Report by Ed Kilgore on the work undertaken for a bursary awarded by the General Teaching Council Northern Ireland (GCTNI).

A study into the use of Peripheral Interface Controllers (PICs) in the area of Electronics.

The area of Peripheral Interface Controllers is now playing a major role in the teaching of electronics at GCSE. Teachers working in this area have to spend a lot of their own time trying to keep up with the latest changes and developments. This bursary gave me the opportunity to spend quality time on this topic.

As a teacher in a single teacher department I have been working in isolation trying to develop my skills and techniques using these devices. By attending courses and mixing with other professionals I have been able to review and appraise my approach and change it in the light of what was seen to be good practice. Examples of project work being carried out at GCSE Examination level have been inspected to give an insight to what is expected by the Examination Boards. This knowledge will enable me to re jig the lesson plans and units of work I am using in this area.

This study has enabled me to develop my knowledge of the finer points of the programming language used and this will give me the confidence to encourage my pupils to a much higher level in this area. From the work undertaken project ideas previously not considered will now be worked into units of work and the hope will be that this will act as a springboard to get the pupils to attempt projects of a more complex nature with confidence. The area of Peripheral Interface Controllers should become part of the normal design consideration rather than as now an area to be avoided.

Before undertaking this study I was aware of my short comings and the areas I was unsure of. I now feel confident with the packages available and have found methods of use I did not know existed. Two of the courses I attended had a practical basis and this has developed the whole area in a project based way.

At present I have been in contact with other teachers to set up meetings to develop units of work in the areas of Technology and the key stage three ICT Accreditation Scheme. This work will continue during the incoming year with us getting together during directed time and in our own time to further develop this work.

This study allowed me to attend three courses based on the PIC. One a purely theoretical course the others based on good sound classroom practice. These started with the development of a project, manufacture of printed circuit boards, the populating of the board and finally writing the program to complete and test the project. This approach allowed me to follow the path a pupil would follow and let me see how to break down the work and build up units of work to encourage progression on the pupils path to taking ownership of their own learning.

I am looking into the possibility of running a course with an external trainer in my own school if I can find a funding source. This would be open to up to twelve teachers from neighbouring schools at a cost to meet expenses. This area will become much more important in the electronics teaching area and is open for development.

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