.
- Classroom behaviors of teachers who use integrated learning activities may be examined further, in comparison to teachers who base their teaching on non-integrated methods.





Recommendation

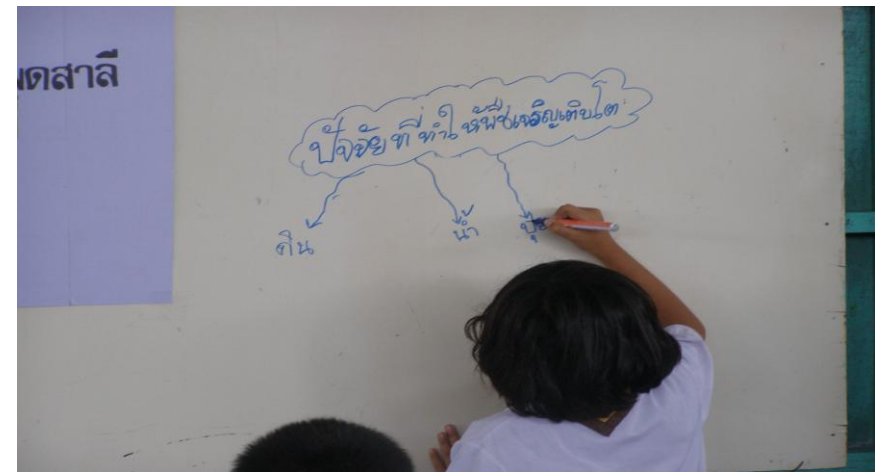
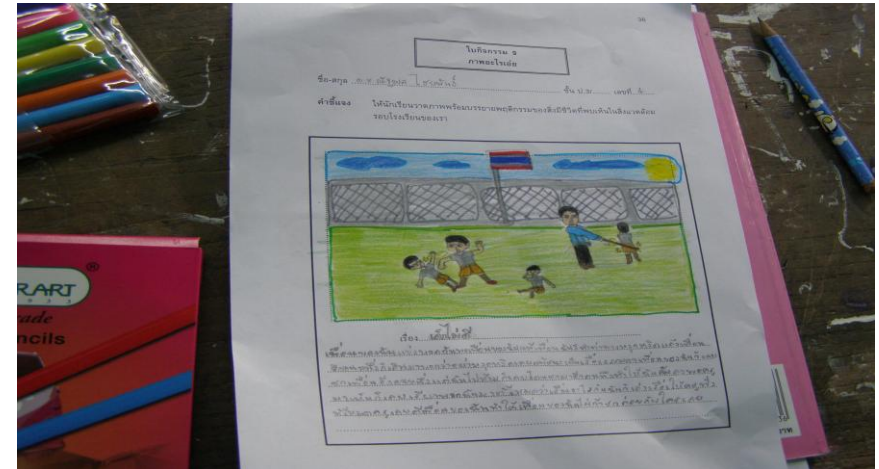
❖ Recommendations for Teachers

- The teachers should examine and comprehend the described learning activities. For practical activities, they should understand the use of materials, instruments and chemicals and should perform trial experiments before the actual classes
- The teachers should prepare the learning media beforehand, especially if the school lacks materials, media or experimental equipment, substitutes should be considered.
- The teachers should be aware of the students with slow learning progress who may not complete the activities in time due to insufficient reading and writing ability. The teachers may allocate extra time period for practice of reading and writing



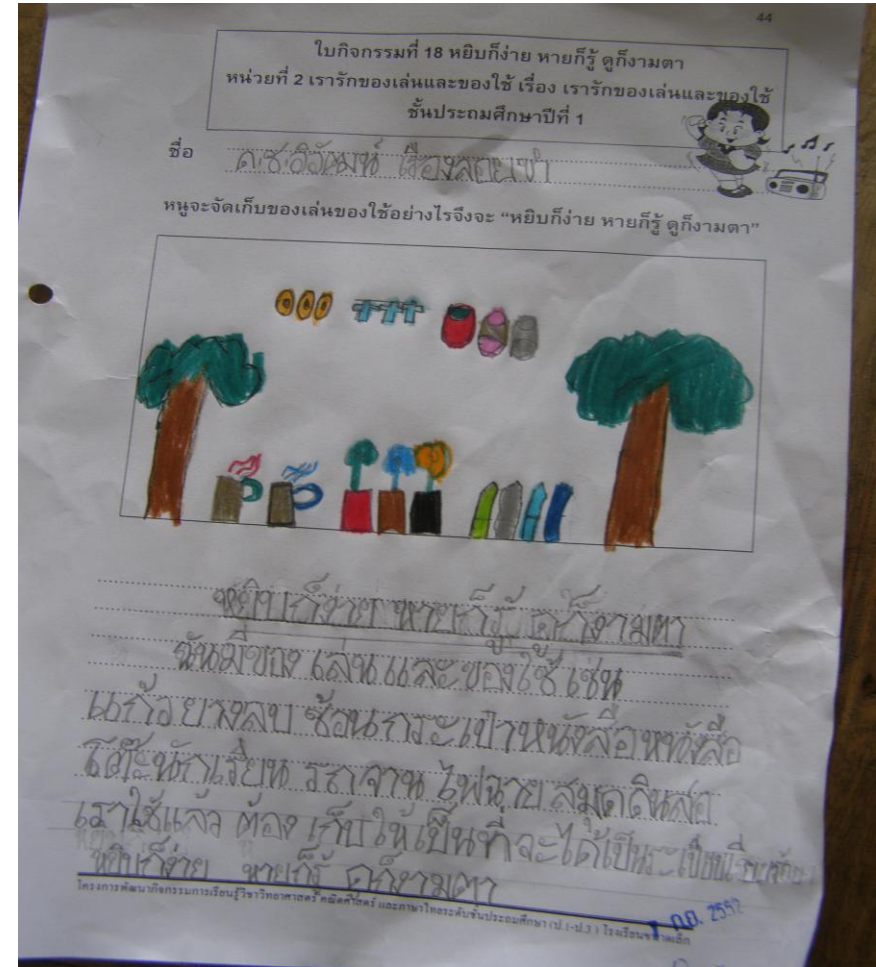


Students activities





Students activities





NOTE (public distribution)

❖ Articles



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ILA Workshop (Rachabiri Education Service Area Office 2)





ILA Workshop (Rachabiri Education Service Area Office 2 /58 schools)





Integrated Learning Activities (ILA)

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สำหรับครูชั้นประถมศึกษาปีที่ 1

โครงการพัฒนากิจกรรมการเรียนรู้บูรณาการวิทยาศาสตร์ คณิตศาสตร์
และภาษาไทย ระดับชั้นประถมศึกษา (ป.1 - 3) โรงเรียนขนาดเล็ก
สาขาวิจัย สถาบันส่งเสริมการสอนวิทยาศาสตร์และเทคโนโลยี

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กลุ่มสาระการเรียนรู้วิทยาศาสตร์ คณิตศาสตร์ และภาษาไทย
สำหรับนักเรียนชั้นประถมศึกษาปีที่ 1

โรงเรียน





Integrated Learning Activities (ILA)

เอกสารประกอบกิจกรรมการเรียนรู้บูรณาการ
กลุ่มสาระการเรียนรู้วิทยาศาสตร์ คณิตศาสตร์ และภาษาไทย
สำหรับครูชั้นประถมศึกษาปีที่ 2



โครงการพัฒนากิจกรรมการเรียนรู้บูรณาการวิชาวิทยาศาสตร์ คณิตศาสตร์
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สำหรับนักเรียนชั้นประถมศึกษาปีที่ 2

2

โรงเรียน

ชื่อ เลขที่ ชั้น





Integrated Learning Activities (ILA)



เอกสารประกอบกิจกรรมการเรียนรู้บูรณาการ
กลุ่มสาระการเรียนรู้วิทยาศาสตร์ คณิตศาสตร์ และภาษาไทย
สำหรับครูชั้นประถมศึกษาปีที่ 3



โครงการพัฒนากิจกรรมการเรียนรู้บูรณาการวิชาวิทยาศาสตร์ คณิตศาสตร์
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ILA Workshop (Rachabiri Education Service Area Office 2)





Thank You !