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USING NEWSWATCHER AND LISTSERVICES AS A STARTING POINT TO THE USE OF THE WWW FOR TEACHING SCIENCE

Bill Palmer, Faculty of Education, Northern Territory University.

INTRODUCTION

The aim of this paper is to indicate to colleagues the purpose and use of the Newswatcher application for news and of listservers for specialist communication. This is the way in which I was able to find out more about WWW sites, as well as that news and specialist lists are of interest in themselves.

Firstly I should make clear that all the different communication modes have their values. 'News' and listservers are merely two out of a great variety of communication tools. Others are:- World Wide Web, Gopher sites, ftp sites, library sites etc. I would differentiate them on the grounds that World Wide Web (WWW), Gopher sites, ftp sites, library sites are all providers of information that is relatively fixed, whereas news and listservers provide a much higher degree of interaction in the communication. This adds to their interest but the down side of this is that a very high percentage of the material available on news or listservers (95% or more) is not worth reading. This is I suspect why many colleagues may not bother with them any more. They were a starting point for me in communications and I still find them very useful.

I am going to make the case that both 'News' and listservers are worthwhile on grounds of general interest and also on academic grounds. To do this I will describe my own experiences, taken largely from the overall area of science education. In my work in the Education Faculty as the only science educationalist, I have found using 'News' and listservers to be of particular value as I have felt less isolated.

'NEWS': PERSONAL USAGE

'News' differs from Listservers in one important way. You only get 'News' by actually logging in. Thus even though its total size is enormous, you don't use up your machine's memory unless you wish to save a particular 'News' items. On the other hand listservers send messages to you and these messages reside either at your local node or on your machine, using memory, which can cause problems.

'News' is one of the very basic functions of the internet and has been in existence for a long time. It was, in fact, in 1990, when my interest in and

understanding of Internet as a way of communication started. At that time I had no particular software program to connect with 'News', and I merely followed a set of instructions from a sheet that a colleague gave me. On a regular basis, for a little while I followed 'sci chem'. One of the first continuing discussions that I followed was an exchange about the allotrope of carbon called buckminsterfullerene. At this stage I had not heard of this substance (commonly known as "buckyballs") and I saved all this correspondence, which went on for three weeks. I also kept files on "buckyballs" from articles in News Scientist, Nature, Scientific American, Science etc. Amongst the information on "buckyballs" was the address of a listserver, which provides abstracts of all research articles on "buckyballs" soon after they are published.

As a result of this interest, I gave a paper on the educational aspects of "buckyballs" at the 13th ICCE (International Congress on Chemical Education), wrote to the *Weekend Australian* and *Time* about inaccuracies in their articles relating to "buckyballs" and had another couple of articles on this subject published (one in *STANT Journal*- last year). I think however that I should emphasise the point that items posted to news are full of inaccuracies, so they can be a source of ideas, but should not be treated as a source of reliable information.

I have used 'News' items as a source of controversy to start discussions in local science newsletters, as for example about the chemistry of air-bags for safety in cars (in *STANT Magazine*) . Similarly I have also found a number of interesting experiments, which I have used in a science issues course that I have run. In these cases I am looking for experiments that use a minimum of apparatus so that students can use them in their own home or with minimal costs within the faculty. The soup-can races have been a good example of this.

'News' has also been a source of enthusiastic amateur description, as when we have used science astronomy as to obtain first hand experiences of a solar eclipse, with the great virtue of immediacy. *STANT Journal* has also benefited in another way for the last four years as I have put together a section on science humour, to entertain our NT science teachers. I have used 'News' together with other sources to provide the material for this.

I have also enjoyed replying to a number of items on 'News', either correcting errors or in adding to the discussion by describing my own experiences.

USING 'NEWS'

From the above description it can be seen that to read and obtain some benefit from 'News' the following might be considered necessary:

- A purpose for looking at 'News' programs.
- A software package to read 'News'.
- A way of finding 'News' programs that are of interest.
- A means of recording and saving the items that you want.
- A process of review to check that what you saved initially is worth keeping.
- A means of replying to news items or starting one's own 'threads'.
- A way of improving/understanding the language used.

Purpose. There has to be a reason why you want to look at news. It might just to find the cricket scores during the test matches. I have used 'News' for a variety of tasks, such as, finding interesting WWW sites and finding good US second-hand bookshops.

Packages. I am currently using a software package called 'Newswatcher' and there have been a number of other packages from time to time. This seems very good. For those who have Netscape, there is a 'News' facility on this that is very similar to 'Newswatcher'.

Finding 'News' programs. There is a find function under edit, that allows anyone to find a newsgroup unknown to the person searching. For example you want to know where to look for conference information. One finds:

alt.conference-ctr	Not much use!
news.announce.conferences	Many conference announcements!

Here I noticed an entry called "Periodic events update". On opening this one saw amongst a lot of data that did not seem of much use a WWW URL (World Wide Web Universal Resource Location) which was eventually helpful.
(<http://www.iao.fhg.de/Library/conferences/OVERVIEWen.html#subject>)

Try this and you get-

" Conference Announcements- All conference announcements posted to the newsgroup (news.announce.conferences) are also available through this worldwide Web server at the Fraunhofer Institute IAO (<http://www.iao.fhg.de/Library/conferences>) in Stuttgart. You may contact the moderator (JürgenWagner) of this newsgroup for more detail."

This is quite useful, but the type of conference most frequently mentioned usually related to some aspect of computing.

Generally you will start with news items, where you have a professional interest (in my case chemistry/science) and follow the incoming news on a daily basis or perhaps once or twice a week, dependent on the amount of

news. However when you have viewed the information, what are you going to do with it?

Recording and saving. Some/most of the incoming news may be categorised as junk, some is interesting but not worth keeping, whilst a small proportion can be saved and kept. If saved directly they are saved as a series of SimpleText documents. Alternatively you can highlight the document (all or part), copy it and then paste in some overall Word document where you are storing that particular thread. In either case you need a plan to decide what you will store and how you will file it. Saving in SimpleText is quick initially, but has the disadvantage of creating lots of small files. I prefer to keep similar threads/topics in larger Word files. Also if any Simpletext file is bigger than 20K, then it cannot be translated into Word easily. If I want to save a big file from 'News', I cut & paste it in sections.

Some materials saved with additional inputs may get transformed into articles or discussions in newsletters; some is available for students doing projects: some is used as a basis for student practical; some material suggests references, books or videos. I have collected a lot of material on WWW sites in science; this will make a future article or an instruction sheet for students.

Review. Having decided what you will store and how you will file it, try to remember to review and weed out material that you no longer need. In this respect I need to take my own advice.

Replying to news items. Many of the ideas so far are a little passive in that they mainly involve looking at and recording material. It has to be said that this is nothing like as much fun as taking part in or initiating discussions. Technically this is very easy, using the reply or new message functions that are under the menu item 'News' when using Newswatcher. Replying to some specific news item where one disagrees with the sender or can offer advice, detail experiences or correct errors is what I have done most commonly. Generally I stay on the sidelines, called 'lurking' and this is not really approved of. Initiating discussion is the most difficult of the arts to learn. Of course, one can ask a naive question, which may or may not cause a sustained discussion or 'thread'. However I have noticed that the best discussions have in my opinion been at least in part pre-planned. This is because the originator of the discussion often seems to intervene with extra material when the discussion flags. I have noted the initiator sometimes puts incorrect or controversial information in first and hopes this will get plenty of response and then come back in the middle of a discussion with a far more reasonable set of views (I suspect this is pre-planned).

Language. In APPENDIX 1, you will notice a number of phrases acronyms that seem to be very common on the net. Try to work out the acronyms and perhaps provide more.

General. There are a large number of newsgroups and this number increases every day. There are now 3860 groups, as of 1/4/96. Appendix 2 lists some that may be of interest. When a new newsgroup is to start (or end), there is a vote and any newsgroup member can vote. This helps to give a state of belonging. However it is very noticeable that some newsgroups never seem to have any correspondence and one wonders what their purpose is.

SUMMARY OF INFORMATION RE NEWS

News is a useful tool, with the great advantage of being interactive. The disadvantage is that you do not have any control over other newsreaders. It manages to be both democratic and also completely anarchic at the same time. If you are looking for smoother waters with less junk mail you may decide to join one or more listservers in areas that interest you. These are more elitist and specialist groups and you have to apply to subscribe. The next section is about listservers, but it should be remembered that they have many similarities to news and for much of the information that I have both sources have been used.

LISTSERVERS

Using a Listserver. I have two e-mail accounts. I use one to which the listservers automatically send messages (my UNCL04 account) and one for private communications (my Eudora account on DARWIN). This is the way that I choose to operate and it has some advantages, but it may not suit everyone. It could perhaps be compared with banking; we all organise our bank accounts in ways that suit us best. I will chose my examples using Open VMS VAX version 6.1. On opening my UNCL04 account this is what I see-

```
Username: PALMER_WP
Password:
Welcome to OpenVMS VAX version 6.1
Last interactive login on Saturday, 16-SEP-1995 14:37
You have 10 new Mail messages.
$ mail
You have 10 new messages.
MAIL>
```

Then I typed Dir (Directory). The headings of the 10 messages are displayed, which is my Listserv mail for the day. The first was CHEMED-L, which was a Digest of one day's CHEMED-L mail. There were 6 messages from PHYS-L, and one each from HPSST-L, ASC and AERA-K. However one message was cross-posted so I had the same message three times (This happens).

Some Listservers offer a digest, so I will explain this as you may not have met this. I only started a few months back, when I was away for three weeks. It helps to prevent large numbers of messages building up. The digest is merely a compilation of individual messages. Without the digest system all the messages would have come individually, so one can be inundated. At one stage I was regularly receiving more than 50 messages a day. If one goes away even for a few days the number of messages can build up quickly. Eventually this fills up the memory assigned to you and the messages bounce. This causes problems for the listserver that is sending messages and eventually one is removed from the list. It is easier in the long term and far better manners to close down listserver accounts, prior to taking an extensive break such as leave.

Finding Listservers. I use the WWW to search for listservers. (This may seem strange since I am suggesting using listservers to find WWW sites, but basically the systems complement each other. Sites were:

<http://www.tile.net/tile/listserv/tilesear.html>
and <http://www.clark.net/pub/listserv/lsv11.html>.

This second site was supposedly closed but also gave much more detailed information about listservers. (For other possibilities please see Appendix 3)

General. Listservers have the great advantage that in theory, they contain a few specialists in an area, so that discussions will be more focussed than on 'News'. This is largely true, but there are snags.

(1) Recently there have been long advertisements and political statements, that have been seen by group members as a complete waste of 'bandwidth'. There are then long papers (usually the advertisement repeated) with a comment saying how deplorable this is: then 20 other people repeat the comment saying how deplorable they think advertising is etc. Fortunately one can delete this junk from seeing the title, but even with listservers there is still a lot of junk mail.

(2) Be sure you keep the first message that tells you how to leave the group. Usually one thinks of switching off listservers just before travelling and that is the time you need to remember how to switch them off. On one occasion NTU changed its e-mail address, so since my address had changed the listserver would not allow me to "unsubscribe".

CONCLUSION

'News' and listservers in science education have proved very worthwhile for me in that I can keep in touch with changes in science education, which is difficult when one is the only specialist in an area.

It is my belief that the Internet is going to change science education (and education in other areas) very rapidly. In the Northern Territory, it does appear that schools are moving onto the Internet now and there are a whole host of issues that need further discussion. I am sure many schools will have set up their own committees. In the Faculty of Education we tried to improve our own skills, by helping each other work co-operatively having a regular weekly meeting, with one person providing information in a specific area; this has met with considerable success.

In science education, I would suggest that STANT sets up a group to improve the skills of science teachers in using the Internet, encouraging schools to form links with schools in other states and overseas and in discussing common problems. We should try to be proactive in this.

APPENDIX 1

ACRONYMS IN COMMON USAGE

These are taken from news items as they were found. Try your skill at translation!

"BTW, can anyone (like the originator of this thread) summarise the submissions to date?"

"Discussion the most important, OTOH, gives us a forum to examine the events."

"Sorry this is somewhat belated wrt the thread itself."

"Anyone want to, at least, answer one or two FAQs?"

"IMHO, the access of other students to chemicals and equipment is a serious issue."

The word "flame"

The word "Netiquette"

Interesting motto- Carpe Rodentum! Seize the Mouse!

APPENDIX 2

SOME NEWSGROUPS OF INTEREST

aus.education
aus.education.open-learning
aus.education.rpl
aus.environment.conservaion
k12.ed.science
misc.education
misc.education.multimedia
misc.education.science
news.announce.conferences
rec.humor
sci.chem
sci.edu
sci.physics
soc.history.science

APPENDIX 3

Some List of Listserver Sites

>Does anyone know where I can get a list of listservs????

(1) You can find it on the Web at: <http://tile.net/listserv>

It is also available via ftp, but I don't recommend it because the files are enormous.

(2) You can find it on the Web at: <http://tile.net/listserv>

We have three searchable "lists of lists" on our Gopher server:

<gopher://cs1.presby.edu/11/net-resources/mailling-lists>

This URL should work with your Web browser.

(3) Try <http://www.interport.net/~ednorman/list.html>. That site has pointers to a major list of lists, usenets, etc.

