International Council of Associations for Science Education

Supporting and promoting science education internationally
The ICASE Newsletter

MAY 2011

Welcome to the ICASE May 2011 Newsletter !

The ICASE Newsletter is a regularly distributed publication containing current information about topics of interest in the field of science education. The table of contents for this issue is located in the right hand column.

The International Council of Associations for Science Education (ICASE) was established in 1973 to extend and improve science education for children and young people throughout the world. Today, ICASE is a huge network of science education associations, institutions, foundations and companies, facilitating communication and cooperation at the regional and international level.

International Council of Associations for Science Education

http://www.icaseonline.net

To be included on the listserve for notification of future newsletters please follow the guidelines on www.icaseonline.net/news.html

Contents of Newsletter

Join the ICASE Community to receive the Newsletter

For information please visit our web page: http://www.icaseonline.net/news.html

Read or Submit a Manuscript to the ICASE Journal:
Science Education International

For information please visit our Journal web page: http://www.icaseonline.net/seiweb

Editorial;
Jack Holbrook
ICASE Past President
jack@ut.ee

Bulent Cavas
Publications Committee Chair
bulentcavas@gmail.com

ICASE News

Jack Holbrook, ICASE Past President

1. *ICASE SUPPORT FOR BRAZILIAN ASSOCIATIONS*

At the request of the ICASE Latin American representative, the ICASE President sent the following letter as support for Brazilan member associations in ensuring science education gains stronger attention and finanial support.

His Excellency
Fernando Haddad
Minister of Education
Brazil

Your Excellency,
ICASE (The International Council of Associations for Science Education) would like to renew its compliments to the Ministry of Education in Brazil. The Association strongly supports the positions of the science associations in Brazil that are members of ICASE - the Biology Education Association and the Brazilian Association for Research in Science Education - in expressing their concerns with regards to recent Government decisions related to the funding of science and mathematics education.

The International Council of Associations for Science Education (ICASE) is an international non-Governmental body having official relations with UNESCO. It was established in 1973 to extend and improve science education for children and young people throughout the world. Its main function is to interact with its member organizations and disseminate developments in Science and Technology Education around the world, especially that affecting primary and secondary education. ICASE is run by an elected Executive Committee with regional representations, one of which is Latin America.

In its recent world conference on Innovations in Science and Technology Education, held in Tartu, Estonia, a *Declaration* was endorsed by delegates. It recognized that in rapidly developing, knowledge-based societies, the critical role of science teachers needed to be recognised and nurtured to better guide students to become confident life-long learners, with skills, attitudes and capacities to thrive in complex societies. Much research in the education field indicates that science and technology education is not progressing at the rate required and many countries are putting much effort in improving the image of teaching and learning in this area.

ICASE News (Cont.)

ICASE was informed about the recent decision published on the "portaria 207/2010" to restructure CAPES and the areas it funds. We understand that the science and mathematics education area is no longer being funded and does not have a coordinator at the moment. From our interactions with worldwide developments and concerns, we believe that science and mathematics education is currently a critical area for any Government and that teachers need to be supported to better serve the youth of today in a rapidly changing society. We accordingly applaud the effort of the Brazilian government in support of science and mathematics education thus far and we have no doubt that this will continue. However, with regards to the current effort to modify the structure and the organization of the science and mathematics education area, we support the Brazilian associations linked to ICASE in urging that a wide scale consultation exercise should occur among all groups involved.

Best regards,
Ben Akpan
President, ICASE
ben.akpan@stanonline.org
Cc: Dr. Jorge Guimarães, Capes President
Cc: Professor (Dr.) Lívio Amaral, Evaluation Director of Capes

2. ICASE in Brussels

Within the European Commission's DG Enlargement programme and within the framework of TAIEX (Technical Assistance Information Exchange Instrument), ICASE has the opportunity to make a short presentation to professionals from potential future EU member countries on a study tour finding out about vocational education in the EU. The presentation is on 'Reflection on the goals of science teaching to support vocational education,' within which the THE ICASE MISSION Leadership within a 21 century framework will be put forward which has bearing on vocational education.

Of interest from a vocational education perspective is the contention that:

- Science Education needs to be viewed differently from Science itself.
- 'Education through science' is more important as a vision than 'science through education'.
- 'Enhancing Scientific and Technology Literacy' is the goal of school science teaching, where the term technology is very broad but interlinked with science.
- 'Developing scientific competence' and 'gaining scientific concepts' are not the same; the fomer is a wider educational consideration enabling greater interelationships with vocational education.

These aspect clearly have implications for the interrelationship between science education in school and aspects of vocational education. These contentions indicate that the teaching of science has a strong role to play in career preparation and choice and as suhc can provide a far sotrnger base for vocational education than has hitherto been the case. This is not only in terms of scientific principles to be ganined, but also in terms of personal development needs, social interaction skills and the expectations for greater self-determination, especially related to problem solving and soio-scientific decision making endeavours.

Teaching Ideas

SUPERMARKETS ARE GREAT CLASSROOMS

By Asoka Weerasinghe

Preschool learning activities may be the last thing on a busy mum's mind or agenda when one has to cope with the endless daily chores. And at primary school, Often parents ask for homework for their children from their teachers, particularly in mathematics. The homework then becomes another headache for both the mum and the child. However, if activities and homework can be turned to play, the scenario can change. If play is work for the child, daily chores can be playing time for a busy mum with her kids.

Playing mathematics

Learning mathematics is not just about memorizing numbers and dimensions; the reasoning process involved in primary mathematics is the basis of developing thinking and inquiry skills, essential attributes across the curriculum and definitely so for science. The best way to learn mathematics is through everyday play and routines that convey mathematical concepts in an entertaining way.

Playing preschool learning games and activities in an entertaining way need not be expensive or confined to a certain time or a specific place and therefore need not be a headache for both parents and children. The interacting moments we have with our children during the day provides us with excellent opportunities to teach them and develop their skills.

These games can be played in the kitchen and even in the supermarket. Whether it is the kitchen or the supermarket, every activity can become a means of learning primary maths concepts, like counting and sorting. The adults involved in this play should realize their role is restricted to providing the means to play. Unless the child's natural curiosity is allowed to direct the learning process, it cannot be called learning through play.

Mathematics in the supermarket

The visit to the supermarket can be a great learning experience. With some imagination, it becomes a place where children can reinforce, in a practical way, some of the most important concepts they learn in the classroom. The supermarket allows them to relate the concepts they learn to real life. As we, as adults shop for food in the supermarket, we not only teach the concepts of mathematics, but also concepts of geography, science and nutrition. A powerful link is made with learning and living.

The supermarket provides ample opportunity to demonstrate the principles of mathematics in real life. Children, depending on their age, can learn the concepts of division by watching and helping their parents select items, total their costs and make change. They can make the concepts of addition and subtraction real to children.

A group of Primary and Preschool teachers, following a Higher National Diploma Course at the ICBT Bambalapitiya in Sri Lanka, spent some time at a supermarket near their campus to explore ways and means of using a visit to the supermarket as a learning activity for children, especially in Mathematics for children, age group 3 to 8 years. Some examples of the school syllabus material that can be learned in the supermarket, as suggested by them, are given below.

The goods in a supermarket are generally divided into categories according to types, prices and other classifications. Ms Cristella one of the teachers who studied this aspect stated that 'things are sorted out and kept in an orderly manner in the supermarket. For example vegetables, fruits, dry rations, food that need refrigeration, baby section, and adult section, are found in separate places. The child will learn the concept of classifying and sorting by observing these.

Numbers

One of the basic concepts children have to learn in mathematics is number conservation -- the fact that a number always represents the same number, irrespective of whether it is seen in school or during everyday life. Let children learn that the number 5 always means 5, whether it is 5 flowers, 5 cups or 5 blocks. Ms Ruvindi for example suggested that "The child should be given a sheet of paper on which is written from 1 – 20 and the child can put a tick against the numbers identified during their visit to the supermarket. They can look at the price tags of the food items and read them out loud and also look at the numbers written on the food items such as the ones written on packets.

Counting

Ms Vidurangani suggested that children should be encouraged to count at the supermarket. For example, they could count the number of tins on a rack or count the number of red coloured bottles on a rack. They could also count big boxes and small boxes, or count the number of fish on a tray. Ms Ruvindi also suggested that they can count the number of times they see a particular number such as 2, over and over again.

Measuring

Understanding and being aware of units such as centimeters and meters (and inches?) and kilograms and grams are also important in mathematics at primary level. Ms Fathimath Shahida, for example, stated that this could be done in the supermarket by asking the children to measure various objects such as a toothbrush, bottle, or even carrots. For such an activity, it would be necessary to teach the children the correct way to measure in class before coming into the supermarket.

Calculations

Ms Ruckshani for example stated how simple calculations could be carried out in the supermarket "The number of strawberry ice cream containers and mango ice cream containers can be counted by the children. Then some of them could be removed and put into the cart. The children could be asked to find out how many containers are remaining [subtraction]. The children could also be asked to find out the total number of strawberry and mango ice cream containers in the refrigerator [addition].

Sizes

The idea of big, bigger, biggest; small, smaller, smallest is another concept that is part of preschool learning. Ms Yohani, for example, suggested that packets of icing sugar of different sizes [500g packet and 250 g packet] could be shown to the children and the concept of what is heavier could be learned. Bags of rice weighing 10 Kg, 5 Kg and 1 Kg could also be shown. At the section where there are fish, small fish and big fish could be shown. At the fruits section, watermelons of different sizes could be shown. If you go to the cosmetic section, small powder tins and big powder tins could be shown. She further stated that this helps to reinforce what has been learnt in school by seeing real objects and the child will remember what has been learnt in class very well by the activities in the supermarket. She further stated that usually in the supermarket, the parents are so engrossed in their shopping that they hardly take any notice of their children. If these exercises are done in the supermarket the parents will be forced to chat with their children thereby communicate with them and also help their children to increase their vocabulary.

Shapes

Parents can also help their child understand the meaning of thin, fat, and short and long; circle triangle, square and rectangle. These are also topics for the preschool and primary level curricula. Ms Harshini explains in details how this could be done at the supermarket.

"Start by taking the child to the dairy section and asking the child to show a circle and a square. These shapes can be seen as follows in the supermarket:
Circle – Happy cow cheese
Square – Kraft cheese slices pack.

Tell the child that now we will go to the favourite chocolate section. Prompt the child to pick a triangle, hexagon, rhombus from the items on shelves. These shapes can be found in the supermarket as follows;
Triangle – Toblerone Chocolate box
Hexagon – Lindt chocolate box
Rhombus - Lindt chocolate box

Then move across to the freezer section holding ice cream where a variety of shapes such as squares, circles, ellipses and, rectangles can be observed by the child in the array of ice cream products in store. Rare shapes such as a heart or torus can be found in toiletries or household area.

For a heart shape, see the Enchanter perfume box. For torus demonstrate this by showing the top view of a toilet paper roll. The child can be shown how to obtain new shapes by placing two rectangle shaped boxes (two Zesta 25 tea bags boxes) on top of each other to form a square.

ICT
Information Communication Technology is closely associated with both the supermarket and primary mathematics and Ms Shaida was interested in how the check-out section could help the children to understand the use of ICT in the supermarket and also in their own lessons. She observed that the cash machine which the clerks use to operate sales is a good place to teach and learn about
ICT. Here information regarding goods is fed into the machine via a key board and the information appears on the screen and at the same time the billing machine starts whirring and out pops a receipt with all the information. The keyboard is similar to computer key board and it is a good opportunity to introduce this concept to the child. Here numbers are punched and it appears as information on the screen giving all the details of the goods purchased. It is an opportunity to make use of the operations of the additions and multiplications that the child learns in class.

Matching pictures
Ms Naddesha suggested that the parents should take a promotional brochure. Showing the pictures in the brochure, parents could ask their child to identify the corresponding objects on the racks of the supermarket. As homework, the child could be given the brochure and the adult could motivate the child to find out the objects seen in the kitchen similar to the objects in the brochure. These activities help the child to improve his or her knowledge about colours and shapes and identify similarities and differences.

Supermarkets are great classrooms. Parents with imagination can benefit greatly from developing creative games for their children as they do grocery shopping. The lessons that can be learnt from the supermarket range from basic to complex lessons, and can lay the groundwork for important subject areas in the life of a child, particularly further mathematics.

Learners from ICBT who contributed to this article:

1. Fathimath Shahida
2. Shaida Cassim
3. Ruvindi B Perera
4. Vidurangani Fonseka
5. Naddesha Yurangi
6. Harshini Palipane
7. Christella Sivapragasam
8. Yohani de Silva
9. Ruckshani Wijesinghe

References

1. Parvin R G [2006] http://users.sfo.com/~parvin/part3.html
2. Nigel Lane N [2006] Turn the Supermarket Into a Classroom http://EzineArticles.com/?expert=Nigel Lane
3. Kids Activities Learning Games.com

Special Events

"SCIENCE AND RELIGIOUS EDUCATION IN SCHOOLS: NEW POSSIBILITIES"

Saturday 25th June 2011
St. Edmund's College, Cambridge, UK

This one-day conference will suit tutors, teachers and student-teachers of science and religious education. Join us to share ideas; hear from lead-researchers and ask questions of an expert panel. The subsidised cost is £20 per person; Student teacher price - £10 per person. Lunch included!
There will also be a presentation of the LASAR project initial findings. This is a three year project which is researching pupils' perceptions of science and religion and which is also producing free resources for use in the classroom at Faradayschools.com

Speakers include:
Mary James, Professor and Associate Director of Research, Faculty of Education, University of Cambridge;
Sir Colin Humphreys, Professor and Director of Research, Department of Materials Science & Metallurgy, University of Cambridge: Can a scientist believe in miracles?

Michael Reiss, Professor of Science Education, Institute of Education, University of London.
Please visit the website of the Faraday Institute for Science and Religion at www.faraday-institute.org to register.

ICAS^{2}E: I CARE ABOUT SAFETY IN SCIENCE EDUCATION

Jim Kaufman, CSSE Chair

Give the Whole Rat

Several years ago, Jim Firebaugh, Virginia State Science Supervisor, and I were traveling around Virginia in a blue Department of Education van doing one-day seminars throughout the state. Jim is one of the State Science Supervisors in Virginia.

In one city, we stopped in a Dollar Tree Store and I found some plastic squeeze rats for one dollar each. I bought two.

I'd been fond of saying that "chemistry faculty in the United State, present company excluded, don't give a rat's rear for lab safety." (They don't care about safety at all). Why do I say that?

The reason that I would say this is that 90% of chemistry majors and chemistry graduate students at a Boston University National Chemistry Week Career Day (November 1995) had never seen "Safety In Academic Chemistry Laboratories". These young folks were from institutions all over New England. They had never seen the most important publication on lab safety from their professional organization, ACS. Why?
It's a FREE, eighty-page booklet that's almost 35 years old. Call 1-800-ACS-5558 or go online (www.acs.org) for your copy. NOW!

Back to the rats.
People at the seminars and short course kept asking if I would give away or sell the rats. They're very popular.
One day this past summer it occurred to be that besides saying "They don't give a rat's rear for safety", we should give the whole rat!

I made a small label that I attached to the rat's tale. The label says:
Lab Safety Rat
We don't give a rat's rear for safety.
We give the whole rat.
Congratulations
You've just been ratted on for working safely.
Now it's your turn to rat on someone else.

Too often we focus on criticizing people for unsafe acts and unsafe conditions. Here's a way to have a little fun while recognizing good performance. If you see someone working safely, you give them the lab safety rat. They need to pass it on when they see someone working safely.

"Lab Safety Rats" are available from the Laboratory Safety Institute for $4.95 plus shipping and handling. Or, make your own. If you do, and you're having fun with it, give us a call or an email. We'll be eager to hear about the kind of reaction it's getting at your place.

This article is taken from Out of My Mind: Reflections on Laboratory Safety, a collection of essays written by Dr. James A. Kaufman and published by the Laboratory Safety Institute, www.labsafetyinstitute.org, 2011, 130 pages, $29.95.

Feature Article

SCIENTIFIC THINKING AND INQUIRY LEARNING

Jack Holbrook

Following up on the series of articles by Colin Smith on scientific thinking and its importance when reflecting on inquiry-based science education, this article tries to reinforce the inquiry learning ideas as put forward in the PISCES project (Promoting Inquiry Skills for a Curriculum for Excellence in Science) In particular it reinforces the table given in the article in the previous newsletter and this is repeated below. The table is actually an elaboration of a table given in the November 2010 newsletter.

Level of inquiry	Problem	Material	Procedure	Answer
0	Given	Given	Given	Given
1	Given	Given	Given	Open
2 (Type A)	Given	Given, totally or partly	Open, or partly given	Open
2 (Type B)	Given	Open	Open	Open
2 (Type C)	Partially open/ given as broad parameters	Open	Partially given (e.g. through previous experience of controlling variables, analogy with other experiments or forms of investigation) but open the in sense of not being told what to do	Open
2 (Type D)	Given	Partially given by providing a range of material that includes (*as a subset*) what is required.	Open *from* pupils' perspective *(but given from teachers as a need to use materials provided)*	Open
2 (Type E)	Open	Partially open – here's what we have in this school	Open *(but what about safety?)*	Open
3	Open	Open	Open	Open

In the project, the level for inquiry were indicated by 0 - the least student involved level, 1 - a level where student involvement was small, 2 - where greater student involvement took place and 3 - for a level where student involvement was high. If we can use the term – student-constructed (student is involved in the thinking process in some way) – to indicate meaningful inquiry learning in science, then level 0 can be dismissed as inquiry learning. All is given to the student and hence the learning is almost paramount to memorization. It is not to be associated with the intended use of the term inquiry learning. Thus, in the table given level 0 is dismissed as inquiry learning. It is perhaps a good example of a 'verification' process – a manner of teaching currently not in favour in subjects like physics.

Level 1

This indicates student-constructed learning associated with providing the answers or the explanations associated wih the inquiry learning. It illustrates a typical science experimental sessionin which stnudets are given the title, given the procedures (probably in a worksheet) and then asked to find out what happened and to give an explanation. It can be very exciting, but hardly of interest if the topic chosen is not meaningful, the outcome not useful and the thinking needs to be abstact away from any relevance to the student's own life.

UNFORTUNATELY THIS IS WHAT PASSES AS INQUIRY LEARNING IN MANY SCIENCE CLASSROOMS

No wonder science is seen as irrelevant, boring and difficult by students (EC, 2007). Such an approach might be useful for inducting students into science, but it cannot be seen as the ultimate form of inquiry learning. The student-constructed leanirng is far too small. More student involvement in the thinking process is clearly needed. This leads to level 2 as a more serious contention for inquiry learning.

Level 2

From the table it is clear student-constructed involvement at level 2 has increased. But the additional involvement can be in direct components and hence level 2 has a number of variations of which the most appropriate eare labelled A – E. There is no intention that there is any hierarchy between the different variations at level 2, but all can be construed as inquiry learning.

In 2A, the student-constructed learning is not only associated wih the 'answer', but also with determine the procedure to follow (students may also be involved in specifying the materials or equipment to use – surley well withi the capability of stnudets once they are familiar wih the materials available within the school laboratory)

In 2B, students are expected to be able to construct both the materials neeed and the procedure. It differs little from 2A, but where as 2A might be the more usual in a chemistry lesson where the size of the beaker, flask or choice of chemical might be supplied by the teacher, 2B will apply where the materials selected do not vary in size or choice.

In type 2C, student selection of materials is included but the student is guided by the teacher to consider the problem to be investigated and associated with this the teaching guides the student to think about variables that may need to be controlled. Type 2C lends inself to biology teaching, but of course is inquiry learning that involves the student in better appreciating the relevance of the learning. Type 2C is surely a target experience for students before they reach the senior seopcndary school level.

Type 2D is a variation of type 2A, and maybe a useful approach in chemistry lessons where glassware choice and the potential range of chemicals to use is large.

Type 2E is agan an other variation on type 2A and makes allowance for safety issues to be stressed, risk assessment to be considered and although not indicated the degree (criteria) to which experiments may need to be repeated or accuracy to which (readings/calculated answers) are sensibly made.

From the table there should be no doubt that the ultimate target in science teaching is reach level 3. At this level, student-cnstructed learning is at it highest and the inquiry learning can be expected to attain relevance and be meaningful. Unfortunately it requires the greatest background and the greatest student conceptual participation in the lesrning at hand. It requires expertise from the student, even though carefully guided by the teacher as a facilitator and almost certainly relates to student interest.

Level 3 is about strong science learning. All students should be entitled to gain experience at level 3 inquiry learning as part of their science. But of course it is asking too much for students to operate at level 3 without having multiple experiences at level 2 and probably additional initiation to inquiry learning at level 1.

So the question is – when is inquiry learning at level 1 or level 2 or level 3 introduced in science teaching ? Surely form an interest point of view, for a scientific thinking point of view and form a relevance point of view, the answer must be – as early as possible. In fact investigations, whether involving library/internet searches, or most appropriately in science, taking place in the laboratory, can take place whenever it is judged to students can begin to construct meaning for themselves. In fact the younger the student, the more they are willing to use simple, self made equipment and delight in concrete outcomes. Such concrete aspects are part of life itself, are part of the environment, are part of meaningful experiences and dare I say, part of 'real' learning.

What does this say for learning a classification system, such as used in biology for classifying animals and plants ro in chemistry in terms of grouping elements or compounds. In short – FORGET IT. Why classify? Unless it can lead to an investigation and to exploiration what is its use. Why waste time on irrelevant topic like atomic structure or calculating the density of an ireregular shape when serious learning is being bypassed because inquiry leanirng is not to the forefront.

The table is about doing science. It is a requirement that students be allowed to be involved. Is ths a curriculum requirement – of course it is. But that is not the point for the serious teacher. The point is – it is a requirement for meaningful student learning.

And as a final footnote – WHAT DOES THIS SAY ABOUT THE SCIENCE TEXTBOOK ?

Kellow, J-M. (2010) Modified Herron Model for classifying inquiry learning. *The ICASE Newsletter, November issue (see www.icaseonline.net).*

Colin Smith, retired Biology Teacher, currently works as a Research Associate in the S-TEAM Project and is based at the University of Strathclyde. (colin.a.smith@btinternet.com)

Mini-symposium, Reading, 20-21 June 2011, UK

20-21 June 2011 (welcome reception on 19th)

Contemporary Issues in Science and Technology Education

The symposium is open to all working in the field of science and technology education, including established researchers, Masters and Doctoral students, and practising teachers in schools.

We invite papers on completed empirical research and theoretical issues in science and technology education.

In the first instance, send a 1000 word abstract in Word format to the coordinator, John Oversby (j.p.oversby@reading.ac.uk) including the frame for the research, the research questions, methodology, outline data, analysis, interpretation, implications, and selected references, for empirical papers and parallel areas for theoretical papers by December 31st 2010. Abstracts will be blind reviewed and invitations for full papers up to 12 pages sent to successful authors by January 30th 2011, to be received by March 30th 2011. We intend to seek a publisher for presented papers.

Oral papers at the symposium will have 20 minutes followed by 10 minutes discussion. If there is sufficient response, we will also accept posters for a special session.

Reading is close to Heathrow and Gatwick airports by frequent public transport, and easily accessible from budget airline Stansted and Luton airports.

IOSTE home page: www.ioste.org. Symposium home page www.IOSTE-NWE

The registration fee and other details will be available by October 2010

The International Conference on Teaching Science and Mathematics using Toys and Hands-on Activities, 4-7th July 2011, Thailand

The International Conference on Teaching Science and Mathematics using Toys and Hands-on Activities, 4-7th July 2011, Thailand

TOPICS

The conference will cover abroad range of topics on the use of toys and hands-on activities in scientific and mathematical research and teaching. The topics include, but are not limited to:

- Folk toys
- High-Tech science toys
- Using a laser beam in teaching science and mathematics
- Using a data-logger for science experiments
- Digital equipment for teaching science
- Environmental science activities
- Multimedia Learning in Science and Mathematics
- Science Exhibitions and museums
- Science Show
- Application of The Geometer's Sketchpad and Graphics Calculators

Etc.

TENTATIVE PROGRAMME

DAY 1: Monday July 4, 2011
- Registration
- Opening Ceremony
- Keynote Address
- Plenary Lecture 1
- Workshop 1: Environmental Science
- Workshop 2: Pottery and gardening
- Reception dinner

DAY 2: Tuesday July 5, 2011
- Plenary Lecture 2
- Plenary Lecture 3
- Presentation of Papers / Posters
- Concurrent workshop 3 and 4
- Exhibitions of Science Toys

DAY 3: Wednesday July 6, 2011
- Plenary Lecture 4
- Presentation of Papers / Posters
- Concurrent workshop 5 and 6
- Poster session
- Concurrent workshop 7 and 8
- Farewell Dinner

DAY 4: Thursday July 7, 2011
- Cultural Show
- Science Show
- Exhibitions of Science Toys
- General Discussion
- Closing Ceremony

PROGRAMMES

There will be keynote, plenary lectures, conference, paper presentations, poster displays and exhibitions. Details of the programme will be available from **http://www.ssruic.com**

CALL FOR PAPERS

Contributed papers highlighting news and recent development in the areas covered by the conference theme are invited.

THE CLOSING DATE

The closing date for submission of titles and abstracts (not exceed one page) is May 6th, 2011.

On request, the secretariat of the conference will send a personal invitation for participation in the conference. It should be understood that such an invitation is only meant to help participants raise travel funds or obtain visas, and is not a commitment on the part of the organizer to provide any financial support.

LANGUAGE

The language of the conference will be English.

REGISTRATION FEE

4000 Baht (Inclusive: Lunches, Refreshments, Reception and Farewell dinner, Workshop materials, Excursion and Cultural shows)

The organizer will arrange a special exhibition corner for Science Toys and Hands-on Activities from all around the world. The participants who would like to bring some folk toys or activity works from their homeland are very much welcome.

ChemEd conference New Zealand, Palmerston North, 17-20 July 2011

2011 is the International Year of Chemistry and what better way to celebrate it than to join with chemistry educators and researchers from across New Zealand and abroad. ChemEd 2011 *Celebrating the International Year of Chemistry* seeks to do exactly this, bring together chemistry educators and researchers from across sectors to share together, learn from each other and celebrate the wonders of chemistry.

The 2011 conference will be held in Palmerston North, a hub of scientific endeavour and research. Alongside important tertiary institutes such as Massey University and UCoL Palmerston North is home to a wide variety of research institutes and scientific companies, providing a perfect atmosphere of discovery and enterprise. The venue for the conference will be the modern and architecturally inspiring Universal College of Learning (UCoL) located in the heart of city centre. The facilities here will provide a perfect environment for a conference such as ChemEd2011 and allow for easy walking access to town, local accommodation, restaurants and bars.

Confirmed key notes speakers so far include Jonathan Hare (UK) and Dr. Tony Wright (Aus). Jonathan carried out his PhD working on buckminsterfullerene with Prof. Sir Harry Kroto and he is well known for his television work in series such as *Rough Science* as well as his involvement in the development of the Creative Science Centre. Tony has strong connections with Palmerston North, having worked at Massey University prior to working at the University of Queensland. Tony has had a long and passionate interest in Chemistry education and the use of information and communication technologies to support learning.

The value of chemistry educators coming together in times of continual change cannot be overstated. As changes to Level 1 NCEA take place in 2011 and further changes to Levels 2 and 3 in subsequent years it is important we join together, share our knowledge, hear from experts and provide a voice to contribute positively to the changes taking place. Not only that, it also allows to continue building links to both.

http://www.chemed2011.co.nz

Early bird registration is now open. The process is very easy and there is an option to generate a GST invoice for your school so that you don't have to front up with the money – assuming your school has agreed to fund it of course.

The Future of Science Education, 22-24 July 2011, Singapore

Blending traditional conference formats with 21st century technology, Science Singapore 2011 will be a unique meeting where the latest research and best practice in science education come together, presented by educators from around the world. There will also be multiple opportunities for social gatherings and sightseeing in this fascinating city and surrounding countries!

Features of Science Singapore 2011:
Three parallel presentation strands consisting of
Keynote speakers in science education, web-based technology, and inspiring lives;
Continuous short (20 minute) talks—two per hour with breaks,
45 minute presentations and 90 minute double sessions for interactive, practical workshops.
Session strands scheduled as one block and repeated during the conference for more attendance opportunities;
• Internet networking to promote the conference via Twitter, Facebook. Google, and Email;
• Long distance interaction with breakout groups via internet chats;
• Forums via Skype;
• Live online streaming of sessions;
• Technology mentors for participants;
• Download session videos;
• One half day devoted to “un-conference” format of posted topics, participant voting and flexible scheduling of most popular choices;
• Electronic and traditional message boards;
• “Viewing party” prospects for distance discussions in small local groups;
• Live and eight-hour delay broadcasts of sessions.
Coordinators: John Stiles, Bangkok, Science Educator and Consultant; and Rob Newberry, Singapore, Educational Technology Consultant who organized the first TEDx conference in Bangkok. Conference information: http://sites.google.com/site/scisg2011/

6th Science Centre World Congress, 4-8 September 2011, South Africa

6th SCIENCE CENTRE WORLD CONGRESS
4 - 8 SEPTEMBER 2011
CAPE TOWN, SOUTH AFRICA
Science Across Cultures

Science Across Cultures

The 6th Science Centre World Congress will be held in Cape Town, South Africa, 4-8 September 2011. Enjoy stimulating congress sessions, challenging workshops and lively debates. And enjoy all that Cape Town and South Africa have to offer - whale watching, wine tasting, a unique floral kingdom, big game safaris, beautiful beaches, unparalleled scenic beauty, and a friendly and diverse culture. With the theme "Science Across Cultures", the 6th Science Centre World Congress will encourage reconciliation between different cultures and a greater appreciation of the role that science centres can play in highlighting each culture's unique contributions to science, technology and science education.

Registration Fees and Information

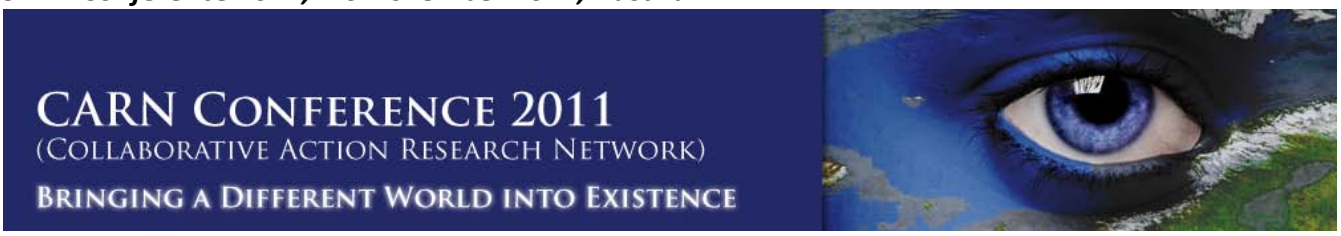
Registration for 6SCWC will be opening in September 2010.
Congress Registration Fees
Registration – Early (until 3 June 2011) ZAR 5,525.00
Registration – Standard (until 19 August 2011) ZAR 6,525.00
Registration – Late ZAR 7,525.00
*Registration - Discounted (until 3 June 2011) ZAR 4,250.00
* Residents of low-GNI (gross national income) countries are eligible for a discounted registration fee.
If you would like to make your own accommodation arrangements at a B&B, hostel or guesthouse, the 6SCWC

Congress Secretariat recommends www.capestay.co.za. Please note that the Congress Secretariat can only make bookings at the designated congress hotels and cannot be responsible for accommodation booked independently by delegates.

Rates quoted are per room, per night, including breakfast, including 14% VAT, excluding a compulsory 1% Government Tourism Levy.

More details from the website www.6scwc.org

CARN Conference 2011, 4-6 November 2011, Austria



Bringing a Different World into Existence

The Collaborative Action Research Network (CARN) was founded in 1976. Since that time it has grown to become an international network drawing its members from educational, health, social care, commercial, and public services settings. CARN aims to encourage and support action research projects (personal, local, national and international), accessible accounts of action research projects, and contributions to the theory and methodology of action research. In line with the tradition, we would like to invite academics and practitioners by welcoming a diverse range of contributions, no matter what stage the research is at (from initial ideas through to completed reports and papers). There will also be opportunities to consider methodological issues.

Keynote Speakers
Peter Posch Herbert Altrichter Ingo Eilks Katherine Froggatt

Indicative Themes
- AR for unity and diversity
- AR for coping with the challenges of a knowledge society
- AR and workplace cultures
- AR in teacher education and professional development
- AR in palliative care and in nursing homes
- AR in health promotion
- AR and community development
- AR methodology and methods
- AR and Participatory Research in fields of social work
- AR in science education, environmental education/education for sustainable development
- AR in curriculum development, school development, networking and system intervention

Indicative Dates
30th April 2011 deadline to send a proposal
20th June 2011 answer for the approval of a proposal
1st July 2011 deadline for early bird registration
Call for papers and posters end of January 2011. Participative workshops are particularly welcome.

For more information please visit: http://ius.uni-klu.ac.at/carn


SEAMEO
CoSMEd 2011
recsam
4th International
Conference on Science and Mathemathics Education
Transforming School Science and Mathematics Education
in the 21st Century
15-17 November 2011
SEAMEO RECSAM, Penang, Malaysia.
Organised by:
Southeast Asian Ministers of Education Organisation
Regional Centre for Education in Science and Mathematics
(SEAMEO RECSAM)
In collaboration with:
The Ministry of Education, Malaysia
Penang State Education Department, Malaysia
USM UNIVERSITI SAINS MALAYSIA
Universiti Sains Malaysia
Universiti Pendidikan Sultan Idris, Malaysia
important dates
Deadline for Submission of Abstracts 1 June 2011
Notification of Acceptance of Abstracts 15 June 2011
Deadline for Submission of Full Papers 1 July 2011
Notification of Acceptance of Papers 31 August 2011
Deadline for Early Bird Registration 10 September 2011
Deadline for Receipt of Full Papers in Camera-Ready Form 28 September 2011
Conference Dates 15-17 November 2011

21st Symposium on Chemistry and Science Education to be held at the TU Dortmund University, 17-19 May 2012

Issues of Heterogeneity and Cultural Diversity in Science Education and Science Education Research

The 21st Symposium on Chemistry and Science Education will continue the long tradition begun in 1981 with the first symposium on chemical education organized by Hans-Jürgen Schmidt. The 2012 symposium is titled **"Issues of Heterogeneity and Cultural Diversity in Science Education and Science Education Research"**. Heterogeneity and cultural diversity are becoming increasingly important challenges for educational systems worldwide. Growing rates of migration and higher numbers of multi-cultural societies mean that educators must achieve a broader spectrum of competencies among their young people. Science and chemistry teaching are not untouched by these developments, challenging the practices and methodologies in these areas. Answers are demanded from science education research in the areas of understanding potential problems and providing impulses towards more effective practices.

The symposium's main questions will address:

- Which science teaching problems are connected to different areas of heterogeneity in science classrooms? How can they be overcome?
- Which influences do learners' multi-cultural backgrounds have concerning the learning of science?
- What types of problems arise due to different linguistic abilities or a background including a different native language? How can we best deal with linguistic heterogeneity in science classrooms?
- How can we teach the domain-specific language of science in classes containing students with different native languages?
- How do we cope with students with special needs in science, e.g. in lab environments?
- What are the challenges in and potential innovations involved with teaching gifted children in science classes?

Which changes can examples of good teaching practices in different countries suggest for bettering science teaching with respect to issues of heterogeneity and cultural diversity?

All contributions will be presented by invited lecturers. There will be key-note lectures and short presentations. Suggestions for appropriate lectures are welcome by May 2, 2011. Please contact Dr. Silvija Markic, University of Bremen: *smarkic@uni-bremen.de*.

Conference chairs: Prof. Dr. Bernd Ralle, TU Dortmund University, *bernd.ralle@tu-dortmund.de*; Prof. Dr. Ingo Eilks, University of Bremen, *ingo.eilks@uni-bremen.de*; Dr. Silvija Markic, University of Bremen, *smarkic@uni-bremen.de*; Prof. Dr. David Di Fuccia, University of Kassel, *difuccia@uni-kassel.de*

Further information: *http://www.chemiedidaktik.uni-bremen.de/symp2012/index.html*.
A second announcement will follow in Autumn 2011.
Conference fees: None. Travel costs, accommodation and social events are the responsibility of the participants.

ICASE Executive Committee 2011-2013

The ICASE Executive Committee is persons who make decisions on behalf of the ICASE Governing Body. The ICASE Governing Body is the **ICASE member organisations**.

President
Dr. Ben Akpan
Executive Director of STAN, Nigeria
E-mail: ben.akpan@stanonline.org

Secretary
Dr. Beverley Cooper
E-mail: bcooper@waikato.ac.nz

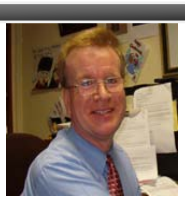
Past President
Dr. Jack Holbrook
Professor, Centre for Science Education
University of Tartu, Estonia
E-mail: jack@ut.ee

Treasurer
Peter Russo
E-mail: ceo@asta.edu.au

President Elect
Dr. Teresa J. Kennedy
Professor, University of Texas at Tyler
E-mail: tkennedy@uttyler.edu

Regional Representatives

Regional Representative for Africa
Mamman Wasugu
E-mail: mammanwasagu@yahoo.ca



Regional Representative for Europe
Dr Declan Kennedy
E-mail: d.kennedy@ucc.ie

Regional Representative for Asia
Azian Abdullah
E-mail: azian@recsam.edu.my

Regional Representative for Latin America
Christiane Gioppo
E-mail: cgioppo@yahoo.com

Regional Representative for Australia/Pacific
(to be determined)

Regional Representative for North America
Michael Padilla
E-mail: padilla@clemson.edu

ICASE Executive Committee 2011-2013

Chairs of Standing Committees

Safety in Science Education
James Kaufman
E-mail: jim@labsafetyinstitute.org

World Conferences & Environmental Education/Sustainable Development
Elaine Horne
E-mail grovesr@ozemail.com.au

Pre-secondary and Informal Science Education
(to be determined)

Publications & Website
Bulent Cavas
E-mail: bulentcavas@gmail.com

For more information about ICASE Executive Committee, you can visit ICASE Web www.icaseonline.net