Some Teachers’ Perceptions of Educational Bulletin Board Systems

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Abstract

The move by the Victorian Ministry of Education to devolve curriculum development to schools has led to an increased awareness of the need for effective information exchange between teachers, regional centres and central providers of services. Computer bulletin board systems have the potential to fulfill a major function in this information exchange.

This paper summarizes the major findings of a recently completed investigation of a sample of the Victorian teacher-user community’s current perceptions of bulletin board systems, and suggests directions for the future.

The study indicates some quite profound difficulties with teachers using bulletin boards, the most immediate ones include access to computer facilities, finding time to make use of computer bulletin board systems, the unsatisfactory nature of the information which is available on the systems, and the hardware and software of the bulletin board system itself. It is concluded that the major use of the systems is not as an information dissemination tool, but as a means to learn about bulletin board technology and how it may be incorporated in the working life of teachers.

The paper concludes by making some suggestions for development of bulletin board systems in educational environments.
Introduction

In recent years there have been marked changes to curriculum and curriculum development in Victoria (as detailed by the State Board of Education, 1987). In particular, curriculum policy is now the responsibility of school councils, and the implementation of these policies the responsibility of the principal and teaching staff of schools. Developments in schools are seen as a cooperative venture between the school, the regional office and the centrally organized services of the Ministry of Education (the Ministry).

Computer bulletin board systems (BBSs) are a means of information exchange which have, at least in theory, the potential to support some - if not all - of the interactions between schools, functions of the Ministry and non-school based groups. The BBSs currently operating allow teachers to obtain and share curriculum materials (including course outlines, work units and curriculum development materials) though this research indicates that teacher use of them rarely utilizes this function effectively, let alone suggesting that BBSs are a major communication tool for teachers.

BBSs are not a new, or scarce, phenomenon. Bullough & Beatty (1987, p. 186), for instance, report that over 1500 systems are available for home and school use in the United States, and Tuovinen (1988, pp. 8-10) gives examples of Australian educational bulletin boards. Literature on the subject of bulletin boards from the user's perspective is by no means prolific, technical descriptions and references to appropriate sources can be found within the work on which this paper is based, Chandler (1989), and also Tuovinen (1988).

Research was conducted in order to gain some insight into the Victorian user community’s current perceptions of bulletin boards, with respect to the hypothesis that classroom teachers in post-primary schools who use BBSs find them useful, and what potential is seen by users of these systems. Directions for the future which follow from
this are also suggested. This paper is a summary of the research findings, and this presentation does not do complete justice to the nuances of meaning and variety of interpretation which were found by discussing and comparing teachers ideas on this topic.

An interview and questionnaire was developed, and using BBSs' user lists a sample of 17 teachers who were, as it happened, all male and from government schools, was used in the collection of data.

The findings

The following points summarize the main findings of the study.

1. The respondents had teaching experience in mathematics, science or computing and tended to hold administrative positions. They are generally competent computer users.

2. The information available on educational BBSs tends to cater for teachers of these subject areas.

3. The average length of time since any of those interviewed had first used an BBS was approximately 2 years.

4. Large quantities of suitable information is not available on educational BBSs. A wide selection of information needs to be made available on educational BBSs for them to be patronized to any serious extent, because of the diversity of the user community. Such information would include classroom materials (particular that of complex or graphic design), curriculum guidelines, documents from the Ministry or VCAB, advertisements, textbooks, computer software, software reviews and examples of program budgeting.
5. There is serious doubt as to whether educational BBS hardware and software is capable of supporting high volume access to sufficient quantities of information.

6. An important characteristic of educational BBSs is their *dynamism*, which reflects the frequency of use by a wide user-community, and the quality and up-to-date nature of the information contained on the system. Lack of dynamism with the systems investigated is a major issue. This is not a feature suggested by the literature review.

7. Lack of time at school is a major inhibitor to using educational BBS, and effects the changes required in a teacher's professional life and in curriculum development. Because of this, it is unrealistic to expect that classroom teachers can be the major contributors to educational BBSs, at least while the majority of their materials are not produced on word-processors.

8. Lack of access to suitable equipment is a second major inhibitor to teachers use of educational BBSs, as would be telephone costs for time-charged calls.

9. The lack of computing literacy of teachers, suitable to operate a BBS, is a major obstacle which must be overcome if educational BBSs are to be widely used in schools.

10. The low user-friendliness of the BBS software, the complexity of the operations required to establish a connection with an educational BBS and the lack of system documentation and guides are other major problems.

11. If they were fully operational, educational BBSs would reduce teacher time, cost and travel, reduce redundancy in materials developed and provide increased inservicing, collaboration and consultancy for teachers. Teachers have become involved with
investigating educational BBSs in the hope that these goals are presently realized, or will be in the near future.

12. The principal use of educational BBSs at the present time is that of investigation of a BBS, motivated by curiosity. It is only in this respect that educational BBSs are being found to be useful. No respondent has regularly obtained information which is particularly useful for professional development or classroom use. This is a feature not expected from the literature. Formal electronic meetings or general use of electronic mail are essentially not occurring. These aspects deserve further attention when the major use of educational BBSs is not merely investigative.

13. A "help-seeking" use is potentially important, using the "general notice" and "talk to sysop" facilities of the systems. (Other than this, interpersonal communication was found to be unimportant.) This being severely restricted by the problems outlined in points 6, 7 and 8, namely the lack of dynamism of educational BBSs, the lack of time to use them and the lack of access to suitable equipment.

14. No educational BBS has firmly established aims to its operation, or if reduction of teacher time, cost and travel, and avoiding redundancy in materials developed and increased inservice, collaboration, and consultancy for teachers (point 11) constitute implicit aims, no educational BBS achieves them.

At the risk of unjustifiably emphasizing certain aspects, the following must, in practical terms, be areas of definite concern: the quality and type of information, and the inability of teachers to be the sole or major developers of this information; the dynamism of the BBSs; the computing literacy of teachers; the user-friendliness of BBSs; the support which the existing hardware and software can offer; and the time required to effectively integrate the use of BBSs into a curriculum development program. It is clearly not sufficient to assume that BBSs will automatically be integrated into schools because of their many advantages.
Conclusions and suggested future directions

The major outcome of any study of EBBSs, including this one, must, of course, be to suggest directions for future development. In this study, it can be only to a limited extent, because such a small, selected sample of teachers was used. Assuming that the issues established in this study are applicable to some degree, the following recommendations are made.

1. Schools should make permanently available a computer with modem and telephone line.

2. A particular computer system capable of producing high quality graphics and communications software should be recommended for schools to use, to make the task of inservicing easier, and to alleviate the file-incompatibility problems.

3. Similarly, a particular modem should be recommended, and it should provide good error checking and the ability to support communication at 2400 baud at least.

4. One BBS be set up to provide services for schools.

5. The publication of thorough system documentation and user guides on the BBS combined with that on the recommended communications software must take place.

6. A small team of full-time curriculum support, editorial and technical staff be assigned to maintaining, promoting and inservicing activities concerned with the BBS.
7. A substantial database of materials should be built up, initially by the support staff, and then later by schools and teachers with substantial amounts of materials already available on word-processor should be encouraged to transfer their work. The information should cater for wide diversity of users, should be of high quality, and be relevant to other fields as well as maths, science or computing curricula.

8. The BBS needs to operate on a large timesharing machine, supporting substantial quantities of disk storage and several simultaneous remote connections.

9. The BBS should enable users to share resources, such as laser printers or graphics plotters, which could be available at various sites around the state.

10. The BBS program should provide good cross-referencing and keyword searching, user-friendly operation and substantial on-line help.

11. One of the tasks of the BBS support staff should be to act as editor of the information submitted.

12. The Ministry should start communicating with schools using the BBS. Initially, this would need to be combined with paper memoranda, but would ultimately provide further incentive for schools to make regular use of BBS.

13. Once there is sufficient information on the BBS for it to be justified contacting the BBS regularly, schools should appoint one person to the position of educating staff, to make regular searches and to act as information disseminator. This person needs to be given a time allowance and needs to be initially inserviced in order to act in this role.
14. A school-wide commitment to the use of BBSs needs to take place, once a local resource person has been appointed. Planning, being prepared to change, individual and corporate commitment are essential activities for what must be a long-range staff development program. Implicit in this is provision of adequate computer hardware for word-processing and remote communications and increasing the computing literacy of teachers.

15. Certainly at the time of school-wide involvement in BBSs, but also before that, schools must encourage the use of BBSs in areas other than maths, science and computing, and also by female teachers.

BBSs are clearly a powerful tool not only in supporting curriculum development but in promoting it, but this aim is yet to be realized. The study has determined that educational BBSs are useful, but not for the expected activities and described a user community's perceptions of an educational BBS, and discerned the critical elements of use and usefulness. The potential for EBBSs in curriculum support will not be realized until the areas of difficulty are resolved.
References


