Problem Based Learning, Group Process and the Mid-Career Professional: Implications for Graduate Education

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Abstract

Problem-based learning (PBL) is becoming increasingly popular as a method of educating professionals, although its use is more widespread at undergraduate pre-service levels than in graduate education. Existing literature tends to focus upon delivery methods and student achievement at the conclusion of a PBL-based course, and little research addresses the potential of PBL to meet the needs of professionals at graduate levels. This paper focuses on a Master's program centered on PBL, presenting a study of mid-career professionals' perceptions of their long-term learning attributed to PBL experiences. Participants involved program graduates, experienced professionals from a broad range of disciplines including health care, education, social services, military and peace-keeping forces, and business management. Questionnaires distributed among program graduates (N=133) and follow-up interviews with twenty respondents yielded themes supporting the effectiveness of problem-based learning in developing particular skills and understandings. Students perceived their most significant learnings were related to two main areas: *group process* and *self-knowledge* (including sub-themes of learning to understand different perspectives, to cooperate, to lead small groups, to manage conflict, self-awareness, confidence, and systems thinking). Both areas were claimed by students to be highly valuable in their professional practice over the long term. The article closes with practical implications of these findings for professional education.

Problem Based Learning, Group Process and Mid-Career Professionals: Implications for Graduate Education

Introduction

Foundational or disciplinary knowledge is only part of what many advocate should be fundamental in professional training. As Hanrahan and Isaacs (2001) point out, changing public expectations of graduates in the workplace are demanding student outcomes such as relational skills, ability to function well in teams, and commitment to lifelong learning. This is particularly so in professionals' education. Problem-based learning or PBL is an instructional approach that has enjoyed increasing popularity in the education of professionals in medicine (Bligh, 1995), education (Bridges and Hallinger, 1997; Casey and Howson, 1993), pharmacy (Fisher, 1994), psychotherapy (Aronowitsch and Craaford, 1995), social work (Hughes, 1992) and other disciplines, particularly at the pre-service or undergraduate levels. Casey and Howson (1993) describe the goal of problem-centered methods as developing "creative, independent problem-solvers able to harness their creativity through organization and planning" (p. 361). The widespread adoption of PBL can be argued to indicate a general pedagogical shift from what Mann and Kaufman (1995) characterize as traditional content-focused lecture-delivered instruction assessing student outcomes according to quantity of information mastered, towards activity-based, student-centered learning assessing student outcomes as ability to apply information and think critically to solve problems.

However, PBL is not without its critics. Issues raised include the artificiality, pre-determined, historical nature of problems that students work with, placing them in a decontextualized space which occludes important political and cultural issues of situated professional practice (Fenwick and Parsons, 1998). Existing literature on PBL tends to focus on student achievement (Albanese and Mitchell, 1993) and methods of implementation (Bernstein, Tipping, Bercovitz and Skinner, 1995). How this achievement is measured, what professional perspectives are shaped by framing practice as 'problems to be solved', and what criteria are brought to bear on questions about what counts as meaningful knowledge for professionals, are less well-explicated (Fenwick and Parsons, 1998).

Meanwhile, as Cervero (2001) shows, continuing professional education is a rapidly changing field. Significant numbers of professionals are returning to higher education, often at mid-career. While some may seek new careers in administration or other disciplines through the avenue of a graduate degree, others appear to be turning to graduate education to refresh or deepen their skills and knowledge, increase their credentials and therefore their 'marketability' in shifting workplace conditions, or to access contemporary instructional resources that were unavailable at the time of their pre-service education (such as emerging technologies, or activity-based learning). These mid-career professionals bring with them particular learning needs, educational expectations and aspirations, expertise and broad field experience (Cervero, 2001). Many have argued that universities are increasingly pressured to provide flexible learning opportunities (Garrick and Usher, 2000) to accommodate the 'new vocationalism' framing students' expectations of higher education (Symes and McIntyre, 2000). These all have implications for the organization and delivery of higher education programs hoping to attract

mid-career professionals and help them to achieve success that is meaningful to them in their own contexts of practice.

The purpose of the study reported here was to develop understanding of mid-career professionals' experiences and satisfaction levels with a problem-based learning program in graduate education. In particular, the study explored three questions: What are the most meaningful learner experiences for personal and professional development provided by problem-based learning? What evidence of this development do learners observe in their lives and work practice over the long term? What particular aspects of problem-based learning approaches do different learners perceive contribute most to their development as mid-career professionals?

These descriptions of personal experiences can help provide insight into the range of learners' needs and expectations in graduate education, as well as the kinds of knowledge and learning processes valued by different learners. Because the study examined perceptions of graduates up to four years after completion of the program, the findings also shed light on learners' perceived application in practice over the long term of knowledge and skills developed in the problem-based learning program. Finally, these findings help indicate what practices in particular, in the nature of organization and delivery of PBL, are perceived by mid-career professionals to enhance or limit meaningful learning experiences for them in graduate education.

The issues addressed by this study may provide information about mid-career professionals as graduate students that enhances our existing literature about higher education students' experiences and self-perceived learning needs. The information about problem-based learning yielded here may point to PBL practices and supporting program features that are perceived by professional learners to be particularly effective in overcoming some of the drawbacks of PBL described in existing literature.

Problem-Based Learning in Higher Education

Since the popularization of Donald Schon's (1983) notion of the reflective practitioner, attention in professional education has focused on understanding practice as a process of framing ill-structured problems and reflectively solving them in unpredictable "messy" contexts. Problem-based learning (PBL) advocates maintain that professionals can develop these approaches through a curriculum organized around a series of "cases" profiling dilemmas of practice which student professionals read, "diagnose" and discuss, exploring strategies for solving these problems (Albanese and Mitchell, 1993; Norman and Schmidt, 1992). Bligh (1995) describes problem-based learning as an approach which helps the learner frame experience as a series of problems to be solved, where the process of learning unfolds through the application of knowledge and skills to the solution of "real" problems in the contexts of "real" practice. Problem-based learning is often acclaimed in terms such as "active, self-directed" (Bernstein, et. al., 1995) and "student-centered" (Mann and Kaufman, 1995). Margetson (1995) claims that PBL approaches foster "deep" learning, encouraging participative, co-operative, reflective, critical, informed engagement of students. In contrast, "traditional" teaching approaches are characterized as "didactic and directive", emphasizing recall of theoretical knowledge (Bligh, 1995; Mann and Kaufman, 1995). Supporters claim that PBL has revolutionized medical education (Ostbye, Robinson, and Weston, 1994). Little critical evaluation of problem-based learning has emerged, or examination from learners' perspectives of the kinds of knowledge they

develop in PBL activity or its long-term impact on their practice. Critics generally seem to accept the philosophical premise of PBL, and quibble only about particular practices within its application (Vernon, 1995). Focus is on its utility at the undergraduate level. Few programs employ PBL in graduate education, and little research focuses on mid-career professionals and PBL

Research Context and Method

PBL Program

In 1996, Harrington University[1] (HU) in western Canada launched as its flagship program a fully accredited Master of Arts degree in organizational leadership for mid-career professionals. This program claims to be centered on problem-based learning, and designed specifically to appeal to learners' "needs" as described by the mid-career professionals targeted by the program (Hamilton, 2000). In different years, learner evaluations have been reviewed annually by faculty, with substantive program changes often implemented the following year. Learners from a wide variety of industrial and public sectors and professions are mixed together in cohort groups of approximately 55 which reside on campus for five weeks in the summers of year one and year two. All courses outside the five-week summer residencies are delivered on-line. Accessibility is stressed. Applicants without a bachelor's degree are accepted into the program through a process of prior learning assessment. The program normally takes two years to complete, ending with final approval of a major research project report[2]. The program enjoys a degree completion rate of about 87%, according to the program director (Hamilton, 2001).

The program's PBL approach, delivered in the first five-week summer residency, focuses on problem cases prepared by organizations experiencing a complex issue. Learners are provided some briefing in the problem and its background and some instruction in problem analysis strategies, problem-solving approaches, communication and reflective self-assessment techniques. Then learners are placed in groups of eight and given one week on their own to research, analyze and prepare recommendations about the issue for the organization. Groups work intensively all day every day, and sometimes into the night. Throughout the week the groups are observed by different faculty members, who provide formative and later summative feedback about individual and group work and problem-solving process. On Friday each group has 15 minutes to present their recommendations to organizational representatives and the entire learning community. A new group is formed the following week and the process repeated.

Supporting the PBL component are two practices which faculty and learners pointed to as significant influences on their PBL experiences: (1) a strong emphasis on community-building among the entire cohort and group process among the problem groups; and (2) continual emphasis on reflection, self- and peer-assessment using instruments such as the Myers-Briggs personality type indicator, and activities such as journalling and scheduled reflective dialogue.

Harrington University appears to be successful in attracting mid-career professional students for this program. From one cohort in 1996, the program has grown quickly: four new cohorts of 55 all began the MA degree in the summer of 2001. The program director describes marketing as

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[1] A pseudonym.

[2] Learners each propose, conduct, and write a report on an applied major research project. At HU, this project must incorporate action research, and be situated within a sponsoring organization.

targeting the needs of the mid-career professional, especially those seeking a non-traditional educational experience: a program combining technology and residential education, involving serious self-examination and personal change (Hamilton, 2001). Many students apparently are attracted through friends' and colleagues' endorsement of the program as 'life-changing'.

Participants in the Study

A questionnaire was mailed to all past graduates enrolled in the Harrington University Master's in Leadership program from 1996-1999 across Canada (N= 286). Of these, 166 were returned for a response rate of 58%. Respondents included 106 women and 66 men, reflecting the approximate gender balance of the learning cohorts. Age range was concentrated in the 40-50 age group (61%)[3]. A wide occupational diversity was represented[4], and responses were received from almost all provinces of Canada (although not surprisingly 78% resided and practiced in the university's home province). All respondents had successfully completed the MA program.

Twenty participants were chosen from those questionnaire respondents indicating their willingness to be interviewed. Generally five graduates from each year's starting cohort (1996, 1997, 1998, 1999) were interviewed. Eleven were women and nine men. Eleven resided in the university's home province with the rest distributed among central, eastern and northern Canada. Occupational range of the interview participants was wide. Eight people self-identified their context as "education" including five in post-secondary (four administrators), one in public education, and two working as trainers. Six indicated their primary occupation to be "health care": three were mid-level administrators, two were hospital-based nurses, and one an organizational CEO in a emergency medical response service. Three were administrators in police forces or the military, two in training and development. Two were mid-level managers in large government departments. Two were self-employed as organizational development consultants. However, five interviewees indicated they either had experienced significant career change since completing the HU Master's program, or were seriously considering a significant change. All five attributed their career changes directly to personal transformations they experienced in the MA program. Other interviewees indicated having experienced significant career change prior to beginning the program, and this change was often linked to their reason for seeking graduate education.

Procedure of the Study

A questionnaire was prepared from conversations with faculty and a small group of program graduates, then pilot-tested with an additional small group of program graduates. Aside from demographic information, the questions asked respondents to indicate their perceived most significant learnings related to their PBL experiences, the extent of its long-term influence on their work practice, and their personal satisfaction with various aspects of the problem-based learning components of the program. A ten-point scale was chosen for the questionnaire's closed items to allow respondents as much flexibility as possible. (A copy of the complete questionnaire

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[3]Only 23% of questionnaire respondents were aged 29-39 at the start of their MA program, 11% were 51-61, 7 respondents were 18-28, and 2 were over 62. The high representation of a mid-life group was not unexpected in a program targeting mid-career professionals.

[4] Professional occupations were concentrated in education (28%) and health care (25%), while 19 people were employed in government, 19 were in social/civic services, 18 were self-employed, 7 in non-profit organizations, 6 in human resources, 3 in each of industry and business services, and 1 in each of financial services, ministry and retail.

is available in Author, 2001). On the basis of analysis of the questionnaire responses, a semi-structured interview schedule was designed for use in the telephone interviews.

Follow-up interviews with twenty participants were approximately 30-45 minutes in length, and conducted by telephone. These interview conversations were semi-structured, in-depth and open-ended in nature. Participants were asked to describe their most outstanding experiences in the problem-based learning activities, their perceived process of learning during and after PBL activities, the most useful long-term knowledge and skills they perceived themselves having developed in PBL activities (and indicators of these in their life and practice), and examples of ways they found themselves integrating their learning into their workplace practice. However in the spirit of emergent qualitative interviews, conversations did not always follow this list of questions strictly. Many were guided by the particular interests, stories and emphases of participants related to problem-based learning in their HU graduate education. All twenty interviews were tape-recorded and fully transcribed.

Data Analysis

Descriptive quantitative analysis was employed for the ten-point scale questions. These questions were coded and calculated to determine rating frequency, median and mean of respondents' ratings for each item. Then for each question, findings for various demographic dimensions were calculated to determine rating frequency, median and mean for each dimension (gender, age, professional discipline, occupational context, as well as selected combinations) on each question. Written responses to open-ended questions were analysed to identify new themes, to determine issues not adequately addressed in the questionnaire, and to highlight areas of particular interest to particular respondents. These were each assigned codes and were calculated in terms of frequency of responses. On the basis of this descriptive analysis of the questionnaire responses, a semi-structured interview schedule was designed for use in the telephone interviews.

Interview transcripts were analysed using interpretive techniques of qualitative data coding and categorizing following Ely (1991) to generating themes for comparison across the interviews. All transcripts were read and tapes listened to multiple times. Conversations were divided into small bits, and analysed for topics and sub-topics which were then coded as categories of meaning. These categories were read against one another within each transcript, seeking patterns of commonality as well as points of difference and contradiction. A master list of categories was then generated and read comparatively against each transcript in turn. After these categories and sub categories were refined, the next readings of whole manuscripts sought to identify deeper themes across the transcripts.

In the final stage of analysis, themes from the transcripts were compared with results from the quantitative analysis to locate general patterns of similarity, points of clarification or intensification offered by the transcripts to the questionnaire responses, and points of contradiction. Themes and discussion of the patterns generated in this analysis were sent to each interview participant for validation. Revisions were made according to the wishes of all those who requested modifications pertaining to their own contributions to this study[5].

[5] A report of this study containing full details of procedures, analysis and findings is available (Author, 2001).

Findings

Findings reported here include some questionnaire results, but focus on themes derived from qualitative analysis of the interviews which supported and extended patterns evident in the quantitative analysis. The first group of themes reports *significant long-term learnings* perceived by mid-career professionals in the PBL process. The second group of themes illustrates participant descriptions of their *experiences in PBL activities* at Harrington University.

Significant Long-Term Learnings in the PBL Process

The majority of respondents (77% of the questionnaire respondents and 85% of interview participants) indicated the residential, small-group problem-based learning experience to be "very useful" to their long-term learning as professionals. And, in a list of ten program components including distance learning courses and the Major Research Project, the most frequently picked response to the question "Which area of the program contributed most to your long-term learning?" was problem-based learning. Participants' perceptions of their most significant long-term learning obtaining from their experiences in the PBL activities focused on two main areas: group process and self-awareness.

On the questionnaires, 61% of respondents ranked their top learning in problem-based learning to be "managing group process". The other two highest-ranked learnings were, in order, "understanding different perspectives", and "systems thinking". Some questionnaire respondents volunteered comments about the learning to appreciate the importance and complexity of group process, learning how to listen and communicate effectively across different styles and values, and how to accept and deal with emotion in group process. To the questions, "What long-term changes have you observed within yourself that directly related to the problem-based learning portion of the MAL program?", the majority of questionnaire respondents chose, as their number-one learning, "Self-knowledge" (66%). Self-knowledge was selected over a list of fifteen possibilities including values related to leadership, patterns of work behavior, patterns of personal behavior, work relationships, and attitudes towards work.

Interviewees also emphasized group process as their most significant learning developed in the PBL activity, echoing sub-themes of communication as well as learning to appreciate others, cooperate, lead small groups, and manage conflict. In addition, interviewees described significant learning related to self-knowledge and systems thinking that they perceived had developed during their PBL experiences. These sub-themes are briefly described below, and illustrated with examples of participant comments.

Significant Learning: to understand different perspectives

A majority of interviewees described their most profound learning as coming to understand other people's perspectives. One teacher explained that the mixed occupations in each group forced learners to confront significant differences:

> To appreciate and respect the diversity of others . . . because in your organization you are surrounded by people like yourself, with the same lingo, values, culture. But [here] you're thrown together with very different people.

A national non-profit organization director explained her learning to accept that "the world is full of shades of grey", and to value the ambiguity of different perspectives and meanings about the same thing:

> My world was very black and white - I didn't think it was. Being a fairly strong leader, I thought it was my job to advance my opinions. Now I find that I'm able to stand back and appreciate and listen with greater respect where others are coming from. It isn't so important for me to be right any more.

Significant Learning: how to cooperate

A key personal transition according to many interviewees was moving past competition with others, and learning how to truly cooperate effectively. A postsecondary director attributed this movement to the power leveling that she believed occurred:

> It's the process of having people sit down as equals, working together to solve a problem, where cooperation is a requirement. People find a lot of ways of ducking out of that in their working lives. Either they have more power, or they reserve certain rights for some decisions and delegate others. Or there's just not a true collaborative process that takes place and people kid themselves that it is, but really they're withholding power. In the [HU] setting, it's impossible to do that.

One nurse described the group members learning that others' strengths were not a threat, but a complement to their own:

> You're really not competing against each other. When you get over that, you start to cooperate. I'm well aware of where I'm not strong, in research, but others would go away and come back with incredible amounts of information.

Some mentioned that their previous working style preference had been independent but now, as one questionnaire respondent explained, "I will always remember the power of collaboration even when I'm tempted to do it alone".

Significant Learning: how to lead group process

Interviewees reported varying degrees of change in their actual leadership style, from a significant transformation ("I used to be a lone ranger"), to a shift incorporating more emphasis on relationships. Five perceived increased personal capability in their own practice in creating and coaching teams, which they attributed directly to their PBL experiences. One health care administrator described dramatic shift to more relational leadership:

> I am now very much a stewardship leader and guide my staff. I don't force or push, I allow them to make mistakes. I allow them to acknowledge and to learn and I bring people together in a learning environment that's conducive to moving them forward. And I believe that is one of the most powerful things that came out of HU for me, was to allow that and to acknowledge that.

Significant Learning: to understand and accept conflict in group process

Two-thirds of interviewees described significant interpersonal conflicts in the problem-solving groups. While some expressed discomfort with these ("I didn't pay to sit down and get involved in a fist fight. I came to engage in a collegial, intellectual exploration"), others viewed

these conflicts as critical learning experiences. Group members were accountable for the group process, and assessed on their willingness and ability to identify and work through any conflicts that emerged. All group members shared equal responsibility for working through their 'stuck places'.

> On a weekly basis several difficulties arose in which members of the group didn't see eye to eye, and it was like OK, how are we going to deal with this? . . . It's learning how to analyze the situation to come up with possible solutions. And, getting to know yourself well, understanding how you think and react to situations.

Significant Learning: self-knowledge and confidence

A surprising finding of the study was the strong emphasis on personal transformation by approximately 30% of respondents, evident both in written questionnaire comments and interviewees' stories of dramatic personal change. One explained that the PBL experience was "turning yourself inside out - your whole personality is being reshaped". Others characterized the PBL program experience as "life-altering experience", "magic", and "transformative". A hospital administrator claimed,

> The knowledge I gained about myself in the first five weeks is worth the whole tuition fee. You're a changed person when you come out of that five weeks and for the better, because you know yourself and are way more tolerant of other people.

Interviewees said they learned by watching themselves in action in the PBL groups, discovering their own learning style and certain patterns of behavior ("what makes me panic", "my trigger points"). An organizational consultant explained that this mirroring of self through group process induced her resolution to make dramatic changes, and the PBL activity afforded opportunity to do so:

> You really come face to face with what you have to change about yourself. It's so much easier to make them when you decide yourself there's something wrong. And as long as you feel safe you will have the courage to change.

Half of interviewees reported developing significant confidence through the PBL process, both in recognizing personal strengths and unique talents, in making decisions quickly, and reinforcing values and methods (particularly related to group process) they had employed in the past.

Significant Learning: how to think in terms of systems

Five interviewees emphasized systems thinking as a personally significant long-term outcome of PBL processes – both in analysing influencing factors and structural problems bearing on a particular problem, and in negotiating organizational politics to involve others in resolving the issue. A social services professional found his practice deeply influenced by his learning to look at a problem within many dimensions: the organizational design, the human resources practices, leadership, and the environment. He said he learned to ask:

> Whose problem is it and to what degree? Does everyone agree on the language analysing the problem in itself? . . . [I learned how to] seek for points of leverage to affect that problem and not get overwhelmed by the magnitude of the problem. [I learned that] each problem can be approached from the point of resolution, that resolution can be possible.

A nursing administrator introduced systems thinking to her own work teams, increasing their creativity in problem solving:

> We have a management team and we tend to spin our wheels . . . My experience with PBL has helped me bring that group together and get us mobilized, finding all kinds of inventive ways of looking at an issue.

For these five people and possibly others, the PBL experience of intensive collaborative group problem-solving combined with rigorous continuous assessment appeared to help them develop and apply systems thinking to complex leadership dilemmas confronting them in their own workplace practice. This 'big picture' vision seemed also to help them reduce tension and 'personalizing' of the problem, approach issues with greater patience and understanding of others' behaviors, and find more effective "levers" upon which to focus their own action.

Problem-Based Learning (PBL): The Experience

In describing their outstanding experiences with PBL, interviewees mentioned the significance of "real" problems, the practical experiential activity, and the safe environment in which to practice. Some questionnaire respondents volunteered written comments corroborating these themes. In terms of the actual experience of problem-based learning in the HU setting, participants' (both interview and some questionnaire) responses presented a wide range, from intense excitement to intense discomfort. It appears that these responses depend partly upon an individual's prior leadership experiences working closely in groups, their past post-secondary educational experience, their expectations of the program, and their perceptions of their preferred working and learning styles.

PBL Experience: "real" problems

Half the interviewees observed the importance in PBL of working on a "real life" problem for authenticity – not so much related to whether the organizational representatives actually used the solutions devised by the PBL groups, "but the sense that you are working with something that has currency and relevance". As a management consultant) explained, PBL was superior to case study learning for her because it offered:

> . . . the chance to bring together textbook learning into the moment, into a real life situation that somebody is struggling with, trying to find a solution. So you can take it to the next level and see if your ideas actually do work, versus a case study which is historical. All you'll find out is what other people did, and not get a chance to test out your ideas.

PBL Experience: practical, experiential

When describing the major benefits of PBL, almost all participants referred positively to the practical, experiential PBL activity, which for many was a novel form of learning. In particular, participants noted that the intensive problem groups allowed an opportunity for individuals to immediately experiment with techniques they were taught in group process, creative problem analysis and solution strategies. As a medical professional explained,

> Pulling the theory into that problem made the learning more interesting, more dynamic, and made the transitions to the workplace more seamless. It simulated the real world and reinforced the learning in a practical way.

PBL Experience: safe environment to practice problem-solving

Many interviewees emphasized the importance of a "safe learning environment": no terrible long-term consequences to one's decisions, time to reflect, plentiful feedback, and assistance from faculty who offered analytical tools to approach the problems. Several emphasized that the group learning environment offered some insulation from serious consequences, while experiencing certain pressures and conflicts that they felt were realistic when tackling complex organizational problems. As one postsecondary administrator explained, the program was "a semi-safe environment in which to do that group process, that team-building, and still step back and reflect - really intense, at times painful and at times rewarding".

PBL Experience: intense and emotional

For some, the problem-based learning (PBL) activity in the Harrington University Master's program was a "high", exciting, energizing, and challenging, like one military commanding officer who described the experience as "magic, it was absolutely incredible". Interviewees who found the PBL experience exciting noted the challenge embedded in the time pressure. They told stories about inventing creative solutions that amazed themselves, significant learning related to group process and personal awareness, and dramatic personal change.

However, a few respondents did not enjoy the intensity and pressure. Of the questionnaire comments, 32% made explicit reference to negative emotional aspects of the PBL experience: struggles with personality conflicts, strong inter-group competition and emotional intensity amidst the groups that were difficult to manage internally. Five interviewees indicated they had difficulty adjusting to constant 'people pressure' and yearned for more breaks from the collaborative group for individual reflective time. But as one human resources professional explained, all the stress dimensions present in the PBL experience are quite 'normal' in the workplace, and thus an excellent vocational learning experience:

> You're brought together with a number of other people who are essentially strangers. You're not quite sure who the other people are or what their skills or contributions might be, and you have to find a way of organizing yourselves and starting to share the information. That's very similar to a lot of work that takes place today. Very frequently people spend a lot of time just trying to feel their way around, figuring out who are these other people, why are they here, what is it we have to do - and do it within very restrictive and finite time lines, while producing something concrete.

Discussion

These themes are based on learner reports that are, of course, limited first by what participants remembered and thought to mention in the context of the interview, and second by what they consciously recognized as learning traceable to their PBL experiences in their graduate education at Harrington University. In some cases participants were recalling events that had occurred over four years previously. While this situation is an important limitation in deriving conclusions, the focus in this article has been placed upon themes that were expressed in strong,

vivid terms by interview participants, appeared with significant frequency in the questionnaire results, and were validated by all participants. Thus the following discussion assumes that a reasonable degree of credibility and dependability was obtained in the study findings.

People classified as "mid-career" can largely presumed to be in mid-life, between about 35 and 50 years of age. Certainly this was true for this study. Mid-life North Americans in the late 1990's (i.e. 'baby boomers') belong to a particular cohort typified as discriminating, conscious of their own individual needs, often unwilling to accept authority, achievement-oriented and interested in self-actualization (Adams, 1998). Combined with years of leadership experience where people become used to continual challenge as a way of living, it seems hardly surprising that such people seek a graduate program well-tailored to their own perceived needs of what one called "personal stretch": a novel experience, challenge and risk, and an opportunity for self-actualization.

Strong Support for Problem-Based Learning

Overall there appears to be clear support among these mid-career professional learners for problem-based learning as a core method of graduate education. In particular, participants valued this particular form of PBL: working intensively (both in time limits and in residential proximity); working on actual multi-dimensional living (not historical) problems; working in small self-directed work teams; focusing on group process as well as the task of problem analysis and solution; and reporting recommendations to actual stakeholders with invested interest in the problem. A few interviewees talked about searching other programs and coming to Harrington University specifically to experience problem-based learning, or to avoid lecture-and-essay style education. As one participant explained, "You can only write so many essays and so many exams and the challenge there wears off after awhile. But this learning in a very dynamic environment has opened my eyes to what lifelong learning can be". The experiential nature of PBL, the strong degree of personal/team responsibility, and the overall flexibility to choose how, when and what to produce within clearly-defined authentic challenges apparently was a highly appealing form of higher education for experienced professionals.

Importance of Group Process to Mid-Career Professionals

Major emphasis was placed by study participants on group process as a significant learning in the PBL activity. This seems surprising, given the infrequent references to objectives that are more typical of PBL programs: learning applied disciplinary knowledge or specific analytical skills (such as conceptual framing, critical thinking, risk management, political strategies, or other problem-solving skills). Many themes of significant learning related to group process identified by participants may be characterized as elementary communication skills (listening, confidence, appreciating difference, cooperation, conflict management and the like). Why then, would these skills be so valued in a graduate program? Why would mid-career professionals find this learning so novel when presumably they use such skills every day?

From the stories of interviewee participants, three explanations may be suggested for the impact of group process on learners. First, the experience of intense working relationships formed with strangers apparently led, for many participants, to a level of emotionality and conflict that had to be worked through. This forced many to confront and connect somehow to others in ways they may not necessarily experience in their everyday work. Second, the HU

residence and community reportedly offered an unusually safe space to explore deep relationship dynamics that one might never broach in workplaces where political dynamics are sensitive and severe consequences can result from confronting a relational problem. Finally, perhaps it is the case that professional practitioners place greater value on developing relational and personal knowledge than on conceptual, procedural, or technical knowledge involved in problem-solving.

Mid-Career Professionals' Focus on Self-Knowledge

The focus on self-knowledge and learners' stories of dramatic personal transformation are also interesting outcomes not generally discussed in the PBL literature. This mid-career focus on exploring self corroborates what West (1996) shows to be an important educational need for many adults in a 'postmodern' time of fragmentation and anxiety: to affirm coherence and meaning in self and personal experiences. Boud and Walker (1991) have suggested that individuals' readiness, intention, and capability to notice and engage particular learning opportunities affect their ability to learn within any experience. If this is so, mid-career professionals may experience an unusual level of readiness to explore self in a search for identity, purpose, and deeper meaning in life that Merriam and Heuer (1996) argue is central in mid-life adult learning. The program emphasis on reflection in conjunction with PBL may have led many learners to examine themselves in interaction, stimulating a new understanding and appreciation for others as well as a focus on constructing oneself.

Practical Implications: Issues and Opportunities

The Harrington University PBL approach features dimensions which may prove useful models for other graduate programs attempting to meet learner-perceived needs of mid-career professionals. The use of 'real' complex problems allows learners to insert themselves into ongoing organizational processes, shaping and being shaped by a problem which continues to live as they work with it. Learners' investment in the problem is high because, even though they are not personally responsible for managing the issue, they must report to those who are. The self-directed small group working over an intense period (one week) can offer an experiential laboratory of working through multiple social, psychological, political and cultural issues attending professional dilemmas. While these dynamics are mostly created within the work group rather than the context of the actual problem, they offer learning opportunities that appear to approximate the situatedness of problem-management in practice. This overcomes the artificial learner position, pre-determined problem-framing and decontextualization which Fenwick and Parsons (1998) criticize in conventional PBL approaches.

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