



School Transformation

9 Elements

of the Whole School Approach

School Transformation:

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In memory of

Dr. Richard P. Haugland



FOREWORD

The School Transformation: 9 Elements of the Whole School Approach

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Prof.Vicharn Panich, M.D.

This book, *The School Transformation: 9 Elements of the Whole School Approach*, was written from coaching experiences from schools in the Teacher School Quality Program (TSQP) implemented by the Equitable Education Fund (EEF), that aimed for self-improvement as a whole system to achieve expected learning outcomes according to the 21st century skills.

It was written from the practices, by the practitioners, for the practice, accompanied by theories. In other words, this book created a theory from practice by proposing school transformation in 3 aspects, including management, teaching, and learning, also called the “5-3-1 theory”. This theory consists of 5 elements in management, 3 elements in teaching, and 1 element in learning, all working harmoniously together.

This can be considered as the presentation of the Starfish Model, a school transformation that makes students want to come to school, allows them to learn multiple skills to their highest capacity, prepares them to be good citizens in society after graduation, and makes school a happy place for all students and teachers.

The Starfish Model mainly focuses on transformation in 5 elements of management, followed by 3 elements of teaching and 1 element of learning, with student learning as its final goal. This reflects the importance of management in which the leadership of school directors and teachers is required. For a long time, Thai education has been conducted in a misguided way with the understanding that school directors do not need to focus on student's learning, since it is the teacher's responsibility. This concept has started to improve just a few years ago; however, many school directors still lack the leadership skills to play a key role in improving student learning outcomes.



This book introduces experiences from 5 school directors who have reflected on their learning and admirably developed their director role as the leader of school transformation. These include 4 school directors in Chiang Mai; Prathin Tangjai, Director of Phrao Burapha School, Suriyon Suriyodon, Director of Mae Kue Wittaya School, Jongrak Kantha, Director of Ban Pang Poi School, Prairat Rattanadilokkul, Director of Ban Tong Kai School; and 1 from Samut Sakhon; Amnaj Nenraksa, Director of Wat Ban Khok School.

Teachers can be leaders of change in the school as well, like Nichapat Teerabunyapon from Wat Pa Daed School, and Wanpisa Pruksama from Ban Pa Meud School, both in Chiang Mai.

This book shows the practices and the powerful reflections of 5 school directors and 2 teachers that have adapted to the specific context of each school by the use of 9 elements in 3 aspects. If these small schools could change, then other schools will definitely be able to change as well.

I believe there are still some school directors and teachers in Thailand who devote themselves to providing education that allows students to develop their capacity in all dimensions as these 5 directors and 2 teachers have done, and then have reflected to Dr. Nanthaporn Janchalia Seributra. I believe that The School Transformation: 9 Elements of the Whole School Approach will help in guiding every determined school director and teacher to change the way they work and achieve the goal as expected.

On behalf of Thai citizens, I would like to thank Dr. Nanthaporn Janchalia Seributra and the Starfish Education team for making this valuable book to enhance the quality of Thai education and build quality citizens in Thai society. I hope all those involved in making this book receive merit and happiness from benefiting Thailand's education, and have the opportunity to further create more excellent works.

Prof. Vicharn Panich, M.D.,

President of the Steering Subcommittee

Teacher School Quality Program (TSQP)

Equitable Education Fund (EEF)

24 July 2020





PREFACE

In this fast-changing world, it is necessary that schools have an ability to improve the quality of the learners to be ready and well-equipped for their lives and careers. It is also important to consider the factors of school management and teaching scheme to provide learners a quality education, skills, and capacities for the 21st century. Moreover, schools must provide a diverse education that corresponds with community needs and context while bringing out the learners' full potential. Since education in each school and community is no longer in the same model, a leader of change is needed in schools to set goals and develop strategic plans for school management by collaborating with the community, appropriately applying technology in teaching and school management, as well as developing the quality of teachers in pedagogy, curriculum, assessment and professional development that allows teachers to achieve continual self-development.

This book aims to share ideas and experiences from the schools in the Teacher School Quality Program (TSQP) by the Equitable Education Fund (EEF) and Starfish Education to improve and transform the whole school system by adapting Starfish Education's School Transformation Model.

Thanks to all school administrators, school administration boards, and teachers who participated in this program for their learning exchange that has further developed Thai education. Thanks to the Equitable Education Fund (EEF) for supporting and initiating the program to strengthen the schools' self-development so as to achieve the highest benefit, which is quality education and learning of the 21st century for all children.

Lastly, I would like to thank Prof. Vicharn Panich, President of the Steering Subcommittee of the Teacher School Quality Program (TSQP), Equitable Education Fund (EEF) for kindly writing the appreciation for this book to benefit the improvement of Thai education.

Dr. Nanthaporn Janchalia Seributra

CEO
Starfish Education





Contents



Foreword	5
Preface	7
School Management Transformation	12
1 Leader	13
2 Goal	18
3 Community	27
4 Learning Environment	34
5 Info	51
Teaching Transformation	61
6 Curriculum and Assessment	63
7 Pedagogy	73
8 Professional Development	77
Learning Transformation	89
9 Learning Outcome	91
Messages from the directors	93
Epilogue	97
References	98





School Transformation:

9 Elements
of the Whole School Approach

School Transformation:

9 Elements

of the Whole School Approach

10

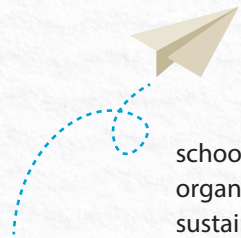
Thailand has been continuously undergoing educational reforms regarding compatibility with its social structure and the national policy in each given period of time. These reforms have caused changes and development continuously. Nowadays, the global circumstances have dramatically changed in terms of the economy, society, and various knowledge available. Globalization, in which information technology has become an integral part of life, has made traditional education management incapable of preparing learners to be competitive enough at both the regional and global level. Therefore, the essential skills required for the modern learners are very different from previous years.



School is the educational unit that plays a vital role in equipping learners with necessary skills and competencies. However, the national education measurement and assessment over the past several years indicates that the quality of Thai learners is mostly at a low level; meanwhile, educational inequality is at a high level. There is a small number of high-quality schools, and they are found mainly in big cities. This inequality causes a social gap that affects national development.



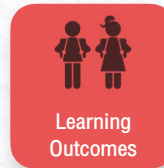
Therefore, it is quite challenging for school administrators to develop their schools to be able to provide the same quality of education that suits each local context. Good administrators should learn, acknowledge, and be aware of the importance of those contexts and apply them to the administration guidelines in order to accomplish the goal. However, the administrators must consider carefully and thoroughly to ensure that every part of the school unit has been adapted and developed simultaneously, according to the whole school transformation.



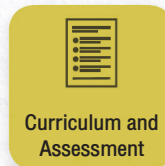
Starfish Education has applied Apple Inc.'s concept about the elements of success for school administrators to manage learning environments and lead a school to be an innovative organization. It is thus used as a guideline for the school transformation helping to reach the sustainable development of school management, teaching, and learning.

★ The whole school approach requires transformation in 3 aspects: school management, teaching, and learning.

Learning



Teaching



Management

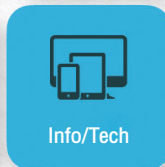
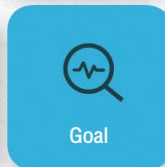
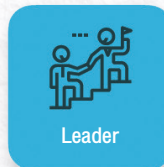


Diagram of 9 Elements of the Whole School Approach. By Dr. Nanthaporn Janchalia Seributra.





School Management Transformation

According to the National Education Act of B.E.2542 (1999), central administrative authority should be decentralized to educational service areas. In reality, many schools are still facing administrative problems since school curriculum is centrally mandated and not flexible enough to be adapted to the local context; for instance, the teaching for ethnic students is conducted in central Thai language. Therefore, the challenge of administrative decentralization is still waiting to be solved.

In order to align educational administration with the National Education Act of B.E.2542 (1999), school administrators and teachers must take a leadership role and collaborate with all partners, including parents and communities, as they are key factors in driving educational management, as well as by setting learning outcome goals, designing proper learning environment, and adapting technology to improve the learner's skills to their highest capacity.



Leader



Community



Learning Environment



Info



Goals



Leader



Although education management in Thailand mainly focuses on following policy and requirements rather than the quality of learners, there are decentralization laws in place allowing the schools to manage their education scheme freely. Thus, the school leaders can set their goals and find new approaches that suit their social conditions, resources, and learner's potential. A team of leaders is responsible for strategic planning and goal setting in the matter of vision, community, school goals, learning environment, information technology, pedagogy, curriculum, professional development and learning outcomes. Leaders also encourage the creation of innovations in teaching, learning, and the school's environment.

A leader who can achieve whole school transformation must be visionary, attentive, and determined to change the whole school system. The leader should realize the importance of the school's operational improvement in all aspects such as learning design, pedagogy and improvement of learning environment, under the pressure caused by changing economy, society, and technology.



A school director is not a boss, but a leader



The administrator's roles and responsibilities in setting the goals and directions approaching to school reform is considerably a broad picture. The important point that should not be forgotten is paying attention to every detail with the perspective at the operational level. A clear policy and continuous monitoring will help to achieve the goals more quickly.

Prathin Tangjai, Director of Phrao Burapha School, Chiang Mai, encourages the school's administrators to work closely with teachers while letting teachers express their opinions openly. This contributes to policy improvement. He believes that the essence of being a school leader is not to act like a boss, but to give advice and exchange ideas with the team. That would be considered as a true leader.

"The qualifications that the school leader needs to possess are creativity in designing learning activities with teachers, supervisory skills, monitoring skills, and having methods for exchanging learning with the team. If we let teachers work alone, we will never reach the goal. Actually, without any guidance from the administrators, teachers are able to teach by following the Basic Education Core Curriculum B.E.2551 (2008). However, the school administrators should take part in idea sharing and creative designing for learning activities. All of these are necessary. We have to regularly discuss with teachers and monitor them through the supervision process.



I personally prefer to have a learning exchange with teachers rather than tell them exactly what to do. Previously I was a Deputy Director of Rajaprajanugroh 30 School under the Special Education Bureau, a boarding school from kindergarten to Grade 12. A big organization like that was hard to drive any changes. Then I moved to another boarding school, Sueksa Songkhro School. The advantage here was that it had fewer teachers, easy to communicate. There were also fewer students. It would be difficult to drive changes if we have too many learners as we could work only with the focus group. In this school, I could fully reform the whole school, from Grade 1 to Grade 9. A small number of teachers and students became a strong point of the school. When I could discuss and plan with every teacher, reaching the goal became much easier." ✨



+ *School director is a facilitator for teachers*

The quality of education largely depends on the teachers; therefore, the teacher's task management system is a vital factor that enables them to devote their time to teaching effectively. Nowadays, teachers in Thailand not only teach but also perform additional duties and tasks, both related and unrelated to the teaching. There are also many education development projects assigned from the central and private sectors. Most of these projects, despite their good objectives, are just occasional projects that considered as extra workload and a big pile of paperwork.

For this reason, it is the leader's responsibility to improve the task management system for school personnel to be in line with school goals, and to support teachers and encourage them to be proud of being a teacher. These responsibilities are no less important than the knowledge being provided.

Suriyon Suriyodon, Director of Mae Kue Wittaya School, said that what teachers in his school feared the most after hearing about the transformation program from Starfish Education was an increased workload.

"I had to be clear from the beginning that if this program increased teacher workload, we wouldn't decide to join. I told them it was not an increasing workload. It was a way to reach our goal. At first, we didn't arrange the multiple intelligences subject in the curriculum. They were additional subjects outside the curriculum that increased teaching periods from 5 to 6 periods a day. This would be definitely an extra workload. So, we decided to cut off some subjects from the curriculum, keep the important ones in the main structure, and take the left periods for the additional ones as we want to have.



Previously, the multiple intelligences were additional activities that couldn't be evaluated or counted as study hours. The students received only skills and happiness but not the academic result. There was still something missing, so we made a change by adding them to the curriculum. In mixed-level classes, students can choose to study from their interest. Then the student performances will be evaluated and shown as an academic result. If they used to study 5 hours a day, they still study 5 hours a day. This way, teachers wouldn't feel it was an increased workload. The more integration we conduct, the fewer workload will be. They will be able to think more about works while spending lesser time."



School Transformation:

9 Elements

of the Whole School Approach

18




Goal



The essential goal in education management is to develop the quality of education to be accessible for everyone, and to provide learning skills and characteristics of the 21st century according to global changes. Although each school has its obvious goals and vision, it is practically difficult to achieve when the school's vision does not concern about the learner's context and the community, along with other factors. Therefore, effective goal setting should examine community needs and the readiness of learners and schools as well.

A school leader must set school goals as guidelines for planning a clear strategy, set an action plan for concrete implementation, design the progress monitoring scheme, and determine the methods for passing on success stories while exploring the areas that need to improve for sustainable development.



Set a clear goal and go for it!

Amnaj Nenraksa, Director of Wat Ban Khok School, Samut Sakhon, is a school director who always has an obvious goal in his mind. His goal is to develop student's analytical thinking skills through STEM education, but it had been difficult for him to reach the achievement. Then, joining the program hosted by Starfish Education made him realize that his goal was on the right path.

"Before I knew about Starfish, I had a meeting with teachers prior to the beginning of the first semester of 2019. I told that I wanted them to use a STEM approach because our students couldn't think analytically. I had a goal to develop their science skills by practicing analytical thinking. I told the teachers that we would use STEM and I would keep tracking on their plans and how would they manage. I couldn't see any concrete outcome, so I had to figure out how to make it easier for them.

Then, I heard that Starfish uses STEAM, and I really clicked! Starfish's STEAM had extended from STEM, right? It just added A (Art) to become STEAM. It matched my idea, so I wanted to join. But do you know when I was totally into it? It was when I went on a field trip at the Starfish School in Chiang Mai. I went there with 4 of my teachers and others from 10 schools in Samut Sakhon. We saw how they arranged a makerspace. It was exactly what I was looking for. I told my teachers that we could do a makerspace as well. Later on, we had a meeting and expanded this idea within our school. Finally, we decided to go on this path together."



School Transformation:

9 Elements

of the Whole School Approach

20



With a clear goal, Wat Ban Khok School has adapted the makerspace concept to its own context to become an affordable makerspace. Despite the limited budget, this space is able to achieve its purpose of being a space for students to do hands-on activities for personal development.

Skills to Inspire

21st century skills in education have been widely mentioned over the past few years. However, many schools find that it is quite difficult to practically develop their students' skills, especially when the major pressure arises from academic achievement assessed by examinations. Many school administrators had invested their resources and time trying to increase test scores, and this makes skills development become a second priority.

However, Mae Kue Wittaya School found that putting the students under pressure to be successful in a predetermined path could no longer meet present and future needs. Therefore, Director Suriyon Suriyodon decided to reform the school by setting new goals that align with the facts of this century, as well as the students' achievement in the new world.

"Previously, we were like other schools. We designed an education scheme to have academic achievement, such as O-net scores or students' grades, as the main target. Then, we found that this approach could make students lower their self-confidence and even devalue themselves. In fact, there have been a small number of smart learners, with most of them being moderate or slow. I discussed with teachers that we had only a few smart children, how are we going to do with the rest of them in an exam? Are we going to leave them behind? This became a challenge we need to answer. We started by setting a new school goal that does not focus on a particular group. Besides, it's been 20 years since the beginning of the 21st century, and we still haven't moved on to the skills of the century yet. These skills are the answer of the century that can truly push our students forward."



School Transformation:

9 Elements

of the Whole School Approach

22



Accordingly, it's a combination of 2 concerns; children need to have vital skills, and being accepted for what they are. So, we set our broad goal to achieve the 21st century skills through multiple intelligences, and put the academic achievement goal aside. This doesn't mean that we won't do it; we just don't take it as the main goal of our school.

Up until this point, we still haven't had a way to reach the target. We've tried many approaches in less than a period of semester, including an integrated learning. We've also provided elective subjects in which students can choose to learn freely, yet the result was still unclear. After that, around the second semester of an academic year 2019, I coordinated with Starfish. I thought this program would help answer our questions and be an excellent tool for us."



21st Century Skills



School Transformation:

9 Elements

of the Whole School Approach

24



In order to drive change, the easiest thing to do that will help determine the direction of school development is to adjust the school's vision.

*"Initially, when we joined this program, we were still lost, didn't know which path we should take. So we started from a school concept. Previously, we only had a school vision, which was just a broad viewpoint mixed up from various focus points. Once we've learned from the program, we realized that a school concept should be something that people could immediately find out the characteristics of the school from, right after hearing. We could condense all of our goals into a short concept, and the school concept of Mae Kue Wittaya is **Skills to Inspire**."*

After the school overall goal has already been set, it was divided into minor goals for each key stage. Students in each key stage must achieve the goal before passing to the next key stage, and eventually reach the school's ultimate goal when they graduate. Mae Kue Wittaya School has set its goals for each key stage as follows.





Key Stage 1: Grades 1-3
Build up (Integrated Learning)

Goal: To teach students how to read, write, and calculate so as to build learning tools that students can use for self-learning

Key Stage 2: Grades 4-6
Search for (Multiple Intelligences)

Goal: To help students find their interest and proficiency
If students find it quickly, teachers will be able to fill in what students need and take them to the next step in the right direction

Key Stage 3: Grades 7-9
Be inspired - (Right Livelihood)

Goal: To inspire students to explore future careers through a wide variety of elective subjects based on their interest.



School Transformation:

9 Elements

of the Whole School Approach

26

"Our subjects include e-commerce and hydroponic farming. There are almost 30 subjects in the curriculum. Before offering these subjects in each semester, teachers have to write a course syllabus. Each subject must contain what we call REALITY, or a field study to learn with local people for at least one day. For career-based subjects, each subject has been set to have 20 hours of professional training. Our goal isn't an actual professional skill, because we have only a short period of time. We can't expect that students will become skillful from that. Our intention is to let them discover inspiration, which is our goal."





Community



Although the National Education Act of B.E.2542 (1999) has indicated that all individuals shall receive basic education, the educational provision of both public and private schools may not be comprehensive enough or relevant to each local context. Hence, the National Education Act of B.E.2542 (1999) has also stated that not only organizations but also the society must involve in educational provision, and the structures of educational provision must focus on the participation of people, family and community.

Community is directly involved with educational provision, thus fostering collaboration and seeking support from the community will sustainably benefit the school in initiating drive force as well as maintaining supporting force in a whole school development.

The administrative team has to build mutual understanding between students, parents, teachers, school personnel, administrative committee, local businesses, government sector and other stakeholders to create a cooperative network for school development.



+ *Fostering mutual understanding with the community*

Teachers and students are not only the factors of successful implementation in a whole school transformation, the community and parents must be included in the team as well. Before working on a school transformation plan, Suriyon Suriyodon, Director of Mae Kue Wittya School of Chiang Mai, decided to hold a meeting with the parents to expand their understanding of education.

"For the community, before I started working my crystallized plan, I spoke with parents and explained them about the school's goal and what the school planned to do. We discussed and exchanged until the community agreed with our method. This is very important. If the parents didn't understand what the school was doing, our plan wouldn't receive enough support. Parents might question why we didn't conduct only academic teaching like other schools. For example, at the beginning of the first semester, we changed the schedule to have only 3 hours of Thai, mathematics, and science classes, other than that were integrated learning periods. The parents didn't understand why we did this, or why we taught their children very little. What about the remaining hours? Free time? Or just play? So, I had to call a meeting and explain to them about integrated learning."





"In the meeting, I showed them pictures of what the world would be in the future, and how important it was to build these vital skills up. Most of the parents trusted in the school and our way to drive changes. They said "Ah... if that's how it is, then we're ok", and then they let us work freely."



When school and community have the same image of the destination, the work will drive in the same direction, and this will definitely lead everyone to the expected goal faster.



School Transformation:

9 Elements

of the Whole School Approach

30

+ Learning basketry, generating community income

Makerspace activities in each school may differ depending on the local context. Since the context of Phrao Burapha School in Chang Mai involves local handicrafts, Director Prathin Tangjai has picked this local strength to become the identity of makerspace activities in his school.

"We chose basketry and woodwork because we want to focus on both creativity and practicality. We have to look around to see what we have in the student's neighborhood. Our community has been doing basketry and woodwork for a long time. If this becomes our theme, students will be able to develop their knowledge in their own neighborhood."





Students growing in the area are familiar with basketry and woodwork. Therefore, the teaching is not to teach them “how to do” but to demonstrate them the “thinking process”. Students will be able to adapt this way of thinking to other work, or even create their own unique piece of work.



School Transformation:

9 Elements

of the Whole School Approach

32

★ *"Students are able to do basketry, but they can't write its process out; just like local people, they do basketry but can't explain the principles of its process. After the STEAM Design Process had been applied, focusing on steps and procedures, our students began to analyze more in each process in order to finish their work. We also have local experts and parents joining as lecturers. Other vocational activities like mushroom farming and haircutting are also practiced in this scheme."*





"The school is still supporting other creative activities, but we have to consider what materials we can provide. Actually, basketry may not be suitable for very young children, so we've arranged activities with small items like souvenir making. I thought about souvenirs that they can actually sell in a market such as Bo Sang market or Night Bazaar market, where some parents of ethnic students already make a sale. We also have to consult with the community about products that are possible to be developed and produced for the markets."

Hands-on activities in the school not only encourage students to cultivate skills and strengthen their process thinking, but if the school can find a channel to distribute those works to the market, it will expand the boundary of creativity in each student's work to go beyond the classroom, and create value to family and the community.



Learning Environment





The learning environment is one of the key factors that motivates learners to be active, and creates incentives in learning. It is not only about physical environment that encourages the learning, but also classroom atmosphere created by the teacher to help students develop new skills, reduce unpleasant behaviors, and be ready to learn with happiness. Thus, designing the learning environment and atmosphere should be flexible enough for learning both inside and outside the classroom, and be suitable for active learning regarding different types of learners.

The learning environment is a foundation for creating possibilities. A good and reliable learning environment will build confidence in learning since the learners realize their roles, be disciplined, have the courage to try and fail, be able to work in a team, listen to the opinions of others, respect differences, and be able to live with others happily. Teachers play a significant role in creating this environment, which is an important part of a learner's desirable characteristics and competencies.

One of the learning environment settings that many schools in the Starfish Education program have chosen to use is Starfish Maker - the creator's space, also called "Makerspace" in some schools - as their applied version.

What is Starfish Maker?

Starfish Maker is a space for creators that allows students to research, design, plan, exchange ideas, create things from their interests, develop and improve their works that will lead to new innovations. Within Starfish Maker, the learning environment is arranged to promote creativity. Materials and equipment are provided for researching and creating works, and specialists are available to offer advice and help students solve problems until their tasks are completed. 

Starfish Maker's open learning allows students to utilize multidisciplinary knowledge and integrate them into systematic problem solving through the 5 steps of STEAM Design Process. The first step starts with a problem (ASK) that leads to thinking and researching (IMAGINE). Then, learners will make a detailed plan (PLAN) and implement the plan (CREATE). Finally, the learners' products will be tested and refined (REFLECT & REDESIGN). These steps allow the learners to systematically integrate their knowledge in 5 interdisciplinary areas: Science (S), Technology (T), Engineering (E), Art (A) and Mathematics (M). 



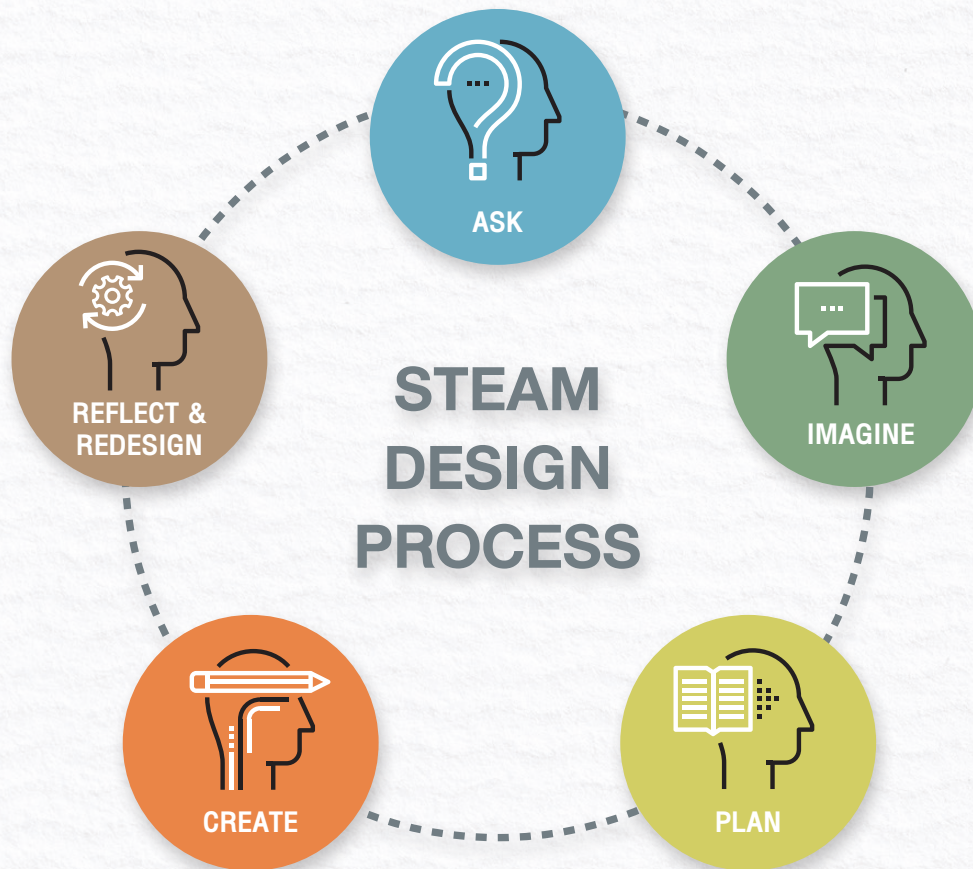


Diagram of the STEAM Design Process. By Dr.Nanthaporn Janchalia Seributra.


Learning through Starfish Maker encourages learners to be able to use process thinking for problem solving. It also fosters the learners to become thinkers and problem solvers who have logical thinking, and be able to apply knowledge they have learned from various subjects to their real-life situations.

Starfish Maker space preparation

The Starfish Maker area preparation is not fixed; however, an important point to consider is its availability for doing a wide variety of activities. Its location should be easily accessible and convenient for transportation. The interior design and environment should encourage participation and allow learners to work together as a team; at the same time, private space should be provided so that individual learners are able to think and find their own solutions. The decoration does not have to be expensive; simple materials can be adapted for the area decoration. Facilitators can also let learners decorate the space by themselves.

Equipment, tools, and materials should be easy to use, pleasant to touch, and adequately provided. They should be kept organized and easy to pick up. This will make learners want to use the equipment, and reduce risk of injury.

A physical environment that stimulates creativity can be arranged by providing a box or corner where young makers can place their unused items or inventions to inspire the others. Or, some might creatively modify those unused items to become more useful. All completed works should be placed on a visible shelf to encourage creativity for others.

 Starfish School uses 4 classrooms in a single-story building near the school entrance as the Starfish Maker activity rooms, which are organized mainly due to activities and materials. There is an arts and crafts room, a kitchen, a sewing room, a mechanic and electronic room, and a toy room.



School Transformation:

9 Elements

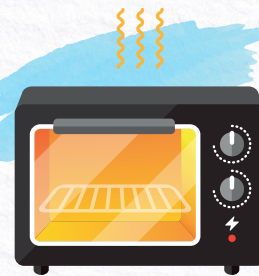
of the Whole School Approach

38

Examples of the tools and materials provided in each room

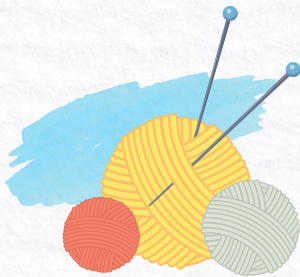
Cooking Room

Ovens, Thai dessert molds, pots, oil strainers, pans, trays, dough rollers, mixing bowls, baking trays, knives, chopping boards, tin bowls and plates, kitchen mittens, aprons, etc.



Sewing Room

Sewing needles in various sizes, small sewing machines, large sewing machines, buttons, zippers, plastic doll eyes, embroidery frames, fabric scissors, multicolor threads, yarn, embroidery thread, chemical fabrics, plain fabrics, pattern fabrics, synthetic fiber, etc.



Mechanic and Electronic Room

Glue guns, screwdrivers, combination pliers, nuts, pipes and joints, metal handsaws, keychains, electronic circuit kits, LED bulbs, wires, motors, duct tape, battery holders, magnets, soldering kits, propellers, switches, wire pliers, voltage testers, protective eyeglasses, protective gloves, multi-size dry batteries.





Toy Room

Plastic balls in various sizes and colors, multicolor rubber balls, plastic building blocks, wooden building blocks, jigsaw puzzles, potteries, kitchen utensil toys, food and vegetable toys, human figures, animal models, puppets and a theater, children books, rocking horses, bowling sets, wooden music instruments, guitars, drums, melodicas, xylophones, flutes, cymbals, etc.



Arts and Crafts Room

Colored pencils, watercolor, multi-size brushes, colored plates, crayons, colored chalks, plaster figures, drawing paper, latex glue, multicolor playdough, clear tape, used playdough, wires, single-sided and two-sided multicolored plain paper, pattern paper, scissors, recycled items collected from learners, parents, and community.



School Transformation:

9 Elements

of the Whole School Approach

40

... 5 Starfish Maker Activity Rooms of Starfish School ...





+ A livable school in the mountains ★

It is already a tough burden for many schools in remote areas to fight with physical problems as well as deficient infrastructure, so organizing a proper learning environment seems to be impossible. Take Ban Pang Poi School in Chiang Mai as an example; before its new way of learning has been successfully conducted, Director Jongrak Kantha had to make hard efforts to reform the school into a livable school.

“Our students frequently miss school, since most of them are from ethnic tribes; when parents go to farm, children join them and don’t really care about going to school. We even pay for a six-wheeler giving them a ride to persuade them to come to school. When I first became a school director here, the school’s physical environment didn’t encourage students to come to school. It’s mountainous and the school building is rotten. During rainy season, it would be a mess. In the dry season, we would suffer from water shortages because it’s at a high altitude. So, we had to replan the water management plan.

Improving the landscape is fraught with limitations. It turns out that we have to deal with physical problems along with the learning quality, and this requires much strength. We gathered resources from many organizations to develop our building and water systems. Once the school became more livable, students had more interest in coming to school. When things started to be fun, teachers began to see signs of hope.



Previously, water supply was limited. We couldn't grow vegetables because they would dry up and die. After the water system has been fixed, we could do it. We also have chicken sheds, cricket sheds, and mushroom houses. All of these can be done because we have enough water."



Developed landscape and infrastructure help to expand the boundaries of learning environment management. The school's farming area allows teachers to design hands-on activities, while students are able to practice outside the classroom. These activities are not only related to the area but also the community's agricultural way of life.

*"We're concerned that students might be too stressed when studying only in a classroom. It might be better if we let them attend different activity bases. This hence becomes our school concept **of the learning resource for future careers**. During the Moderate Class - More Knowledge session, students can choose to join learning bases according to their interests. Advisory teachers are also available in all 5 bases: Pang Poi Banana, Veggie for a healthy life, Organic Mushroom, Earthworm Fertilizer, and Happy Livestock. These 5 activity bases are designed from the student's way of life. We let them learn from their lives."*



+ A learning space where everyone can make mistakes



A creative space with a pleasant environment and adequate equipment can stimulate learner's creativity and push the active learning management towards success. However, in reality, Thai schools have been dealing with a lot of limitations which make an arrangement on perfect physical space from the start become a difficult task. However, what is more important than physical space arrangement is the management of learning environment that allows students and teachers to learn and improve from their mistakes. This significant core is possible to be done at the beginning, just as Director Amnaj Nenraksa did in Ban Khok School of Samut Sakhon.

"Here we do like Starfish School. We have a cooking room, a makerspace, a recycled craft room and an acting room where students can sing and dance as they like. Another room is a studio where an iPad is provided for filming and children can practice being a show host. There have always been various problems that we solve together, little by little.



Previously, our studio didn't have an iPad, the teacher brought his personal iPad and let students use it for filming. In the beginning, students were very shy. When 2 students were co-hosts, they kept arguing over who's going to talk first, "You first!" "No, you first!", and ended up laughing. Later on, they became awesome, they finally knew how to be a host and how to film. Both the teacher and the students are happy. The teacher is satisfied, and students are satisfied as well.



There have been many problems in our cooking room because our equipment is not ready for use. We got some financial support from the community, and the teachers wanted to buy a small oven from an appliance store, yet they didn't have knowledge about ovens. They found the one they liked which cost around 1,000 baht, and wanted to buy two for about 2,000 baht. They called me and told that it was at discounted price, so I let them make a decision. Believe it or not, those 2 items didn't work. They couldn't even bake cookies because they were microwave ovens that could only reheat food. Anyway, I told them that it was okay. **This way, all of us, teachers and students could learn from it.** Even teachers are not good at cooking or baking, they've already learned now. Without an oven, they tried to adapt baking with a pan. Afterward, we've known that a person living in school's neighborhood bought a new oven costs around 4,000 baht. So we decided to buy a similar one, and it's now being used by students from Grade 1 to Grade 12."



School Transformation:

9 Elements

of the Whole School Approach

46



Many schools interested in organizing a makerspace from the Starfish Maker prototype may have financial issues as their primary concern. In fact, Starfish Maker, or “Makerspace” called by some schools, does not need to be expensive. Providing learners with appropriate and safe materials and tools is enough to encourage them to achieve learning goals through hands-on practices. The example from Wat Ban Khok School has clearly shown that setting up a learning environment can be accomplished by cooperation between school and the community.



“Help from the community or school committee is mostly financial support they got from organizing events for crowdfunding. The school then managed this money in developing the makerspace. We bought ovens, gas stoves, pots, spatulas, pans, and so on. We couldn’t borrow equipment from the canteen since they are always in use. Some budget supported by the government were spent to buy craft tools such as cutters, glue guns, and soldering irons. We also asked from the community. Many things in our acting room were donated including clothes, shoes and bags. Initially, we didn’t have enough rooms. We used a canteen for cooking class, and used a multipurpose building for art and craft class where students sat on the floor. Our acting class was done in an empty classroom. We didn’t have much back then, but it has gradually improved. Now, we have tiled floors in the multipurpose building. We will divide a space into 2 sections for a cooking area and an arts and crafts space.”



+ A classroom without any desks ✨

Teacher Nichapat Teerabunyaphon from Wat Pa Daed School in Chiang Mai had an opportunity to visit Starfish School, and applied the concept of learning environment management with science subjects in her school.



"I started by setting up a learning environment. Firstly, I changed my science room by using something that is simple and easy-to-find to create a proper environment and atmosphere in the classroom, such as a tree made from plastic bags. I also re-arranged desks to get more space. Fewer desks, more space is good for students to do more activities. The desks aren't fixed, and students are free to sit anywhere in the room."



School Transformation:

9 Elements

of the Whole School Approach

48

"My teaching still follows the learning indicators. Previously, science teachers mostly focus on the theories. The acidity is this level. The alkalinity is this level. Done. But what I do is ask students to bring anything they have in their houses to do an experiment. Then, they can do it at any corner of the room. They also help me decorate the science room. They draw for me, decorate the room corners, and suggest me where to place the teacher's table."

Academic content and children's concentration are still important. In an academic class in which students have to focus on subject matters, arranging a freely movable space may cause some students being easily distracted, especially young children. Therefore, Teacher Nichapat has initiated a new strategy in order to maintain classroom discipline under a friendly learning environment.

"I got an idea from a 7-Eleven points card. I give each student a 'stand-up card' as a right to stand up once in a class, depending on our agreement. This stand-up card really works, especially with Grade 1 students who aren't well disciplined. If they want to go to restroom, they have to give this card to me. They can even use it when they want to walk to a friend, or move around. By the end of some classes, we'll have a lucky draw for those who haven't used the card. I sometimes give candy or special points in the Class Dojo app for their concentration."



"My classroom is never quiet. However, we have an agreement that when I'm speaking, everyone needs to be silent. They have to raise their hands if they want to ask question. During the discussion, they will be as noisy as a flock of birds, I let them talk and discuss. If they want to be like Lady Gaga or wear a wig, just go for it. I don't mind at all."

“Kad La-on”, the showcase space

The learning goal of students in Key Stage 3 of Mae Kue Wittaya School is to bring inspiration about future careers. Students can choose to learn vocational skills from more than 30 elective subjects, and attend at least 20 hours of training with local businesses in the community in order to discover an inspiration for their future careers.

After the training, it is important to provide a space for these young entrepreneurs to freely turn their creativity into a real business. Director Suriyon Suriyodon has thus initiated the idea of Kad La-on activity by arranging a school space to become a market where students can actually buy and sell their products.

“Our students both learn the theories and do hands-on activities, and then they make a trade. On the last Friday of every month, from 11:30 to 13:30, we have Kad La-on activity. It’s a market where students interested in making a sale can set up their own shops by informing in the Line chat group. This is quite fun and everyone in the school can join. The market manager is the student committee. They’re like a market owner. This Friday, those who want to open a stall in the market must register with the committee first. I let them take responsibility for this.”



School Transformation:

9 Elements

of the Whole School Approach

50



"Next year, I'll try to get some money for this market, so that the students are able to learn about budget management. Actually, I already gave some budget to each vocational group. By the end of the year, we'll see how much is left, a profit or loss. For the market, I think I need to put up some money for it. Last year it was only about sell and buy, but real market has more than that. In some markets, they also have music band or performances in the market space. Here, we have multiple intelligence subjects, so they can use this space for their activities. Like today, we will have a music band. The market manager hires a Grade 4 student band to perform in the market. I try to show them how the real market works."





Info



Information Technology has played a significant role in education by creating new learning management methods and increasing the effectiveness of learning, measurement and assessment, as well as information management. The school leader should set a policy and the implementing approach, provide coaching to develop teacher knowledge and skills of innovation and technology in the school management in order to increase productivity, and support classroom management to suit the learner's development and the school context. They may use, for instance, Google Drive to collect documents or learning plans, making them become accessible to everyone and easy to search. They can use Google Forms to make a survey or gather information of school members, which can be later analyzed for further development in other areas.

Example of educational technology



At a time when people in all professions have to keep up with innovation and technology, education professionals should adapt and keep improving themselves as well. It is necessary to be open-minded to learn about new tools in order to meet the learning pace of today's children who were born with modern technology. These are examples of educational technology that are well-recognized and easy to use.



School Transformation:

9 Elements

of the Whole School Approach

52



A virtual classroom application that helps teacher to easily manage the class. Teacher can add a student name list online for keeping score records of all activities in the class. Teacher can also use a function for adding and reducing scores to encourage desirable behaviors in the classroom.



< English G.6B 23 Students 0 Parents

Classroom Portfolios Class Story Messages

Student login Invite parents Options

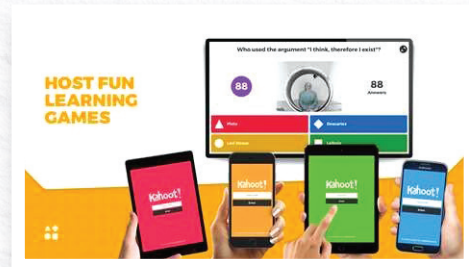
Students Groups

Student Name	Score
Whole Class	85
Apirak	4
Chinnapat	1
Jakkapong	1
Jaruphop	0
Jeerawat	7
Jessada	3
Jirapinya	7
Kanjana	5
Napapat	5
Nattapat	5
Nattatida	5
Pakawat	3
Panich	5
Pantida	6
Peerapas	1
Piyapat	3
Pomsawan	6
Rattapoom	5
Sarunyoot	6
Sawitree	3
Suchart	1
Tanonchai	1
Tantipol	2

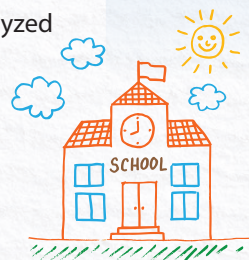
Toolkit Attendance Select multiple Random Timer Big Ideas Invite parents (0%)



A multiple-choice quiz generator that allows teacher to freely create questions and answer choices. Students can join by submitting their answers via smartphone within the time limit. The application can instantly process the score and show a graph presenting the number of respondents in each question.



A tool for collecting data and evaluating the learners. Each student has unique QR Code cards representing A, B, C, and D options. For answering the question, they will raise their own answer cards. Then the teacher uses his/her smartphone to scan the answers for collecting data, which will be analyzed instantly. This application can be adapted to use for attendance checking, surveys, and games.



School Transformation:

9 Elements

of the Whole School Approach

54

Google Classroom

A tool that combines many Google services, including Docs, Drive, and Gmail. It helps teacher to conveniently create and store documents or worksheets used in the classroom. It can also be used for submitting and checking homework online.

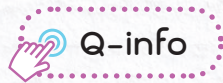


The screenshot displays the Google Classroom interface. At the top left, there is a hamburger menu icon and the text "Google Classroom". A yellow star icon is positioned in the top right corner. Below the header, three course cards are visible:

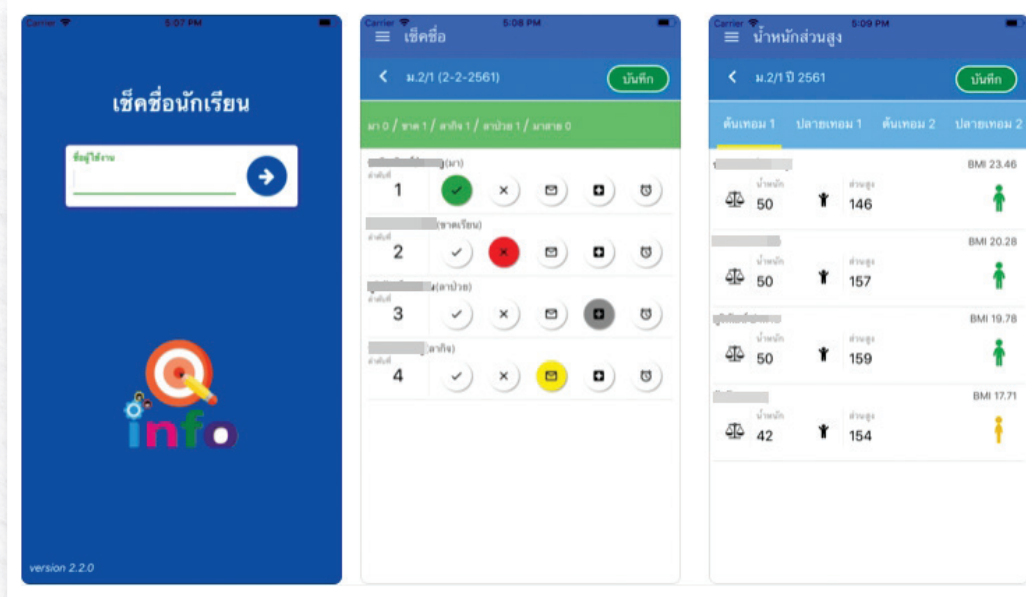
- History of Psychology**: 305, 28 students. Due Tuesday, Homework 5.
- Introduction to AI**: 300, 23 students. Due tomorrow, Introduction Assignment.
- Statistics**: 205, 28 students. Due Monday, Homework 3.

Each course card includes a small icon representing the course, the course name, student count, due date, and assignment name. At the bottom of each card are two small icons: a line graph and a folder icon.

At the bottom of the interface, there is a blue banner with the text "Classroom 101" and "Google for Education" next to a green icon of a person's head and shoulders.



A tool that helps reducing a teacher's burden by assisting in data collection such as daily and class attendance checking, weight and height, exam results, activity scores, etc. This data will be evaluated and used for developing student's learning. Teachers do not need to fill in an assessment record or an individual learner quality development report.



+ Teacher Assistance Application



Mae Kue Wittaya School has adapted its teaching and learning approach to focus more on professional skills and internships. This requires an immediate daily measurement on individual student's performance. Director Suriyon Suriyodon had introduced technology to help manage teacher workload in a quicker and easier way.

"We focus on skills, so collecting data from an immediate measurement is something we need to adjust to. Previously, we taught the subject content, and there was no need to measure on the same day. We could measure later in the mid-term or final exam. Now we teach with activities. Our students participate in activities with the goal we've already set to reach the learning outcomes that we want to happen in the class. So, we must measure on the same day, and can't wait until the mid-term to measure their skills. This way, the traditional data collection method becomes much more difficult because teachers have to create record forms and checklist for each student in each class period. We need to figure out how to make it easier, so that teachers won't feel like it's an extra burden. I decided to let teachers take photos of the students' activity and outcomes, and mark the scores later. We've used Class Dojo app for evaluating student skills promptly. The teachers just open the app and mark the score for each student on the spot."

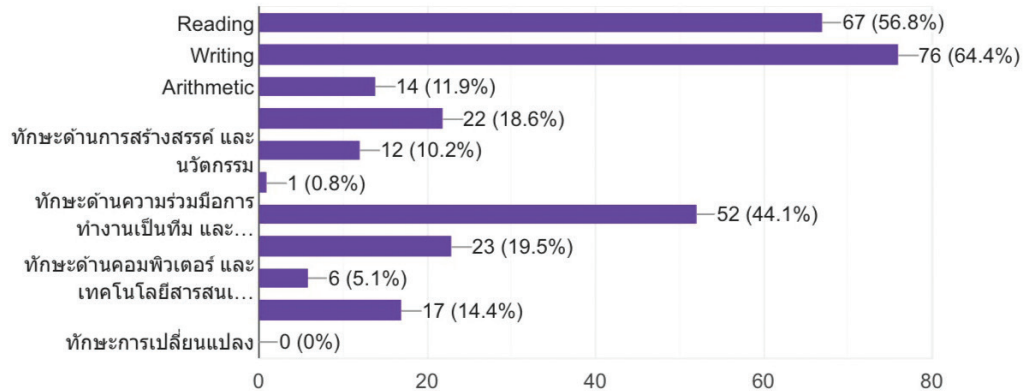


In order to bring technology to fully facilitate the teaching, school administrators must be open-minded and flexible enough to focus on the learning outcomes rather than the reporting documents.

จุดเน้นสู่การพัฒนาคุณภาพผู้เรียน

ทักษะของคนในศตวรรษที่ 21 คือการเรียนรู้ 3RX8C

คำตอบ 118 ข้อ



Info collecting via Google Form



"We're trying to change the way we collect learning evidence from hard copy document to digital files. Now we use Q-Info, a technology for collecting learning evidence in which teachers just take photos of students' learning activities and store them in the system. We're searching for a convenient tool that is easy to use and can collect the data immediately, like Google Forms. After class, instead of filling in the after-class record, teachers just take notes in an online form and submit it to the administration. We're not serious about the format."



+ Technology for Kindergarten

Educational technology is not just for school-aged children; it can be applied to kindergarten class management as well. Teacher Wanpisa Prueksamas from Ban Pa Meud School in Chiang Mai, has some techniques to encourage desirable behaviors in the classroom by using technology to provide positive reinforcement, and avoid giving orders that will restrict some behaviors or put pressure on the children.



"I'm trying to use Class Dojo. When I mark the scores after finishing activities, I also add scores for desirable behaviors, such as 1 point for creativity. The score will appear at each student's avatar, and this makes them feel proud of themselves. I'll say, "Today you're very good at presenting to your friends. They really like it. I give you 1 more point.", or, "You don't concentrate on your work, only play around the maker corner. It may cause harm to others. I have to deduct your points." The students thus know that they shouldn't do these kinds of behaviors because their total score will be lower than the others."



★ There are 2 days a week when students can vote for their favorite learning topics. Teacher Wanpisa will arrange the class environment according to the chosen topic and provide related additional learning resources to stimulate the students' eagerness in learning.

"I have to do my homework too. If they are going to learn this topic, what kind of environment must be arranged? Or what needs to be added? As a teacher, I have to do my homework first. However, I won't give a direct lecture to the students, but coach them to think, like which book or AR book in the storybook corner they can use if they're interested in learning about dinosaur species. In my classroom, an iPad with AR application is provided for searching information. Students, especially city kids, love to play with the 3D storybooks with pop-up dinosaurs, showing their heights and everything. Some kids from Myanmar may be inaccessible to technology, so those city children can influence them to learn more."



School Transformation:

9 Elements

of the Whole School Approach

60



In today's world, where children are growing up surrounded by technology, restricting an access to prevent them from possible dangers of the technological world is increasingly difficult. The appropriate way to prepare people for future society should be an application of educational technology to enhance learning and allow teachers to provide knowledge in an appropriate way to use technology with the students.

"I'm trying to let them know technology as much as possible. I'm trying to teach them about its advantages and how to use it properly, and also if they inappropriately use technology or use it too much, what bad results it will bring. I've set my own proposition for developing my students by using the STEAM Design Process framework and the 21st century skills. I've been trying to find out which skills I can integrate for them. I'm also trying to find new knowledge for them to learn. So, one day, when they're out to the real-world, they'll know how things are called or used, or what they can do with those things."



Teaching Transformation



In order to lead learners to achieve the educational objectives, a school must have its curriculum as a compass to guide teaching management to promote desirable characteristics traits among the learners. The Basic Education Core Curriculum B.E.2551 (2008) has indicated the vision, goals, and important competencies of the learners, along with the learning standards and indicators, as well as measurement and assessment criteria according to the learning standards. This has been used as a guideline, and each school applies it to suit its local context.



School Transformation:

9 Elements

of the Whole School Approach

62

Therefore, the school curriculum can be designed independently within specific framework and direction to equip learners with necessary knowledge and skills for a changing world. Teachers must thoroughly understand school curriculum in order to design the learning management process as well as for consistent measurement and assessment, with school administrator support in driving the teaching transformation.

Teaching transformation consists of 3 main elements; curriculum and assessment, pedagogy, and professional development



Curriculum and
Assessment



Pedagogy



Professional
Development



Curriculum and Assessment



School Leaders must work on teacher development by fostering a better understanding of curriculum and the capability to develop learning plans and design learning activities that are appropriate for learners. The leaders should develop teachers to be able to use various assessments that can truly reflect learning outcomes and the learners' skills, aligning with the Basic Education Core Curriculum of the Ministry of Education.

Measurement and assessment must be based on 2 objectives: formative assessment and summative assessment. Most teachers are familiar with the use of summative assessment for grading or concluding the learning outcomes in the past lesson or semester.

The formative assessment is an evaluation during teaching. Its objective is to let the learners know their strengths and what needs to be improved in order to support their learning development. Teachers have to use various methods to collect data. Besides benefiting learners, the formative assessment also provides teachers with useful information to more appropriately improve and develop the learning management. This kind of evaluation is considered as an authentic assessment.



School Transformation:

9 Elements

of the Whole School Approach

64

Nowadays, teachers have increasingly created learning in schools to be more relevant to real-life by encouraging learners to do group activities to develop collaboration and communication skills. Accordingly, the authentic assessment has been increasingly applied in assessing the learners.

+ Authentic assessment ★

Authentic assessment is an in-class assessment based on empirical data as evidence indicating the learner's progress. This includes workpieces, portfolios and learning behavior observations.

Authentic assessment is very important to learners because it allows them to assess their own learning, as well as being assessed by others. Also, learners will receive reliable information about their learning behavior since the authentic assessment consists of various methods and assessors, resulting in information that learners can apply to their learning, and self-development to reach their full potential.



Authentic assessment methods

1. **Observation:** Assessor observes and records the learner's behavior during learning activities. A learning behavior observation form may be created to determine the focus topic during an observation.
2. **Portfolio:** It is a widely popular assessment in which learners can select their successful works from practice. It also shows the learning development of learners during a school year. Therefore, portfolio assessment has to allow learners to select and present their works freely and has clear criteria to judge their value. It should let learners practice self-reflection on their learning outcomes as well.

Formal and non-formal measurement



Measuring school success with O-NET scores interrupts many schools from holding activities apart from conventional learning, since there will probably not be enough time for exam tutoring. Nonetheless, Director Prathin Tangjai of Phrao Burapha School has decided to adjust the curriculum to let learners develop necessary skills along with knowledge that meets the learning standard.



School Transformation:

9 Elements

of the Whole School Approach

66



"The problem is that teaching is built around exams, including the national examination like ONET for Grade 6 and Grade 9, NT for Grade 3, RT for Grade 1, and central examination for Grade 2, Grade 4, Grade 5, Grade 7, and Grade 8. These tests force the teaching to focus on theories, so each school have to plan the strategy to boost its ONET, NT, or RT scores, causing less time to focus on developing the learners' creativity. If we don't dare to manage the STEAM Design Process learning into the schedule of Moderate Class - More Knowledge session which have to be allocated zfrom regular subjects, the school wouldn't have learning session for promoting creativity, and this will considerably affect the school development.

For this process, it's important to talk with a team of teachers with care and understanding about how we're going to plan the schedule. It must allow students to complete all required activities in the curriculum, while being able to do extracurricular activities and the Moderate Class - More Knowledge activities. We have to work to bring maximum efficiency and effectiveness. In the semester of 2020, the school solved this problem by adding these activities into the school curriculum, called Model Curriculum, and integrating them with all 8 subject groups, which later become the Moderate Class - More Knowledge sub-curriculum. We've designed and analyzed to meet the learning standards. Does this cause extra workload? Honestly, the first thing is we have to put more effort into re-adjusting the curriculum. However, once the curriculum has been adjusted to suit the learning context, we wouldn't feel it's a tough burden anymore, and we've got a 2-in-1 benefit. Students' learning progress can be measured by both formal and non-formal measurements. We can also add other processes to support each activity that is already in the curriculum."



Study as required, spare some time to “play”

When a school goal shifts to put more focus on skills development, the major challenge that many schools have to handle is how to organize too many curriculum subjects that tighten a schedule. When both academic and creativity are equally important, Director Suriyon Suriyodon from Mae Kue Wittaya School has sought to find a solution by combining unnecessary subjects together.

“There are too many learning standards set in the curriculum of Grades 1-3, for instance. In theory, it may seem like students complete all the learning, but some learning standards are actually just brief and don’t go into detail to really foster the expected skills. That’s why I said they’re too many. This reduce our time to spend for achieving the goal of being literate.

I discussed with the teachers that we would keep only necessary curriculum hours, and the rest would be provided as additional subjects. Students can choose and enquire teachers to hold a class according to their interests, such as dramatic arts, music, Chiang Mai history, and so on. Each subject is newly designed and not in the curriculum. It can be anything they’re interested in.”



School Transformation:

9 Elements

of the Whole School Approach

68





Although the new integrated subjects mainly focus on students' interests, they are not just for fun. Each of them has been indicated to practice thinking skills through the STEAM Design Process.

“STEAM can be anywhere, because it’s a process for developing skills. Teachers of each subject can use STEAM to encourage students to develop the learning process. So, activities in all integrated learning subjects will apply the STEAM Design Process into learning. No matter what topic teacher has assigned, the STEAM Design Process is always included in the activity plan.

When subjects are already in the curriculum, assessment isn’t quite a problem. The learning standards of those integrated learning subjects may not be obvious as the common ones. For example, an integrated subject of Thai and mathematics may also include arts and a few more subjects within 3-4 class periods. In this case, the measurement can’t be specific on each subject separately. Scores from a single measurement has to be distributed to all subjects. The learning standards used to measure may not be clear like that. The school supervisors already talked with us and asked to improve this issue as well.”



+ Authentic assessment through a bowl of dessert ✨

As a result of changes in the curriculum and learning method, conventional assessments like final exams are no longer the right answer. Director Amnaj Nenraksa of Wat Ban Khok School has decided to use an authentic assessment, which is more suited to hands-on learning.

"We do an authentic assessment, firstly, by observing if students cooperate and fully participate in the activity or not. Secondly, we measure from their works, and thirdly, from parents' reports. In a parent-teacher meeting, we were told about a Grade 2 student participating in the dessert class. He joined a group to make Bua Loy, rice flour balls in coconut milk. Once he got home, he told mom that "I want to make Bua Loy for dad." He wanted his dessert to be colorful, but there was none of food coloring in the house. So, he asked his mom what can be used to make green flour balls. His mom told pandan leaves give green color, but they didn't have any. "Then, how can we make red?" His mom told him to dissolve a kind of plant in water to get an edible reddish-brown color. This boy wanted his food to be colorful but didn't know how to do. Then he saw a bottle of red syrup, he asked if he could try mixing it with flour balls, mom wasn't against this idea and let him try. Eventually, his Bua Loy was tasted by his father and his father's friends. This is some kind of story we've received from the parents. Another case is a Grade 3 student. Every morning, her mom fries eggs for her. Recently, she told mom to let her do it by herself since she already learned from cooking activity in the makerspace. These are examples of authentic assessment."



In addition, the learning time frame has been set with at least 80 percent attendance, and the observation on their practice and cooperation is also included. We can measure students' cooperation in cooking class when they're assigned to bring ingredients. We let them discuss and plan in a group about what they're going to do or who will bring which items for next week. Last time, some group members didn't bring assigned items, so a whole group sadly couldn't do the task. This way, teacher can measure their cooperation. It's easier, and there's no need to do an exam. We measure from their practice."

Wat Ban Khok School's authentic assessment criteria have been designed by following all 5 steps of the STEAM Design Process. The additional criteria are also included by the school in order to see the results of the integration in all dimensions.



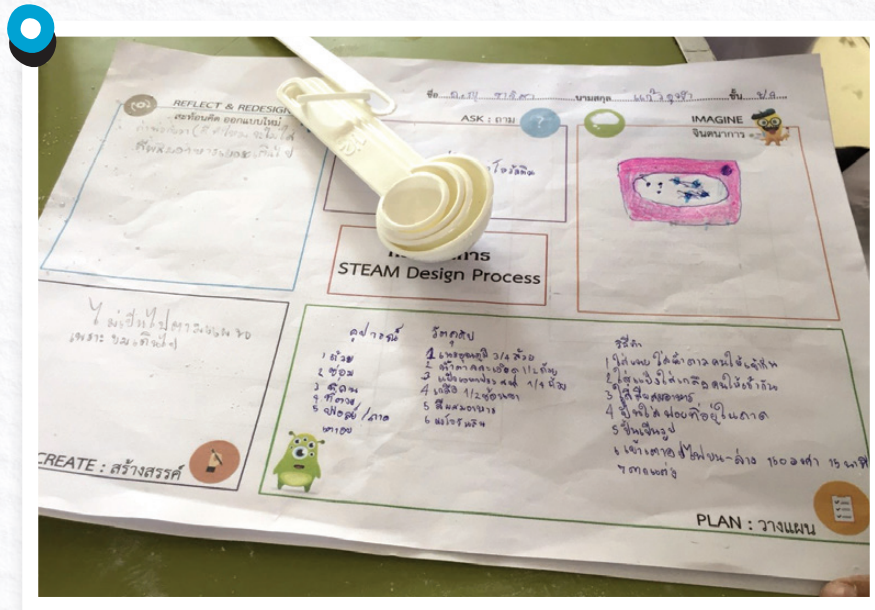
School Transformation:

9 Elements

of the Whole School Approach

72

"There is a worksheet for students to record their STEAM Design Process from step 1 to 5. How do they reflect in the final step? How is their presentation? Do they listen to others' opinions? All of these can be measured. We've designed our measurement criteria by discussing with the teachers about how to integrate it with other subjects apart from arts. They told me it could integrate with various subjects; I agreed, but I needed evidence. So, we planned together and finally came up with the idea to use a 5-step worksheet. On the backside, we have an additional question asking students which subject they've integrated with the activity. Teacher will make a conclusion later. This worksheet is a proof the students' ability to make an integration of knowledge from multiple subjects."





Pedagogy



For many years, Thai education has focused on active learning, yet the curriculum is still standard-based that focuses on academic content rather than necessary competencies. As a result, many schools continue to conduct the traditional teacher-centered and textbook-based teaching model. If we want students to be able to learn and develop themselves in the modern era, teachers are required to shift their role from an instructor to a facilitator, encouraging and supporting learners in their quest for knowledge through a range of learning designs tailored to suit the learners.

School Leaders should support and encourage teachers to be able to organize an integrated classroom and promote active learning by using the STEAM Design Process in the project-based activity or problem-based activity.



+ Textbooks cause teachers to fail to design learning.

In order to be able to organize active learning, teachers themselves have to adjust their roles in many dimensions. Director Suriyon Suriyodon of Mae Kue Wittaya School has pointed out that one important thing teachers need to adjust is transforming themselves to become learning designers.

"I've noticed that many years ago, we had purchased textbooks authorized by the Ministry of Education. This caused loss of learning design skills for teachers; since they had textbooks, they just followed and adhered to the books as a learning guideline for the whole year. They couldn't design the learning. This problem also occurred when we started to design the integrated learning, multiple intelligences, and future careers sessions. They couldn't design these kinds of learning.

I looked for examples of subject designing and discussed how to create them with teachers. It must contain a knowledge part, a skills part, and an affective domain part. Then, we tried to design our learning activities. At this point, we learned together. It was ok to make mistakes and we also did some satisfying ones, because we were doing an experiment."



5 learning steps for every class



The 5 steps of the STEAM Design Process: asking, imagining, planning, creating, and presenting, are a simplified version of scientific thinking that is easy to understand. It is suitable for learning through practice and project-based learning. At the end of the process, students may come up with tangible results that may or may not be successful. Nevertheless, the students will definitely get some practice on an analytical thinking process from start to finish.

However, this does not mean that 5 steps of the STEAM Design Process cannot be implemented in class periods that are not organized as activity-based or project-based. After Wat Ban Khok School has successfully applied the STEAM Design Process to makerspace activities, Director Amnaj Nenraksa had an idea to further extend this way of learning to core academic subjects as well. This process requires a considerable amount of time to get teachers to understand.

"I've already applied it to all subject groups. Generally, with these subjects, we don't do hands-on activities like makerspace, but I implemented the STEAM Design Process in common subjects by using the key 5 steps. Our teachers have already conducted this with main subjects such as English, mathematics, and Thai."



School Transformation:

9 Elements

of the Whole School Approach

76



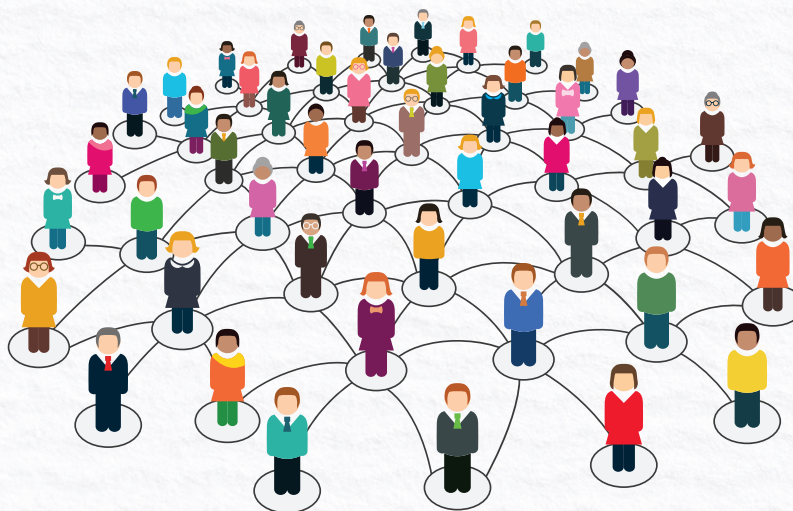
For example, when teachers choose topics in a unit to teach, they'll create a sub-teaching plan. I suggested that there's no need to choose difficult unit since we just laid the foundation. I also demonstrated that teachers don't have to start by asking the students to choose what they want to know because the topic will be too broad. Teachers must practice them by providing some clues first. I gave an example of health education for Grades 4-6. Supposing today we'll learn about internal organs like lungs, heart, liver, intestines and stomach, teacher just write down these topics and ask students to choose one organ they want to know first. Then take this as a problem in step 1. In step 2, let students imagine about their lungs and draw a picture. In step 3, they have to find out function of the lungs and how to keep them healthy. They have to plan how to do a research and describe it in step 4. Then, in step 5, they have to do a presentation and respond to classmates' questions. I gave this example to the teachers, and they could have better understanding. We shouldn't start with a topic that is too broad, just raise a question on the topic we plan to teach. Now English and Thai classes have already begun using this method. It might be difficult to ask students to write, but it's fine. As Starfish said, if they can't write, we can help them write. Many problems have been gradually solved by now."



Professional Development



Technological advancement is changing so fast, while teachers' massive workloads decrease the time spent on their competencies development to keep up with technology. Also, most of them still adhere to "transferring knowledge" rather than "creating learning". In order to effectively develop the teaching profession, school leaders should set clear policies and procedures to concretely enhance teachers' knowledge and skills through learning exchange activities in the Professional Learning Community (PLC) and both internal and external networks for developing professional knowledge and skills continuously.



+ Professional Learning Community: PLC

PLC means creating changes by learning from the performance of a group of teachers who join to work together and support each other. The objective is to develop the learners' learning progress, set learning goals, examine and reflect individual teaching performance and overall results through learning exchange process, criticism, and collaboration, focusing on promoting a holistic learning process. Teachers in the professional learning community will eventually get the development of knowledge and practice as follows.

1. **Sharing** between teachers about teaching in 4 areas; individual teaching methods, learners, other teachers, and profession, by sharing ideas, knowledge, and experiences that lead to development and solution in learning management.

2. **Collaboration** working is a factor that plays an important role in the success of building a professional learning community. Everyone in the organization must help and support one another and take responsibility for the learners' learning outcomes together. Therefore, integrating all work departments in the school to take part in the development of professional learning community is the path to success and sustainability.

3. **Accountability** is a responsibility of each teacher to realize about self-improvement approach in the implementation plan in order to share knowledge and experience from their work practice with other members.



+ PLC and criticism



It requires a lot of factors to make the knowledge sharing process to effectively happen among teachers. From the beginning, Director Prathin Tangjai has adapted the method of criticism to the planning process of Phrao Burapha School reformation to familiarize teachers with a free and honest exchange of ideas, and make the criticism eventually become a part of the corporate culture.

"Here, we use the criticism method. If the administrators and teachers don't participate in criticism sessions together, they'll just lean on their own understanding. If our plan for conducting activities is wrong from the beginning of the semester, we won't be able to manage activities properly. Hence, we should have a criticism session before the semester starts about curriculums, observation forms and evaluation forms, making them thorough and consistent. We'll criticize until we get the best ones, so that we can implement them in the teaching.



Before criticizing, we have to make an agreement that we'll together set goals, objectives, missions, and strategies by considering our school vision in the school development plan. We need to stick with that. Then teachers design the curriculum based on the school's vision and mission. I let the teachers exchange ideas within each learning stage; the first, the second, and the third stage. After that, the curriculum of each learning stage will be reviewed and criticized by teachers from other learning stages."



School Transformation:

9 Elements

of the Whole School Approach

80



In a criticism session, it is inevitable that everyone has different opinions. Many times, it becomes a heated debate rather than constructive criticism. How can we make this dialogue circle a safe space where every idea is heard, and every disagreement ultimately resolves into a solution or a mutual goal ?

“Sure, there are always arguments, but I attend the meeting every time. If the administrators don’t show up, I think it’s hard to succeed. The administrators have to be like a judge. If the teachers are correct, we have to follow them and give guidance at the same time. There are highly experienced, mid-level and young teachers. Sometimes, if we let only high-experienced teachers speak, young teachers will be just a listener and don’t express their opinions. They will have less participation. If the administrators, like me, always attend the meeting, I will let everyone speak their own thoughts and combine them to make an idea for our school. I have to stimulate young teachers or those who rarely participate in the criticism sessions to be more involved. Sometimes they have good ideas but are not assertive. So, the administrators play a significant role in encouraging criticism discussion.



The collaboration of teachers from different generations



The whole school approach driven by Starfish Education requires continuity and time, as well as teachers as a key human resource to drive this change to success. However, teachers have to face problems from internal and external, under controllable and uncontrollable factors, especially during the transfer session. These factors can contribute to inconsistent and weakened school reform operation. Director Pairat Rattanadilokkul of Ban Tong Kai School has designed a new teacher management to solve this particular problem.

“Personnel management is a bit difficult. Teachers usually think that it will cause them extra workload, and some want to see the results quickly, but in reality, it takes time to coach a child. We also have problems with teacher's transfer and retirement, and new teachers can't keep up with the team. So, we have to be open-minded and let them learn.



Our school has 13 teachers in total. We've arranged 2 homeroom teachers for each classroom. One is a new teacher; another is an old teacher. This way, the new teacher can learn from the old one in some areas, in the meantime, the old teacher can learn about technology from the young one. When old teachers retire, the younger ones can replace them immediately. Recently, we have very few old teachers in our school. In this modern world, I think it's impossible to keep up with the world with old ideas. We need to learn from the younger generation.”



School Transformation:


9 Elements

of the Whole School Approach

82



In addition to matching teachers from different generations to create knowledge exchange within the school, online learning resources like Starfish Labz are also used to open up new perspectives and introduce new teaching ideas to the teachers.

"Teachers were worried that they could not finish teaching all compulsory subjects in time, so they prioritized the curriculum and learning indicators. They were afraid that doing activities like this will be a waste of time. I had an idea that Starfish Labz, which contains learning content and lessons corresponding to the curriculum, would be helpful. The teachers told me it's excellent. It's a platform that teachers can search for knowledge and able to be applied to the education." 



STARFISHLABZ



STARFISHLABZ

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[เข้าสู่ระบบ](#)



STARFISHLABZ

แหล่งเรียนรู้และชุมชนออนไลน์แห่งแรกของประเทศไทย สำหรับ นักการศึกษาและผู้ปกครอง ที่ใช้
ง่าย กระชับ แต่ได้ประโยชน์ด้วยเนื้อหาและกิจกรรมสนุกๆ ในเรื่องการจัดการศึกษาแนวใหม่
การพัฒนาการศึกษา นวัตกรรมและเทคโนโลยีเพื่อการศึกษา



เข้าสู่ระบบ

ชื่อผู้ใช้งาน Username

รหัสผ่าน Password

จำรหัสผ่าน

[ลืมรหัสผ่าน](#)

เข้าสู่ระบบ

ยังไม่มีบัญชี Starfish Labz? [ลงทะเบียน](#)

or

[เข้าสู่ระบบด้วย Facebook](#)

Starfish Labz is an online community designed by Starfish Education to be a learning resource for educators, parents, and those who are interested. It is packed with content as well as fun and simple activities in line with the new educational management and child development. It is also an area for teachers and educators who want to develop themselves to become teachers of the 21st century by learning about innovation and technology, and participating in the professional learning community (PLC).



School Transformation:

9 Elements

of the Whole School Approach

84

Course



Teachers and parents can learn about innovative educational management and child development from numerous experts and institutions without any cost. Users can search for preferred courses from 12 categories which are essential to developing children's skills for the 21st century, or browse through a collection of relevant courses that are already curated for convenient use, such as home-based learning, home school, self-health care, etc. Each course is less than 2 hours, and users can pause and continue their studies at any time.



Video

Find out stories, ideas, and inspiration in the education and development of Thai children through playlists of short video clips that you can choose according to your interest.



Children's Story: Stories of students' changes and developments that have arisen from their learning, and how they extended what they have learned to create innovation or apply it in real life to benefit their family or community.



Parents' & Teachers' Story: Ideas, stories, and experiences of teachers and parents in learning or experimenting new things to develop teaching and learning methods. This also includes how they solve problems and obstacles in teaching and learning management, which can inspire and expand the horizons of other teachers and parents.



How-to: Methods or procedures for creating innovation and learning materials, preparing learning space, and using technology or modern tools in teaching and learning. It is necessary to be innovative and creative, and encourage learners to construct their own knowledge.



Lesson Ideas: A range of learning management approaches that help foster the learners' critical skills of the 21st century through hands-on and student-centered learning, such as project-based learning, active learning, the use of innovation to organize learning activities, and learning management according to the learners' potential and individual differences.



School Transformation:

9 Elements

of the Whole School Approach

86

Furthermore, videos from other collaborative organizations are also provided.

วิดีโอ

เรียนรู้ 12 เรื่องใหญ่เพื่อพัฒนาเด็กในศตวรรษที่ 21

พัฒนาการเด็ก เทคโนโลยีดิจิทัล เครื่องมือครู Future Ready เครื่องมือผู้ปกครอง ปัญหาที่ก่อกวนจิตใจ และสังคม

การเรียนรู้แบบบูรณาการ สุขภาพและความกินดีอยู่ดี การเรียนรู้ทางอารมณ์และสังคม ภาษาและการสื่อสาร คุณธรรมและจริยธรรม การศึกษาศึกษา

วิดีโอล่าสุด

คู่มือสอน THE LAST MISSION
Starfish Academy
14 views 5 วันที่แล้ว

การจัดการเรียนรู้โรงเรียนชาดินวิทยาคาร
ท.ส.จ.อ.นวัตร วัลย์พันธ์
541 views 8 วันที่แล้ว

Happiness Space
Starfish Academy
31 views 17 วันที่แล้ว

OECD Project's monk school in Thailand
ท.ส.จ.อ.นวัตร วัลย์พันธ์
43 views 24 วันที่แล้ว

Children's Story

คู่มือโฮมเรียน

Blog

Information, news, articles and interesting stories about childcare gathered in a knowledge-sharing space for parents and teachers.

บทความ

STARFISH LABZ

ชวนลูกเรียนรู้ความหลากหลายของ "มนุษย์"

Starfish Academy

ในช่วงที่เรากำลังก้าวไกลสู่อนาคตที่ไร้พรมแดนด้วยเทคโนโลยีและนวัตกรรมที่ก้าวไกล การพัฒนาคนจึงเป็นเรื่องสำคัญที่สุด เราต้องสร้างคนที่จะก้าวทันโลก และพร้อมที่จะรับมือกับความเปลี่ยนแปลงได้อย่างมีประสิทธิภาพ เราขอชวนคุณพ่อคุณแม่ ครู และบุคลากรทางการศึกษาทุกท่าน มาร่วมกันเรียนรู้และแลกเปลี่ยนความคิดเห็นเกี่ยวกับ "มนุษย์" ของเราไปพร้อมกัน

"มนุษย์" คือสิ่งงดงาม

23 views 06.08.20

เรียนรู้ 12 เรื่องใหญ่เพื่อพัฒนาเด็กในศตวรรษที่ 21


พัฒนาการเด็ก เทคโนโลยีดิจิทัล เครื่องมือครู Future Ready เครื่องมือผู้ปกครอง ปัญหาที่ก่อกวนจิตใจ และสังคม

การเรียนรู้แบบบูรณาการ สุขภาพและความกินดีอยู่ดี การเรียนรู้ทางอารมณ์และสังคม ภาษาและการสื่อสาร คุณธรรมและจริยธรรม การศึกษาศึกษา



Knowledge network

Apart from Starfish Education staff and Starfish School, many educational organizations have also joined Starfish Labz as a publisher:

 **Teaching with Appiness** is a group of educators and experts using Apple Technology to compliment teaching and learning for advancing the learners' essential knowledge and skills of the 21st century through learning exchange and inspirational activities, supported by experts experienced in learning management and accredited from Apple Inc. The aim is to enable educational personnel to apply it in developing the learners to use technology creatively and ready for working in the future world. Appiness means Apple + Apps + Apply + Happiness Community.

 **World Vision Foundation of Thailand** is a Christian organization for development and charity with the mission to improve the quality of life and provide assistance to the impoverished and disadvantaged people in society as well as those who live in difficult conditions by focusing on an improvement of children, families, communities, and disaster victims. The Foundation follows the model of the Lord Jesus Christ in showing love, compassion, and help to bring positive change in life and meet the needs of Thai people, whether near or far, urban or rural. It provides assistance and support, and cooperates with the public and private agencies, churches, institutions, and all charitable people in order to achieve the ultimate goal of the organization.



School Transformation:

9 Elements

of the Whole School Approach

88



Roong Aroon School organizes an education for the holistic development of children and youth, including body, mind, intelligence, and society through deep learning, practical learning, and communication learning. The RA Learning Space serves to spread the ideas of holistic learning and transformative learning for teacher development, in terms of knowledge, skills, and values of being a teacher with competencies of the 21st century that can further develop the classroom learning more effectively.



Office of Moral Teaching Monks, Mahachulalongkornrajavidyalaya University develops the learning management competency of the moral teaching monks to manage a new way of learning that helps foster morality for students. As children and youth can now easily and quickly access to various forms of communication technology, it is difficult for them to intelligently consume information. Moreover, the learning of children and youth will become more effective through practice and experimentation, especially when conducting real practices in life. Therefore, the Office of Moral Teaching Monks has adjusted the teaching methods from “focusing on content” to “learning management” that focuses on the understanding of the Lord Buddha’s teachings from the learner’s direct experience. This aims to make a habit, create knowledge and understanding of the dharma on their own, and truly reach the dharma state.



National Institute for Child and Family Development, Mahidol University is the national central academic organization that conducts research, provides academic services and education, and produces child and family development personnel. It is a diverse, interdisciplinary academic resource working on both social and scientific areas in order to develop knowledge that will lead to a broad range of benefits.



Learning Transformation

Quality education provides students with the skills they need for the future world. School leaders should encourage learners to participate in various proactive learning activities and integrate knowledge for solving problems through project-based learning (PBL) to eventually be able to create things on their own. This is considered as an active learning approach that requires participation and interaction to create knowledge, based on individual interest, levels, and learning styles. The STEAM Design Process is also used to develop 21st century skills, which involve knowledge integration for solving real-life problems.

To achieve the learners' targeted skills, it is important to start from setting a clear goal and designing a practical action plan through analysis process to determine the appropriate method of learning management. You may start by answering these questions.

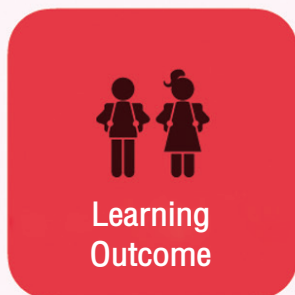


School Transformation:

9 Elements

of the Whole School Approach

90



- ▶ What is the learning style of learners ?
- ▶ How can we support learners to learn in the way they want ?
- ▶ Which skills and competencies that learners need to have ?
- ▶ What are the features of learning management process ?
- ▶ How can we support learners to access interesting learning content and materials ?
- ▶ Which tools can enhance the learning ?
- ▶ Which theories can we apply to develop learning and teaching ?





Learning Outcome



Adopting Starfish Education's teaching and learning management to different schools does not have to follow a pattern. It can be applied to suit the school context and the school goal while still focusing on enabling learners to develop their skills and potential. For Phrao Burapha School, although it is a small school and most of the students are from ethnic groups, it can apply and develop the STEAM Design Process to become a 5-step learning process tool in its own style, which is used in all activities to develop the learners.

*"In the 2020 academic year, all 3 key stages will implement the main school curriculum in the same direction by using a 5-step process. For example, in Semester 1, Period 1, STEM-STEAM learning has set 5 hours for the **Little Space Chef** activity. Students will do activities in the first step; **Fundamental Knowledge**, to gain basic knowledge. The second step is **Motivate and Search**, to stimulate students' interest in seeking knowledge. They will then be brought into the third step; **Practice**, and the fourth step; **Present**, allowing each group of students to present their work. The last step is **Conclude and Apply**. This is the process we use with all 3 key stages in every activity, including STEM-STEAM, languages, sufficiency economy, and a local activity called Rak Chiang Mai."*



School Transformation:

9 Elements

of the Whole School Approach



Starting with limitations, Director Prathin Tangjai mentioned that today Phrao Burapha School has been selected to be the 61st pilot school of Chiang Mai province as a teaching and learning transformation model that brings outstanding results to the students.

“Our school has been always trying to go outside the box in terms of teaching and learning. When the education supervisors visited us last year, we were selected to be an innovative school and the best practice school. We also received the award from OBEC for our Moderate Class - More Knowledge activity. They said this was a unique concept of teaching and learning. I told the teachers that we were on the right track, even we did differently from everyone else. Actually, we really don't have to be like anyone because our children are unique. As the supervisor said our school was on the right track, then we should further develop what we've done and continue conducting it in 2020. It's a school innovation that can be a model for other schools, but please note that they can't follow entirely, it needs to be applied by considering if their context of the teachers, students, and community suit this style or not.”





Messages from the Directors

The school director and administrative personnel are the forces that can drive the whole school transformation successfully and concretely, like all 6 school directors who have set out on the journey of the school transformation model of Starfish Education.

With the hope that these stories can inspire other educators to lead their schools for a better change, in the final chapter of this book, we would like to open up space for all 6 school directors to share their personal perspective on being a school leader. What values do they adhere to? What characteristics should school leaders possess to lead the school into the better future ?



School Transformation:

9 Elements

of the Whole School Approach

94

Director Suriyon Suriyodon

Mae Kue Wittaya School, Chiangmai



Firstly, leaders must have the courage to do things that are beneficial for the children, and be brave enough to get away of the concepts that we have used in the past. When I first started thinking about this change, I did not dare to do so. But at some point, I found that if our school kept going this way, it wouldn't benefit anyone. I needed to find a turning point. I talked to the teachers that even if we went on as usual, there would be no problem because our O-NET scores were not bad at all. We just continued being like this. But if we changed, many more students would achieve benefits from our transformation. Wouldn't it be better if we do this together? In addition to the courage to make a change, leaders should be able to see clear directions for important matters. It is important for the leaders to have a clear vision and be courageous.

Director Pairat Rattanadilokkul

Ban Tong Kai School, Chiang Mai

I do not force the teachers, but encourage them to realize an ambition to see children being improved, see the school being successful in academic achievement, and want children to possess skills for the future. I want the teachers to have these thoughts. Therefore, the administrators should not prioritize their own opinions, but must listen to the teachers' problems and figure out how to fix them. If we don't know, we can find some experts to help solving problems. We should also have kindness. Financial support and encouragement should be prioritized as well. Teachers who join us in driving change can be considered as a pioneer. So, we must encourage them.

Director Prathin Tangjai

Phrao Burapha School, Chiang Mai



Leaders need to understand the context of each teacher or try to put themselves in their shoes. As if we were a fortune teller, we have to look at each teacher's individual characteristics, including their background. Some of them are from ethnic groups, some of them are indigenous. Teachers of each academic group and each grade level have different contexts. Kindergarten teachers, primary teachers, secondary teachers, science teachers, language teachers, math teachers, they all have different contexts. Before introducing any development project into the school, the director needs to learn about each teacher first. It is easy for just bringing a new project, anyone can do so. And if the director only gives orders, the school is still able to run as usual. But if we want to make the school special and successful in conducting a different process from others, the director must empathize with the teachers, and then build trust like a family. In this case, "trust" is to strongly believe that we have capability to lead the organization to success.

Director Jongrak Kantha

Ban Pang Poi School, Chiang Mai

A good educator must believe that all children are different. Within that difference, children are able to learn and develop regardless of race, language, ethnicity, or tribe. As long as teachers have faith and hope, and see that "Education is Life," we will be happy and ready to help children fulfill their potential and development.



School Transformation:

9 Elements

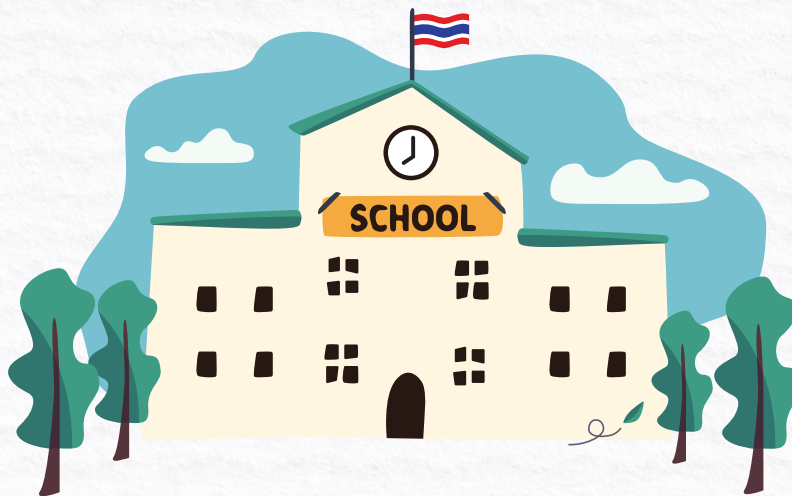
of the Whole School Approach

96

Director Amnaj Nenraksa

Ban Khok School, Samut Sakhon

Leaders must have a passion for development. I personally like STEM, so I have been trying to figure out how to enhance it. When I found this approach, I gave my whole heart to it. I then tried to urge the teachers and guide them. This means leaders must have a strong intention, then offer the team a chance by listening to their opinions and let them help. All team members must be involved. Eventually, those who receive greatest benefits are students





Epilogue



It requires educational management that is responsive to the country's needs in order to develop human resources that is a major force of national growth. Therefore, the key of an educational transformation is the classroom with school leaders and teachers as main factor that drives changes. Leaders should set clear goals, consider the possibility of real practice, and support proactive teaching by using technology together with a learner-centered focus. School leaders should also promote self-knowledge creation by organizing proper learning environment and atmosphere and designing a competency-based curriculum according to the community context to build the learners' competencies that meet local needs.

In addition to classroom reform, another factor of success is the teacher. The leaders have to facilitate the teacher's personal development by enhancing academic and other skills as well as competencies, and supporting them to create a professional cooperation group to share knowledge. When all of these work in harmony, successful outcomes will definitely occur and become a vital force for sustainable national development.



School Transformation:

9 Elements

of the Whole School Approach

98

Special Thanks

- Mr.Pairat Rattanadilokkul Director of Ban Tong Kai School
- Mr.Suriyon Suriyodon Director of Mae Kue Wittaya School
- Mr.Prathin Tangjai Director of Phrao Burapha School
- Mr.Amnaj Nenraksa Director of Ban Khok School
- Acting Sub Lt. Jongrak Kantha Director of Ban Pang Poi School
- Acting Sub Lt. Wat Sookjai Director of Ban Kong Kaek School
- Mr.Prasert Sooksawat Director of Ban Si Bear School
- Ms.Nichaphat Teeraboonyakorn Teacher of Wat Pa dad School
- Ms.Wanpisa Prueksamas Teacher of Ban Pa Mued School

Reference

Starfish Country Home School Foundation: School Leadership for the 21st Century



In this fast-changing world, it is necessary that schools have an ability to improve the quality of the learners to be ready and well-equipped for their lives and careers. It is also important to consider the factors of school management and teaching scheme to provide learners a quality education, skills, and capacities for the 21st century.

School Transformation

