

# Assessing student learning with R2G

By Jennifer Hall

In 2004 the principal of Bendigo Senior Secondary College (BSSC), Graham Bastian, asked the library team and staff from all learning areas at the college to prepare a strategic plan to outline curriculum initiatives for the next three years. This document was to incorporate strategies to improve and measure student outcomes. For our library team, this directive was a significant development. We had the opportunity – and more importantly the expectation – to measure the impact of the library program’s instructional intervention on student outcomes, in conjunction with curriculum areas.

Two other significant events assisted us in developing a strategic plan at this time. Firstly, evidence-based practice initiatives driven by Ross Todd (2004a, 2004b) and other leading academics in our profession were taking momentum.

And secondly, as a team we were developing *Researching Together: Engaging Minds (R2G)* (BSSC, 2005) as a library information and management tool to support the learning and teaching component of our library program. We realised that *R2G* was the ideal resource in which to include a module based around assessment and evidence collection.

Critical to the success of the evidence-based practice initiatives we have adopted has been the development of authentic assessment procedures including the implementation of pre- and post-testing of the student’s knowledge and understanding of a topic. We find this approach invaluable when assessing the learning that has

taken place. It is obviously important to ascertain from the outset what prior knowledge a student brings to the task. When we pre-test we can immediately identify students’ levels of understanding, skill and knowledge, which allows us to work with them either individually or in small groups to improve their learning.

At the conclusion of the task, a post-test provides evidence of the learning, particularly whether there is evidence of deep understanding, and indicates to us the degree to which our instructional intervention has been effective. An important aspect of this approach is that the teacher-librarian has made a personal connection with a student and can follow up again either in a future class or when the student comes to the library to seek help. There is enormous satisfaction for both the teacher-librarian and student when this happens.

Where practical, we believe that the learning is more effective with small group and individual instruction and we avoid teaching large classes whenever possible. This supports our policy of differentiated learning and means we can use evidence-based practice initiatives more effectively. This can be achieved with a team teaching approach where the teacher and teacher-librarian work together with the students, either in the classroom or library. Sometimes we work together in the one of these learning environments, while at other times we split the class and work in separate areas.

At the beginning of an assessment task we

often ask students to complete the *R2G* student information skills checklists and/or student planning template. Both are available online to be saved into student and/or teacher folders, or they can be printed off and used as hardcopies. The use of these checklists is repeated over a number of assessment tasks to allow students to keep a record of their skill level development as they progress toward become effective researchers. These can be found at *R2G* >planning>student planning template and *R2G* >evidence>checklist>senior or junior information skills checklist.

As there is not enough space in this article to elaborate on our evidence-based practice action research, a more detailed publication on this topic will be available later this year. However, some of the most effective strategies, both formative and summative, which we have found useful for our library program include comparing learning before, during and after research, and helping students to write bibliographies, develop internet search skills and use authentic notetaking strategies.

### **Comparing learning before, during and after research**

One of the learning and teaching strategies we gained from Carol Gordon's presentation *Learners as Authentic Researchers: Productive Pedagogies* (2005) at the SLAV conference of the same name was the importance of gauging the student's knowledge at different stages of the research. Gordon suggests asking students to write about the knowledge they have of a particular topic they are studying at the beginning, middle and end of the task. Because our students' research tasks rarely go beyond three to four weeks, we tend to ask them only at the beginning and end of the task. The process involves asking students to write 100 words on what they already know about the new topic. Clearly this can be limiting but it provides us with an opportunity to support the student with further explanation and appropriate primary and secondary resource material to use. In addition, it provides an

indication of the intervention required by the teacher and teacher-librarian throughout the research task.

At the conclusion of the task we again ask students to write 100 words on their topic and compare this with what they wrote in their pre-test. Two of the main values of this approach in regard to assessment is that firstly, the student is able to quickly self-assess the depth of their prior knowledge and articulate this to the teacher, and secondly, at the conclusion of the task the student is able to compare or reflect on the learning that has taken place. Our feedback has shown that when the students compare their pre- and post- learning sheets, they derive a great deal of satisfaction in seeing what new knowledge they have learnt and whether or not they now have deep understandings about the topic.

### **Writing bibliographies**

After students have collected resources for their task and started to research, we ask them to select any resource they have found particularly useful and to write a bibliography for that resource. Usually we ask them to do this on a lined sheet, but a specific proforma headed 'Pre-test bibliography exercise' could be constructed. The bibliography is then corrected and the teacher-librarian works with students individually or in small groups to clarify any bibliographic notation they find confusing. When they present their work to the teacher for assessment, the bibliography is included (post-testing) and marked accordingly. Students are also referred to the bibliography brochure we have available from the library or on the webpage located on the library homepage. Both these resources can be found in *R2G* by following the links from knowledge sharing > library essentials > research skills > writing bibliographies.

### **Internet search strategies**

We know as educators that many students tell us they are 'savvy searchers' when in fact they

tend simply to 'Google' it. They have little or no awareness of the difference between search engines and databases and their inability to use effective search strings often results in them achieving millions of hits. This, coupled with the fact that they frequently lack the skills to critically evaluate a webpage, combine to create the situation we have all seen where a student will spend the whole lesson on the computer and come up with no suitable research material. At this stage, if not earlier, they become frustrated and bored and that's when engagement and motivation to continue with the task ceases.

For this reason we encourage teachers to ask their students to complete a pre-test which provides real life simulation. The students are told they are applying for a position as a research assistant and they are asked to answer a series of question ranging from selecting key words for the search to identifying suitable URLs. This can be done online and is submitted to the teacher either by email or in hard copy. From this data we can readily ascertain a student's strengths and weaknesses as a searcher. We again work with small groups and individuals to improve knowledge and skills. The questions are all contextually based according to the topic being studied and are therefore considered as a relevant and appropriate learning tool by the student. At the conclusion of the task, a post-test with the same structure but different questions is given and the data from both tests is compared to measure the impact of our instructional intervention. To find out more about internet search strategies, go to *R2G* knowledge sharing >library essentials > searching the www> great search tips.

### **Authentic notetaking**

We use two data grids to promote authentic notetaking: one for internet searching and one for print searching. The internet searching data grid has three columns. The first contains the questions/topics, the second allows the student to 'cut and paste' relevant information they find

and the third enables students to write up their 'notes' from column two either into their own words or into dot points which can be expanded later. The print data grid has one column for questions/topics and one for original notetaking. Resource references are written at the top of the column so that bibliographic information is recorded. This process also supports the students in using strategies such as headings and sub-headings.

Students are required to submit their data grids when they present their work. At VCE level, authenticating work is critical and these data sheets provide teachers with valuable information. We like to compare the students' actual notetaking with the information in their presentations. Sometimes there may be little or no correlation and this can indicate that the student's notetaking strategy is ineffectual or that the work may have been plagiarised. Strategic planning can be developed to support the student in the future at the selection and organisational stage of their research. To view the data grids, go to *R2G* knowledge sharing >library essentials > research skills> notetaking.

### **Further assessment examples**

The *Researching Together* CD-ROM contains other assessment examples and proformas.

Among these resources are:

- surveys for staff and students to be completed at the end of orientation sessions, which can be adapted for other sessions you want to assess. Check *R2G* evidence > student and staff feedback > for an example.
- research booklets which students hand in for assessment recording all information related to defining, locating, selecting, organising and evaluating the research for any given topic. Check *R2G* research formats > introduction > research booklet.
- graphic organisers such as KWHL charts and concept maps. These are excellent resources for students to use to brainstorm their topic.

Check R2G knowledge sharing > thinking curriculum > graphic organisers.

- student and staff portfolios that collate assessment examples. Check R2G evidence > collecting evidence > digital portfolios.
- learning logs, which are a wonderful self-assessment vehicle for students to use. Check R2G evidence > collecting evidence > staff and student feedback > learning log.

Other forms of assessment you might like to try include:

- quick evaluation sheets providing either a yes/no answer or a four step scaled response ranging from poor to excellent. The data from these sheets can be used to ascertain quickly the strengths and weakness of your program.
- written testimonials from students, which is a very effective way to collect formative evidence.
- videos of students and teachers working and making comments about their tasks.

### **Authentic assessment is fundamental**

More and more teachers are being asked to show evidence of the effectiveness of their learning and teaching programs through authentic assessment procedures. Collecting and reporting this evidence is now fundamental at BSSC and resources found at *R2G* > evidence > collecting and *R2G* > evidence > reporting have provided invaluable support to our learning and teaching programs both within the library and across all curriculum areas. As teacher-librarians we must recognise the need to identify how we really do make a difference to student outcomes and provide the tools to support teachers in identifying authentic assessment strategies.

### **References**

Bendigo Senior Secondary College 2005, *Researching Together: Engaging Minds* [CD-ROM], School Library Association of Victoria, Carlton Vic.

Gordon, C. 2005, *Learners as Authentic Researchers: Productive Pedagogies*, School Library Association of Victoria, viewed 21 March 2006, <<http://www.slav.schools.net.au/pastp.html>>.

Todd, R. 2004a, *Be Still and Listen to the Voices*, School Library Association of Victoria, viewed 21 March 2006, <<http://www.slav.schools.net.au/pastp.html>>.

Todd, R. 2004b, *Research into Practice*, School Library Association of Victoria, viewed 21 March 2006, <<http://www.slav.schools.net.au/pastp.html>>.

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### **Dromkeen Librarian's Award**

Mark Carthew, teacher-librarian at Birmingham Primary School, was Highly Commended in the 2005 Dromkeen Librarian's Award. Mark received the award for his inspirational work in bringing literary experiences to the school community through, music, writing and drama.

The winner of the 2005 Award was Margaret Heuschele from Toowoomba City Library in Queensland, in recognition of her enthusiasm and wide-ranging, creative and innovative programs promoting children's literature.

