Challenges of Super Science High School Project at Shizuoka Kita High School

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Courses

Science & Mathematics Course

To bring up the future scientists, this course has been designated as a **Super Science High School** by MEXT (Ministry of Education) since 2007.

International Communication Course

To raise good speakers of English, we offer some special classes by native speakers and some special projects.

General Course

Consistency education with university and technical schools of SIST Group

Computer programmers, Fashion designers, and Car mechanics.

※SIST stands for Shizuoka Institute of Science and Technology.

Super Science High School（SSH) Project

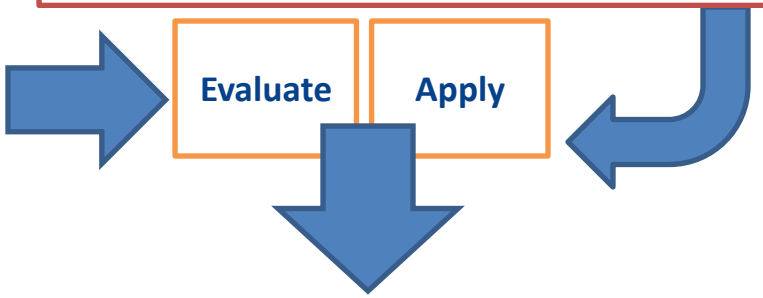
According to National surveys,
The willingness of children and students to learn science, math, and technology had diminished.

SSH is a national project.

- MEXT（Ministry of Education, Culture, Sports, Science and Technology）designates senior high schools to foster future scientists and engineers and to provide enriched science curricula as SSH.
- SSH should develop the teaching method which enhance “dream of science” and “mind enjoying science” and cultivate students’ personality and ability.

Shizuoka Kita H.S. Science & Math Course;
Has continued an effort to enhance students’ motivation for the future.

- Research projects.
- Environmental researches.
- Science classes for elementary school children.



Our school has been designated by MEXT as SSH since 2007

Provide our students
Advanced science education

Present effective activities and methods inside and outside of Japan

SSH Activities at SKHS

Aim The establishment of the educational methods to develop students who can improve autonomously and persistently the scientific abilities for research and the globalization

Task A — Development of the scientific attitude

A1 Science Communication

A2 Incentive Lectures

A3 Super Lectures

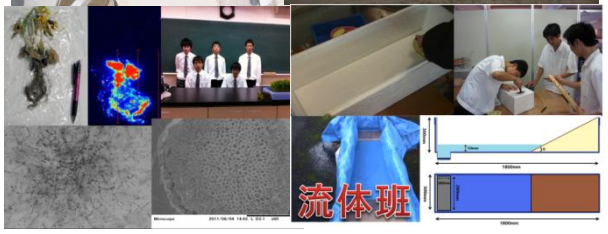
Task B — Development of logical thinking ability

B1 Environmental Research

B2 Theme Discovery Trainings

B3 Trainings for solving problems

B4 Research activities



Task C — Cultivation of globalization

C1 Scientific English training

C2 Training for making decisions

C3 International exchange programs

SKYSEF 2012

Shizuoka Kita Youth Science Engineering Forum

Students

Teachers

Day1
Aug. 25

Welcome Dinner and Cultural Exchange

Day2
Aug. 26

Oral Presentation and **Poster Session**

Evaluation

Simulated International Joint Project

Energy | Environment | Biodiversity

Teachers' Session

Practical Reports Meeting

Day3
Aug. 27

Planning	Project teams form of a diagram and organize their solution.
Action	Project teams put their solutions designed in the Planning into practice using craft, fieldwork, or experiments.

Mini Tour

Practical Reports Meeting

Day4
Aug. 28

Discussion	Project teams discuss the result or the study of the Action and make a model or a poster.

Workshop

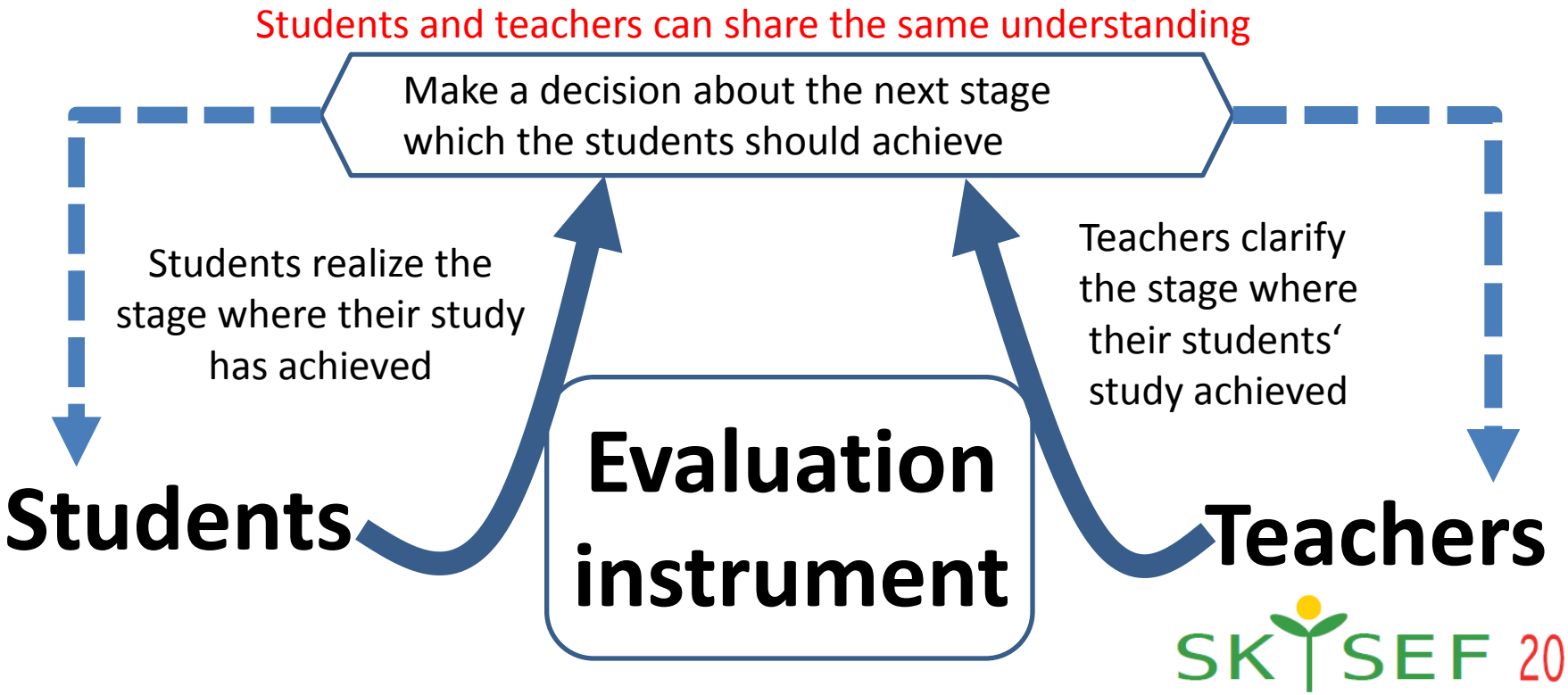
Day5
Aug. 29

Presentation	Project teams report their projects to other teams in English.

Evaluation

Goals

1. The development of an evaluation instrument that students can realize the achieved stage of their study by themselves
2. The development of the feasible evaluation instrument that the secondary education teachers who are not accustomed with scientific research activities
3. The development of the evaluation instrument that students and teachers can share the same understanding about both achievements'



Shizuoka Kita High Challenge
- toward refinement of the evaluation instrument

Topics

1. Share experiences of conducting scientific research of the students including language advice
2. Brainstorm the new methodology of conducting scientific research
3. Discuss how effective the current evaluation instrument and how to improve
4. Discuss how to use the evaluation instrument in conducting student's scientific research
5. Brainstorm how to complete the instrument as a set of rubric

Time	Activity	Speaker(s)
9:00-9:40	Goals of the workshop Reflection of the evaluation instruments	Midori Takahashi (Advisory board of Shizuoka Kita High School) All participants
9:40-10:00	Goals and processes of developing the evaluation instrument	Yuji Takagi (Shizuoka Kita High School)
10:00-14:00	Group discussion- effective points and future implications of conducting/assisting student's science research at your school	All participants by groups
14:00-15:00	Presentation of group discussion	By groups
15:00-16:40	General discussion of the evaluation instrument Wrap-up	All participants Midori Takahashi/Yuji Takagi

domain		No.	Mark Descriptions	marks good・bad
attitude		1	The study contents are full of curiosity to the knowledge.	1・0
		2	The study contents are full of ambition to investigate their theme.	1・0
		3	The presentation conveys their enthusiasm for the research to others.	1・0
		4	The presentation conveys their sincerity in the research to others.	1・0
Process of Research	scheme	5	The motive of the study is clear.	1・0
		6	The hypothesis is clear.	1・0
		7	Show sufficient information to frame the hypothesis.	1・0
		8	Plan to collect appropriate data for verifying hypothesis.	1・0
		9	Define the appropriate researching area of subject for verifying hypothesis.	1・0
		10	Estimate appropriately the result of verifying hypothesis.	1・0
		11	Confirm that their hypothesis has the originality compering with earlier researches.	1・0
	Evidence	12	Put the process of experiments or investigation in order concisely.	1・0
		13	Define the fixed condition (the control variable) and the changing condition (the instrumental variable).	1・0
		14	Collect evidences as planned.	1・0
		15	Do control experiments or comparative investigations at proper time.	1・0
		16	Do experiments or investigations over when they get inappropriate data.	1・0
		17	Collect reliable evidences in an appropriate range.	1・0
	Analysis & Study	18	Show the experiments or the results investigations.	1・0
		19	Specify the tendency or pattern of result or investigation.	1・0
		20	Put the evidence of experiments or investigations in order with using charts, graphs, or objective and concrete phenomenon.	1・0
		21	Draw an appropriate conclusion based on experiments and investigations.	1・0
		22	Give careful consideration to the conclusion after understanding the whole research precisely.	1・0
		23	Give careful consideration to the limit of the application of the conclusion judging from scientific point of view.	1・0
		24	Limit themselves to a consideration of their future research based on the latest conclusion.	1・0
Technique		25	The plot has various ideas to make their theory easy to understand for the audience.	1・0
		26	The explanation way is planned to encourage the audience to understand the presentation.	1・0
		27	The presentation is to the point.	1・0
		28	The presentation conveys social value of the research to the audience.	1・0
		29	Show the result of research answering the audience’s needs correctly.	1・0
		30	Use eye contact without looking at manuscript.	1・0
		31	The design of slides is planned to encourage the audience to understand the presentation.	1・0
		32	Present all planned contents within the limited time.	1・0
		33	Understand the questions from audience and answerer them properly and quickly.	1・0

Thank you for listening