

Record Keeping and Assessment of ICT Activities

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The introduction of Information and Communications Technology and computer equipment in Primary Schools aims to make use of the technology to teach the rest of the curriculum in an efficient way; to present content in an entertaining way; to offer children better opportunities for self expression; to familiarise children with a tool which is constantly imposing itself as a major part of their everyday life. Hardware has been introduced in the classrooms. Software has been selected to cover most of the curriculum areas and the development of ICT skills. As we all know, implementation of the project is now in its third year.

not easily measurable and is definitely not subject to comparison. And yet these are the activities which mostly serve to develop the individual personality of the child. At least monitoring and keeping track of, if not measuring, these developments is indispensable for the teacher in order to have a clear snapshot of the individual child's continuous development of skills, character and personality.

Fortunately, most of the software available in schools is equipped for one or more of these functions: measuring, monitoring and recording progress. Sometimes these functions are very much apparent in the overall design of the package, and work almost independently of the user. Sometimes they are hidden away and might not appear that obvious even to the teacher. In any case it is the teacher's job to make the best of them.

Some of the most common methods of record keeping are the point (or score) system, certificates and/or record forms, tokens and level indicators. The option of printing these out on hard copy is usually available, albeit to varying extents, depending on the package. Some packages may rely on just one of these methods. Others may offer a combination. Since it would be practical

for the teacher to make use of these features, it is very pertinent to ask to what extent are they efficient for the teacher's needs.

Score Systems

If a software has a score system to keep track of the user's progress, a number of points

Fig. 1: Maths Workshop provides record forms, levels and ranks to record users' progress.



One of the many challenges this change is providing the classroom teacher is that of finding a way of monitoring children's progress in their relationship with ICT and the degree of positive effect the technology is providing over the teaching of the curriculum beyond the traditional methods.

Most of the software currently available in state schools is drill-and-practice in nature (say, the activities in Math Rabbit). These are like traditional tests and exercises, to the extent that they even provide a method of setting clear-cut targets and measuring progress by means of scores or marks. Comparison between individuals' achievements, whether in a positive or a negative manner, comes quite natural.

In other packages, though, as in the case of Kid Pix Studio, activities provided are very open-ended, and do not offer clear-cut boundaries in the acquisition of specific skills. These are creative activities. What the children learn through them is



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Fig. 2: The Prize centre in Math Rabbit.



continued overleaf

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must be considered before one decides to rely on it.

Does the system offer the opportunity to keep multiple scores? In a classroom environment, it is simply vital to keep multiple records. Maths Workshop and Mighty Maths Carnival Countdown, for instance, enable you to enter the names of different users. Once the software is run, the user is asked to log in to one of the names already in the list or add the name of a new user.

In this way the software will keep individual records. Of course if this is to be totally relied on, it is important for the teacher to make sure that each and every pupil is correctly logged in to his or her name. There is usually no way of editing the scores other than having to erase a user altogether and start afresh. It may take some time to teach the system to the kids, especially in Year 1, but once they grasp the concept, they will be able to log in properly by themselves.

One possibility the teacher may consider here is logging in groups or pairs of children under one name, especially since group work is essential where classroom computers are concerned. This may help in promoting team work, and each individual may feel more part of a team when login names such as The Green Team or Kate and Omar appear on the screen.

Is the score system general or skill-based? Some software may keep a global score for all the activities covered by a user. This would be somewhat superficial for classroom use. A more detailed score system, covering the various skills independently like the one in the Bowling for Numbers activity in Maths Workshop, would be more indicative of children’s progress. Unfortunately this system is not common to all drill-and-practice software packages currently in use in schools.

Certificates and Record Forms

Maths Workshop also makes use of certificates in the Bowling for Numbers activity. Certificates are a step closer to giving children concrete awards for their achievement. Raw scores may be meaningless, especially among the younger children. A certificate, prominently displaying one’s name on the classroom walls may be somewhat more satisfying. Multimedia Flashcards: Learn English, currently in use in Year 2 classrooms, follows this principle as well. Progress is graded; there are three levels for the child to master, and different certificates for each. Monitoring the child’s progress through these levels is therefore helpful to the teacher.

Certificates are usually the printable versions of on-screen record forms, which may be accessed on command by the user or may appear when a particular level is covered.

Tokens and Level Indicators

Math Rabbit, currently used in Year 1, has a unique way of recording a particular user’s progress. Scores accumulated from the various activities can be exchanged for a prize in the Prize Centre. This has a number of advantages and disadvantages. On the negative side, as mentioned earlier, it can only give a global idea of the child’s general progress, and does in no way account for the varying degrees of development in the different maths skills.

On a positive note, the scheme provides a more concrete award system for the child, who, in the process, gains a sense of purpose when actually working on the activities. There are different prizes in the Prize Centre and they can be exchanged for different numbers of scores. A child may opt to choose one ‘expensive’ prize or two prizes costing less tokens. Of course, since the user is logged in under a particular name, the prize list is kept on record for the next session.

Unfortunately, there is no way of keeping a hard copy of the prize list; a printout of the prizes would have been a further incentive for the children’s motivation. The same problem lies with the level indication system adopted by Mighty Maths Carnival Countdown, which

Student Information in Maths Workshop

Pupil names can be entered into Maths Workshop and their progress recorded. Since Maths Workshop is one of those programs which is used by more than one Year group, it would be a good idea to transfer the record files from one class to the next, so that the pupils’ progress is continued from one year to the next. There is no direct feature in the program to enable this, but if you are well acquainted with Windows Explorer, the file management program, it should be very easy to do.

- Insert the Maths Workshop CD-ROM and a blank floppy disk.
- Run Windows Explorer, and double click on the Wkshpmpe directory. One of the files included here is called mwroster. This is the file which contains all the students’ information and progress records accumulated throughout the scholastic year.
- Click once on the file name to highlight it, and then from the Edit menu select Copy.
- Double click on the Floppy icon to open the floppy disk.
- From the edit menu, select Paste. The file mwroster is now on the floppy. To transfer it to another computer, simply copy it back to the Wkshpmpe directory on the other computer.
- Once this is done, you will need to erase all the old information from your own mwroster file in order to be able to register new students.
- While still in Windows Explorer, find the old mwroster in your C:\Wkshpmpe directory. Click once to highlight it, and from Edit select Delete.
- Now, repeat the Maths Workshop installation procedure from the CD-ROM. From start select Run, Browse and Install. During installation, you will be asked whether you would like to over-ride any existing files. Click on the Replace ALL duplicate files button. If you run Maths Workshop after installation, you will note that there are no student names in the Sign-Up List.



has a very comprehensive list of skills covered in all the activities included. Clicking on the level selector on the left bottom screen of every activity will display the Level Gauge for that activity. Actually each activity covers a number of skills, coded from A to Z. The gauge indicates the level attained by the user so far. This, however, is not reliable. The gauge can be used as a level selector. If the levels and skills are selected at random, the gauge will not give a true representation of the user's progress.

Beyond the Software

Although there are a number of ways for keeping record of user's progress built into the software, it is clear from the above discussion that not all schemes are reliable in the same degree. There is then the problem of that software which has no record keeping facility at all. It is therefore up to the teacher to study carefully whatever there is available and decide what is best for the classroom needs.

Print Shop Ensemble III may help in the creation of customised certificates in the style of those produced with Maths Workshop or Multimedia Flashcards. However, one of the best way of keeping track of what is going on when the children are at the computers is to make one's own checklist, and stick

to it. Custom checklists may be devised to cover all the software packages, for instance, thus establishing a particular standard of record keeping for the whole class. The teacher may however feel that particular software may require different checklists from other packages. Again, this will be dictated by the particular classroom needs at hand.

Reader Rabbit 1, for instance, includes a number of vocabulary lists in combination with various levels, across the different activities available. The teacher may feel that some of these vocabulary lists, or the levels, are not relevant to his or her particular classroom needs. Since there is no way in Reader Rabbit 1 to display user's progress across the levels and coverage of all vocabulary lists, the teacher will definitely have to create a customised checklist.

The Portfolio: New Approaches Towards Assessment

All the above may be fine where drill-and-practice software and particular language and mathematics skills are concerned. But such record-keeping facilities are of little use where creative software is concerned. With creative software such as Kid Pix Studio and Print Shop Ensemble III, the children's actual activity should be the record in itself.

Collins (as cited in Roblyer et. al., 1997) argues that among a number of developing trends in computer-equipped classrooms, there is a notable shift from test-based assessment to that based on products, progress and effort. Whereas record-keeping facilities like the ones described above may contribute to an indication of progress, product and effort must somehow be assessed in other ways.

Portfolios should be considered as a way of assessing an individual's progress, especially now that the computer in the classroom can offer various means and media of communication. Files containing children's work may include not just printouts of drill-and-practice certificates or progress reports, but also the children's own creations with productivity software. In addition, files should not be limited only to the printed form. Floppy disks may include text, graphic and sound files. The degree of performance, in this way, would therefore be more indicative of a child's overall development.

References

- Collins, A. (1991). The role of computer technology in restructuring schools. *Phi Delta Kappan*, 73, as cited in Roblyer, M.D., Edwards, J. and Havriluk M.A. (1997) *Integrating Educational Technology into Teaching*, Merrill, Prentice Hall, p.41.

Notes for Contributors

Education 2000 is a magazine, published twice yearly (March/April and November/December periods), distributed free to all teachers, school administrators, student teachers and other educational practitioners who are interested in the study and development of the various areas of the school curriculum, teachers' professional development and school management. Its main objective is to facilitate the dissemination of research findings, effective practice and teaching and learning ideas. Each edition will have contributions related to education in the primary, secondary, post-secondary and tertiary sectors. We welcome the following kinds of contributions:

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- all illustrative material in a separate envelope, but with the name of the author and contribution noted on it.

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