

BLI04282

Papers Four and Five

***Action research and curriculum review:
Sounds good, but does it work?***

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Increasingly schools encourage the use of action research methods within the context of professional review programs. In what ways can the detailed exploration of pedagogy which is enabled by action research assist in the larger scale purpose of curriculum review? In what ways might departments work both as individuals and as teams? What kinds of issues – personal and professional, pedagogical and managerial, philosophical and practical - are raised through the process of lesson study? What kinds of outcomes might be expected?

**Paper Four
BLI04282**

***Changing history:
Testing action research practice – a work in progress***

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Background

Two years ago, a meeting was arranged between myself (as Co-ordinator of History at Wadhurst) and Julie Landvogt – external consultant- by the Wadhurst Extension Studies Co-ordinator, James Brown. I must confess that I've never really asked James what he had in mind. What I do know is that it was the beginning of what has turned out to be the catalyst for change to the Wadhurst History Curriculum, in both design and in practice.

Whilst the pace of the change has been variable and is far from complete, the positive developments in professional learning and curriculum review have included:

- discussions about pedagogy and consequent modifications, broadening of repertoires, and deeper understanding of effectiveness;
- discussions of individual learners and their needs with specialist as well as mainstream teachers;
- department discussion about the nature of History as a discipline (and in relation to other disciplines, with other teachers);

These discussions have led to consideration of differentiation issues involving review of pedagogy, curriculum structures, assessment and reporting. As a corollary but perhaps fundamentally as important, debate has arisen about the role of content in teaching and learning, the nature of teacher knowledge, and territorial issues between teaching staff.

I want to describe today the changes that have occurred since then, both in relation to the ways in which my own classroom practice has developed, and how it has now also spread to the Year 8 History team at Wadhurst. In particular, I want to refer to the action research practices that have shaped the changes; the practices that seem to have been most effective for others in that they have taken them up in their classroom practice; and also the problems with action research methods that have impacted on us as teaching practitioners.

Beginnings

Until the beginning of the Ithaka Project and as it has applied to History at Wadhurst, the term “action research” meant nothing to me. Meetings within the department took the form, on most occasions, of a gathering of History teachers (Grossman, Wineburg, & Woolworth, 2000) - usually on a level basis- who met to decide profound things such as:

- What- not how- was to be studied by way of a unit of work
- Who should receive the History Prize and Certificates of Distinction
- What was each person’s preferred History allotment for the following year.
- What reporting templates should include, what should go on the Year 8 exam etc.

At Wadhurst, the use of action research as a method of collecting data to inform changes in practice, or as the basis for a discussion of theory, is practically unknown. Some people who have done recent courses in education are aware of it and have used it in specific ways to “check” on practice rather than to use it to change curriculum and delivery methods. But as yet, it has not become the habit to discuss the details of units or classes and relate that to theories of learning or pedagogy.

So what was it that made me want to do more in this area? It began, I think, from the common interest that arose between Julie and myself in an area crossing our specific discipline boundaries- her obsession with the Arthurian stories and my pride with the Arthur unit we had developed. Our discussions began from fundamental differences in perspective: in effect, we were actually discussing two completely disparate points of view. I was the clinical historian- she the English teacher concerned with the nature of the stories, not at all whether there might *really* have been an Arthur who was the “High King of Britain”. So, the connection initially probably lay in a common intellectual interest and there is no doubt that over the course of time we have learnt from each other and also about each other’s discipline area. These discussions, which began firmly based in content, led to questions about the ways in which different perspectives would shape the kinds of learning opportunities being offered. This was the beginning for me of wanting to look at my practice more closely and particularly, the links between knowledge of pedagogy and knowledge of content.

Method and purposes

So, this year, under the structure of the Ithaka project, I began undertaking the idea of action research in a more formal way and with the express purposes of the following:

- Trying to establish whether the students were learning what I wanted them to learn
- Trying to establish exactly what I did in the classroom
- Trying to see what was happening within the lessons themselves.

The first difficulty was trying to understand just what “data” actually meant. Julie and I had been in e-mail contact for some months as a result of her visiting a number of my classes last year. She had seen things occurring which I hadn’t noticed as part of the “cut-and-thrust” of the lessons. Just as importantly, she had taken the habit of asking me one particular question on a regular basis- “Why did you do/ask that?” Almost inevitably that was followed by “What do you mean?” It became apparent that, just as is the case with experienced teachers, I was doing things that had become instinctive and was quite unaware of just what I did do in the classroom (Shulman, 1987).

So, in terms of action research, two methods of gathering data had been present already, even though it did not yet seem that we were engaged in formal investigation:

- Firstly, the use of an external person observing the lesson. Quite apart from seeing things occurring which I was not observing, there was, critically for me being able to unpack units of work, the questions about what I was doing by way of delivery of lessons.
- Secondly, the use of e-mail to make comments about lessons, to report anecdotally things that occurred of note, and simply to maintain constant contact, became an important part of gathering and maintaining a data collection.

In the course of this year we have added the following data, which I will discuss in turn:

- Videotaping of lessons
- Discussion before and after focus lessons, with some documentation
- Observation and field notes of selected lessons by Julie
- Student reflection
- Student work
- Notes on focus students

For one entire unit we also decided to video-tape each lesson. The hope here was that it would be something that the Year 8 History team could look at, reflect on what was happening, and then suggest any changes they thought might be appropriate- both for what was happening in my lessons and perhaps in their own. As data useful for informing how I went about my work, it was enlightening to see just how many boys reacted enthusiastically to what was occurring and in what ways - and of course to note those who tuned out early and took almost no part in what was happening. For other members of the teaching team, the initial showing did prompt some questions as to why I did this, or why that had been asked. However, no-one else in the department wanted to run with the idea of taping of lessons. And, in truth, I am not at all sure that it affected the way that the unit was being taught or will be taught in the future. The primary problem was that of time- time to have the tapes put on to more user-friendly devices and, principally, time to sit down and watch them all. They are instructive but on balance, in teacher practitioner terms, they need to be used in small, manageable doses.

Whilst we were doing the video-taping, observation was generally still occurring in the classroom.....post-lesson discussions proved more immediately effective in many ways and proved far more likely to change practice in the short-term. For instance, things were often changed for the parallel classes taught straight after the observed lesson in that subject. Yet as a result, and in terms of formal data collection, fewer notes were taken when time was made for discussion after lessons; because we were talking, writing seemed less important. In absolute research terms, there was therefore some loss in terms

of documentation. Perhaps then the choice of method depends in part on the time frame within which one is working, and the purposes, both short and long-term, for which the data will be used.

In terms of the Ithaka Project and its wider network, the tapes of those lessons became part of two seminars which were run during the year. The purpose was to create a shared experience amongst those involved in the Project both from Melbourne Grammar and the other schools involved at that time. In addition, it provided the opportunity to look together at classrooms, work to further define the dispositional terminology, and also to broaden the notions of “seeing” into classrooms and how we might look to see what is happening. So, whilst the immediate gains in terms of pedagogy and practice could be achieved just as satisfactorily in other ways, the tapes were certainly part of the generation of a collective body of data and knowledge, from which we continue to learn and which is part of forming what is becoming a learning community within and across schools.

For several units this year and late last year I have also used student reflections to inform me about the extent to which the students are understanding what I hope they might be learning. These started out with the simple “Did you like...” sort of questions all the way to the last time, when deeper questions were asked such as “What do you think I wanted you to learn from this unit?”. They are informative on an individual basis and I have every intention of using them regularly in the future, especially with new and re-designed units of work. Students seemed comfortable with them and after a few early hiccups they were clearly at ease with being honest. In terms of learning about students and for teaching purposes, they provide both immediate information about student understanding, and also begin to provide a bank of data which can be used to explore student learning over time.

The collection and retention of student work by photocopying was clearly a method which changed certain parts of focus units throughout the year. By comparing essays, team members were able to see how the others were using different criteria for assessment of the quality of the work. Amongst other things, this idea is now pushing us towards rubrics as a method of trying for consistent and broadly acceptable assessing of work. This has started already through the retention of the essay completed in the recent exam. We are about to attempt to form rubrics using a combination of the criteria which we want as teachers but also the ways that students have interpreted what we indicated was required.

Towards embedding

Yet, these methods of action research were seen as something outside of normal practice at the school, rather than being completely embedded in daily practice. At first there was considerable uncertainty about adopting such methods of examining teaching practice – about time, about purpose, about effectiveness. However, ten months later, and noting that the rate of adopting the action research methods within the team has been variable, their use has begun to have a significant effect, not only on individual practice but also on the level of contribution to discussions of teaching practice in meetings. For instance, one of the team has now invited Julie in to observe some of his lessons as well as now undertaking regular e-mail conversations with her. Her observations of the classes led to us being able to highlight areas where his teaching methods were different to mine. This

has led to some modifications, some affirmation, some self questioning, and deeper understanding of the reasons we act as we do. Discussion of the “how” is now, I’m happy to say, “par for the course” at Year 8 History meetings. The effect of this has also been to be able to collegially make the sorts of practical and immediate changes that are necessary as teaching practitioners in both curriculum and administrative areas.

Given this developing situation of meetings where practice is examined in depth, discussions have now also begun to turn to the actual nature of History itself as a discipline and also its relationship to other disciplines, notably English. Lines have become blurred as the structure of essay-writing, for instance, have been discussed from a multi-disciplinary perspective (one of the History team teaches both English and History). The idea of “evidence” and its disciplinary nature has also been examined within meetings, broadening perspectives of the nature of evidence and its uses.

One of the most remarkable sessions in the course of the year occurred when the ideas behind Intellectual Character, and specifically the dispositions as suggested by Ritchhart (2002), were introduced to one class which was taught by myself (History), and two other teachers of that class involved in the Ithaka Project (in Science and English). Over the course of three fifty-minute lessons, the boys were given the theory behind Intellectual Character and then the opportunity to give their definitions of the dispositions, together with their selected examples of dispositional activities throughout the year. The boys’ apparent ease at coping with this session, together with anecdotal evidence of a number of boys then being able to identify in dispositional terms their strengths and weaknesses, led us to also begin to use the terminology more frequently in class situations and also in discussions in meetings.

As a result of consequent “dispositional” discussions about individual students, issues of differentiation arose as we began the formal meetings for our last focussed unit of the year. Consequently, it seemed logical to invite both the Extension Studies Co-ordinator at Wadhurst as well as the Learning Strategies Co-ordinator to attend all of our regular meetings. Whilst still in its infancy, this process seems to have been most effective. Given a deeper understanding of our goals and essential understandings within the unit, the Learning Strategies Co-ordinator has found it much easier to deal with the concerns of students requiring her assistance. She has also now taken part in various dispositional discussions- that is, discussions where boys’ work practices and dispositions are reviewed, rather than discussions of “ability”. An Extension unit has already been designed for students in 2005.

Future directions

The Ithaka Project has led already to many changes in practice for Year 8 History: in the classroom; for individual teachers; the nature of meetings; and ultimately, we believe, the outcomes for students in terms of their learning and their thinking. In future years, and as long as this team can remain together as a teaching unit, we look to continue to review both the “what” and the “how” of improving practices within the subject. Our focus in practical terms was only two units this year. We will return to those in coming years but also will begin the process of reviewing other units using the methods we have begun to embed in practice during 2004.

It is worth noting that we began The Ithaka Project with the aim for this first year of trying to examine our assessment practices to see if they were appropriate in assessing the essential understandings we hoped that our students would gain within the focus units. We have already determined that assessment will again be our focus for 2005. However, we now believe that we know how to go about determining the success of our assessment practices: action research methods of student reflection; of starting the process of establishing rubrics in both instructional and in assessment styles; of examining student work to help create those rubrics; and of doing all of these in the context of a professional learning team. The inclusion in that team of teachers who manage students who are identified as needing extension or need assistance with their learning, should also provide us with the means to differentiate student learning and assessment and also to cater more easily for individual learning styles.

Finally

At the beginning of this paper I indicated that I intended to discuss, amongst other aspects of action research and teaching and learning, “the problems with action research methods that have impacted on us as teaching practitioners”. Some of those have been reflected in discussions above.

However, I wish to end this paper by mentioning the most critical aspect for the teaching practitioner in undertaking formal action research in the kind of depth that will lead to improved curriculum practices- the issue of time. In the daily life of a secondary school, it is easy to use the excuse of a lack of time as the reason to avoid tackling issues of curriculum review in the sort of depth described in the pages above. At times, within the given school year, no-one should doubt that there is also a real validity in those claims.

However, the benefits of ensuring that time is given to the gathering of data and its consequent benefits for curriculum review have been made transparently clear throughout the course of this year in History in Year 8 at Wadhurst, operating within The Ithaka Project. The school itself has begun to realize this and has been generous in finding ways to provide professional learning time to those involved in the Project. With school support and individual teachers who are prepared to give of their own time, it seems that much can be achieved. Now, as we move into trying to establish similar review practices amongst the Year 7 History team (five teachers as opposed to three), I hope that I am able to report in twelve months time that they too have been able to both realize the benefits of giving their own time and also of receiving continuing organisational support in their efforts to improve teaching and learning practices at MGS.

References

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Paper Five

Science in motion:

Testing action research practice – a work in progress

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Why I bought my ticket for the trip to Ithaka

Midway through 2003, I was approached with the offer of joining in an action research project that was being developed. My first reactions may not have been that positive as I initially looked upon it as another thing to eat into my school time. However, I was motivated by a few factors to accept their invitation.

- Performance review requirements
- Future employment options
- Setting the direction of faculty leadership
- Supplementing recent studies
- Etc

One was challenge. I work in a special setting that is all boys, I teach one discipline and across 2 junior secondary school levels. Whilst only being in this setting a short while, I realized that for long term intellectual and professional survival I would need to push myself into other areas. Beginning to examine how my students learn would be useful for me on a personal basis but it also had the potential to inform many others about what practices are effective in this particular context.

What were some of the impediments to beginning the journey?

One of the disincentives for a relatively new teacher to participate in any proposed process of professional reflection was that it wasn't an obvious part of the existing school culture. Staff were quite clearly expected to be highly knowledgeable with respect to their subject areas, but the path for maintaining and developing pedagogical knowledge was less clear. A process of professional performance review had only recently been introduced which was intended to encourage staff to critically examine their practices, but that was in its infancy and not yet high on the day-to-day agenda of staff. To commit to this task required participants to become involved in something that had no clear immediate benefit either personally or professionally and this was one of the first hurdles that needed to be overcome. In my situation it was a simple case of having a look at what was on offer and seeing where it took me.

Which way did we go at the start when few had gone on this journey before?

I'm not sure I actually knew what were doing when we started. I did know that I was going to critically reflect upon what went on in my own classroom, but I wasn't too sure what I wanted to look for and in this I needed plenty of motivation. Upon

reflection, I may not have been that interested in the project at all but personal perceptions of the curriculum responsibilities of a faculty head may have made me feel obliged to accept the challenge. This suggests two important points. At this stage of the project, the role of the project leader was critical to its ongoing success. Without a charismatic, forceful and persistent personality setting the initial agenda, I am sure that we would not have gone as far as we have done. As suggested by Grossman & Wineburg (2000), at start-up a project of this nature requires some unifying personality to build and maintain early momentum. Secondly, in this particular case, the commitment of various faculty leaders indicated to other staff the potential value of the project. Those leaders showed openness to scrutiny, reflection and change, behaviours that acted as a model for other staff to follow. What happens after then you could argue rests with the integrity of the project.

What did we find along the way? (What data was gathered and was it useful?)

The initial work performed in my school was limited to one subject with one teacher. Observations of this class soon raised questions about how that class might present itself in a different setting. That is, would the same dispositional characteristics be identified by the same group of students but in a different room, with a different teacher, different subject material and different classroom expectations? This led to me being invited to become part of the project as I taught Science to the same group to which Dr. Bliss presented History. It also forced me to consider more deeply what I wanted to get out of the project.

It was suggested that observations of focus students be made regularly over a set period of time. Dr. Bliss had conducted observations of his class through video recordings of lessons and by analyzing these at a later date. I was not sure that would suit me, so I developed a data collection method that would suit me and my classroom. I constructed a simple proforma which I endeavoured to complete as soon as possible so that my memory would be less clouded by other events. This is shown below.

ITHAKA

CLASS: 8CM1

Date: 5/6/04

Period: 1

Context: A practical task supervised by AW. It required the students to make a "painting" using materials similar in complexity to those that may have been used in prehistoric times.

Comments:

JOHN

Has really thrown himself into the task. Is showing some creativity in his use of the materials and in constructing a brush out of a plastic drinking straw and straw.

JAMES

Absent

WILLIAM

Observed nothing.

GEOFF

Overshadowed by the enthusiasm of John. Completed the task without fuss.

Scientific Disposition

As with Eric (7Cm2 29/4/04), John has shown himself able to break free of the other class members by using a tool no-one else was. This may exaggerate Eric's work a bit, but it is important that students are prepared to try new things and are prepared to fail.

JL has raised this. Why didn't I "see" William? He was there, he did the work and I knew I was meant to be observing him. What is it about how he conducts himself that makes him effectively invisible to me. It may be that I don't recognize any good work that William may do in the future simply because he has not projected himself forcefully enough onto the class stage.

What I required was something that I found simple to use and which would not represent too great a drain on my daily time resources. This is important as the early stages of the project didn't drain me physically or intellectually. This allowed me time to come to grips with the task and to identify what it was that I hoped to identify. In my situation, it became clear to me that it was important to identify the context of the various classes observed. With classes ranging from fully practical to entirely theoretical, I saw it as important to record the nature of the lesson because experience told me that many students performed differently for the different lesson types. However, it was only after a couple of lessons that I resolved to add the last section. At this stage I was still a bit confused as to what it was that I wanted to get out of the process of observations, a difficulty experienced by others. I knew that the overlaying objective was to examine aspects of intellectual character, but that didn't really interest me greatly. What was of interest was seeing if I could identify what were the things I valued in a science student. It was from this that I resolved to clarify what I termed the *scientific dispositions*. This importantly gave me a focus, it immediately enabled me to engage in conversations with other staff inside my faculty about my observations and it provided the momentum to then start to think about what implications this might have for other aspects of our program.

Who is driving the tour bus? (How does it work with leadership issues?)

At the same time, other members of my faculty were trying to come to grips with the project too. We were linked by a common appreciation that we could be doing what we do better and that the way to do this was to start looking at our current practice

but, there was no common motivation. This lack of a unifying thread made it difficult for many staff across the school to accept the value of the project or to see what benefit it might have to their current teaching practice. This showed a lack of foresight or it may have been an outcome of having experienced too many narrowly focused, outcome specific professional development activities that had a limited lifespan and consequently were consigned to the mental waste paper bin. Whatever the reason, motivation became an issue because it determined who would engage in the journey and at what level of commitment.

Self interest became a very important factor. Involvement in the project has always been voluntary. Participation has not been forced upon any staff member and this has turned out to be one of its strengths. Those who were initially part of the project but who left it for their own reasons know that they can rejoin at any point without any penalty and they can see that there is scope to make of it what they wish. Similarly, those staff not initially involved but who have been interested sideline observers, know that they can get on board if they want and just as easily get off again too. This flexibility in participation is starting the process of embedding a culture of ongoing reflection that has not previously existed.

This aspect of the project has created its own momentum and the role of the leader becomes less important in the day-to-day. In recognizing that the journey to Ithaka has many paths, the project has empowered participants to lead their tour group, go it on their own, visit other places of interest or just travel around in the bus with the rest of the group, occasionally seeing things that aren't that interesting but having a look at them just the same.

Frequently participants were asked by other staff to explain what the project was trying to achieve. This was very difficult for many as discussions of pedagogical issues are actually quite rare in the staffroom; more common are reflections on the performance of sporting teams and administration. Although it might seem minor, the determining of an appellation that adequately describes the overlaying nature of the project was very important. By choosing "Ithaka", the project leaders provided a mental image with which all participants could identify and want to pass onto others; the urge to show others your holiday photos is very strong. The particular managerial aspects of the project varied from location to location, but the overriding message was that the staff involved were on a journey of personal intellectual discovery that was of direct benefit to their own particular workplace experience. Being able to pass this message to other staff remains a validating exercise for participants as it reminds them that they are involved in the process of life-long learning. They are doing more than *talking the talk*, they are being genuinely engaged by the process and this enthusiasm is making other staff take more interest. These other staff may never join the Ithaka tour, but they are less disposed to undermine the work done by others who are involved, and they can themselves form an image of what it is that is Ithaka.

Some of my tour photos (How are they becoming embedded in our own practice)

As mentioned previously, my own journey started by looking to identify how intellectual character might display itself in the science classroom. In my efforts to do this some strengths and weaknesses of the observation process became apparent.

Focus Students

The advantage of selecting a small number of students to observe was that it made observations achievable and allowed the formation of longer-term views of student development. These opened the eyes of observers to the performances of other students in the group and created some tension. For me it alerted me to behaviours that my focus students were, or were not, displaying. For others involved in the project, it brought them to question whether that had made wise choices for selection in the first place. Whether or not the original focus students were retained was not of critical importance to the classroom teacher. What was important was that the process of observation enabled a clearer understanding of the behaviours valued in the classroom and of what activities engaged various students. In this, the project was beginning to inform restructure of curriculum structure, delivery and assessment.

Changing the nature of the classroom

Through the process of observation a number of behaviours presented themselves that members of my faculty valued. These are summarized below.

It is desirable for a science student to be disposed to:

1. Being curious about what is around him and to actively seek answers to questions he raises.
2. Use all the resources at his disposal and to readily contribute to that pool of resources.
3. Work efficiently whether alone or as part of a team, showing a genuine sense of community.
4. Show interest in authentic learning tasks, indicating a genuine curiosity about the subject matter rather than the grades associated with it.
5. Use discussions to further his own understanding and that of others in the process.
6. Place theory in an appropriate social/historical context.

The identification of these raised other issues that demanded to be addressed.

Assessment

The identification of desirable dispositions has led us to question the validity of the items upon which we report to parents and the tools we use to generate the grades for these. Prior to the observation process, the reporting system indicated that we valued the ability to recall theory and to apply it under test conditions, as was the ability to complete a proforma relating to practical based tasks. None of these clearly reflected the on-going performance of the student in the classroom and none of these clearly aligned with the qualities that staff identified as being valuable skills for a student beginning secondary school science. An initial response to this has been to diminish the perceived importance of the letter grades associated with these tasks on the end-of-semester reports. Although they still remain, they are joined by those that relate to the other classroom activities. This is an attempt to indicate that there are many facets of a students' classroom life that we feel should be reported upon and that they have at least as much importance as the grades assigned to exams and tests which occupy so little of the time the student and teacher spend together and which are tasks in which virtually no student-teacher interaction takes place.

An example of where we modified our assessment practice lies in the area of student practical work. Previously, it was simply the report of the activity that was assessed. This advantaged students who were able to interpret the report proforma and manipulate data, but it did not acknowledge those that actually collected the data. Clearly the tasks being reported upon were much more complex and we were concerned that the entire practical component was being ignored by the existing assessment. To address this, desirable aspects of practical work were identified;

- Personal safety
- Safety of others
- Time management
- Following prescribed method
- Not interfering with the work of others
- Uses equipment appropriately
- Clean up

When behaviours that did not agree with these aspects were observed, the name of the student was called out, the nature of the infringement and a deduction made against that student's grade (eg. Fred Jones, Personal Safety, 10%). These students were given instant feedback relating to their performance and were able to reflect upon their own actions. Additionally, all other students were able to learn from the transgression of one of their classmates. Students who completed these complex tasks safely, efficiently and effectively had their efforts rewarded by formal recognition in the end of semester reports.

Asking Questions

The identification of desirable dispositions has led to an increased teacher awareness of the impact questioning techniques have upon providing the opportunity for students to display those dispositions. An example of this is in the ability to *Place theory in an appropriate social/historical context*. This will not be encouraged if the teacher restricts classroom dialogue to strictly theoretical matters and doesn't encourage students to take their thinking outside the classroom. The questions asked affect who is given the opportunity to participate in the discussion and also the nature of the discussion (i.e. whether it is student driven or teacher led). They also inform the student as to the nature of learning in the class and of what resources are valued by the teacher. If the contributions of a particular student are regularly overlooked, or responses not explored, then students may identify some others as being resources of little future value and disregard contributions they may wish to make in subsequent discussions.

Language (..of the kids / ..about the kids)

The depth of the language used in the classroom has developed as a consequence of the identification of the dispositions. Once these dispositions were introduced to the students in a forum to discuss the project to date, they adopted some of the terms used to describe their activities. This improved vocabulary has promoted the development of a new language of learning which serves to raise the consciousness of the students about what they are learning and what skills/actions are valued.

Curriculum

In our particular situation, we are fortunate to be able to adjust our curriculum to suit our own purposes more so than would be the case for other schools. This should allow us to be more responsive to student interests and needs, but it has not been clear that historically this has been the case. This year the existing curriculum was revised to align it more closely with the framework prescribed for state run schools. Now that we have worked through the initial stage of this action research task, deficiencies in the revised curriculum have shown themselves in that it doesn't provide as many opportunities to display those dispositions as we would want. Examples of this lie in field work (Disp. #1) and computer supported collaborative learning (Disp. #2). The project has acted as a catalyst for curriculum review and refinement, and it is likely that this will become an ongoing rather than a once-off process.

Thinking Practices

The development of "routines" as described by Perkins (2003) has not been enacted to date. This implies a need for a change in teaching style and that will require more effort and planning than that demanded by other aspects raised by the project so far.

What sites did everyone visit? (What are the broader implications for the whole staff?)

Life long learning can be modeled by staff and done in-house. Ithaka has provided a framework by which staff can engage in non-threatening professional discussion across a range of topics. This has enabled a variety of perspectives to be considered which would not have occurred otherwise. An example of this is apparent in the nature of cross faculty discussions. The current nature of my workplace is for faculties to exist as discrete entities with very little interaction on either a professional or a social level. Ithaka has provided a vehicle for change in that it draws together teachers from a range of year levels, schools and disciplines to discuss their findings. Although confronting at first, this has developed an atmosphere where the participants are able to openly relate examples of their experiences for others to comment upon. Through this, the inclusion of aspects of the Greek classics into the Year 8 Marine Science course will occur due to a chance discussion between teachers from different campuses of the school coming from different faculties. This has significant implications for cross faculty discussions. Additionally, it has major implications for the learning opportunities afforded students but also for the structural nature of the school in that Ithaka has encouraged a breaking down of the walls that the various staff groups have built between themselves.

Currently there is no regular forum for whole staff discussion of curriculum and pedagogical issues. The pervasive nature of Ithaka has led to an increased awareness of the larger staff body to its existence. This has led to a natural curiosity about what the project involves, who it is affecting and what its outcomes are. A follow on has been a growing acceptance that it is part of "normal" school life and, as such, it has gained a level of credibility that allows it to be discussed freely at various levels. The challenge is to develop this further so that the project begins to colour the nature of staff meetings to direct them more to discussions of educational matters rather than administrative. This is the beginning of the development of a professional teaching community as described by Grossman & Wineburg (2000). Something every school claims they have but few possess in reality.

Where were the potholes? (What did we find that we hadn't expected?)

The process of action research that we have undertaken has not been smooth, but with every pothole there is a down-side and an up-side. Many of the positive aspects of the study have been mentioned and the on-going commitment of the various participants to it is an indicator that there were a lot more pluses than minuses. But minuses there were. The greatest of these was motivation, both personal and that of other staff. The commitment to smaller, achievable outcomes assisted this. By just recording aspects of my lessons and by committing to nothing more than, "we'll see where this takes us", there was always a light at the end of the tunnel. I was in control of how far away that light was and so retained a feeling of control over the process that I might not have had otherwise. To get the observations and the associated analysis completed was the initial goal. What I did with it then was up to me. Others have found the same. Whilst the open-ended nature of the project was unnerving for most at the beginning, this was likely to be because classroom teachers have not had much experience with this potentially highly confronting process of self examination. Being able to retain a sense of control helped justify the time being devoted to the task and knowing that there was always a way out may have enabled some to hold on during difficult times. Additionally, the support and modeling provided by other participants was significant. Frank discussions confirmed that others had aspects with which they were struggling and this was comforting in some way. Being able to see the enthusiasm and effort made by some was inspiring. Combined these helped combat motivational issues until they could be resolved.

Initially I was keen for other members of my faculty to commit to the project but this was difficult for me because I wasn't actually sure where I was heading with it and difficult because we were not sure what the beginnings of the project were going to build into. For some this is not a problem, but for those who claim they have seen the wheel re-invented many times over, this is a significant issue. I hadn't really expected this and neither had some of my colleagues whose background included deeper involvement in reflection on professional practice that was the case currently. The difficulty here was perhaps one of vision and perspective. I had a short sighted view of what was going to be achieved. By wanting to sell the project to other staff I wrestled with trying to tie it into a neat package that could be dressed up and delivered to those I wanted to get onboard the project. My inability to do this well may have sent the message that we didn't really have any idea what we were doing (Perhaps initially we didn't) and this was very confronting initially. With time however, this has resolved itself. Many of those with an aversion to wheel makers have seen that we are trying to develop tools that suit our current classroom contexts. No wagon wheels here, but development of models that enable us to travel the current terrain with more certainty and comfort.

CONCLUSION

Involvement in Ithaka has forced me to examine a number of issues that I would not have given much time to previously. The path of professional review that it has led us down has not been direct or smooth, but it has been a journey so far that has been invaluable. For the context in which I operated, there are some factors which seemed to have a large influence on the outcomes of the project.

Personal – it has been important to allow staff to make of Ithaka what they will. Whatever the individual outcomes, professional learning will happen. This can only

have a positive impact on the current science program as we form habits of looking more deeply into what we do, examine why we do those things and justify them against the educational outcomes we claim we value.

Professional – the process of review has forced engagement with other practitioners. With this, a common language has had to be learned, usually with the classroom practitioner being challenged to make sense of what the educational theorists are saying and for the theorists to place stated classroom practice into some academic context. This bridging of academic and practitioner has been enlightening and invaluable giving credibility to the participation of both groups.

Pedagogical – once you have determined the things you value, personal integrity forces you to have a close look at how that aligns with your practice. This is the beginning of building reflective practice into your own practices but also of leading others along the same path and overcoming the various hurdles this may present (eg. Workload, threat). There is no argument that the person who has made those judgements has no idea of the realities of your classroom. The judgements you make about your practice are more likely to influence future practice because they are your own.

Managerial – the need for a charismatic leader seems to be very important in the initial stages. It is more comfortable to follow someone who looks and sounds as though they know where they are going rather than stumble around blindly hoping to reach some worthwhile destination. In time this becomes less necessary as the skills of navigation are passed onto others.

Initial data collection needs to be kept simple to allow participants time to grow into the project, encouraging ownership and a habit of reflection that may stay with them long after the current project ends. Allowing participants to arrive at their own motivations enables them to see value in what they are doing, improving chances of longer term survival.

Practical - Give the project a title that has meaning for all participants. It doesn't have to be the same meaning, but one that all can find some truth in. Perhaps this also suggests that someone with a maths/science background might be unsuitable as a project leader as they are not disposed to having questions posed which do not have a clear cut answer, thus affecting the direction of the focus and eroding its capacity to engender longer term processes of reflection.

Ithaka has been successful for me for a number of reasons. It has forced me to attempt to quantify what it is that I value in a science student and to then reflect upon whether or not the program that I have devised allows them to display these qualities. I have been challenged to compare what I do against the work of others at both the academic and practitioner levels, in the process gaining insights to my teaching style that I had not recognized before. On a broader scale, it has encouraged more open dialogue between me and staff from a variety of teaching situations. I have been exposed to a variety of perspectives that has enabled me to escape my classroom intellectually in much the same way as I would like my students to. I am now in a position to move forward with initiatives for curriculum development knowing that what I do will be a product of my exposure to the actions of my students and other educational professionals, flavoured by the values of reflective review that my involvement in this project has taught me.

Reference

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