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INDUSTRIAL TECHNOLOGY AND DESIGN TEACHERS ASSOCIATION INC

NEWSLETTER

Professional Development Enterprise

Welcome to the inaugural edition of INTAD – PD. This newsletter is an automated e-mail service available to all financial and on line members of INTAD (Industrial Technology and Design Teachers Association Queensland Inc.)

This newsletter is produced through the goodwill of the professional association and its members. The content remains the intellectual property of the contributor/s and can be used or modified with their consent. Such consent is sought via the editor.

The purpose is to encourage professional growth and development for teachers through on- line networking and regular monthly workshop/ meetings conducted by the Association. These workshop/ meetings occur on the second Thursday of each month, 4.30 p.m. at the Brisbane Community Greek Club, West End as advised. Members are most welcome to stay on for the Executive Meeting that follows at 6 p.m.

The goal of this enterprise is to provide relevant and responsive examples of curriculum practice and innovative teaching methods, that first and foremost are designed to improve learning outcomes for students in our care. Secondly, to promote the Professional Association and its capacity to deliver core, essential and other learning outcomes in a variety of contexts and organisational settings.

Next Month

The INTAD Teachers Association State Conference was held in July this year. Conference delegates were asked to submit an evaluation which included their thought on the future focus of Conference content and professional development. A significant percentage of respondents indicated that there be a focus on the new Technology Syllabus, Junior work programs/ unit of work writing or presenting design briefs. At next months PD meeting Kathryn Holzheimer, Project Officer – Subject Area Syllabuses from the QSCC (Queensland School Curriculum Council), will be in attendance and be able to provide an update on curriculum developments. An interim report is contained in this newsletter.

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AGM Notice:

- *The Annual General Meeting of INTAD will take place on Thursday 25 October 2001 at The Greek Club and Convention Centre, Edmondstone Street South Brisbane from 6.00pm. Finger food is provided courtesy of the Management Committee for 2001. Nominations for election/re-election are required either in person or by proxy. Executive Officer positions include that of President, Vice-President, Secretary and Treasurer. Current ordinary membership includes Registrar, Journal Editor, Newsletter Editor, Website Manager, Branch Co-Ordinator, ACET Representative, PD & Training, Publicity, QSCC SAC Representative. See you there.*

Technology SAC report

The Queensland School Curriculum Council met, 19 July 2001. At that meeting the following decision was made:

- To endorse the Years 1 to 10 Technology Syllabus in principle; and
- Forward the current draft and any comments from Council members to a joint meeting of the Syllabus Advisory Committee and the External Evaluator for advice; and
- Subject to advice provided by this group, the syllabus be approved for publication by the Executive Committee of the Council by flying minute or at the latest at the 8 August 2001 meeting.

The purpose of this resolution was for the Council to have confirmation that the advice of trial and pilot teachers was reflected in the final draft, and that the SAC had the opportunity to confirm its support for the final draft.

The Syllabus Advisory Committee met, 27 July 2001 and did confirm its support for the final draft. It was predicted that the final draft will be approved for publication at the 8 August 2001 meeting of Council and an editorial process will then ensue. There will be no general distribution of materials until Semester Two 2002. However, it may interest the Executive Committee of INTAD and its general membership to know:

- Support materials under development for the Technology KLA include an on line Technology Work Unit Planning Wizard, CD ROM and print material.
- External Evaluation will also be a requirement for Subject Syllabuses, but is not likely until sometime next year after there is further review and development. The outcome of this review and development will include a third and final draft of the Subject Syllabus being produced.
- One project officer from the QSCC has been appointed to liase with school authorities and our Professional Association on such matters with a view to establishing strategic partnerships for implementation;
- That there is no formal trial/ pilot planned for subject syllabi as there was with KLA Syllabi.

Writing Stimuli and Design Tasks

An interesting development is documented in Education Queensland Years 1-10 Curriculum Framework for Education Queensland Schools – Policy and Guidelines. That is the parameter that "Years 1-10 syllabus for Technology from Foundation Level to at least Level 6, with the proviso that, in Years 8-10, programs may be based on the Technology Practice strand and **one** other strand. This same parameter applies to the Industrial Technology and Design Syllabus, but within each of the Strands of the Subject Area. Put simply, we must deliver learning's through a technology based approach, that is, Investigate, Ideate, Produce and Evaluate. Other outcomes provide the context for learning, the use of which is limited only by our imagination and of course external constraints. A unit sample is provided in this newsletter and others will follow. Emphasis must be placed however, on the writing of stimuli and design tasks. How they are written and presented will determine the scope of student's learning. Work programs will become crucial in providing the rationale for such leaning based upon clientele and local school/ community needs. There are several approaches which can be taken and these too, need to be carefully considered in implementation plans. Strategic partnerships are needed between schools, schooling authorities curriculum planners and councils. Refer Professional Exchange page 4 of this newsletter.

> "we must deliver learning's through a technology based approach"

Spinning Toys

To catch or create a craze, spinning toys are fun and an easy way to get kids excited. From very simple models e.g. Year 8 to more sophisticated 9&10, an ideal medium to introduce materials, systems and/ or information or other concepts e.g. mathematics or scientific principles. All through technology practice.

Spinning Top

Diabolo

Yo Yo

Unit Outline Sample

THE TASK: Working individually and in groups, research a design requirement. Investigate the circumstances of that requirement and explore opportunities for a possible solution.	**STIMULUS:** It is here again. The bi-annual Spinning Top Competition. The rules are simple, whosever top spins for the longest time, wins. Judges spin and decision is final. Using available resources, can you design a spinning top that will go the distance? Good luck!
PI4 Students consult with potential users and others with specialised knowledge to identify design requirements that address needs, wants or opportunities.	Teacher Input/Guided Practice: –Students design a title page/ poster advertisement for the competition; dates, prizes, rules etc as announced …
	Independent Practice: *[Proposed outcomes, Graphical communication, Level 4 (Year 8) GC]* *4.7 Students deconstruct and reconstruct images and objects to manipulate meaning through explorations of elements and additional concepts.* *4.4 Students recognise that information can be designed for different purposes and manipulated to communicate with different audiences.* *4.5 Students decide on the most appropriate techniques and equipment to generate, organise, manage, transform and transmit information with consideration of the needs of a particular audience or*
PD4 Students conceptualise a range of ideas that reflect some consultation with others, and communicate ideas, using production plans that show appropriate views, scales and measurements.	Teacher Input/Guided Practice: –Students form groups and using a variety of materials (between groups) make spinning top models –Students test the reliability, efficiency and performance of each model and make a table to record results (using terms and definitions found)
	Independent Practice: *[Proposed outcomes, Systems and Control, level 4 (Year 8) IS&C]* *4.4 Students compare characteristics of various common and specific materials to match characteristics to their design requirements*
PP4 Students modify through collaborative negotiation their production plans to efficiently produce and refine a product that closely reflect their original needs and wants.	Teacher Input/Guided Practice: –Students record their progress in a journal (setting out as directed by their teacher, that is, tools and techniques (including safety, materials and handling)
	Independent Practice: *[Proposed outcomes, Systems and Control, Level 4 (Year 8) IS&C]* *4.5 Students select and use a range of techniques to manipulate materials to meet proposed requirements and consider the implications and impacts of using these techniques.*
PE4 Students evaluate how design ideas, production plans and products have met original needs and wants and how they could be modified to meet the needs of others.	Teacher Input/Guided Practice: –Students use CAD to prepare a scaled 2D/3D drawing of a spinning top solution/entry –Students use orthogonal/pictorial techniques presented on A4 –Students indicate basic dimensions such as length and mass
	Independent Practice: *[Proposed outcomes, Graphical communication, Level 4 (Year 8) GC]* *4.1 Students organise space using pre-determined strategies when communicating solutions using accepted techniques to construct and present solutions* *4.2 Students use accepted construction and presentation techniques to present their solutions to design challenges* *4.3 Math measurement – Length, Mass*

Student Work

Student centered learning

Designing

Making

Appraising

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Professional Exchange...get with the program

The most significant paradigm shift for Manual Arts/ Graphics teachers is the focus on Technology Practice. Technology Practice can be compared with traditional design based approaches but with a far greater level of sophistication and State standardisation. This has significant implications for traditional subject areas such as ShopA, ShopB and Graphics that now fall under the one umbrella of technology. The Unit Outline Sample presented in this newsletter, demonstrates a combined approach however, under current guidelines, many scenarios are possible such as:

- *A cross curricula model for Technology core and essential learning's + elective subject/s based upon one or more of the Strands of the subject area, that is, Graphic Communication, Product Design and Manufacture, Industrial Systems and Control.*
- *A cross curricula model for Technology core and essential learning's and specific subjects (syllabi) are not offered.*
- *Technology core and essential learning's delivered through a particular subject/s or narrow range of context and or organisational setting.*
- *Technology core and essential learning's delivered through elective subjects (where every student must choose one or more Technology subjects) in which case, significant curriculum mapping is necessary.*

A schools approach will be determined by a variety of factors but is invariable shaped by school culture. Understanding this, our community and clientele is critical in developing relevant and responsive programs. Schools have become more than ever, mini businesses that are market driven. We need to develop synergies with that market and use this to full advantage. What is happening in your school? Let your Professional Association know so we can plan professional development and support.

Professional Development Report

Pro/DESKTOP is a sophisticated 3D Modelling software package with features normally only found in high-end industrial design software. Through its agreement with Parametric Technology Corporation INTAD has recently developed and had approved a training policy for the distribution of this software.

Following completion of the training requirements teachers will receive a free software license for Pro/DESKTOP which will allow them to install and use the program on their school computers and allow their students to have free copies for home use.

In August 27 teachers from 17 schools attended the first INTAD sponsored training for Pro/DESKTOP software, hosted by INTAD treasurer Ian Uhr, at The Gap State High School. Response to the training was enthusiastic with teachers producing high quality 3D models in a very short period. A second training session in now underway.

INTAD Executive has also approved a policy of support for training outside of Brisbane. Interested groups of teachers should contact the President for details.

Ivan Chester conducting a training session at The Gap SHS in Brisbane