International Council of Associations for Science Education

The ICASE – Guangxi Normal University Science and Technology Education Centre

Some initial ideas on 'THE CENTRE' as a joint (equal partner) collaboration between ICASE and Guangxi Normal University.

The Goals

To build on the current developments within the RISE centre, especially the 'Innovation in Science and Technology Education.'

To further promote research in science education   (where science* is equivalent with the integration of STEM as an interdisciplinary concept).

To recognise the need to integrate conceptual science within technology design – towards a vision of STEM (Interdisciplinary approach)

To identify the role and concept of engineering education within the concept of STEM (an integration of science education involving conceptual science - especially inquiry based science education and socio-scientific decision making - with technological design and construct)

To recognise that the purpose of teaching science* in school is for (a) a base for further learning (lifelong learning), (b) responsible citizenship, (c) employability skills

A target for education in schools is to go beyond ability and see capability (or competence) as the focus where the learning is applicable for the future (which is unknown) especially recognising the development sin digital literacy

To development human resources (master students, etc) for future leaders in promoting the goals of the centre and dissemination within the country and internationally

The Way Forward (Recommendations)

Short term

1. Further develop local programmes is schools toward greater integration for the science concepts within the design technology approach.
2. Greater teacher- teacher interaction so as to learn and discus with other teacher (including other school teams and hence moving towards a network exchange or ideas/operations/ successes/failures/concerns, etc.).
3. Centre organising an international conference to disseminate the ideas with the putting forward of specific, tried-out examples.
4. Establish or expand an ICASE-RISE website in English/Chinese (with ICASE help) to link with other ICASE centres (also promoted from the ICASE website eg ICASE journal /newsletter/ teaching materials)
5. Initiate wider dissemination (with the help of ICASE) of developments taking place within, and from links with, the RISE centre, associated with Innovations in STEM (eg creating publications in international journals).
6. Further to 5 (with ICASE help on language/structure/design, or whatever) to develop articles in SEI and other international journals which have been backed up by research in the developments (eg evaluation of curriculum design, teaching, student reactions, student achievements)
7. Give greater image to the centre by including more names (with specialities) in publicity documents – see the centre as a functioning and diverse body
8. Involve research students (in Guangxi Normal University) in developments within the centre and thus give an image of a centre with a number of persons who are supporting the work (interacting/collaborating/developing/researching)

Long term

1. Initiate a Delphi curriculum research study, consolidating different stakeholders views (those influencing school developments) to further collaboration and strengthen the place of the centre in the education system and the work of the centre.
2. Develop (as a research project) alternative assessment structures that pay more attention to the goals of science education (as being promoted) eg the knowledge, skills, attitudes and values (in this sense assessment beyond PISA !!).

3. Take steps towards the inclusion of M-learning (mobile learning) within the science* education
4. Become the lead centre in China for promoting science* education for the 21st century.

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