Curriculum Corporation Task Centre News
1st October 1998

New Products

As I am writing these newsletter notes I am putting the finishing touches on the Teachers' Manual for *Estimating Fractions: Computer Challenges*. (Mothers and teachers are renown for their capacity to do two things at once.) While this is not a hands-on task, it is software which works extremely well in partnership with fraction tasks in your kit. It is part of the family which began with Task Centre Computer Lessons Disk 1.

Estimating Fractions: Computer Challenges is an easy to use suite of nine related programs available in Windows or Macintosh which help students construct their understanding of fractions. The students first choose the fractions *they* want to deal with, then the computer offers a random selection of estimation challenges using a variety of wholes. Sometimes the fraction has to be drawn on screen; sometimes the drawing is given and the fraction has to estimated; sometimes the denominator has to be estimated to match a given drawing, sometimes it is the numerator. The software also moves seamlessly between vulgar, decimal and percentage forms of fractions, encouraging students to extend their understanding of the links between these forms. The software is supplied with a campus licence.

Developed by the Maths? No Fear! project in Northern Territory and well trialled in schools. The final form of the material has been published by The Task Centre Collective and will be exclusively distributed by Curriculum Corporation. The price is $125 (AUD).

The kit will stand alone, but also provides staff with an opportunity to create their own Mixed Media model around the fractions topic by integrating the software with hands-on tasks, class lessons and worksheet or text material.

Also watch out for *Task Centre Computer Lessons Disk 2*, which will be available by the end of December. The theme of this Disk is Number tasks. The theme of Disk 1 was Chance & Data.

Sphinx

In the previous newsletter I described a lesson at Jerudong International School which was based on Sphinx, Task 166 from the CC kit. Since then it is hard to believe how knowledge about this task has grown. Charles and I have made use of it in several places including several conferences and Andy Martin's school at Thorne in Doncaster, England. Andy has been a contributor to this newsletter.

This simple jigsaw puzzle has grown into a task which can suit Year 4 through to University. I claim Year 4 because the description in the previous newsletter was for a lesson at that level. I claim University because David Shield from La Trobe, Bendigo is currently trying to prove the number of solutions that exist for different size Sphinxes.

The story (I suspect the, as yet, unfinished story) of the Sphinx can be found on my web site at:
http://www.blackdouglas.com.au
Just follow the projects link to Sphinx. Here you will find:

- the task
- a file which allows you to print multiple copies of the shape
- puzzles growing on puzzles
- two extensive lesson sets, including photographs from Thorne, which provide many lessons on area, perimeter, algebra and visual representation.

It's all public access. You can copy, produce and print as you like with appropriate acknowledgment.

Task Centres Around The World - USA
A new Task Centre Network clustered around schools in New England began in July. Charles Lovitt and Michael Ymer spent a week introducing teachers to the potential of teaching with tasks. The schools have an on-going grant for maintaining the network which includes email links serviced through the local university. Several of the teachers had visited Australia only a week or so earlier to participate in a 'summer' course organised by the Australian Catholic University (ACU), Oakleigh. This course included visits to several task centre schools. ACU expects to repeat this course in 1999.

In October, Charles will be delivering a task centre session at a major conference in Louisville, Kentucky. So interest is building in the USA.

Task Centres Around The World - UK
As you could guess from the above, I visited Andy Martin's school again this year. The long term integration of task centres into this British school's curriculum continues with enthusiasm. Staff knowledge about their tasks is growing and, most importantly, is being recorded in course documents. A new teacher to the school not only finds the tasks written in for use with particular topics at particular year levels, but is provided with notes about *how* this can be done.

Andy is also writing a book which focuses on using tasks to open and expand student thinking at secondary school. It is rich with examples from his school. Here is an excerpt from the draft which is based on Number Tiles, Task 43 from the CC kit. This involves using 9 tiles from 1 - 9 to make two three digit numbers which add to a third three digit number. That is the tiles make a 'sum' of the form:

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  abc
+def
 ghi
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After investigation:

> "... a Y9 girl commented to me that all the figures in the answer always added to 18. This was further investigated by her peers who concluded that this gave 42 possibilities:
>
> 981, 972, 963, 954 ... 198, 189
>
> So there are 42 'possible' answers. Can they all be made? Can some answers be made in more that one way?
>
> Time now for active group work. A class of 30 pupils can be split into groups of 2, 3 or 4 and each group allocated a list of 'possible' answers. With three tiles positioned in the answer space pupils now only need to work with six tiles. Each group records its findings on A3 paper and displays them on the wall at the end of the next session of working. How many solutions are there?
>
> The last Y7 mixed ability class I tried this with generated 140 solutions in a one hour lesson. the work continued in the next lesson because one pupil spotted that some totals had no answer (189), most had four and some could be made eight different ways ...
>
> The task has also been attempted by the staff in the mathematics department. I have collated their findings into a handbook so that experiences, and more importantly teaching approaches, can be shared. As the sample in Figures 3 and 4 show, pupils often discovered items missed by the staff! ..." (Figures 3 & 4 not included in this newsletter)

Andy's book looks like it will be a true gem. I will let you know how to obtain it when it is published. *Task Centre Computer Lessons Disk 2* will include a program to investigate this task. I wonder what Andy will do with that.

Task Centres Around The World - Sweden
Per Berggren and Maria Lindroth who recently visited Australia from their school in Stockholm have also published a book with a clear link to Task Centres - well it is clear if you can read Swedish! *Kul Matematik För Alla* (Fun Mathematics For All) is a handy stimulus book for Swedish teachers

exploring the use of open ended problem solving in secondary schools. Pages 50 - 56 in particular direct attention to Problem Solving Task Centres and, in particular, the CC tasks *Tower Of Hanoi* and *Eric The Sheep*, tasks 142 & 45 respectively. (Forgive me for not including an excerpt here.)

Per and Maria visited a number of our schools to exchange information when they were here, but Per had an ulterior motive. He had become hooked on Task 3, *Doug's Tablecloth*, and wanted to try it with the actual tablecloth and actual drawer which generated the problem in the first place. Result? well if you check the photo gallery on my web site you can see for yourself!

These two great teachers returned to Sweden with a swag of ideas to continue to play their part in developing the Swedish arm of the Task Centre Network. We will be graced with a visit from two more Swedish teachers in October. It is both humbling and exciting to realise that the initiative and development of Australian Problem Solving Task Centre teachers has generated so much good learning for students in so many parts of the world, which in its turn, is now feeding back into our own classrooms. Keep up the good work.

Doug Williams
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