

WHAT THE STUDENTS SAY: GIVING FEEDBACK ON A PROBLEM-BASED LEARNING PROJECT

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A satisfactory evaluation of learning outcomes in Problem-Based Learning (PBL) has been lacking in much research. Savin-Baden (2000) points out that in PBL literature there is “little known about what actually occurs ... in terms of staff’s and students’ ‘lived experience’ of the curriculum” (p.9). This paper reports tertiary students’ comments on their PBL experience in terms of Savin-Baden’s three stances: personal, pedagogical and interactional. This paper also reports on the difficulties encountered and the successful learning made by a group of final-year university students who participated in problem-based learning projects with real world host organizations. Feedback was gathered through an analysis of semi-structured interviews and reflective journals. The data thus obtained provides a basis for evaluation of the success of the teaching and learning on the one hand, and a direction for future improvement on the other. The paper is the first part of a research series to evaluate learning outcomes as perceived by the major stakeholders, students, supervisors, host organizations and employers.

INTRODUCTION

As Boud (1985) and Barrows (1986) suggest, problem-based learning has a number of different forms according to the nature and goals of the programme. Savin-Baden (2000, p.16) also maintains that problem-based learning “has many guises and differences”, and these “can stem from the disciplines and professional knowledge base into which it is introduced, and/or the structural and pedagogical decisions that have been made during implementation and subsequent enactment”. Although our model of problem-based learning, which is a combination of project learning, service/work-based learning and problem-based learning as reported at the First Asia-Pacific Problem-based Learning Conference (Lau & Talbot, 2000), does not fall tidily into Barrows’ (1986) taxonomy of problem-based learning methods, we feel that our model meets the three broad characteristic components of problem-based learning posited by Walton and Mathews (1989)

- Essential characteristics of problem-based learning comprising curricular organization around problems rather than disciplines

- Conditions facilitating problem-based learning such as small groups, tutorial instruction and active learning
- Outcomes facilitated by problem-based learning such as the development of skills and motivation, together with the development of the ability to be lifelong learners

In our model, in asking students to find their own host organization to work with and in defining their own problem/project with the host, we anticipate that students will develop their ability to discern problems before finding ways of solving them. We believe that such training is invaluable in the working world because people do not always have a problem clearly defined and presented to them to start with. Yet the ability to discern problems can be just as important as finding solutions to them. We also consider that, through doing work-based PBL projects, students will be better able to develop lifelong learning skills, integrate relevant learning and skills, and develop their ability to think independently and critically as identified in the objectives set out by Kajewski (1996).

Such may be the intentions of the designer of the PBL project in our language programme. However, questions remain about the achievement of these learning outcomes and what the PBL programme participants, the major stakeholders, perceive the learning outcomes to be. As Savin-Baden (2000) points out, despite the attraction and uptake of problem-based learning since the 1970's in Canada, Australia and the United States, and the 1980's in the UK, PBL literature seems to concentrate largely on its modes of implementation. "There is, as yet, little known about what actually occurs, as it were, *inside* problem-based curricula in terms of staff's and students' 'lived experience' of the curriculum" (p.9). As a consequence, "students' and to some degree staff's voices are largely missing from the literature on problem-based learning"(p.9). What this paper does is to explore the students' voices on their 'lived experience' of our model of problem-based learning.

As the literature on students' feedback on learning outcomes of PBL is scanty, the most comprehensive research we have found so far in this area is a study undertaken by Savin-Baden (2000). In her study of problem-based learning in four universities in the UK, Savin-Baden classifies the PBL learner experience into three main stances: personal, pedagogical and interactional. She reports in her study, in terms of personal stance, participants of PBL moved within and across five domains which she labels as "fragmentation", "discovering my self", "defining my future self", "placing my self in relation to my life world" and "re-placing my self: knowing the world differently" (pp.59-61). She reports that students in her study predominantly adopted 'strategic pedagogy' in their pedagogical stance, that is, they adopted different learning strategies and adapted them to "the changing demands of the world of work" (p.63) and worked "within the remit of what is acceptable to both the authorities (institution, staff, profession) and the student" (p.62). In their interactional stance, students were reported as enabled through PBL to "connect experience through interaction within the group" (p.79). Savin-Baden also notes that "on each occasion when the group worked through a process of problem-solving it promoted group cohesion, mutual understanding and personal development" (p.80). We find Savin-Baden's framework of stances a very useful point of reference in comparing the voices of PBL students in the UK with those in Hong Kong. We are particularly interested in finding out whether PBL students of our own model had similar "lived experience".

RESEARCH METHODOLOGY

The research methodology adopted was that of in-depth structured group interviews of about an hour each. We interviewed six groups of students, who had undergone our PBL project model, at the end of their problem-solving experience (September 1999 to May 2000). The interviews were conducted in English and tape-recorded. After the interview, the tapes were transcribed and the answers analysed according to Savin-Baden's (2000) framework of learner experience and the objectives set out by Kajewski (1986). The students' feedback is quoted almost verbatim in this paper to reflect the authenticity. As these students are ESL learners, their oral English is certainly not flawless (only two of them have reached almost native-like proficiency in English, the rest of them are between intermediate and advanced level in proficiency). However, the writers decided not to edit the students' quoted speech. Where the writers thought the mistakes made may hamper understanding, missing words were put back in square brackets [] to facilitate the reader. Student names quoted in this paper have been changed to protect anonymity.

Background Of Projects

Nature Of Projects

All were promotional projects involving designing and producing brochures, exhibition boards, webpages, booklets and brochures, for example, for the host organizations. The projects were proposed to the respective host organizations as the students perceived the needs or problems (in terms of perceived deficiency) of the organizations to be. Some were fully funded by the organizations, but some had to seek sponsorship to fund their projects on behalf of their organization as part of the package. Funding is often an important issue students have to grapple with.

Duration Of Their Projects

Students started writing up their proposals and firming up the project arrangement with their respective host organizations in early October and most of them wrapped up their project in late March or latest mid-April.

Host Organizations

Students had to find their own host organization to work for and had to propose a communication project as they saw fit to work on for the host organization. The host organizations of the project groups interviewed were all non profit-making ones: Hong Kong Reading Association; Playright (an organization aiming at promoting the importance of play among children and play in hospital outreach); Treats (an organization aiming at integration of people with mixed abilities, abled and disabled); Hong Kong Federation of Handicapped Youth; The Centre for Social Policy Studies, abbreviated as CSPS hereafter, (a research centre of Hong Kong Polytechnic University); and EarthCare (HK) Ltd.

Background Of Project Students

The students interviewed were final-year students of a three-year full time Higher Diploma programme in English for Professional Communication at the City University of Hong Kong.

Most had completed Form 7 before entering the programme. By the time the students joined the programme, most would have already learned English as a second/foreign language for 13-14 years. In the first two years of the programme, they had attended courses in communication, business English, and desktop publishing. Towards the end of their second year, they were given a briefing session on finding three to four groupmates and an outside host organization for their final-year project so that they could start looking in the summer. Of the six groups interviewed, there were some all-female groups and also groups with both males and females, ranging in ages from 20-22.

Nature Of Supervision

All of the project groups were assigned a project supervisor whose job was to advise students mostly on the language and design of the products they produced for their host organizations. When students encountered problems in the process of doing the project, the project supervisor was there to give suggestions, if asked, with the students free to make their own final decisions on solving the problems. Project groups had to work between the academic supervisor in the University and the supervisor(s) in the host organizations to meet their separate requirements.

DISCUSSION - WHAT THE LEARNERS SAY ABOUT THEIR 'LIVED PBL PROJECT EXPERIENCE'

Personal Stance

Fragmentation

In terms of Savin-Baden's (2000, p.59) Personal Stance category of the Dimensions of Learner Experience, there was not much evidence of "Fragmentation" in which core aspects of students' values and beliefs were felt to be at risk or were "threatened through this challenge and resultant uncertainty". Though students reported that they were under stress at times, the outcomes were generally positive:

Peggy (from Playright): I've learned to cope with it, with stress. I have learned to be optimistic about it. No point to go on forever negative about it.

Christine (from EarthCare): I haven't faced so much stress before – doing this project I actually became very exhausted and tired and my method to release my stress is to play TV games, computer games and I can relax myself and give myself a break so that when I have to go back to the project I can have a fresh brain to think about things.

Discovering My Self

Within this domain, as Savin-Baden (2000, p.60) explains, "Self-discovery arises through forms of problem-based learning that promote a reflexive search for self-knowledge and self-improvement within students. Alternatively, Problem-Based Learning may prompt conflict which forces a reappraisal of personal values and a re-evaluation of learner identity". In the

interview, many students reported discovering the kind of person they were and their own strengths and weaknesses, through the project learning experience:

Ben (from EarthCare): After doing the project, I found that I have the strengths in desktop publishing and also am more mature in facing the problems. Also, I discovered that when I work in a certain kind of pressure, I will make a better job instead of just doing it without any pressure.

Raymond (from Treats): I think my weakness is I don't like people to urge me to do anything. But I can meet deadlines. So I did not rush people, I did not urge people to give me the answers from my sponsorship like from the music company. Since I did not urge [the host organization supervisor], she soon forgot me. This is my weakness that maybe in return I don't like people to urge me to do something, so I don't urge people to do something.

It is interesting to note that in their self-discovery, students reported personal growth, assertion of self-identity, maturation in their attitudes, behaviour and outlook of life and perception of self, a positive outcome of this kind of PBL learning experience:

Ben (from EarthCare): I think before doing this project when I encounter some problems, I will think about how to solve them but if I cannot find a method for solving the problems I will become very upset and also, maybe, I will seek help immediately – before thinking of other methods but after doing this project I think I can do it instead of just asking for help.

Jessica (from Treats): I think what I could improve in solving problems that we encountered is maybe my attitude towards people. I think I could do better and be less forceful and less aggressive. We should also consider other people's feelings, we should put on others' shoes.

Brenda (from CSPA): It is really valuable for me to understand myself – I understand that [I am] scared of relationships, especially close relationships. I don't want to express my real feeling as I don't want anybody know or understand the deep feeling in my mind but this project just forced me to break through this.

Defining Future Self

In this domain, students “seek to understand themselves and the learning they are undertaking in terms of a perceived future role, and they see the material being learned in relation to their future self” (Savin-Baden, 2000, p.60). Many students were able to relate their understanding of themselves and their learning to their perceived future self as future professionals. In other words, they can see the relevance of the skills they have learned and the need for transferring them in their future roles:

Carol (from EarthCare): For me, it is the communication skills, no matter if they are written or oral – I think this is very practical and I think even in my future career I have to face different people and [knowing] how to cope with them in terms of paper work or orally I think is very important.

Jessica (from Treats): Even [if] I plan to be a teacher, you still need to negotiate with the colleagues or even principal of the school for ideas or some kind of stuff or event. You still need the negotiations skills when there are two people in the company, you still need to communicate with them and even, for example, I also could adopt desktop publishing skills in desktop publishing my notes for my students in the near future.

Placing My Self In Relation To My 'Life World'

As Savin-Baden (2000) points out, PBL often challenges students to confront “the relationship between the previous experiences of their life world (Habermas, 1989, pp.60-61) and their new experiences emerging from interaction with the objective world”. Our students learned about the complexities of life, the difficulties in real life, which require adjustments in perception and behaviour on their part through doing the project. They learned about the possible unexpected turns of events in executing their plans, which are a part of real life and how to cope with them:

Brenda (from CSPA): I think life is not that simple - now I really understand, things are not simple – I thought before, oh, a brochure is quite a simple thing – write the text and put photos. But it is really really difficult, it can move around and can just take you hours to do it. Now I am more mature and understand that life is not always simple.

Cindy (from EarthCare): I find this a valuable experience because in doing this project we learned how to have contingency plans – it's really a good experience for all of us. It's useful for the future career as well.

Re-Placing My Self: Knowing The World Differently

In this domain, according to Savin-Baden (2000, p.61), students “are able to take up alternative perspectives in order to challenge both themselves and the world”. In fact we feel that this domain is very similar to “placing my self in relation to my life world”. Both domains have to do with confronting their previous knowledge of the world with the new. Savin-Baden has not made a clear distinction between the two. We interpret this domain to be seeing the world, human behaviour and values differently from what students learned to expect in school and from books. Our learners found out about the lack of absolute certainty even in the event of a verbal agreement or promise through doing work-based PBL projects when the host organization or a party went back on their promises. They also learned from real life situations that the working world is not as straightforward as they thought it to be, and that human behaviour may be very different from their expectations (such as people honouring their promises or offering help as best they can). The learners needed to think of ways of coping with such contingencies while adjusting the place of their self in relation to their expectations:

Kelly (from the Federation of Handicapped Youths): Even a short telephone call, or message, we have from the host, we should write down what they agreed, then perhaps fax them the descriptions of the phone message and document it because we found that when we talk about something, actually, they agreed on the phone but the persons always forgot what they agreed to and that makes our schedule a little bit delayed because of this kind of thing.

Carol (from HK Federation of Handicapped Youths): Before I started the project, I have a kind of thinking, that is, I assume every person is just like me – but it finally comes out that [this idea] is wrong, so from this I learned that I shouldn't have the same assumptions. No matter what kind of person the person in charge is, especially in our host organization because they have printing workshop – ask them to get the black and white quotation.

Pedagogical Stance

This notion encapsulates “the way in which students see themselves as learners in particular educational environments” (Savin-Baden, 2000, p.61). There are four domains within this stance: reproductive pedagogy, in which students “tend to adopt methods of learning that maintain the status quo both for the student and in relation to the learning context” (p.62); strategic pedagogy, in which several different learning strategies are used by the students to ensure that their learning is strategically linked to the world of work (p.63); pedagogical autonomy, in which the learner adopts “the most effective means of learning, meeting their own personally defined needs as learners yet also ensuring them that they will pass the course” (p.63); and reflective pedagogy, in which the students “perceive that there are valid perspectives other than their own” (p.63).

Reproductive Pedagogy

In terms of reproductive pedagogy, because of the uncertainties and unpredictability of the work-based learning context, apparently students could not afford to adopt “methods of learning that maintain the status quo”. So in our model of PBL, students could not just “maintain the status quo” and stay where they were in learning, that is they had to make progress in learning.

Strategic Pedagogy

In Savin-Baden (2000)’s study, one-third of the students adopted strategic pedagogy, which embraces “the perceptions of staff expectations of learning, in anticipation that it would be the most effective means of passing the course”, thus “focusing more on strategy and less on the values of process” (pp. 74-75). However, as our students had to deal with the demands of real host organizations rather than just those of the supervisor, they realised that they had to do more than adopting effective means of passing the course. There was no evidence that the students adopted strategic pedagogy in the interviews. In fact, a number of the interviewees emphasized the value of the learning process rather than the outcome and products in the interview:

Terry (from HK Federation of Handicapped Youths): ...we still had to be flexible – with different kinds of communication attitudes and channels to communicate with them so as to attain the goal, but one thing I don't agree with is that I shouldn't be so goal-oriented, not so result-oriented – I think the learning process is much more valuable, much more memorable to the whole self-development.

Very often students spoke of the learning made in the process rather than the outcomes of meeting the supervisor’s expectations or passing the course requirements:

Mandy (from HK Reading Association): I think doing a publicity campaign for the host is an effective way for us to learn because I think we can really learn from doing so because I think through the whole process we can learn a lot about how to solve problems because actually we have encountered different problems in the process. [Such as] the budget of our project, after knowing that we have to negotiate with our host, finally we have solved this problem.

So it seems that doing a work-based PBL learning project is more conducive to students' focusing on the values of the process rather than strategies of achieving the outcome of passing the course. Students have to consider the image of their host organization, their own image, and their accountability to the host and to each other, rather than merely thinking about their own grades.

Pedagogical Autonomy

This domain is characterised by students' ability "to be independent in making decisions about what and how they learn" (Savin-Baden, 2000, p. 63). The fact that the student groups had to decide for themselves which host organization they chose to work with and what project to conduct for them already gave them much room for pedagogical autonomy. For example, those students who want to learn more computer skills may decide to take on web-based projects while those who want to learn more desktop publishing may decide to take on publication-related projects. During the supervision process, students were usually left to make critical decisions on their own, with the supervisor assuming only an advisory role. A number of students indicated that they were put in a position in which they had to exercise their pedagogical autonomy:

Jessica (from Treats): [The supervisor] gave us lots of space for us to handle or deal with the stuff or the project things ourselves independently.

Carter (from Reading Association): [The supervisor] is not just telling us the answer for solving the problem. He will let you think on it instead of telling you the answer. This is better – he will give you room for thinking by yourself.

Reflective Pedagogy

Students in this domain "perceive that there are valid perspectives other than their own, and they accept that all kinds of knowing will help them to 'know' the world better" (Savin-Baden, 2000, p. 63). The fact that our students have to work in a group, with the representatives or supervisors in their host organization as well as with their supervisor on campus, already gives them ample opportunity to be exposed to different perspectives. Furthermore, as part of the course requirements, students wrote six reflective journals in each semester in which they were expected to reflect on their approach in problem-solving critically. Students in the interview were all very positive about the use of reflective journals in developing their reflective and critical thinking:

Terry (from HK Federation of Handicapped Youth): Just writing a diary – when you trace back what you've written, you find what you have done is very valuable and memorable – it contains tears, it contains a smile – many, many things and also one

point is [the] more the problems within the project, the more you can learn. We can learn from the problems, we can learn from mistakes.

The PBL project also helped students to see that there are valid perspectives and qualities other than their own:

Kelly (from HK Federation of Handicapped Youth): I found that all of us have different communication styles and how they affect our project and the leadership styles. I read some articles from the Recruit [newspaper] about management and leadership skills of groups – team spirit something like that. It applied to our group and this is a theory that I can apply to what I encountered to our group. I think for different individuals we have different norms. For example, in our group, most like to work late – for example, we had a phone conference at 12 midnight and it seems that this is our style. However, [one group member] goes to sleep very early and this would be a factor which affects our communications. We have to accept this kind of thing and apply the best solutions.

Interactional Stance

According to Savin-Baden (2000, pp.63-64), interactional stance “encompasses the way in which students interpret the way they as individuals, and others with whom they learn, construct meaning in relation to one another”.

The Ethic Of Individualism

“This domain is characterized by the individual placing himself at the centre of the value system and therefore learning within the group is an activity that is valuable in terms of personal gain for the individual” (Savin-Baden, 2000, p.64). Students in this domain were reported to have “opted for isolation and individualism” (p.78) despite their recognition that they would need skills in teamwork for their future profession. One student in the interview expressed the opinion that he could have learned the skills and knowledge through normal classroom lectures or tutorials:

I would not over estimate the power of project. I know that I have many limitations. I'm not very good at computer, I'm not good at holding the exhibition, but this could be learned in other courses... Apart from the project, I can take other courses. I can still learn how to do exhibitions. Maybe other courses, arts, psychology, history, we can still improve myself apart from the project...Then [doing PBL project], I have learned to accept the ideas that I don't want. The project is too time consuming and we can learn many different things if we are not doing the project.

However, in our experience, there were few students who were in this domain.

Validated Knowing Through Real Talk

In this domain, “through the experience of being heard within a group, being heard by other group members, individual students learn to value their own knowledge and experience” (Savin-Baden, 2000, p. 65). In working in a group, our students found that they had to assert themselves to their fellow team mates and to their host organizations in arriving at a consensus about the best way forward:

Jessie (from CSPA): I think mostly I would spend more time on communicating with my partners and reviewing what I think of the project to show them what I need, what my goal for the project, and because in the beginning I think that to show whatever I think, to show whatever I need to my partners, the host organization, maybe means [I'm] not mature – but I think after the project, I think that it is important that I be frank to my partners and to my host organization.

Connecting Experience Through Interaction

This domain is “characterised by the individual being facilitated through the group process in making sense, through reflection, of his own reality and in confronting dilemmas and problems within that reality” (Savin-Baden, 2000, p. 65). The majority of students in the interview indicated that they were able to connect and make sense of their learning and reality through interaction with group members as well as with the host organization:

Carol (from Treats): It is beyond my expectations. Actually, I learned more from doing this project. For example, communication skills and how to cooperate with others within our group and with our host organization, and other business companies and I learned some skills from the books but sometimes I think it is really beyond that and I think we have to apply our personality and skills to work with others and, thus, what I learned from doing this project is really beyond my expectations. Not for academic purposes - I learned more than that.

Sometimes when they were put in a dilemma or when some people (such as group members, supervisors from both the University and the host organization) made what they considered to be inappropriate suggestions, they learned ways of dealing with them:

Carter (from HK Reading Association): One of the things I learned is [ignoring] some of the ideas and suggestions people have raised because some are too willing to give ideas and maybe their ideas are not too well thought out and applicable to the real situation. If we hear and take whatever they suggest, then we have to work a lot more.

Transactional Dialogue: Mediating Different Worlds

The individual in this domain,

“is enabled to learn both through the experience of others and the appreciation of other people’s lifeworlds, and, by reflecting upon these, to relate them to their own. Dialogue here is central in people’s lives and it is through dialogue that values are deconstructed and reconstructed, and experiences relived and explored, in order to

make sense of roles and relationships. This domain is concerned with identity building through the group process.” (Savin-Baden, 2000, p.66)

Though the students did not demonstrate very explicitly in the interview that they were able to deconstruct and reconstruct their values through dialogue or even argument with the others in the group process, it can be inferred from some of what they said about the most suitable personalities for this kind of PBL group project that they have learned to appreciate other people’s lifeworlds through interaction in the group process and relate it to their own:

Peggy (from Playright): I think the advantages of working in a group are different personalities are suitable and they all can work on different topics. I wonder if some personalities work better in negotiating than others. If you’re in a group of cheerful and helpful personalities, then you will have better negotiations with the organizations, and others can be more motivated to share the design work. But I wonder again, if the outgoing personality is not the best negotiator or the best communicator, then it will generate quite a bit of problem. So, I’m not sure an outgoing personality has the best advantage. Other people who speak less can sit down for hours and do the work.

Carol (from EarthCare): I think one of the group member[s] must have leadership skills. For me I think, being willing to listen to and accept different ideas and being willing to dedicate yourself is very important because four of us have our own ideas and if I don't agree with [one group member's] idea, I can't just refuse her idea. I have to listen while she says the reason behind – and to think if it is really practical and to think if my idea has any weakness?

It can be construed, too, that transactional dialogue in form of discussion or even argument at times must have taken place for learners to make sense of their roles and relationships in a group and to resolve their differences:

Jessica (from Treats): We learned how to get along with people, like in what way we should discuss with our host. I mean the manner or the tone would be better. Also, even ourselves, we need to adopt different approaches or attitudes towards different people in order to maintain a positive or normal relationship with different kinds of people.

CONCLUSION

Overall, as discussed above, there was evidence that students in our model of PBL project learning are quite positive in their personal, pedagogical and interactional stance. From the voices of the students, there is evidence that that the objectives set out by Barrows (1986) and Kajewski (1996) are well met in this kind of learning, which is something that even the students realise cannot be achieved in simulated PBL situations:

(Raymond from Treats): It’s more practical than just doing a simulation since we cannot encounter the problems in the simulation we will face in the real world. For example, booking the facilities; in the simulation we can book anything, but in the

real world we cannot. This helps us to face problems and also teaches us how to overcome them - it is the most useful thing.

Ben (from EarthCare): Something that we can't learn from study – for example, how to solve some problems – we have learned how to solve some problems – that we can not just think in one way – but in many ways to try to solve the same problem – in order to find the best solution.

From the voices of the students, we found that in our mode of work-based PBL project learning, students seemed to be more positive about their learning experience than their counterparts as reported by Savin-Baden (2000). None of our interviewees reported “fragmentation” in their personal stance. They seemed to have been better able to discover themselves, define their future selves and place themselves in relation to their life world. None of our interviewees adopted “reproductive pedagogy” and “strategic pedagogy” just to get by. In fact they seemed to enjoy the process of learning more than the outcomes. Students reported to have experienced a high degree of “pedagogical autonomy” and adopted “reflective pedagogy” in the process. As our mode of PBL is very much group-based and depends to a large extent on interaction with different parties, very few students adopted the “ethic of individualism” in their interactional stance. Students are more involved in their learning, and better motivated, more able to exercise their learner autonomy, and connect experience through interaction than through the more traditional simulated PBL situations as reported by Savin-Baden (2000). After hearing what the students had to say and matching the comments with the expected learning outcomes, we are satisfied that, in general, this kind of learning is leading to worthwhile development in our students.

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