The Impact of Problem-Based Learning (PBL) on Training and Practice in Clinical Psychology

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This study investigated the impact of Problem-Based Learning (PBL) on the training and professional practice of clinical psychologists, using a mixed method design. The findings suggest that PBL is experienced by trainees as an effective method of learning in clinical psychology.

PBL was developed at McMaster University during the 1970s and primarily used as a teaching method in training programmes for medical students. In the United Kingdom, PBL was first used in the training of clinical psychologists at Plymouth University (Stedmon, Wood, Curle, & Haslam, 2005), and has since been adopted by several other programmes. Since introducing PBL to its training programme in 2006, researchers at the University of Hertfordshire (UH) have conducted a range of qualitative studies designed to explore trainees' experiences of taking part (e.g., Nel et al., 2008). This work begins to provide some understanding of the impact of PBL on trainee clinical psychologists. However, the extent to which PBL facilitates the development of the core competencies that is required of clinical psychologists remains largely unexamined.

To receive accreditation from the British Psychological Society (BPS), training programmes are expected to equip their trainees with a range of skills, including psychological assessment, formulation, direct and indirect intervention, self-management and self-care, reflective practice, teaching and communicating with a range of audiences, and conducting research. In addition, the Health and Care Professionals Council standards of proficiency for practitioner psychologists include interpersonal skills, such as being able to work effectively as part of a multi-disciplinary team. Although previous research has investigated the impact of PBL in various training contexts, there is currently a distinct lack of research exploring the impact of PBL in the training of clinical psychologists, particularly in relation to acquiring knowledge, improving clinical practice and

contributing to the development of the core competencies of clinical psychologists. Therefore, the aims of this study was to explore (i) how trainee clinical psychologists evaluated the impact of PBL on their personal and professional development, and (ii) how PBL has impacted upon the practices of clinical psychologists on completion of their training.

Method

Design

The current research was conducted over two phases. The first phase involved a survey study that investigated how trainee clinical psychologists evaluated PBL. Survey-data was gathered on completion of PBL. In the second phase, a focus group was used to gather qualified clinical psychologists' evaluations of PBL and its impact on their clinical work.

Participants

Participants for the survey (N = 56) were second-year trainee clinical psychologists from five different cohorts at UH who had just completed their fifth and final PBL task on the Doctorate in Clinical Psychology Programme. Approximately 75% of trainees completed the survey and therefore it is expected that the sample was broadly representative of the study population. Participants for the focus group were four (out of five) members of a single PBL group.

Measures and procedures

The survey questionnaire was designed to measure trainees' views on (i) practical processes (i.e., facilitator effectiveness; realistic tasks); (ii) learning processes (i.e., learning from others; fostering life-long and self-directed learning; fitting with a social constructionist/constructivist approach to learning); (iii) skill acquisition (i.e., clinical skills; reflective skills); (iv) relating to others (i.e., improving trainee relations; working with others) and (v) the personal impact of PBL (i.e., personal investment and emotional impact). Most of the constructs within the questionnaire were represented by single-item measures. However, composite scales were constructed for the following: prior knowledge/experience of PBL (two items; $r = .62$, $p < .01$), learning from peers (two items; $r = .37$, $p <$

.01), working with others (three items, α = .75), developing clinical skills (three items, α = .83), and developing reflective skills (r = .49, p < .01). All items were measured using five-point Likert scales anchored by one ('strongly disagree') and five ('strongly agree').

Trainees were asked to complete the questionnaire on completion of their final PBL exercise. Participation was voluntary and trainees completed the questionnaire anonymously. The participants in the focus group was interviewed by the second author who at the time had himself completed PBL as part of his training at UH, but was not attached to the staff group or previously know to the particular PBL group. Participants were encouraged to speak freely about their experiences of taking part in PBL and its impact on their post-qualification practices. However, the discussion was guided in places by a semi-structured interview schedule which was designed to address many of the areas covered by the survey, including the impact of PBL on (i) trainee relations, (ii) learning, and (ii) clinical practice.

Results

Survey data

Agreement (or disagreement) with statements representing participants' experiences and evaluations of PBL is operationalised as significant differences from the scale mid-points (3). Frequency data indicate percentages of responders scoring at the scale 'extremes'. Scores below two indicate 'strong disagreement' and scores above four indicate 'strong agreement'. There were no differences between cohorts on any of the measures apart from impact on clinical skills, F (4, 51) = 3.37, p = .02. Post-hoc tests reveal that the only significant between-cohort difference on the clinical skills measure was between the cohorts who started training in 2008 (M = 3.91, SD = 0.58) and 2009 (M = 4.76, SD = 0.50, p = .02).

Table 1: Means, standard deviations and one-sample t-tests for all measures (N = 56)

Measure	M	SD	95% CI for M		t
			Lower	Upper	
Prior knowledge of PBL	1.67	1.04	1.39	1.95	-9.60***
Apprehension	3.21	0.99	2.95	3.48	1.63
Practical processes					
Recognised prior knowledge/ experience					
	3.86	0.77	3.65	4.06	8.30***
Facilitators aided the group	4.23	0.91	3.99	4.48	10.08***
Tasks were realistic	4.36	0.62	4.19	4.52	16.49***
Learning processes					
Life-long learning	4.22	0.81	4.01	4.44	11.24***
Self-directed learning	4.39	0.68	4.21	4.57	15.35***
Learning from peers	3.96	0.68	3.77	4.14	10.47***
Useful addition to didactic learning	4.73	0.65	4.56	4.91	20.05***
Fits with constructivist/social constructionist approach to learning	4.61	0.73	4.41	4.80	16.46***
Skill acquisition					
Clinical skills	4.27	0.67	4.09	4.45	14.08***
Reflective skills	4.47	0.72	4.28	4.67	15.39***
Relating to others					
Working with others	4.43	0.57	4.28	4.58	18.72***
Trainee relations	3.84	1.07	3.55	4.13	5.84***
Personal impact of PBL					
PBL involves whole person	4.57	0.71	4.38	4.76	16.57***
Presentations personally significant	4.38	0.75	4.17	4.58	13.68***

Note: Asterisks denote a significant difference from the scale centre-point; * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Focus group analysis

Focus group data were analysed using guidelines for thematic analysis provided by Braun and Clark (2006). Whilst the analysis was open to the detection of unanticipated themes, the analytic procedure was also guided by some key questions. These were: 'How do participants talk about their experience of taking part in PBL?' and 'How do participants talk about the impact of PBL on their current practice?' Themes that emerged from the data are summarised in Table 2. Three main themes emerged from the ex-trainees' focus group: group dynamics, developing transferable skills, and the role of the facilitator.

Table 2. Themes relating to the experience of PBL and the impact on professional practice

Theme		Examples from text
Super-ordinate	*Sub-ordinate*	
1. Group dynamics	PBL group identity formation	…part of our identity was…we don't want to be like the other groups who seem to have loads of fights.
	Inter-group rivalry	We were very competitive with the other groups.
	Intra-group pride	…that became quite a point of pride for our group that we would go through anything and still have the balls to talk about it.
	Enduring support	I think even now our little group is a form of a secure base…it's nice to come back together…
2. Developing transferable skills	Understanding group processes	I think the most important thing now just thinking about things like care reviews and team meetings that I go to that actually it is the kind of group process, group dynamics that I tend to think about an awful lot more and I think that part of PBL definitely kind of stayed with me.
	Naming conflict in team work	…in my practice now…I am more likely to bring up if there's conflict within the team or with another team member I'm much more likely to say…this is really bothering me…
	Impact on clinical skills	I learnt how to formulate from PBL.
		I'm not sure I learnt so much about mental health issues of the case we were doing. I don't know.
	Self-reflection	…that's kind of what I use a little bit more…because we did disclose an awful lot of our own personal stuff within PBL.
	How much does PBL contribute?	I'm more likely more often to be kind of more reflective considering my role in something standing back and I don't think I would have done that prior [to PBL]. I don't know how much that's part of PBL or part of training itself.
3. The role of the facilitator	The facilitator as a help	…she was also present throughout all of our PBLs because we did used to kind of refer back to her and say what would ### say about this.
	The facilitator as a hindrance	…he wanted to really impose his own he had a really clear idea about how he thought we should do it and I my idea about it was it wasn't about him it was about we do it our own way.

Discussion

Overall, the clinical psychology trainees who participated in the survey were very positive about PBL. This is in line with other studies that found a high level of satisfaction amongst those who participate in PBL (e.g., Vernon & Blake, 1993; Berkson, 1993). The majority reported that the PBL tasks drew on their prior knowledge and resembled real-life clinical scenarios. This is a notable finding, especially given that the importance of recognising students' prior knowledge and the clinical relevance of problems have been recognised in the PBL literature (e.g., Hlemo-Silver, 2004). They also agreed that their facilitators aided the functioning of the small groups. This finding supports the view that the tutor plays an important role in scaffolding student learning (De Grave, Dolmans, & Van der Vleuten, 1999). Trainees felt that PBL enhanced their clinical and reflective skills, and that it improved both their ability to work with others, and trainee relations within their cohort. The majority agreed that PBL fostered life-long and self-directed learning skills, and that they learnt from their peers whilst taking part. According to Dolmans, De Grave, Wolfhagen, & Van der Vleuten (2005) self-directed, life-long learners are able to plan, monitor and evaluate their own learning and direct or regulate their own learning process. These are key skills for clinical psychologists entering a profession that is constantly changing. Ninety-five per cent of respondents agreed that PBL fits well with a constructivist and social constructionist approach to learning where students actively participate in constructing and reconstructing their knowledge (Dolmans et al., 2005).

The qualified clinical psychologists who participated in the focus group largely echoed the positive evaluations of PBL in the questionnaires. In particular, they believed that an important skill that they developed during PBL was the ability to work in teams via an increased understanding of group dynamics and the ability to name and respond to conflict. It is widely acknowledged that students learn to work together in PBL groups (e.g., Dolmans et al., 2005). This is a key competency for clinical psychologists, the majority of whom will find themselves

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working in multi-disciplinary teams throughout their careers. In terms of the experience of taking part in PBL, there was a strong focus on group processes. However, the participants also noted that their PBL group identity formed in contrast to the other groups, with whom they were very competitive. The formation of a social group in contrast to other, relevant out-groups is consistent with social psychological theories of group processes, which posit outer-group comparison as a key process through which social identification occurs. The perceived rivalry between groups went beyond timetabled PBL tasks and prevented the formation of more inclusive identity within the larger cohort. Although this is a small sample from a single PBL group, this finding is nevertheless interesting. In the literature attention is mostly paid to individual tutorial groups that are not functioning well (e.g., Hitchcock & Anderson, 1997). It seems that, at least in the context of the current study, there might also be an intergroup-aspect that is perhaps worthy of further investigation, especially if the interaction between groups can have a negative impact on the functioning and learning of the larger cohort.

During PBL the group worked with two different facilitators and there were mixed views with regards to their utility. One was seen as facilitating their learning as a group, whereas the other was seen as hindering their learning. An important feature of PBL is the way in which facilitators stimulate students towards self-directed learning (Dolmans et al., 2005). It is acknowledged that a dominant facilitator can cause tension and conflict in PBL groups (Hendry, Ryan, & Harris, 2003). Conversely, where the facilitator is too passive this can also lead to problems (Dolmans et al., 2005). Therefore, both dominant and passive facilitators can hinder the learning process and in both situations PBL cannot be regarded as self-directed (Dolmans et al., 2005).

Participants in the focus group expressed mixed views with regards to the impact of PBL on clinical skill development and practice, with some very positive evaluations and some indifference. There was also some difficulty in distinguishing between the impact of PBL and

the impact of wider training experiences. This is not an unexpected finding, given that PBL on this programme is situated within an overall course philosophy that emphasises constructive, self-directed, collaborative, and self-reflective learning.

When considering the findings of this research, it is important to recognise some of its limitations. Firstly, the survey of trainees consisted of self-report items, which offer a subjective perspective of the impact of PBL on the variables of interest. Also, trainees were asked to complete the questionnaire shortly after finishing their final PBL task, and may have been feeling particularly positive about the learning approach having just successfully navigated the module. Some of the limitations of the survey study were addressed by the focus group phase of this research – for example, a considerable amount of time had passed before the qualified clinical psychologists were asked to reflect on their experiences of taking part. However, much like the results of the survey study, the themes to emerge from the focus group offer a subjective account of PBL's impact on learning and clinical practice, as opposed to an objective measure. In addition, the themes to emerge only represent the experiences of one PBL group, and should not be taken as representative of all clinical psychologists who took part in PBL during training.

Conclusion

The findings of this study suggest that PBL is experienced by trainees as an effective method of learning in clinical psychology. Importantly, it is experienced as aiding with the development of many core competencies of clinical psychologists as defined by the BPS and HCPC, including clinical skills, reflective skills, the ability to effectively work in teams, and to conduct self-directed learning.

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Word count: 2767