



IDDS 
SISAKET
Thailand 2017

PLEARN

An EXPERIMENT ON PLAYING & LEARNING

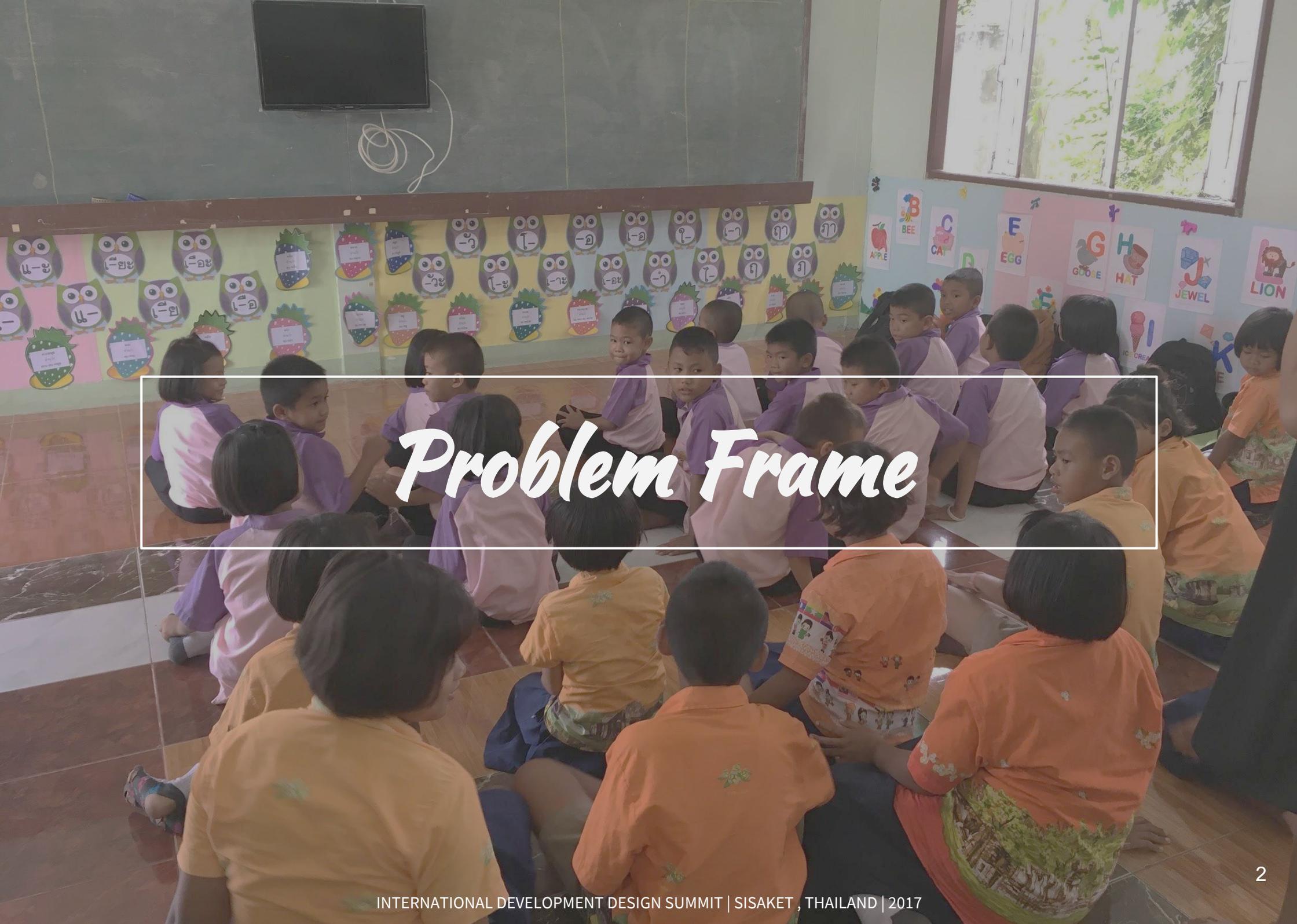
22nd INTERNATIONAL DEVELOPMENT DESIGN SUMMIT | SI SA KET, THAILAND | JULY/AUGUST 2017

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Problem Frame

Problem Frame:

Integrated Education

Background Provided

The principal of Ban Hang Wao has identified English language learning as a critical need. As the ASEAN (Association of Southeast Asian Nations) Economic Community, nicknamed AEC, grows more prominent, the need for English as a common language to facilitate trade and intercultural relations is also becoming more critical. At Baan Hang Wao Non Bua Primary School, the principal's vision for students' English skills is connected to this new macro development in international relations, and he is determined to set his students up for success as part of building Thailand's future.

School teachers feel underprepared to support students in science, resulting in low test scores and lack of enthusiasm for the subject. Many teachers are not trained to teach science, meaning that they don't have access to teaching resources like science experiments (and potentially, the equipment for these experiments). Teachers would like to build capacity and/or provide resources that create enthusiasm and instill confidence in their students' learning of technical as well as applied knowledge.

General Profile of School



5

Full Time Teachers



69

Students



4-12

Years old

Key Informants

School Principal: He wants to engage with IDDS and he is very supportive of the summit. He has a vision for the school to become a model for other schools in the area, and this vision is supported by a strong network of schools in the province. He is from this village but married outside the village, and is the first principal to come from here. He is really proud of his work at the school: from keeping records of food they give to pigs and growing vegetables to teaching students how to save money. He really wants to improve students' English language skills as the ASEAN community grows more prominent.

Khru Samarn: Male teacher who recently transferred from another province in Isaan 2 years ago. Graduated from a vocational technical school. He teaches Grades 4 and 5. He is also in charge of the activities related to gardening and animal rearing in the school. He is mostly interested in engaging students through scientific experiments.

Original Contact Point :

Areeya Tiva, Research Associate IDDS Sisaket

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Aug 2017

Classroom
Objects

Gathering Information



Activities & Tools

This stage of the program required us to gain a better understanding of our stakeholders through empathy. One of the ways to achieve this was through interviews. We adopted the OAT method to gather information on our stakeholders. We then had to make sense and meaning to the data and information we collected throughout the course of the program by organising them into categories (next page). We have illustrated below the methods and tools used during this stage of the program. While we were only dedicated 2 days for this phase, there were in fact instances we had to go back to this phase throughout the duration of the course, which greatly influenced and helped shape our solution later on.



THE O.A.T METHOD!



**OBSERVE
SURROUNDINGS**



**ASK QUESTIONS TO
FIND OUT**



**TRY OUT NEW
THINGS**

OBSERVING



Fig 1. Classroom in Sisaket town



Fig 2. Sisaket Provincial Education Office



Fig 3. Khru Ying teaching in Ban Hang Wao Primary

ASKING

Common questions we asked teachers, principals

- What are your personal hopes for your students?
- What are your motivations for being an educator?
- What are your aspirations as an educator?
- What challenges do you face as an educator?
- What do you wish you can have to help you tackle these challenges?
- What do you fear for your students?

Common questions we asked grandparents/guardians

- What are your personal hopes for your grandchild/ ward?
- How do you feel about your child's education?

Common questions we asked students

- What do you enjoy most about school?
- What do you dislike about school?

TRYING



Fig 4. Syab trying to teach English



Fig 5. Dale trying to teach English



Fig 6. Hamid trying activities with the students.

Discoveries & Observations

This section uncovers several **facts and insights gained** based on the **interviews and observations** we carried out throughout the course of IDDS. Our interactions with the local **school principal, teachers, grandparents/guardians, parents and students** helped us discover how each group of stakeholder feels are valuable to them in the area of education. We also discovered several other factors (**behaviours and habits**) that were contributive to the challenges faced by the stakeholders.

SCHOOLS

- City schools have more resources and seek to draw students from the village areas to increase their revenue stream and advantage.
- Typical class sizes for city school: 30-40
- Typical class size for village school : 20>
- Low enrollment in village schools like BHW Primary have low enrolment, force classes (6-10 students each) to combine resulting in the teacher teaching 2 grades.
- Limited budget based on staff count and class size creates additional responsibility on teachers (e.g. procurement, accounting and maintenance).

CURRICULUM

- The government has a national curriculum with 8 subjects: Science, Math, Art, Social Studies, Civics Education, Fitness and Wellbeing, Self Development (life skills, vocational training), Thai
- Students take national exams at Grade 6, 9 and 12.
- The Ministry of Education set up DLIT (Distance Learning Information Technology), which is a website with curated resources for teachers to access and use.
- Teachers in small schools have to teach all subjects due to lack of teachers.

TEACHERS

- Ban Hang Wao Primary teachers do not live in the village, but live nearby. They send their children to the city schools.
- Teachers from village schools feel least confident in teaching English, as compared to teachers in the town schools, and private institutions.
- Teachers in the village tend to use online resources (DILT) less than teachers in the urban/suburban schools.
- English taught in Ban Hang Wao Primary is not aimed at developing recognition of written words for reading.

STUDENTS

- In Ban Hang Wao Primary school, teachers mention that students tend to get restless toward the end of the day
- students cannot keep up with the material; when they get behind the teacher must find ways to bring them back up to level of the videos over the course of the term;
- Students of different grades (a year apart) are in the same classroom, creating less dedicated time between teacher and student.

COMMUNITY

- Students who drop out of school after Grade 6 mostly get into the company of alcohol, drugs or gambling.
- Some drop-outs just loiter around the village or other villages.
- Cases of teen pregnancies in the village are also growing.
- A local village volunteers to coach some of the local village boys in soccer to keep them engaged, and mitigate their involvement in the vices mentioned in the first point.

HOMES

- Children in the village mostly live with their grandparents as their parents are usually working in the city area which may be in another province.
- Grandparents are unable to guide children in their academic endeavours and/or appropriate usage of technology (e.g. handphones)
- Not all parents/ grandparents/ guardians are fully invested in their children's personal interest but hope that they grow up with good moral values, hence children lack support to pursue their ambitions.

Interviews & Insights

- *From your interviews, homestays, and observations what are you hearing/observing are the main challenges people are facing related to your project topic?*
- *What other insights did you discover about your original project?*

To get a deeper understanding of how the educational landscape is in Baan Hang Wao, the province and Thailand, we talked with several groups of people:

- Teachers and Principal from Ban Hang Wao Primary
- Teachers and Principals who live in Ban Hang Wao but work in other schools in Sisaket town and around Ban Hang Wao village
- Education officers from the Sisaket Provincial Education Office
- Grandparents/ Guardians who take care of the students/ children in Ban Hang Wao

From the interviews, we identified 7 main points that were commonly mentioned by our interviewees:

1) Small schools in rural areas face many different challenges

From lack of staff teachers, to combining different grades to form a class size to prevent annual budgets from being cut, teachers in village schools are bogged down by tremendous responsibilities. Facilities and resources also vary vastly from schools in the urban and suburban areas. Ban Hang Wao Primary is considered a small school with 69 students and 5 teachers. However, a village school nearby only has 20 students with 3 teachers.

2) Many students in the community go study at private schools in Si Sa Ket town.

They mainly want to follow their friends to study in the city. Once, the students in the local community decide to go to study in town, it makes a number of small scaled school even less than it used to be. And it also reduces the annual budget that a certain school should get as the number of students go down.

3) Most of the students are not living with their parents but their grandparents.

This phenomenon is happening everywhere in countryside of Thailand, because their parents have to go to work (to earn money to support the family) in the big cities like Bangkok, Pattaya or Phuket. We have inferred that because of this, children do not have enough familial support at home to pursue personal goals and ambitions. Furthermore, it has also led to poor grades in school, increasing student drop-out cases who fall into the company of drugs and alcohol, and teenage pregnancies.

4) Teachers are overloaded by school project assessment and national test evaluation preparation.

This poses as a challenge for teachers especially in rural areas. As a result of national exams, teachers (and students alike) are pressured to prepare for them. Coupled with the fact that teachers teach all subjects in village schools, they become hindered in being able to come up with creative ways to teach their students. Quality time for each subject is also compromised.

5) Teachers do not have enough of new, creative teaching approaches or systems

Our observations on teachers from both village and town schools showed us that teachers were heavily instructional in terms of teaching approaches and methods. This commonly leads to students being restless or inattentive during lessons after long periods of time. However, some teacher do make the effort to use simple songs and catchphrases for students to easily memorise.

6) English resources are too advanced and “uncurated”

Teachers in Ban Hang Wao Primary feel that the textbooks provided are too difficult for the students. They also feel that the DLIT web resource are also too advance for the students. Their remedy to this is to search of other resources online which may sometimes save time but may sometimes compromise on the quality of content delivered to the students. However, they have expressed that content delivered should fun, interactive and engaging for the students to render it an effective resource.

7) English is never used their everyday life context

The environment in school, at home or within the village has not yet been conducive for students and teachers alike to practice speaking English, which is in contrast to bigger cities like Bangkok, Pattaya and Phuket. As such, they feel that it is impractical to speak the language and hence do not use it. Teacher said “I taught a set of English vocabularies to them this morning and in the evening they forget it all.”

Reframing the Problem

Points

| T1 | T2 | T3 | Team 1 | Team 2 | Team 3 |
|-------|----|----|------------|------------|------------|
| | | | mother | mother | mother |
| | | | f _ th _ _ | f _ th _ _ | f _ th _ _ |
| | | | h _ _ _ | h _ _ _ | h _ _ _ |
| | | | l _ t _ _ | l _ t _ _ | l _ t _ _ |
| | | | _ ab _ | _ ab _ | _ ab _ |
| Total | | | | | |

Challenges | Needs | Assets | Opportunities

We realised that the problems that exist in the education landscape is chronic and is not isolated solely in Ban Hang Wao but rather, other rural, and suburban areas in Thailand. Factors that affect the landscape does not only

Challenges

Teachers in BHW
Primary teach all
subjects to students

2 grades combine to
form a class results in
divided teacher
attention

Teachers do not feel
confident teaching
some subjects (e.g.
English)

Teachers do not have
time to thoroughly
prepare lessons

Assets

Internet access in all
classrooms

Each classroom is
equipped with
computers, printers,
speakers, mics

Activities that allow
students to learn
about agricultural
practices

Needs

Curated resources
that are simple yet
challenging for the
students

Effective approaches
to teaching difficult
subjects (English)

Subject Specialists for
difficult subjects
(English)

Better experimental
resources for science
experiments

Opportunities

Teachers' willingness to
experiment with new
teaching methods

Teachers' hopes that
students can be
motivated, and are self
directed learners

Team Challenges, Pacifiers & Tools

What was the most challenging part about framing the problem for your team?

From the interviews and research conducted, our team discovered many issues raised by the local community, the provincial education officers, and teachers, which has led us to understand the the **education landscape in Thailand is complex** and requires progressive systemic change for quality education to reach rural areas. Furthermore, other problems within the community which is As results of systemic change can only be seen after a significant period of time, our team has decided to focus and intervene at a level that we felt could be manageable in the duration of the course provided by IDDS.



Fig 8. Students queuing up for food during lunch time.

What activities or tools did your team use to frame the problem?

1. **Creating Personas & Journey Mapping** - to envision a typical day in a life of a : principal, teacher, grandparent and student.
2. **Mapping the challenges, needs, assets and opportunities** of our stakeholders.
3. **Needs Statements** - to analyse and understand the needs of each persona.
4. **PATH Template** - to map out the major problems for further unpack into possible areas of intervention; to identify achievable targets and outcomes

What was the easiest part?

Thankfully, **working within the premises of the school meant that we had direct access to the stakeholders** we were designing for and with. As such, interaction and interviews with teachers, students and the principal **could be done at anytime** based on their availability. We were also able to sit in for some of the lessons to observe the classes in session in nearly most of the school days. There were also instances where we assisted teachers in their lessons which helped us tremendously in **empathizing with the teachers on the challenges they were facing.**



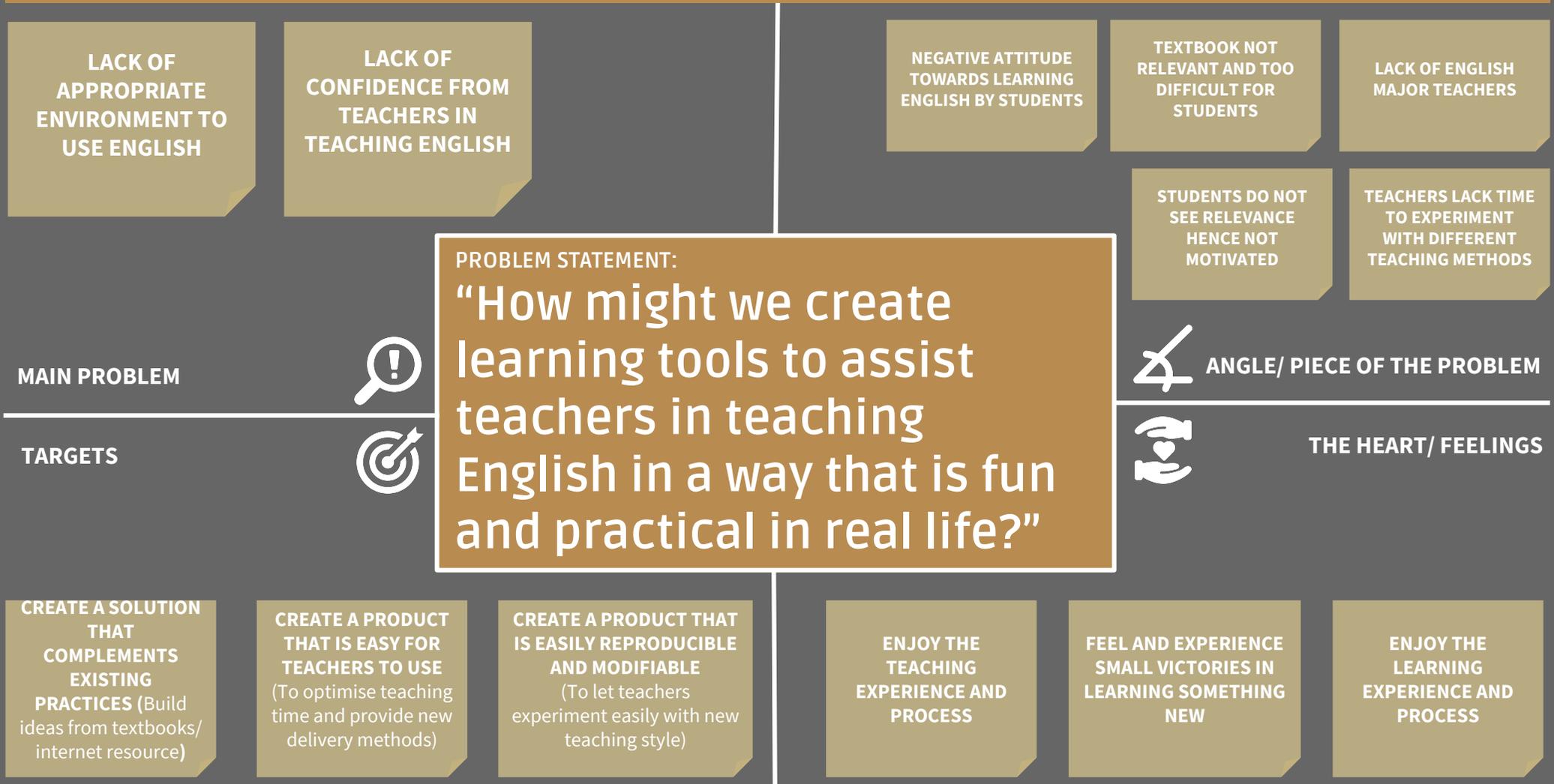
Fig 7. Khru Ying's typical day for teaching English in class



Fig 9. Discussion on coming with PATH statement.

Generating the PATH Statement

The PATH chart below was based the observations and interviews we did to gather insights from the main stakeholders of the education landscape in Ban Hang Wao and Sisaket. While there were many problems identified, we have listed two that we felt were manageable to intervene. We further unpacked the major problem and identified specific areas we could immediately prototype and test a solution, yet easily modifiable for our stakeholders. We then also considered what we hope they will feel upon the successful implementation of the proposed solution.



Popstar
Karaoke

Passport



UND... / WEEKLY
EACH CHILD
GETS ALL THE
ANSWERS TO
THE EXERCISES
AND GETS TO GIVE
THEM TO STUDENTS
WHO ASK FOR HELP

INFINITY BAGS
GIFTS &
REWARDS
IN BACKPACK

SUPERHEROES

TALKING ANIMAL
SAFARI

ROLEPLAYS
PUPPET SHOW
MASCOTS.

SCHEMER
BANT-LAND

BLANKET
FORT/TENTS
IN CLASS-
ROOM

Co-Creating a Solution

MAGIC
PENCIL

CALLING
LETTER
MAN

Nature Science
Class in
the garden/
on a farm

BANK

Magic
Ink

Auction

Flea
Market

WORD
BANK

Made go
with
Thai &
English
word

LETTER BANK
Random
BANK LETTER
EACH DAY
SAVE IN LETTER
BANK.
CASH IN FOR WORDS
ALLOWING SPECIAL
PRIVILEGES

bu
teaching
Eng on
screen

very
interactive
lecture

Easter egg
game

LETTER LEAGUE
WORD SQUAD

TELE
WATCH

INFINITY
WORD
BELT

VIDEO
SCREEN
BUCKLE

cloud
worm
plant
soil



Existing Solutions & Locally Available Resources

- *What solutions already exist and why aren't people already using them?*
- *What resources are locally available that you could use to solve this problem?*



Fig 10. DLIT Website

Distance Learning Information Technology (DLIT)

The DLIT (<http://www.dlit.ac.th/home.php>) platform is a curated website of videos, lesson plans, worksheets and discussion forums for teachers and educators alike to use when teaching students. The platform provides teachers and educators the resources that they can use in classrooms for all compulsory subjects examinable by the Ministry of Education from kindergarten to highschool. Despite this, we found out that teachers in Ban Hang Wao still **do not find this resources useful** as they find the **content too difficult** for their students to follow.

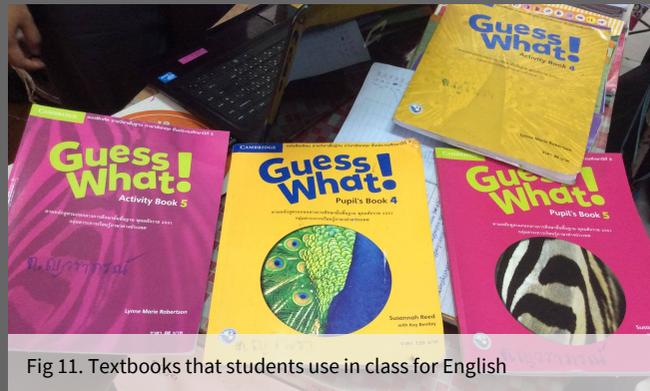


Fig 11. Textbooks that students use in class for English

Assessment Books and Picture Cards

In our field work to gather information, we chanced upon a local bookstore in the town of Sisaket and found many tools, and materials that teachers in Ban Hang Wao could use. We found picture cards that contained English words behind its equivalent images. We also found enrichment books that focus on specific topics for English and other subjects. Teachers have expressed that they **do not have the time to curate these resources** and find that doing a quick **google search online is sufficient though troublesome** as they would need to plough through several websites to find what is suitable.



Fig 12. Students used recycled materials to make motorised a toy car

Recyclable Materials

One of the teachers who teaches the upper primary (Primary 6) encourages his students to **create their own projects based on their interests** using resources he has available at hand, as well as items his students can find around them. For instance, some of his students created a toy car out of a plastic bottle, old parts of a toy car and simple electric motors. However, he expressed that he is **unsure of how to integrate this approach to other subjects as he finds this to be an effective approach** in getting students be in control of their own learning.

Interested Parties

- *Who in the community has shown the most interest in co-creating a solution?*
- *Why were they interested?*



Principal

The principal has vested interest in tapping on IDDS as an opportunity to further improve the standard of education in his school in terms of teaching approaches of different subjects, students competency in applying what they learnt in real life, as well as

During the course of IDDS, his involvement of co-creation with us was during an ideation activity. He also greatly helped us understand the education landscape in rural Thailand and the school through the sharing, interactions and interviews we had with him.



Khru Ying

Our team worked closely with Teacher Ying during the prototyping phase. We co-designed two lessons with her, of which she tested on her students. Co-creating with Khru Ying was meaningful as she adapted what we had planned according to the needs of her students. It also helped us understand the students better to modify our prototypes.

Khru Ying mentioned to us before that she has many ideas on experimenting with different teaching methods to get her students engaged. However, due to the lack of time, she is unable to, and feels that our involvement with her gives her that opportunity to do so.

She has also expressed interest in organising an English Camp for her students but mentioned concerns that she lacks financial resources, time, and is also uncertain of how to initiate one.



Khru Samarn

Through our interactions with Khru Samarn, we realised that he is a teacher who is deeply passionate about the sciences and technology. His teaching approach vastly differs from the other teachers in the school even though he too is plagued with similar challenges that all teachers in the school face.

Khru Samarn's involvement in the co-creation of the solution was showing and providing us access to tools and resources he uses to teach science in his class. As he too is uncomfortable teaching English, he currently only teaches the basics, and leave more complex topics in English to the other teachers.

He is interested in this process of co-creating as he too is wondering if there can be better methods to teach, and teach English.

Activities & Tools for Solutioning

In coming up with ideas as solutions to our problem statement, our team adopted several ideation activities and tools that was shared by the design facilitators as well as from our past experiences. The tools taught are listed below, and several (not all) ideas are shown on the right of the page.

Opposites

This activity requires participants to

- Each write what exactly to do to not create a solution to the problem statement.
- This activity therefore allows participants to see what exactly to refrain from doing when coming up with solutions to the problem statement

Mix & Match

This activity requires participants to

- Identifying 1 Human Need.
- Pick 1 Brand
- And think of how the two above elements can be linked to create a solution to the problem statement

Brainwriting 3-5-6

This activity requires participants to

- Each write three ideas in a table.
- After 5 minutes (we modified it to 3 minutes) everyone rotates notebooks to the left for teammates to build on existing ideas
- Cycle is repeated until everyone has written on each others' notebooks.

Fears & Loves

This activity requires participants to

- Name items/objects or memories that we fear and love.
- Combine different fears and loves from participant to think of ideas that could be a solution to the problem statement crafted.
- Additional : Build-up from existing icons of pop culture.

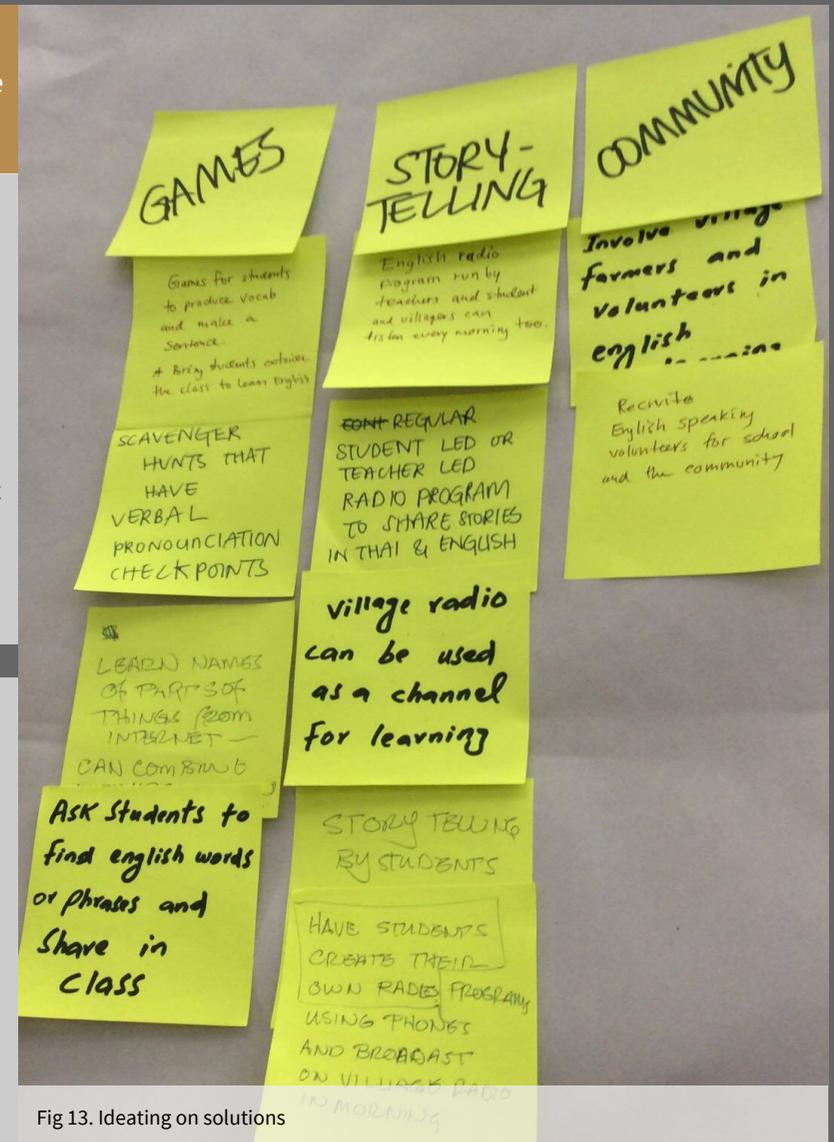


Fig 13. Ideating on solutions

Ideas For Community Pitching



Idea 1 : Role Playing Superheroes equipped with artillery to learn English



Idea 2 : Gamify field work using Nature Journals and badges to learn English



Idea 3 : Getting students to make their own learning materials and playing with them

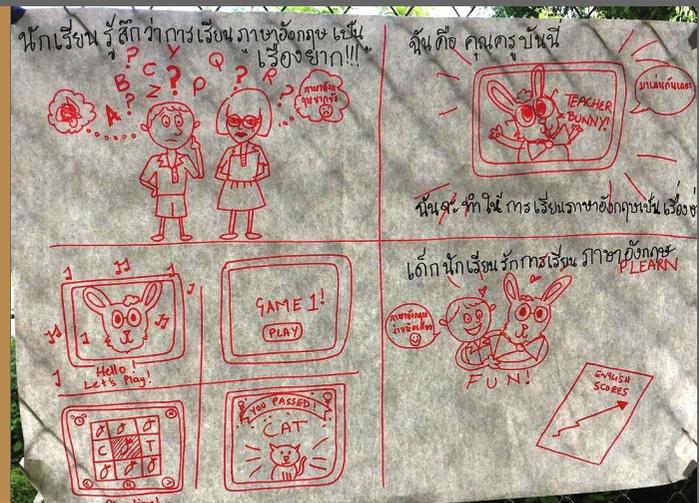


Idea 4 : Create large animal characters from Aesop for use in role play to practice simple statements of action.

Our team eventually pitched 5 ideas during the idea pitching session which also hosted the local community. We gathered feedback on our ideas from teachers a principal who were from the town school, students who were from the town and village school, as well as parents from the village.

From the feedback we realised that:

- Students prefer their lessons to be fun, interactive and practical.
- Teachers want to be able to engage students better in class.
- Value the importance of English as a practical medium of communication.



Idea 5 : Creating video series of a cartoon rabbit teaching English online in a gameshow format



Prototyping

Prototyping & Testing

Our prototype is a combination of a physical product, and a process. There were several prototypes we made to test our process (prototype). In total, we made 3 different physical prototypes to test our process prototype. The process that we prototyping is a teaching approach that teachers could adopt in classrooms to assist teachers in the teaching and learning of English.

From our information gathered during the course of IDDS, we realised that what would help teachers the most was if prep time for lessons could be saved, but at the same time, not compromise a meaningful lesson.

Our first round of prototyping had us creating learning materials and designing a lesson plan for teachers to use. There were initially 2 prototypes we tested directly with the children from Ban Hang Wao before we got them tested on the students by the teachers. The first two initial prototypes were:

1. **Nature Journal for students to use for field work (Idea 2) - To get students accustomed to English nouns associated to their common surroundings.**

For this, our intention was to get teachers to utilise their surroundings as objects of reference when teaching students in topics of science, nature studies and English, making their learning more integrated than in silo. We also hoped that teachers and students can create their own Nature journals to “collect” words and take ownership of their (both teachers and students) learning. However, we realised this mode to address our problem statement would not be a sustainable model in the long term as teachers might then need to put in extra time and effort to create the resource on top of their existing hefty workload. On the positive note, students that tried this prototype with us enjoyed decorating and colouring their journals.

2. **DIY Picture Cards and English Noun Cards for students to match the image to the words (adapted from Idea 3).**

We found that it was effective in getting students to learn how to spell English words. We also realised that it led students to be excited about making their own picture cards and enjoyed the matching of words and pictures, which to us, served as information that showed if students had control over what and/or how they learnt, learning on their part would be easy.



Fig 14. 1st Prototype nature journal



Fig 16. Students DIY picture cards on board.



Fig 15. Student working on Nature Journal

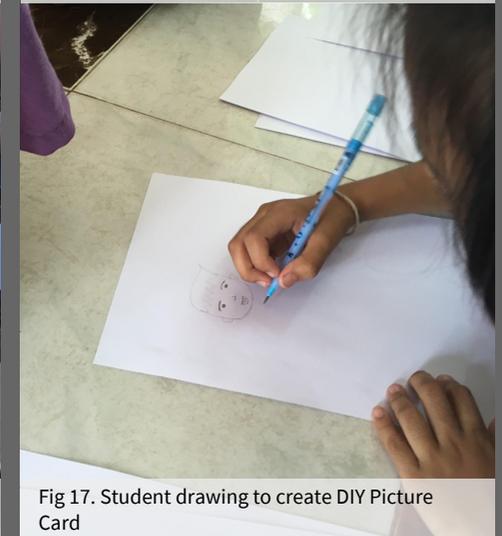


Fig 17. Student drawing to create DIY Picture Card

Final Prototype(s)

After a first round of testing our prototype, our team had to consider three factors when ideating for solutions to address our problem statement.

1. It had to be easy to be implemented by the teachers
2. It had to be reproducible
3. It had to complement or supplement existing practices

We then finally decided for 3 prototypes, each with the intention to achieve different objectives. Each prototype adopts a “PLEARN” model that is to incorporate elements of both playing and learning together to encourage a more immersive environment for students to learn. In addressing our problem statement, our team created lesson design template and designed lessons with the teachers of Ban Hang Wao Primary school.

PLEARN (Play and learn), a game based learning approach, has been introduced and used in Thai schools many years already. So it is not something new to Ban Hang Wao school. How often teachers have applied PLEARN teaching approach in their classes is a question and how each teacher use it, it is based on teaching style and character of each teacher individually. Reference about PLEARN, a game based learning approach, <https://www.gotoknow.org/posts/492165>

As mentioned previously, our prototype is a combination of a physical product and a process (the teaching process). The lesson was developed with Khru Ying and we spent about an hour after school (for 3 days) to design the lesson for the students. The materials used in getting the students to create their own learning materials were made from common craft materials and tools. The three prototypes created have been detailed in the following 4 pages.



Fig 18. Students making the DIY Picture cards @ the Expo

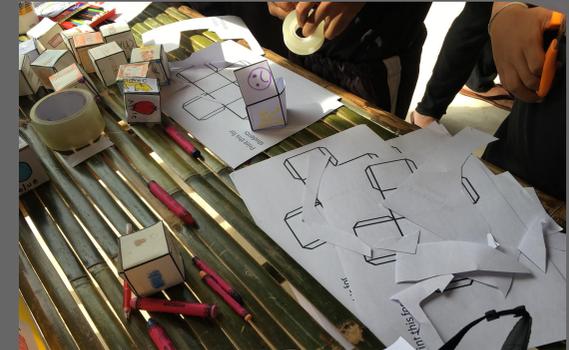


Fig 21. Students making the DIY Word Cubes @ the Expo



Fig 19. Dale showing the Silly Sentences word cubes



Fig 22. DIY Pictures cards up on the boards



Fig 20. Students making the DIY Word Cubes



Fig 23. Students making the DIY Picture & Word Cards

Prototype 1: Cardboard Cubes for Silly Sentences

Lesson Objective:

1. To help teachers teach parts of speech and sentence formation in English.
2. To help teachers let students identify adjectives, nouns, verbs and prepositional phrases and where to place them in a sentence.

Material Preparations:

- Prior to the lesson prepare 7, 6cm cardboard cubes. Cover two of them in white paper. Two in tan. One in red.
- In class, have the students suggest action verbs that they know. Write them on the blackboard in two lists: verbs with objects and verbs without objects (some can be in both lists)
- Then, on 6 cm squares of blue colored paper, have the students write the name of an animal or a thing, and draw it.
- Meanwhile, from each list of verbs write six in the 3rd person singular form on a tan cube. Then draw emotions on one white cube and colored circles on the other, and label them.
- On the red cube write 6 places as prepositional phrases, such as: “in the school”, “in the pond”, “in the field”, “in the forest”, etc. and illustrate them.
- Finally, have the students choose six correctly spelled animals to paste on one cube, and six things to paste on the last cube.

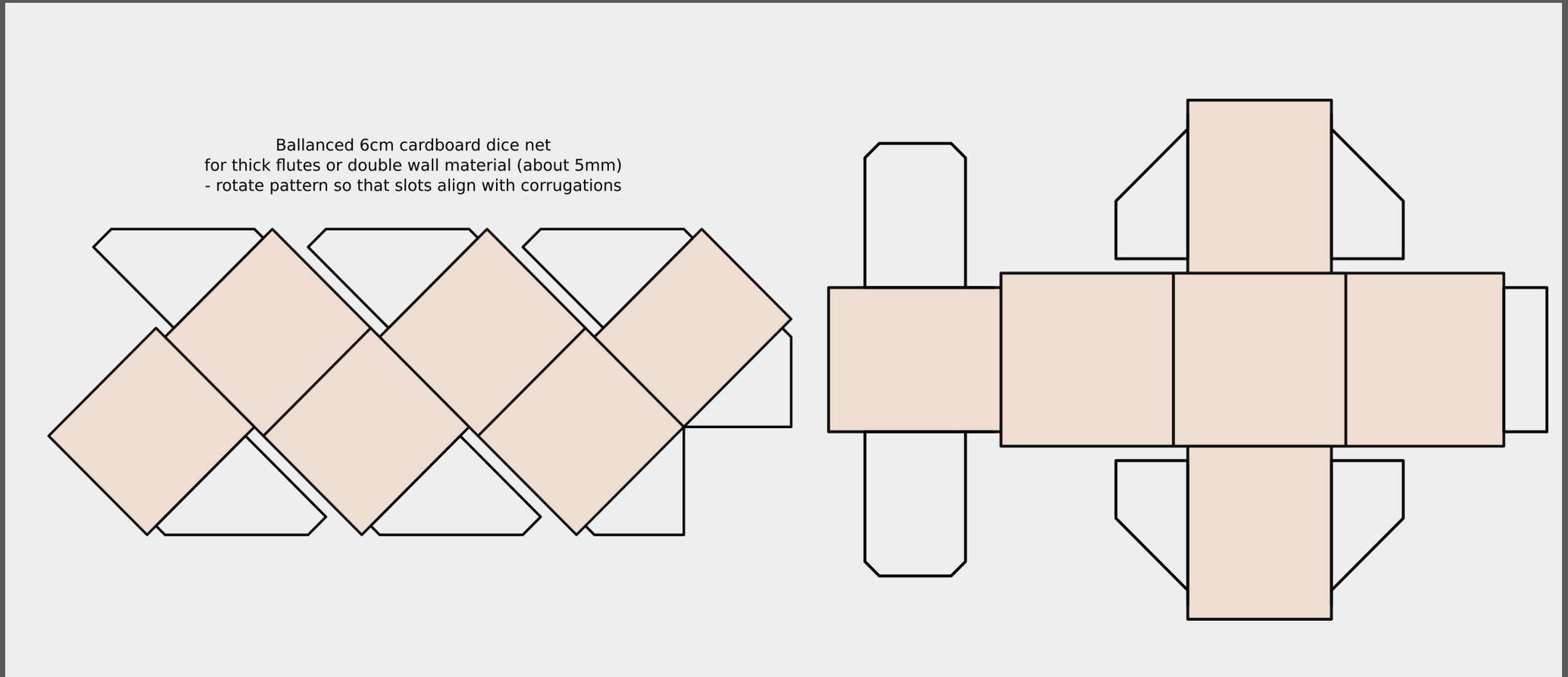
Activity:

- Choose a sentence structure of an appropriate level of complexity, any where from Noun+Verb to Adjective+Noun+Verb+Adjective+Object+Prepositional Phrase.
- Show in each part of speech in their proper order as a colored square on the blackboard. Insert an article or punctuation in writing where required.
- Show how to roll the dice and arrange them in the order shown on the board to make a sentence.
- Have the students roll the dice, to create their own sentences. Then let them choose one to write on their paper and illustrate.

Follow-up:

- When the students become proficient in this activity they should be able to play this game on their own without the dice. This is done by passing paper, adding the correct type of word, folding it over, passing to the next student and reading the result at the end.
- When playing this way, the students themselves should note which sentences are reasonable, and which are too silly, for example because the words used cannot really go together in that way.

Prototype 1: Cardboard Cubes for Silly Sentences



The first design net above was used to build the cardboard boxes used when testing the game. Cardboard cubes are durable, but require a skilled adult to produce. Paper drawings can then be pasted onto the faces by the children.

In earlier prototyping, drawings were made directly onto a standard paper cube net. An advantage of the paper solution is that children can make them by themselves, but the result is rather fragile for use as a game.

The second net above shows an alternative adaptation of the familiar paper net for thicker cardboard.

Prototype 2: DIY Picture and Word Cards

Lesson Objective:

1. To help students learn simple nouns of surroundings
2. To help students to enjoy learning English vocabularies in a fun and practical way - by drawing, mixing and matching words and photo
3. To help students to be more confidence and good attitude in learning English

Classroom profile

- This lesson guide is for teachers teaching Grade 1 - 3 English.
Teacher to student ratio = 1 : 20

Material Preparations:

Prepare A5 (half of A4) sized paper/ card stock, crayons / coloured pencils and laminating sheets (Optional). Make sure that they are enough for numbers of students in your class.

Activity:

Part I

- Students are divided into groups of 5. Then give each student 3 pieces of paper.
- Get each student to draw a picture of the word assigned to them (mother, father, brother, sister and baby)
- Get students to write the word of the picture in Thai.
- Get students to write the word of the picture in English.

Activity:

Part II

- After students are done with their cards, get them to paste the pictures onto the board or a plain empty wall.
- Get students to sit in a circle and place all their cards in the middle.
- Get 1 student representative to mix all the cards together.
- Get students to pick TWO cards that they did not make.
- Give students 3 minutes to match the label cards to the pictures on the board.

Part III

- After students are done with matching the cards to the pictures, teacher help go through the cards with the students.
- Ask students if the cards are matched correctly to the pictures. Test for spelling.
- Get students to spell the words learnt that day.

Follow-up:

- We found out that this game worked well with these young students. Since, by natures, they really enjoy drawing and colouring a picture. This game not only help them to better remember English vocabularies, but by drawing and colouring help students to grow their imagination well. Before they mainly learn English vocabularies through memorizing by hearing pronunciation and spelling.
- When prototyping this game, we had another of students from Ban Hang Wao's neighboring school joined in. They played this game slower than those students at Ban Hang Wao school, because they might not revised this set of vocabularies like students at Ban Hang Wao.

Prototype 3: DIY Word Cubes

Lesson Objective:

1. To help students learn simple nouns of surroundings
2. To help students to enjoy learning English vocabularies in a fun and practical way - by drawing, mixing and matching words and photo
3. To help students to be more confidence and good attitude in learning English

Classroom profile

- This lesson guide is for teachers teaching Grade 1 - 3 English. Teacher to student ratio = 1 : 20

Material Preparations:

- Scissors
- Glue
- Dice Print Out
- Colouring Materials

Activity:

- Get students to be grouped in 3s.
- Give each students 1 sheet of the cube print out.
- Assign students in each group 1 role each:
 - Artist
 - English Writer
 - Thai Writer
- Tell each student the responsibilities of each role [10 minutes]:
 - Artist - Draw 2 images of a noun on each face.
 - English Write - Write the 2 nouns of the Artist's picture's in English.
 - Thai Write - Write the 2 nouns of the Artist's picture's in Thai.

Activity Cont'd:

- Give students 10 minutes to complete their tasks.
- After 10 minutes, get students to swap roles within their groups and repeat step 4.
- Repeat the role rotation process until all 6 faces have been completed.
- Fold and fix up the dice.

Follow-up:

- Our initial intention was to get students to create stories and sentences with the dices that they made. However, we realised that it was more effective in getting students to learn and spell English nouns and adjectives.
- A follow-up from this activity is



Lessons Learnt

Gathering our thoughts on

Lessons Learnt

In subsequent testing of our 3 prototypes, it was observed that the students enjoyed the hands-on element while learning English. It came to a surprise for us when Khru Ying spontaneously gave an oral spelling test at the end of the lesson when we were into our 3rd round of testing, to which the students remembered how to not only spell but pronounced the words better and faster than the previous weeks she taught them..

Also, while we initially intended to lead the lesson so that Khru Ying could “learn from us”, we eventually realised that it might work against having our solution being sustainable in the long term as we were not allowing the opportunity for Khru Ying to test in her own grounds. As such, Khru Ying led all the classes to test the prototypes which resulted in a promising outcome, as well as a smooth running of the lesson given her better experience in classroom management.

The results and effects of our testing and experimentation unfortunately remains anecdotal. What we could have done differently was to assess and record the individual spelling competencies of each student after each session. Having to chart the progress of the students before and after each session for an extended period of about a month or two, might also have been an effective way to monitor and evaluate the effectiveness of our prototype in teaching English. Having a survey for the teachers as well on whether the lesson template was helpful in helping her design interactive lessons with her students could also have been done to find out if the solution we came up with did address the challenges they (the teachers) were facing.

Finally, we also learnt that the co-creative design process is difficult in practice as it is described verbally. A lot of hours had to be put in when design with the users themselves. Despite this, we (both us and Khru Ying) can agree that the process is worthwhile given how Khru Ying expressed that she finds the students more engaged, which meant that she can spend her time now on leveling up the students progress instead of teaching the same thing for a few weeks.

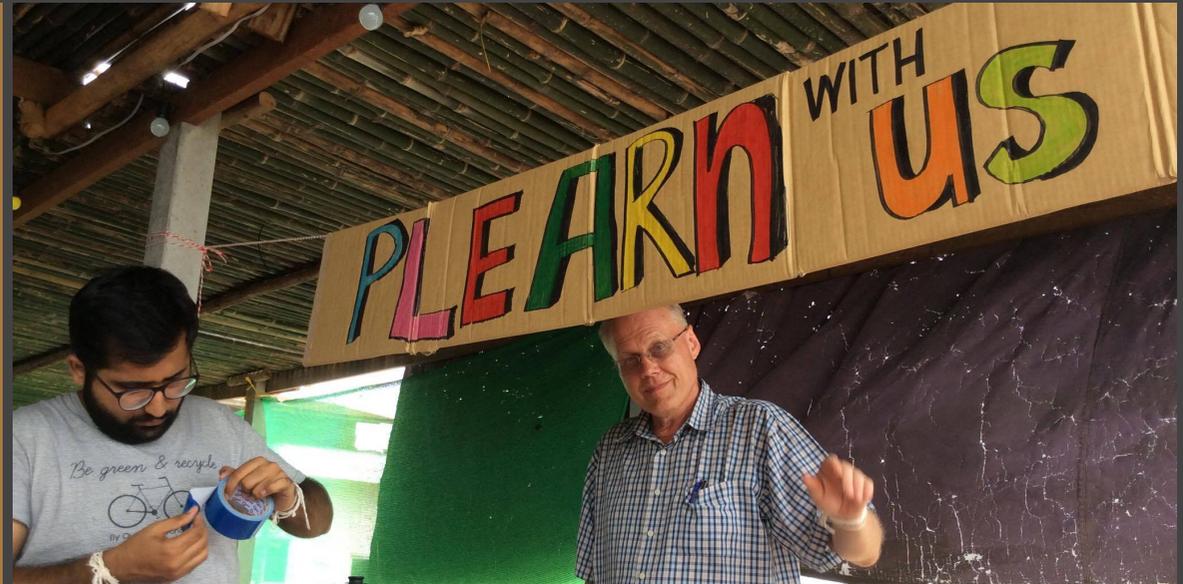


Fig 24. IDDS Sisaket Final Expo.



Fig 25. Netting and Shehzil telling students what to do at the Expo.

THE ISAAN RECORD
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Our work was also featured in an online digital editorial - The Isaan Record, as part of their cover on the entire program of IDDS Sisaket. The article can be viewed here:

<http://isaanrecord.com/2017/08/11/community-driven-development-sisaket/>

What's next for the Future?

Next Steps

Do you think your project should continue? If so, how and why and who in the community is interested to continue working on it? If not, why not and what were key lessons that you learned that you would want others to know about who try to work on this project again?

Education is an extremely broad theme to work on. Issues and challenges pertaining to education in developing countries are driven by many factors of which makes them complex. Solutions to address these challenges must not be short term and changemakers who wish to influence and shape the education landscape in the rural areas of Thailand cannot work in silo from the different stakeholders. A strong relationship (that culminates into a community) should be built amongst the local villagers, teachers, students and assigned government officials.

In the context of Ban Hang Wao, the principal has vested interest to continue what we have come up with during the summit. Given the relatively short duration, our team was not able to follow up with the teachers whom we worked closely with to design the solutions. We only addressed how teachers can make their lessons more interactive for their students. From immediate observations, both students and teachers enjoyed the lesson and see value in having students create their own learning materials. What remains undetermined is its actual effectiveness in getting students to be motivated enough to learn English on their own with teachers being facilitators of their learning and less of a content provider. While we hope to continue this project, we feel there should be a dedicated team to continue working on and experimenting the lesson designs with teachers, as well as track the learning progress of the students. This is therefore something our team is unable to proceed with.

If the project continues...

Who on your team wants to continue working on it?

While we are unable to continue this project as a team, one of our team members, Netting, has connected Khru Ying (the teacher whom we worked closely with) to volunteers who have previously worked with Netting in organising English Camps for students.

What is the 6 month plan and who is going to be responsible for what?

As Khru Ying has connected with volunteers whom Netting (our team member) has worked with, we are unable to determine the exact happenings and plans for the English camp that Khru Ying hopes to organise for her students at Ban Hang Wao Primary School.

What are some anticipated risks and challenges for this project's development?

Khru Ying had previously highlighted to us that getting access to funding, resources and time could be few of the bigger challenges for her to organise an English camp for her students. She would require approval and support from her colleagues and principal as well which she feels is another challenge.

How much funding (if any) do you estimate you will need for your next steps and for what?

Previous implementation of such camps have been based on a 10-month implementation funded by YSEALI - an initiative by the US government. The camp that Khru Ying intends to have **may not be** to a 10-month scale and thus may potentially range between THB 100,000 - THB 200,000 (USD 3,000 - 6,000) within a span of 2 - 3 months of planning and execution.



Team

Team Profile & Contact Information

Aspiring Atoms

For further information on this project, please feel free to contact anyone of us via the emails below our personal profiles.



Thailand

Dale Walton

Dale is retired after a varied career as an architectural model maker/draftsman, a science exhibit designer, teacher, game inventor, IT professional, toy safety specialist and production troubleshooter for an IKEA supplier in Thailand.

dale.walton@gmail.com



Pakistan

Hamid Mehmood

Computer Science major with research interests in ICTs for Development, interfaces designing for low literate people and financial technologies. Hamid is currently working as a Research Associate at a FinTech Center in Lahore, Pakistan and as a Research Consultant with NYU-Abu Dhabi.

mehmood.hamid@outlook.com



Thailand

Netting Jaruwon Supolrai

Freelance translator, project designer for Mekong youth learning and living camp and organic beginning farmer. She is living off the land with her mom on a 6.5 acres of farm based in Ubon Ratchathani, Northeastern Thailand.

mekongnomad.youthfarm@gmail.com



Singapore

Syabiqah Phang

Full time tech explorer, part-time classroom rockstar, Syab hopes to influence the next generation of innovators by inculcating the growth mindset in the students she teaches. She is currently a curriculum designer and educator for Sustainable Living Lab, and Makedemy, both of which are social enterprises in Singapore..

syabiqah@sl2square.org



END