

Problem Based Learning: Does it provide appropriate levels of guidance and flexibility for use in police recruit education?

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Abstract

Education programs for police recruits have often been criticised for their over-reliance on teacher-centred approaches that are less than ideal for promoting functional knowledge and critical thinking skills. Problem-Based Learning (PBL), which is suggested as an alternative, has been criticised for not providing novice learners with appropriate levels of guidance. This paper, drawing on the author's experiences of a 'Police PBL' course originating in North America, will discuss whether this PBL model provides appropriate levels of scaffolding for novice learners in police recruit education. It also discusses how guidance for learners can be utilized in a hybrid PBL model at the New South Wales (NSW) Police College. It is concluded that the Police PBL model provides flexible guidance to novice learners via a range of scaffolding strategies. A hybrid PBL curriculum is also proposed to seek a more effective balance of teacher and learner-centred approaches.

Keywords

Problem-based learning, police education, scaffolding

Introduction

Police recruit education and training programs have been criticised for an over reliance upon teacher-centred strategies and a narrow focus on training that fail to promote the critical thinking and problem-solving skills police require in their operational roles (Birzer, 2003; Bloss, 2004; Chappell, 2005; McCoy, 2006; Bradford & Pynes, 1999). Policing, like other professions, has slowly begun to address these issues by utilising learner-centred approaches such as PBL. PBL has demonstrated some advantages over traditional teaching approaches (Norman & Schmidt, 1992), however, there has been recent debate in relation to how effectively it can guide novice learners to their goals (Kirschner, Sweller & Clark, 2006). The issue of guidance is initially discussed in relation to Police PBL, a developmental course devised and promoted by Cleveland and Saville (2002). This course is analysed in relation to its ability to provide appropriate guidance for novice learners via scaffolding strategies. The discussion of guidance will also be extended to the author's proposed hybrid PBL model as a curriculum wide solution to the flexible combination of teacher and learner-centred strategies.

The role of police education in the 21st century

The role of police has been the subject of considerable debate in recent decades, with traditional assumptions of policing revolving around criminal investigation, random patrol and rapid response to prevent crime being questioned in a number of research studies (Braga, 2002; Peak & Glensor, 1999). To improve policing practice, it has been suggested that problem solving skills could be applied more effectively, especially in relation to community policing, where police address the underlying causes of crime with community stakeholders (Braga, 2002; Peak & Glensor, 1999). Bayley and Bittner (1984) refer to research suggesting police work is fraught with constant decision making, especially in western countries where tactical decision-making and discretion is

delegated to the lowest ranks. It has been suggested the increasingly complex, critical and multi-tasking role of policing requires skills that include problem solving and more independent learning (Haley, 2003).

Like medical education before it, police education has been criticised for relying upon traditional teaching methods that do not reflect the realities of operational practice (Birzer, 2003; Bradford & Pynes, 1999). Birzer (2003) suggests police education is dominated by a militaristic and behaviourist approach, which may be appropriate for teaching technical and procedural skills, but does not promote non-technical skills like problem solving and decision making. Bradford and Pynes (1999), who surveyed a range of police academies, suggest less than 3% of academy teaching time was spent teaching skills in the cognitive and decision-making domain, with time being dominated by task-oriented activities. Peak and Glensor, in their research of community policing applications, indicate ‘...problem solving methods should be the foundation of [recruit] training’ (1999, p.177). Goldstein re-enforces this point by indicating traditional police training does not allow students to identify and solve relevant policing problems, stating, “That is one of the major reasons why recruit training has so often been criticized as having no relevance to the job.” (1999, p. 168).

Cleveland (2006) and McCoy (2006) suggest police education is overly teacher-centred, relying upon the one-way transmission of information, leading students to become passive and inhibiting the development of problem-solving skills. A range of authors suggest police education should make greater use of adult learning principles that encourage a learner-centred approach, promoting critical thinking skills within authentic learning contexts related to their policing duties (Birzer, 2003; Bloss, 2004; Cleveland, 2006; Chappell, 2005; McCoy, 2006).

The literature on police education in NSW paints a similar picture. The Lusher Inquiry into the NSW Police in 1981, criticised the narrow focus of content in police training and an overemphasis on surface learning (Bradley 1996). Considerable reforms in police training followed, however, an independent evaluation by the University of East Anglia found, despite the introduction of adult learning methods, there was still a bias towards teacher-centred learning that was largely authority dependent and did not do enough to develop problem solving capacities (MacDonald, Elliott, Logan, Norris, Norris, Schostak & Kushner, 1990). A later review of the Diploma of Policing Practice indicated recruits’ knowledge was not matched by their application of skills in the field and was again critical of an over-reliance of staff on surface learning approaches (Maxwell, Woolston, Armstrong, Corbo-Crehan, Croatto, Heller-Wagner & Ivanoff, 2002). This review highlighted the need for learning in proper contextual situations and incorporating critical thinking skills into the curriculum. These findings were echoed in a more recent program evaluation, with suggestions that changes were needed to promote more effective integration of learning from individual subjects and application of knowledge (Wooden, Davies, Prescott and Patterson, 2007). Whilst these studies suggest a concerted attempt to utilise adult learning theory in NSW, there are questions as to how ingrained reforms to improve adult education methods have become.

There are several issues which arise from this developing situation. Firstly, we may be paying insufficient attention to facilitating deeper learning approaches, which should assist police students to understand and apply policing skills more effectively. Secondly, the over-use of teacher-centred approaches that have traditionally been used appears to be a major barrier to achieving these goals. This suggests that police agencies should consider making greater use of learner-centred approaches that would better suit learning goals beyond the basic acquisition of knowledge and assist learners in their application of knowledge, in addition to improving the collaborative, decision-making and self-directed learning skills required for their practice.

Problem-based learning and the recent debate on guidance for learners

An example of a learner-centred approach that has been considered by a number of reform minded police agencies is PBL. Barrows (1985) describes PBL as an approach that requires learners to

collect information in a self-directed manner in order to learn the necessary knowledge that will assist them to discover, analyse and solve realistic problems. In an explanation of the foundations of PBL, Schmidt (1993) outlined the following cognitive effects on learners:

1. activation of prior knowledge, with initial analysis of the problem stimulating the retrieval of earlier knowledge;
2. elaboration of knowledge via small-group discussion, actively processing new information;
3. restructuring knowledge to fit the problem through the construction of semantic networks in the learner's memory;
4. learning in context, with the problem serving as a scaffold for cues to support the retrieval of knowledge for similar problems in the future;
5. the use of problems relevant to the student promotes open-ended discussion and epistemic curiosity or motivation to learn.

Meaning is created by the student in their approach to learning activities, making PBL an effective teaching method because it encourages a deeper learning approach or high level cognitive engagement, where students construct meaning and develop functional knowledge (Biggs, 1999). This is opposed to the perspective that learners can be simply given or transmitted information to file unchanged in their memory (Schmidt, 1993; Biggs, 1999). Research suggests that compared with traditional instruction, PBL is more nurturing and enjoyable (Albanese & Mitchell, 1992). It can also enhance the transfer of concepts to similar problems in the future and assist students in retaining knowledge for longer periods (Norman & Schmidt, 1992). Savery (2006) concludes PBL is comparable to traditional teaching in terms of conventional knowledge tests, but PBL medical students exhibited better clinical problem solving skills and generally preferred using PBL. A more recent meta-analysis by Dochy, Segers, Van den Bossche and Gijbels (2003) confirmed that whilst student's knowledge acquisition during PBL was generally no better when compared to traditional approaches, student's remembered more of their acquired knowledge for longer periods. Importantly, when considering the development of functional knowledge, the authors also established a consistent advantage for PBL in relation to acquiring skills.

Some of the most recent debate in relation to the effectiveness of PBL has centred on the question of whether this approach suits the cognitive architecture of humans, due to the allegedly minimal guidance PBL gives learners. Kirschner *et al.* (2006) suggest the PBL process places too much cognitive load on the working memory of novice learners and, as a result, is less beneficial than direct and guided instruction. In particular, they state the free exploration of a complex environment can generate a heavy load on the learner's working memory and lead to less effective learning. This is contrasted to a guided learning environment where learning is scaffolded through various methods to support the learner's working memory (Kirschner *et al.*, 2006). In a reply to Kirschner *et al.* (2006), Schmidt, Loyens, van Gog and Paas (2007) and Hmelo-Silver, Duncan and Chinn (2007) reinforce the benefits of PBL and state it is not necessarily a minimally guided approach. They suggest PBL tutors have the flexibility of providing novice learners with appropriate scaffolding or support via strategies such as group collaboration skills, structured processes, simplified learning tasks, tutorial groups and flexibility in the tutor's role. These techniques can help novice learners build their self-directed learning skills, as the tutor provides guidance that can be flexibly adapted to the learner's level of expertise and complexity of the learning task (Schmidt *et al.*, 2007; Hmelo-Silver *et al.*, 2007). It is also interesting to note that the meta-analysis by Albanese and Mitchell (1992) found that only three out of ten PBL programs exhibited exam marks higher than traditional programs, however, these PBL programs utilized more directive teaching strategies.

In analysing the tutor's role in Police PBL, I considered the claim by Kirschner *et al.* (2006) that PBL is unsuitable for novice learners due to minimal guidance and the retort by Schmidt *et al.* (2007) and Hmelo-Silver *et al.* (2007) that a PBL process with appropriate structure and guidance can support novice learners effectively. An examination of the tutor role modelled during the Police PBL course indicates a significant role for the tutor in scaffolding the learning of police

recruits, who can be considered novice learners, especially when encountering a potentially alien approach to learning and teaching. De Grave, Dolmans and van der Vlueten (1999) describe scaffolding as a strategy to guide learning, where a facilitator provides incremental support for learners to develop critical thinking skills, with these supports being gradually reduced as learners become more independent with their learning. Scaffolding originated from the work of Lev Vygotsky's sociocultural theory and his concept of 'zone of proximal development' (ZPD) (Van Der Stuyf, 2002). Sociocultural theory basically contends that individual learning does not take place in isolation, rather, it is strongly influenced by social interactions that occur in meaningful contexts (Van Der Stuyf, 2002). The ZPD is described as the level of ability just above a learner's current knowledge and skills that can be achieved via scaffolding from a tutor or more capable peers (Loftus & Higgs, 2005). Both of these concepts represent situations found in PBL. Schmidt *et al.* (2007) suggest the PBL tutor will need to employ scaffolding at times to reduce cognitive load and keep novice learners on track, whilst at the same time developing their self-directed learning. A number of researchers have outlined various theories and empirically based design guidelines for the use of scaffolding strategies to support learners (Hmelo-Silver *et al.*, 2007). A few of these strategies, utilized in the Police PBL course, will be analysed.

Achieving guidance in a Police PBL classroom

As part of a broader research project in police education and PBL, I attended a 140 hour Police PBL Instructor Development Course, developed under the auspices of the Community Oriented Policing Services, U.S. Department of Justice (COPS Office) (Saville and Cleveland, 2002). There were 27 course participants, with the majority being police educators schooled in traditional teaching methods. The course was designed to provide police educators in academy and field programs with the skills to design and facilitate PBL. I immersed myself as a learner and observer and used a personal reflection journal to collect data. The observations recorded here are not exhaustive but are selected in light of my current arguments.

The early phases of the course did not utilise PBL, rather, generic learner-centred techniques were used to provide the initial building-blocks for effective collaborative work and deep learning approaches. Hung, Bailey and Jonassen, (2003) suggest developing group-processing skills is important and Schmidt *et al.* (2007) advise training learners in group collaboration skills before using PBL, so group processes function more effectively and thus reduce cognitive load. The Police PBL facilitators spent considerable time on group processes before and during PBL, encouraging us to reflect on our group interactions to promote effective teamwork and interpersonal communication. My reflections on these first two days highlighted some of the issues in relation to the success of group work, such as communication and establishing roles. In particular, I noted in relation to some of our group work, "...a lack of planning...because we had not established our roles to work as a team..." and "...we need to manage our time better." However, by day four, when we were well into our first PBL task, I noted our progress in PBL was assisted by good group dynamics. I described being, "...able to achieve tasks by keeping each other informed, turn taking and listening to each other..." and "...even contribution by all members...".

Schmidt *et al.* (2007) also recommend assigning learning tasks to groups instead of individuals, to share the cognitive load with others. The Police PBL course utilized ill-structured problems directed towards five cohort groups, with the facilitators encouraging the groups to use expertise within groups and harness inter-group collaboration. Cleveland and Saville (2007) believe problem ownership by the group is critical in the success of their learning and solving the ill-structured problem. Schmidt *et al.* (2007) support this notion by reminding us of the role of group discussion in *activating* prior knowledge and assisting individuals to *share* their expertise. Group functioning was also scaffolded via routines encouraged by the facilitators. We were encouraged to adhere to the PBL steps and record our findings in relation to these steps on a flip board given to each cohort group. Routines such as these allow PBL groups to move through activity structures

and provide norms for the group that assist facilitation and support intellectual discourse (Hmelo-Silver *et al.*, 2007). Certainly, the flip board became a focal point for the group interaction, which also provided a permanent record that could be posted on a wall nearby the group or utilized in a future presentation of findings to the larger class.

In relation to the tutor role, there are a number of techniques mentioned in PBL theory followed by the facilitators. For example, it is important for tutors to encourage problem-solving processes and meta-cognitive thinking (Hung *et al.*, 2003; Loftus & Higgs, 2005). We discussed meta-cognition early in the course and were encouraged to build on this concept through our learning journals. Hmelo-Silver *et al.* (2007) also suggest that by providing students with models that demonstrate expert reasoning, tutors can improve their progress when compared to students who do not receive this type of guidance. In terms of modelling problem solving, we examined the Police PBL model and discussed ways of encouraging creativity, such as strategies to encourage deeper learning. One strategy the facilitators used to prompt critical thinking was to watch a documentary called the 'Deep Dive', about a company called IDEO, which specialises in creative problem solving to design products. The facilitators encouraged our reflection to focus on the problem solving process and compare this to the PBL process. Some key points I identified were, the importance of learning from mistakes, utilizing effective teamwork and keeping a focus on the problem solving process. I also noted, "Seeing this model helps me visualise how the PBL process can work".

Schmidt *et al* (2007) also suggest the tutor should monitor the progress of the group and, if their learning has not been activated, knowledge can be shared with the learners to reduce their cognitive load. Direct instruction, when required to provide students with key information on a just in time basis helps promote knowledge construction and further demonstrates why PBL is an example of guided instruction (Hmelo-Silver *et al.*, 2007). This approach was demonstrated in the 'Police PBL' course through methods such as 'pulse teaching', where the facilitator identifies a need to introduce or clarify a topic using a mini lecture or group discussion. This can assist in keeping a group or class on track and varies the teaching methods to suit different learning styles (Saville & Cleveland, 2002). An example of this was a class discussion the facilitators initiated due to concerns about our journal writing. The facilitators revisited journal strategies with the larger group and one of them read out an entry from his journal to demonstrate how they are used to reflect upon learning. The emphasis here was to be flexible in using teacher control to ensure learning remains on track.

Critical questioning is another important tool PBL tutors can utilize to scaffold learning. The Police PBL facilitators emphasised the importance of critical questioning to encourage deeper learning. This requires PBL facilitators to ask their students questions that would encourage elaboration of their understanding and assist in the construction of learning. A study of an expert PBL facilitator demonstrated how students can be encouraged to build causal explanations, assisting with their sense-making and articulation of ideas (Hmelo-Silver *et al.*, 2007). Research has also demonstrated that PBL tutors, who emphasise learning processes, including critical questioning, were more successful than tutors who relied more upon content expertise to support student learning (De Grave *et al.*, 1999).

Another tool the 'Police PBL' course utilises to scaffold the learning process is an evaluation rubric. Cleveland and Saville (2007) emphasise the importance of providing the rubric at the beginning of the learning process to provide a means for learners to guide their learning and gauge their level of success. In particular, I noted during the 'Police PBL' course how useful the rubric was in determining the level of performance required, with criteria provided for levels of not achieved, achieved, superior and exemplary. In relation to the rubric I noted, "...it assists in self-assessment before and during tasks and is specific about standards." During the course, rubrics were used for facilitator, peer and self-evaluation throughout the learning process and provided a key scaffolding tool.

The Police PBL course therefore as a staff development activity for police educators, models a range of strategies that can be used in a flexible manner to provide guidance for PBL learners. The strategies in this example of PBL support the arguments by Schmidt *et al.* (2007) and Hmelo-Silver *et al.* (2007) that PBL is not an example of minimally guided instruction. Schmidt *et al.* (2007) go further to suggest that effective PBL can be consistent with human cognitive architecture whilst activation of prior knowledge and elaboration are achieved. The methods of scaffolding discussed are all directed at achieving these goals. However, whilst these strategies address the PBL classroom, there is also wider curriculum design issues within police recruit education programs that also impact upon the issue of guidance for novice learners.

Implications for curriculum design in police recruit education programs

The use of PBL to prepare learners for their chosen profession has spread well beyond its initial use in medical schools as institutions strive to develop the critical thinking and self-directed learning skills required for professional practice (Tootell & McGeorge, 1998). Many of these professional applications occur in undergraduate settings, where learners have three or four years in tertiary institutions to develop skills with the assistance of PBL programs. This is generally not the case for police recruit education programs. Traditionally, these programs have not been aligned with the tertiary sector and mostly consist of narrow training programs that last up to six months, before continued training on the job. The NSW Police has moved beyond this approach in recent years in a partnership with Charles Sturt University to establish the Associate Degree in Policing Practice (ADPP), the entry program for police recruits. This is an example of a 'professional degree' that seeks to broaden the focus of recruit education and promote the path of professionalisation in policing (Wimshurst and Ransley, 2007). However, even within the NSW program, there is still only a 28 week residential period before students continue their studies by distance education, concurrently with on the job training. PBL therefore would be required to merge into an intensive program that includes academic and skills based subjects.

Literature relating to the use of PBL in police education is limited. Some early evaluations in Australia suggested it improved the confidence of students in undertaking their role and appeared to perform well as a model of police education (Jory, Layton, Hatte & Dickens, 1994; Melville, 1996). Some initial evaluations by the Calgary Police of their traditional training and a pilot PBL program for recruits indicated improvements in written exams and scenario assessments, with suggestions the PBL students were taking a more critical approach to their learning (Clay, 2007). Croal (2006) in one of the very few research studies on PBL in policing suggests PBL is better equipped than more traditional training methods to provide police with the skills they require for their occupation. However, he also suggests there is a need for PBL to fit within a range of teaching approaches used in policing. Croal believes there is a growing acceptance by police educators that,

... a blended environment between instructor-led training to learner-centred training was necessary and one participant goes on further to suggest that, 'current training methodologies are not being abandoned; they're being enhanced with problem based learning. (2006, p. 66)

Proposed Model of Police PBL

The author of this paper has considered this approach in relation to a current proposal to implement PBL within the ADPP at the NSW Police College. The model being proposed resembles the blended or hybrid model mentioned by Croal and suggests maintaining some use of lectures, web based facilities and non-PBL tutorials to support a weekly PBL cycle. Scenario-based training and assessment would also be retained to maintain a real time practical application of skills. Below is a flow chart representing the major characteristics of this model. Students begin the first PBL session, initially brainstorming ideas, then establishing what they currently

know about the problem. These two steps play an important part in activating prior knowledge (Schmidt 1993). Students then finish this session after establishing the learning issues that will drive learning over the rest of the week. Before, and perhaps after the next PBL session, students will attend lectures and tutorials in relation to their four subjects. They will use these as resources to inform their self-directed learning and also address content not covered by the PBL sessions. The students also have access to Interact, an interactive online learning forum for students, and study guides that provide explicit information and require further research and analysis of specific topics. In the second PBL session, students integrate information relating to their learning issues and elaborate on their understanding of the key issues. This session is also an important opportunity for the facilitator to provide appropriate guidance to the PBL groups. In the third PBL session, students present an action plan addressing the problem and conclude with an evaluation of their learning and the PBL process. Their learning from this week is then applied the following week during their scenario training. This provides a further opportunity for students to transfer their learning in a real-time context. The students learning through the week should then provide a basis for further development into the following week as they build their knowledge and skills through increasingly challenging problems and topics that build upon each other in a logical sequence.

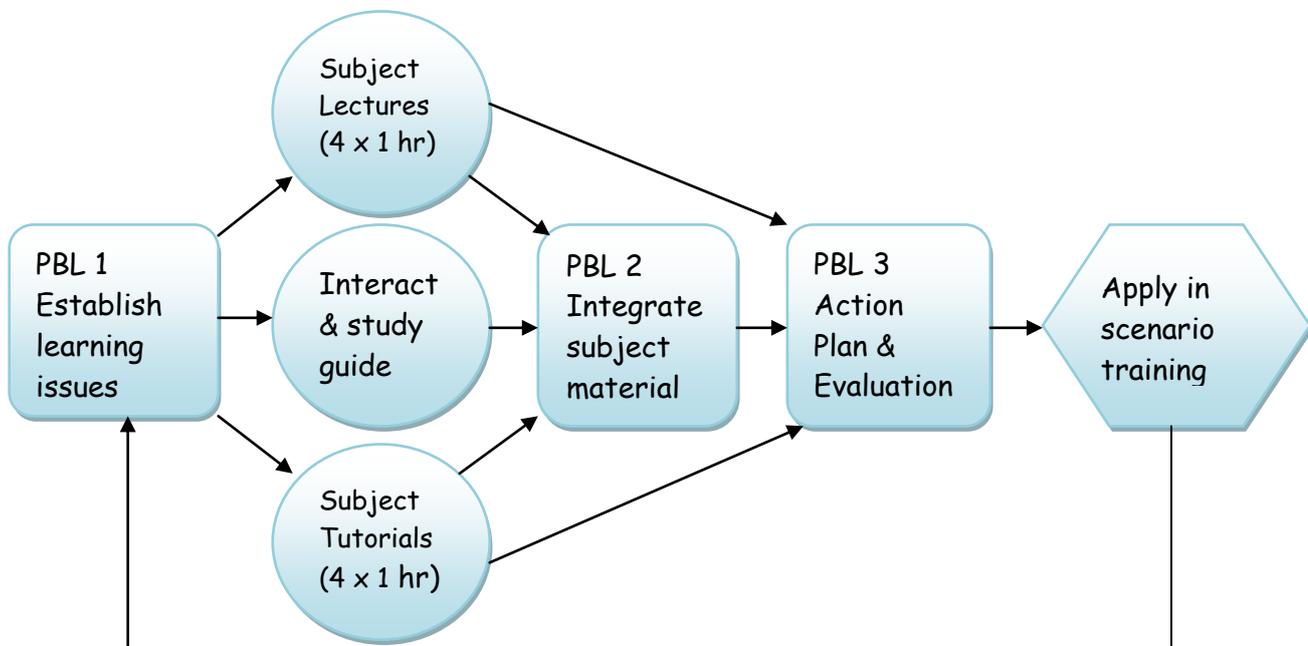


Figure 1: Hybrid Police PBL weekly cycle.

This model can be illustrated via an example of a topic in the first session of the current program. The session consists of four academic subjects, Communications, Interviewing, Police Crime and Society 1 (addressing criminal offences) and Criminal Justice and Policing (addressing police powers). The use of a problem involving a drug offence and surrounding issues would require students to draw together their understanding of the four topic areas to address the problem. Some examples of issues from the four subjects might include; communicating with a drug affected person, cognitive interviewing techniques for witnesses, establishing evidence for drug offences, and reasonable suspicion for a legal drug search. Whilst it is important for students to understand these different topic areas, it is also vital they understand how these topics are integrated and applied in relation to each other in a practical policing situation. Previously, scenario training was relied upon to achieve this, however, the required level of understanding and integration was not being achieved (Wooden *et al*, 2007). The above PBL model is expected to improve this situation and provide the deeper learning students require and problem-solve to achieve a desirable outcome.

Using a hybrid model to scaffold and guide learning

This proposal is similar to the hybrid model referred to by Lai and Tang (2000) in their research of PBL at several Hong Kong universities. They recommended a flexible model, where lectures and skills training are used in conjunction with a skeleton of PBL. Lai and Tang (2000) suggest this approach can provide scaffolding for novice learners who initially struggle to solve problems, especially those from schools where traditional teaching is dominant. Oliver (2005) outlines a similar blended PBL approach that makes use of web facilities and direct instruction to provide support for first year undergraduate students in large classes, a situation similar in some ways to the NSW Police College. He reported findings that these supports were positive for students using PBL.

The author's hybrid model seeks to guide and scaffold student learning for police recruits undertaking a program short and intensive in its content and skill acquisition, where a degree of directive teaching may still be required in some areas. There are also large intakes of students, with some cohorts numbering 600 and beyond. This makes the efficiency of large lectures attractive, however, whilst they have a role providing basic and introductory material, they do so only at a basic level of comprehension due to the passive nature in which learners receive information (Cleveland & Saville, 2007; Prince, 2004). One way of enhancing the use of lectures such as this is through the use of PBL. Schwartz and Bransford (1998) cited in Hmelo-Silver *et al.* (2007) refer to research where students participated in an inquiry activity before a lecture, compared to those who did not. The students receiving the lecture after the activity learned more from the lecture, because it was more meaningful, and assisted the students in explaining the data from their activity. In this case, the lecture was a scaffold for the inquiry activity, and is similar to the author's proposal, with lectures from subject areas being seen as a resource and scaffold for the weekly PBL sessions.

The PBL sessions are also seen as a method of integrating learning from the separate subjects in each session. This is particularly relevant to the current program, where various attempts to integrate learning from across subjects have often not been successful (Wooden *et al.*, 2007). Boud and Feletti (1997) refer to examples from nursing, where PBL fits their demands for an integrated curriculum. They also suggest that if PBL is to work effectively alongside other approaches, there needs to be a holistic approach to curriculum design. At the NSW Police College, this would include a consideration of how the various modes of learning within the curriculum are structured to complement each other and maximise effective learning. A review of PBL research by Hung *et al.* (2003) suggests that broader knowledge acquisition and higher-order thinking development can co-exist and even bolster each other.

Ultimately, the success of this model, should it be implemented, will only be determined by further evaluation and research. Evidence suggests that PBL can address learning goals beyond the acquisition of declarative knowledge, with improvements in functional knowledge, disciplinary practices, collaboration and self-directed learning skills (Hmelo-Silver *et al.*, 2007). What also needs to be determined is the right balance between teacher-centred and learner-centred approaches within the broader curriculum and the appropriate level of guidance utilised within the PBL classroom. Kuhn (2007), in a further reply to Kirschner *et al.* (2006), agrees there is a place for both direct instruction and student-directed inquiry, with educators being challenged to get the balance and sequence right. To emphasise this point Kuhn further states that designing PBL activities, "... may require the most complex and demanding instructional design of all." (2007, p. 112). The argument centred on balancing approaches is taken further by Wilhelm (2008), outlining the 'community of learners' model, influenced by Vygotskian psychology. This model suggests learning is not just about 'transmitting' (teacher-centred) or 'acquiring' (student-centred) knowledge, rather, it is about 'transformation' (learning-centred), where a teacher collaborates with students via scaffolding strategies to construct learning. These concepts are particularly relevant for police educators, who find themselves in a context where an authority driven and teacher-centred philosophy have historically dominated. In essence, it is suggested that the use of

PBL within the hybrid model can provide a compromise between teacher and learner-centred approaches that should meet the ideals of being learning-centred.

Conclusion

'Police PBL' appears to provide the benefits of a learner-centred approach clearly needed as an additional strategy in police recruit education. In particular, it addresses current concerns with the ADPP in relation to improving functional knowledge, problem-solving abilities and self-directed learning skills. There has been debate that PBL does not provide sufficient guidance for novice learners, however, these concerns are addressed on two levels in the policing context. Firstly, the 'Police PBL' model provides various scaffolding strategies based on learning theories, which can be implemented into curriculum and applied collaboratively in the classroom. Secondly, policing programs can still provide an appropriate level of guidance for students through a balance of learning modes that can harness the advantages of both teacher and learner-centred approaches. Within the proposed hybrid model, PBL would be used to facilitate deeper learning and integrate subject matter in authentic policing problems similar to those confronted in policing practice. As students progress through their program, direct guidance and scaffolding would be used in a flexible manner to support the learning of content, in addition to developing the critical thinking and self-directed skills recruits constantly require throughout their careers.

References

- Albanese, M.A. & Mitchell, S. (1992) Problem-based Learning: A Review of Literature on Its Outcomes and Implementation Issues, *Academic Medicine*. Vol. 68, No. 1. pp.52-81.
- Barrows, H.S. (1985) *How to design a problem-based curriculum for the pre clinical years*. Springer, New York.
- Bayley, D.H. & Bittner, E. (1984) Learning the skills of policing, *Law and Contemporary Problems*. Vol. 478, No. 4. pp.35-59.
- Biggs, J. (1999) *Teaching for quality learning at University*, Society for Research into Higher Education. Open University Press, Buckingham.
- Birzer, M.L. (2003) The theory of andragogy applied to police training, in *Policing: An International Journal of Police Strategies and Management*. Vol. 26, No. 1. pp.29-42.
- Bloss, W.P. (2004) Creating critical thinkers: Interactional approaches to police instruction, *Law Enforcement Executive Forum*. 4(5). pp.147-162.
- Boud, D. & Feletti, G. (eds)(1997) *The Challenge of Problem Based Learning*. Kogan Page, London.
- Bradford, D. & Pynes, J. (1999) Police academy training: why hasn't it kept up with practice? *Police Quarterly* Vol 2, No 3. pp.283-301.
- Bradley, D. (1996) in Chappel, D. & Wilson, P. (eds) *Australian Policing: Contemporary Issues*, Butterworths. NSW Police Academy, Goulburn.
- Braga, A.A. (2002) *Problem-Oriented Policing and Crime Prevention*. Criminal Justice Press. Monsey, NY.
- Chappell, A.T. (2005) *Learning in Action: Training the Community Policing Officer*, PhD Dissertation, University of Florida.

- Clay, J. (2007) *Successes and Recommendations for the Implementation of Problem-Based Learning Concepts into Police Recruit Training, Report on Pilot of the Organised Crime: Integrated Study*. Calgary Police Service, Calgary AB.
- Cleveland, G. (2006) Using problem-based learning in police training. *The Police Chief*, December 2006. pp.16-24.
- Cleveland, G. & Saville, G. (2007) *Police PBL, Blueprint for the 21st Century*. Community-Oriented Policing Services, US Department of Justice and Regional Community Policing Training Institute. Wichita State University.
- Croal, L. (2006) *Problem-Based Learning in Basic Police Recruit Training*. Masters Thesis, Royal Roads University.
- De Grave, W.S., Dolmans, D.H.J.M. & van der Vleuten P.M. (1999) Profiles of effective tutors in problem-based learning: scaffolding student learning, *Medical Education*. 33:901-906.
- Dochy, F., Segers, M., Bossche, P. & Gijbels, D. (2003) Effects of problem-based learning: a meta-analysis, *Learning and Instruction*. Vol. 13, Issue 5, pp. 533-568.
- Goldstein, H. (1990) *Problem-Oriented Policing*. Temple University Press, Philadelphia.
- Haley, K. (2003) Police academy management: Procedures, problems and issues, in Palmiotto M and Dantzker, M. eds *Policing and Training Issues*. Prentice Hall, New Jersey. pp.7-22.
- Hmelo-Silver, C.E., Duncan, R. G. & Chinn, C. A. (2007) Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark (2006), *Educational Psychologist*. 42(2), 99-107.
- Hung, W., Bailey, J. & Jonassen, D.H. (2003) Exploring the Tensions of Problem-Based Learning: Insights from Research, *New Directions For Teaching And Learning*. No. 95, Fall 2003 pp. 13-23.
- Jory, D., Layton, C., Hatte, P. & Dickens, L. (1994) *An Initial Evaluation of Problem Based Learning in the Recruit Education Program*. NSW Police Academy, Goulburn.
- Kirschner, P.A., Sweller, J. & Clark, R.E. (2006) Why minimal guidance during Instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching, *Educational Psychologist*. 41(2), 75-86.
- Kuhn, D. (2007) Is direct instruction an answer to the right question? *Educational Psychologist*, 42(2), 109-113.
- Lai, P. & Tang, C. (2000). Obstacles to the implementation of problem-based learning (PBL) in local universities of Hong Kong. In O.S. Tan, P.Little, S.Y.Hee & J. Conway (eds.). *Problem-Based Learning: Educational Innovation Across Disciplines*. Singapore: Temasek Centre for problem-based learning.
- Loftus, S. & Higgs, J. (2005) Reconceptualising problem-based learning in a Vygotskian framework, *Focus on Health and Professional Education: A Multi-Disciplinary Journal*. Vol. 7, No. 1 pp.1-14.
- MacDonald, B., Elliott, J., Logan, T., Norris, N., Norris, C., Schostak, J., & Kushner, S., (1990) *The NSW Police Recruit Education Program, an independent evaluation by the Centre for Applied Research in Education*. Norwich, UK.
- Melville, D. (1996) *Problem based learning-A means to an end for professional education*. Paper delivered at conference for Continuing Professional Education, Coffs Harbour. Department of Continuing Education, University of New England.
- McCoy, M.R. (2006) Teaching style and the application of adult learning principles by police instructors, in *Policing: An International Journal of Police Strategies and Management*. Vol. 29, No. 1, p. 77-91.

- Norman, G.R. & Schmidt, H.G. (1992) The psychological basis of problem-based learning: A review of the evidence, *Academic Medicine*. Vol. 67, No. 9, 557-565.
- Oliver, R. (2005) Using a blended learning approach to support problem-based learning with first year students in large undergraduate classes. In C. Looi, D. Jonassen & M. Ikeda,(Eds). *Towards Sustainable and Scalable Educational Innovations Informed by the Learning Science..* (pp. 848-851). Amsterdam: IOS Press.
- Peak, K.J. and Glensor, R. (1999) *Community Policing and Problem Solving, 2nd Ed.* Prentice Hall, New Jersey.
- Prince, M. (2004) Does Active Learning Work? A Review of the Research, *Journal of Engineering Education*. 93(3), pp.223-231.
- Savery, J.R. (2006) Overview of problem-based learning: definitions and distinctions. *The Interdisciplinary Journal of Problem-based Learning*. Vol 1, No 1. pp.9-20.
- Saville, G. & Cleveland, G. (2002) *Instructor Development Course Problem-based Learning for Police: Instructor's Manual*. Community-Oriented Policing Services. US Department of Justice.
- Schmidt, H.G. (1993) Foundations of problem-based learning: some explanatory notes, *Medical Education*.1993, 422-432.
- Schmidt, H.G., Loyens S., van Gog T. & Paas F. (2007) Problem-based learning *is* compatible with human cognitive architecture: commentary on Kirschner, Sweller and Clark (2006), *Educational Psychologist*. 42(2), 91-97.
- Tootell, K. & McGeorge, D. (1998) *An investigation of the use of problem based learning in professional degrees*. Paper presented at the Australian Association for Research in Education (AARE) Conference, Adelaide.
- Van Der Stuyf, R. R. (2002) Scaffolding as a teaching strategy, *Adolescent Learning and Development*. Section 0500A – Fall 2002.
- Wilhelm, J. (2008) MyRead, Strategies for teaching reading in the middle years. adapted from *Strategic reading: guiding students to lifelong literacy*, by Wilhelm J., Baker T. and Dube J., Heinemann, New Hampshire, USA.
- Wimshurst, K. & Ransley, J. (2007) Police education and the university sector: Contrasting models from the Australian experience, in *Journal of Criminal Justice Education*. Vol. 18, No. 1. pp.106-122.
- Wooden, K., Davies A., Prescott, D. and Patterson, C. (2007) *Curriculum Review Team: Report*. NSW Police College, Goulburn.
- Woolston, R., Maxwell, J., Armstrong, K., Corbo-Crehan, A., Croatto, M., Heller-Wagner, E. and Ivanoff, P. (2002) *Review of the Diploma of Policing Practice: Final Report*. NSW Police College, Goulburn.

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