

Joint IBRO/IUPS Workshop: Enhancing neuroscience teaching in integrated contexts

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Introduction

One of the challenges facing teachers of Neuroscience in modern curricula is the need to contribute to integrated learning across disciplines. The emphasis has changed from valuing memorisation of complex material to concerns about understanding, application of knowledge and problem-solving. The focus has shifted from the teacher's role in the classroom, to that of the students and their experiences. New active engagement by students, problem-based activities, collaborative learning and integration across subject areas are examples of modern trends. In addition, the links between aims and goals, the learning processes, assessment and evaluation are recognised to need a close alignment for consistency.

In an interactive workshop, some of these issues were explored using examples and case studies from Neuroscience. The roles and activities in the four-yearly IUPS workshops were presented and discussed.



Charles Bridge, Prague

Abstract for discussion at workshop

Modern curricula in the health sciences are increasingly moving to integrated formats. It becomes a challenge for staff, particularly if they are narrowly trained within the discipline, to see how to fit their teaching into the new formats. In addition, with advances in modern cellular and molecular understanding, basic academic science programs are being designed in ways to encourage thinking across disciplines, rather than being constrained by traditional subject boundaries. New programs are often case-, issues- or problem-based, involving a range of

discipline areas and sets of knowledge. Teacher-centred approaches are yielding to more active student-centred learning, raising questions from many of “adequate coverage”.

Report of discussion at the meeting

Common issues for neuroscience staff include

- supporting students in understanding complex material that is drawn from various discipline areas
- ensuring the inclusion of what is agreed to be essential content
- simple strategies for mapping a curriculum
- designing a sequence that optimises learning in neuroscience
- effectively engaging students with important ideas by using issues, problems or cases
- developing the specific and generic skills appropriate for the students’ stage of development and consistent with the overall goals of the program
- working effectively with staff from different disciplines and backgrounds.

In the workshop, we explored some of the issues by using some case studies of neuroscience teaching taken from a range of programs – eg. medicine, dentistry, science. Participants had been invited to bring along real experiences to contribute to the discussion of the examples that were provided. Specific issues were available for exploration in groups and in plenary session. The different viewpoints, backgrounds and experiences of the participants (from neuroscience and physiology) were designed to enrich the workshop.

Specific interrelated issues and topics available to meet the specific needs of different participants included:

- developing appropriate statements of goals/outcomes for neurosciences within integrated curriculum frameworks (eg. problem-based learning)
- matching subject-specific goals (content and process) to overall integrated expectations
- effective strategies for working in multi-disciplinary teams to develop learning problems or issues
- matching learning experiences to realistic outcomes in neuroscience (including neurophysiology), by ensuring consistency between curriculum elements: goals, delivery, content, assessment.

On-line neuroscience resources

IBRO-Edu is the educational committee of IBRO; there is some shared interest between IBRO and IUPS in teaching neurophysiology. Some teaching resources are being developed on the IBRO website (<http://www.ibro.org>).