

WG1: GSEE Global Challenge – Initiatives and Synergies

(Summary)

Date: 23 October 2013

Venue: The Western Miyako, Kyoto, Minori no Ma, 4f

Participant List

Co-Chairs:

Ali Alpar

Martin Storksdieck

Suggested Members:

Philip Hammer

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Others

I. Which challenges should be give priority and what should be GSEE’s strategy for creating partnerships involving universities/the private sector/government/foundations to address these challenges?

After brief self-introductions from all participants, the four “grand challenges” were introduced, which were; a. expand and sustain a community of scientists, b. establish major new programs to enhance opportunities for engagement of scientists in schools, c. involving research scientists in the current way in which technology is changing education at every level, and d. finding the new generation of scientists.

Discussants were then asked to respond to each of these four challenges.

One discussant noted that so far, there had been a top-down approach which had not allowed secondary school students to be directly involved as much as they would like with real scientists and their research.

Another discussant brought up the approach at super science high schools where mentors were assigned to the students. He proposed a program of mentors and assistants as a way to directly communicate with the students in schools. One discussant remarked that when asked to give presentations at schools, he tended to bring along his own graduate students to meet with the students. Another discussant proposed the idea of also involving older generations to help support this educational initiative.

A number of discussants then noted the importance of promoting and emphasizing scientific concepts in education, rather than activities and other areas. One discussant proposed involving scientists more closely with the design of activities, to ensure that the focus remained on the concepts.

Another discussant brought up grand challenge number four, recruiting next generation scientists, and then asked participants to respond to whether they thought it was a useful and realistic challenge. One participant brought up the idea of using mass media such as newspapers or popular scientific journals as a means to achieve this. Another discussant called attention to the fact that this particular challenge should not draw attention away from the present establishment and structures in each country and the learning curriculum for normal students. Another participant proposed having graduate students

engage in summer internship jobs or help with other activities, in order to inspire students at a deeper level.

Another discussant proposed utilizing alumni of schools that had gone on to become scientists, and then asked participants whether this was possible in their home countries. Some participants answered in the affirmative, but the overall consensus was that whether in the US or other countries, there was a tendency to underutilize the alumni networks.

One discussant exclaimed that having scientist go to high school audiences, and then discuss what motivated them to get into science might be a helpful outreach initiative. A participant noted that they had similar such programs in Korea, but that they had not been successful. Another discussant confirmed that they had similar issues in other countries such as the US.

One participant proposed changing the educational culture at universities by having a prize for the department that had the most effectively engaged scientists, such as an extra tenure spot. He also proposed an education sabbatical for scientists to undertake.

II. How can participants at GSEE/Kyoto help create the proposed journal, “Experiments in Engagement”, a Global Engagement Registry, and a Global Communications Hub?

One participant noted that there would need to be proper guidelines for the journal. Another discussant wondered aloud whether it would be ideal to have a portion of the journal devoted to research areas that had not been undertaken yet. Another participant proposed an idea of having the results of meetings, such as the one presently being held, reflected in the journal.

A participant from Japan noted that one issue was the fact that students had a more difficult time understanding science because of recent advances in technology, and so there was a disconnect between reality and what was being taught in schools. He continued, expressing his opinion that university researchers needed to translate difficult concepts into easier ones. Another participant then summarized the participant from Japan’s comments into two potential initiatives – a. that scientists had a role to lobby more for better science education in schools, and b. to have a team of scientists and

educators work together to make difficult scientific concepts easier to understand for students.

Another participant asked discussants how they thought they could graduate all high school students to be competent in science. He proposed that this would require a team approach and a special effort on reaching out to the corporate sector in making this possible. A discussant replied that he thought this might work well as a vision statement, separate from the grand challenges.

Another discussant proposed having the working groups come up with potential ways of meeting each specific grand challenge, and then have a workshop on how to address them as a concrete way forward.

One participant stated that having a bottom-top approach was important, and then proposed having secondary schools curriculum directors participate in the working groups so they could implement the changes at their schools. She noted that broadening the general population's interest in science, and giving students interested in pursuing science as a career would need to be separate challenges.

A participant proposed circulating the updated White Paper among the Working Group to allow all members to give feedback, and then distribute the edited document.

One participant noted that it could be interesting to have commentary under each challenge to describe how each grand challenge might apply in each specific country.

III. Do we have journal titles other than “Experiments in Engagement” to suggest to the WG?