Nurse Education Today (2008) **28**, 962—969

ELSEVIER

Nurse Education Today

www.elsevier.com/nedt

''The Child's World'': A creative and visual trigger to stimulate student enquiry in a problem based learning module

Carol Barron *, Veronica Lambert [1], Joy Conlon [2], Tracey Harrington [3]

School of Nursing, Dublin City University, Glasnevin, Dublin 9, Ireland

Accepted 8 May 2008

KEYWORDS
Problem-based learning;
Trigger development;
Student evaluation

Summary Despite the abundance of literature on problem based learning (PBL) [Murray, I., Savin-Baden, M., 2000. Staff development in problem-based learning. Teaching in Higher Education 5 (1), 107—126; Johnson, A.K., Tinning, R.S., 2001. Meeting the challenge of problem-based learning: developing the facilitators. Nurse Education Today 21 (3), 161—169; McCourt, C., Thomas, G., 2001. Evaluation of a problem based curriculum in midwifery. Midwifery 17 (4), 323—331; Cooke, M., Moyle, K., 2002. Students' evaluation of problem-based learning. Nurse Education Today 22, 330—339; Haith-Cooper, M., 2003a. An exploration of tutors' experiences of facilitating problem-based learning. Part 1 — an educational research methodology combining innovation and philosophical tradition. Nurse Education Today 23, 58—64; Haith-Cooper, M., 2003b. An exploration of tutor' experiences of facilitating problem-based learning. Part 2 — implications for the facilitation of problem based learning. Nurse Education Today 23, 65—75; Rowan, C.J., Mc Court, C., Beake, S., 2007. Problem based learning in midwifery — The teacher's perspective. Nurse Education Today 27, 131—138; Rowan, C.J., Mc Court, C., Beake, S., 2008. Problem based learning in midwifery — The students' perspective. Nurse Education Today 28, 93—99] few studies focus on describing ''triggers'', the process involved in their development and their evaluation from students' perspective. It is clearly documented that well designed, open ended, real life and challenging ''triggers'' are key to the success of PBL implementation [Roberts, D., Ousey, K., 2004. Problem based learning: developing the triggers. Experiences from a first wave site. Nurse Education in Practice 4, 154—158, Gibson, I., 2005. Designing projects for learning.

* Corresponding author. Tel.: +353 1 7007928; fax: +353 1 7005688.
E-mail addresses: carol.barron@dcu.ie (C. Barron), veronica.lambert@dcu.ie (V. Lambert), joy.conlon@dcu.ie (J. Conlon), tracey.harrington@dcu.ie (T. Harrington).
[1] Tel.: +353 1 7007161; fax: +353 1 7005688.
[2] Tel.: +353 1 7007911; fax: +353 1 7005688.
[3] Tel.: +353 1 7007153; fax: +353 1 7005688.

0260-6917/$ - see front matter
doi:10.1016/j.nedt.2008.05.017

In: Barrett, T., Mac Labhrainn, I., Fallon, H., (Eds.), Handbook of Enquiry and Problem-based Learning: Irish Case Studies and International Perspectives. AISHE & CELT: NUI Galway. <www.nuigalway.ie/celt/pblbook>, Barrett, T., 2005. Understanding problem-based learning. In: Barrett, T. Mac Labhrainn, I., Fallon, H., (Eds.), Handbook of Enquiry and Problem-based Learning: Irish Case Studies and International Perspectives. AISHE & CELT, NUI Galway. <www.nuigalway.ie/celt/pblbook>]. This paper outlines the planning, implementation and evaluation of a ''trigger'' developed for a first year undergraduate nursing module. To meet specific module learning outcomes and to stimulate student inquiry through the learning strategy of PBL, a bright and colourful collage, was constructed. This tool was then evaluated using focus group interviews. Students' perspectives centered round a core theme, 'finding a focus and taking control'. Four categories were identified illustrating students progress from 'initial confusion' to engaging with the 'trigger diversity' before confidently 'exploring their own line of inquiry', thus leading to the 'stimulation of their learning'. Consistent with previous research, we also suggest it is customary for students to experience an initial period of ambiguity as they switch from teacher led to student centered learning [Biley, F., 1999. Creating tension: under graduate students nurses' response to a problem-based learning curriculum. Nurse Education Today 19 (7), 586–589]. One challenge in developing ''triggers'' is that the process is primarily controlled by lecturers. We suggest that a possible way forward would be to also engage students in the development of ''triggers''.

Introduction

In Ireland, 2006 witnessed the transition of children's nurse education into the university setting. Subsequently a new four and a half year Children's and General (Integrated) undergraduate nursing programme was devised. A new curriculum in a new setting, in this case, Dublin City University, provided the ideal opportunity to introduce a hybrid curriculum, incorporating Problem Based Learning (PBL) alongside more traditional education models. The Children's and General (Integrated) programme is full-time, semesterised and modularised. This paper presents the process involved in planning, developing, implementing and evaluating a PBL ''trigger'', which was introduced into a first year Problem Based Learning Module on this programme.

Problem-based learning (PBL)

PBL has generated substantial international attention and recognition in recent years (Albanese and Mitchell, 1993; Blackford and Street, 1999; Horne et al., 2006). As a learning strategy, PBL offers the potential to bridge the theory – practice gap in nurse education, through the recognition and evaluation of practice-based problems (Price, 2003; Horne et al., 2006). PBL is a teaching philosophy which promotes self-directed learning and critical thinking through problem solving. A meta-analysis by Dochy et al. (2003) revealed a robust positive effect on student skills, highlighting that although students gained slightly less knowledge, they remembered more of the acquired knowledge. The suggested rationale for this was that the students using PBL had expanded more on the topic under investigation and thus had improved recall of the acquired knowledge (Dochy et al., 2003). Contrastingly, Hwang and Kim (2006) reported that students in a PBL group actually gained significantly more knowledge ($p = 0.045$) and had higher motivation for learning ($p = 0.012$), compared with students in a traditional style lecture group. However, the authors acknowledge the limitations of their pre-post test experimental design, nominally a relatively small sample size ($n = 75$) and limited time frame (12 week module).

''Triggers''

The term ''triggers'' is often used interchangeably with 'problems' or 'scenarios'. ''Triggers'' have been described as fundamental to the entire PBL process (Wilkie and Burns, 2003). Used to stimulate discussion, ''triggers'' can take the form of video presentations, posters, audio sounds, poems, case presentations and even real life simulation of patient conditions. ''Triggers'' should be sufficiently open and unstructured, so that discussion is not curtailed too early in the process. Similarly they should not contain too much information which may stifle students own critical thinking, thus, limiting the effectiveness of this PBL learning strategy (Boud and Feletti, 1998). The aim of the ''trigger'' is to generate thought, which is focused on the sce-

nario presented. Appropriate scenarios should stimulate generation of greater knowledge and understanding about the area of interest.

Developing the trigger

In spite of an abundance of literature on PBL (Murray and Savin-Baden, 2000; Johnson and Tinning, 2001; McCourt and Thomas, 2001; Cooke and Moyle, 2002; Haith-Cooper, 2003a,b; Rowan et al., 2007, 2008), few studies focus on actually describing ''triggers'', or indeed on the processes involved in the development of ''triggers'' (for descriptive papers see Cooke and Donovan, 1998; Roberts and Ousey, 2004 and Azer, 2007). It is clearly documented that well designed, open ended, real life and challenging problems, or ''triggers'', are key to the success of PBL implementation (Roberts and Ousey, 2004; Gibson, 2005; Barrett, 2005). The handling of a problem or ''trigger'' defines and drives the whole PBL learning experience (Kahn and O'Rourke, 2005). Following a mixed method evaluation of lecturer preparation for the introduction of PBL, Murray and Savin-Baden (2000) report that lecturers found ''trigger'' writing difficult, in terms of what to include or exclude, to ensure both modular outcomes and course levels were attained. This paper describes the development, delivery and evaluation of the first ''trigger'' delivered to undergraduate students undertaking the new Children's and General (Integrated) nursing programme. This ''trigger'' was utilised as an introduction, for students, to the whole learning philosophy of PBL, while simultaneously serving to stimulate student learning specific to the module outcomes. This technique follows Kahn and O'Rourke's (2005, p. 6) recommendation, ''it may help to run a session in which students are introduced to the process and allowed to 'have a go'''. Developing the ''trigger'' enabled facilitators to be involved from the beginning of the PBL process. Design of PBL ''triggers'' differs from conventional program design in that ''triggers'' are based on real life situations, are ill-structured, open ended and ambiguous (Fogarty, 1997). Moreover they should also be practical and authentic as well as being in a relevant context (Moust et al., 2005). ''Triggers'' should enable identification of important and relevant learning outcomes for the students that can be applied to their study. All of these aforementioned elements were taken into consideration when developing our ''trigger''. Additionally, the following steps put forward by Stepien et al. (1993) and Biggs (1999, 2003) were adapted to guide us in developing and implementing the ''trigger''.

- Students need more information than is initially presented to them.
- There is no right way or magic formula for conducting their investigation of the problem as each problem is unique.
- The problem changes as information is found.
- Students make decisions and provide solutions to real world problems.

The trigger developed: ''The Child's World''

The ''trigger'' developed was a bright and colourful poster size visual collage entitled 'The Child's World'. Images served to promote inquiry as the only written text was the title 'The Child's World', which acted as a cue to the images. Pictures of children were selected to reflect diverse age ranges from birth to adolescence. Both genders and children of different race and ethnicity were incorporated, reflecting contemporary Irish society (Department of Health Children, 2000; Fanning, 2007). The images of objects included a range of toys, games, mobile phones and play materials representative of childhood today (National Children's Office, 2004; Office of Minister for Children, 2007; Wood and Attfield, 2005; Moyles, 2005; Downey et al., 2007). The various objects chosen could be linked to the diverse age ranges of children across the child's lifespan. The age groups of children and objects were all juxtaposed as if in a jigsaw puzzle. The aim of the ''trigger'' was to enable the students to meet specific module learning outcomes. These outcomes were to introduce students, firstly, to the importance of play and education across the child's lifespan and secondly, to the process of learning through PBL.

One challenge encountered during the development of the ''trigger'' was the overemphasis of the use of the word 'problem'. Our goal was to focus on ''The Well Child''. Although our students would be caring for sick children we felt it was imperative that students would firstly have an understanding of ''The Well Child''. We wanted students to initially think about the Child's World and identify issues of importance to children. This equates with the biopsychosocial model of practice and the ethos of focusing on health and wellness as opposed to illness (Government of Ireland, 2001; Vandecreek and Allen, 2005). Therefore, in contrast to focusing on a specific 'problem' we developed a contextually rich ''trigger'' that adequately represented the reality of childhood today. Ideally ''triggers'' are required to be realistic in relation to clinical practice. While acknowledging that the majority of undergraduate first year student

nurses have limited previous clinical exposure, thus, enhancing the challenge of using PBL and the trigger in question. Other students may have previously worked as health care assistants and will bring a wealth of experiential knowledge to the PBL process. Schmidt (1993) suggests that the extent of prior knowledge is one of the main influences on the nature and quantity of new information that can be processed. The importance of prior knowledge was also stressed by Ausubel (1968) who stated that knowledge is acquired when it is meaningfully related to, and thereby subsumed in, an already existing concept or body of knowledge. We facilitated this process by developing a collage of children of differing ages, in differing circumstances, for example, playing with peers, in school uniform and a variety of play objects and activities. Most students would have had prior experience with such objects and images, in contrast to, paediatric clinical experience. Initiating a task rooted in their prior experience enables the students to recognize the authenticity of their inherent knowledge, and its availability as scaffolding in seemingly unfamiliar tasks (Brown et al., 1989).

Implementing the trigger

Prior to revealing the trigger to the students a pilot PBL session was carried out with another group of first year students, not undertaking the Children's and General (Integrated) Nursing Programme. Results from this pilot session were very positive in terms of students identifying the collage as an effective stimulus for their learning and recognising the required learning outcomes for the trigger. The students undertaking ''The Well Child'' module were initially given several sessions on PBL and then organised into four groups of seven and eight, assigned alphabetically. All four student groups were then presented with the collage ''trigger'' in the first week of the module. The collage ''trigger'' was presented in various forms. Firstly, it was developed into an A0 size laminated poster, which was presented to the students. In addition, one A4 size laminated collage was distributed to each PBL group. Finally a copy of the collage ''trigger'' was made available on Moodle, a virtual learning environment (VLE). The availability of the trigger on Moodle ensured that all students could continuously refer back to the collage outside of their PBL tutorials.

This mode of presentation facilitated ''double-loop learning'', whereby, students not only had opportunity to analyse the ''trigger'' content, but also develop computer skills transferable to academia and clinical practice. Following initial exposure to the trigger student groups brainstormed, identified their existing knowledge and their relevant learning issues. The retrieval of prior knowledge is further enhanced when elaboration of the material takes place (Schmidt, 1993). The initial brainstorming session was followed by in-depth discussions at subsequent facilitated sessions enabling students to voice their varying individual perspectives. The cognition involved in recognising the merit and worth of these different perspectives begins the process of elaboration. Next, students engaged in a period of self-directed discovery having chosen different aspects of the ''trigger'' to research in more depth. The use of additional learning resources, such as journal articles, textbooks and relevant websites further expanded student's learning. Pre-planning the availability of these resources was an essential part of the ''trigger'' development and implementation. Students must be able to easily access relevant resources to help them achieve their goals. Following this period of self-discovery the students reported back and discussed their findings within their PBL groups. Topics that required further investigation were identified. Fixed resource sessions, relating to aspects of play and education in childhood, supported PBL tutorials. These sessions were designed to provide expert knowledge related to the ''trigger'' and assist students in their inquiry.

Evaluating the ''trigger''

Argued as an integral component of student learning, evaluation is the third element to consider after design and implementation have been completed. Few studies have focused on evaluating student's perspectives of ''triggers'' devised and implemented. Evaluation of ''triggers'', from students' perspectives, is crucial for future ''trigger'' development, to ascertain whether the ''triggers'' are enabling students to achieve their learning outcomes (Roberts and Ousey, 2004). It was deemed essential to evaluate this newly developed collage ''trigger'' to validate its implementation and provide rationale for its continuation (Wilkie and Burns, 2003). Thus, at the end of the ''The Well Child'' module the four student PBL groups were invited to participate in focus group interviews to evaluate the collage ''trigger''. Focus group interviews were chosen to encourage students to not only express their individual perspectives but also to stimulate debate and discussion among students (Kreuger, 1994; Cote-Arsenault and Morrison-Beedy, 1999). Despite the divergent perspectives

within the literature of the ideal size of focus groups, as highlighted by McLafferty (2004), our group sizes ranged from seven to eight students which fits with recommendations put forward by Kreuger (1994). The purpose of the evaluation was discussed with student groups and their voluntary consent to take part obtained. Interviews were tape recorded, transcribed verbatim and thematically analysed using Burnard (1991) framework for content analysis. A number of categories were identified and these are outlined below.

Findings: students' perspectives & discussion

The dominant theme to emerge from the process of content analysis was *'finding a focus and taking control'*. This theme describes how students articulated their movement from initial confusion to engaging with the ''trigger'' where they developed progressively not only in their ideas but also in their level of independent learning.

The four main categories stemming from this dominant theme 'finding a focus and taking control' were 'initial confusion', 'trigger diversity', 'exploring own line of inquiry' and 'stimulation of learning'.

Initial confusion

When initially presented with the trigger one student stated her initial thoughts were

''*it wasn't what I expected*''. Another student described feeling confused, ''*it was confusing at first*''. A possible reason for the initial confusion felt by students was that they were unclear about what they really had to do, what was expected of them and how much information they needed, as illustrated in the extracts below.

> ''The trigger was hard....you didn't know what was expected and how much information you needed''
> We were totally confused, what are we going to do with it [collage trigger]''

Students identified that some of confusion was a result of their lack of knowledge about what a ''trigger'' actually was. Indeed, several students referred to the fact that there was limited text on the collage and they found this difficult because they were more familiar learning through the medium of the written word.

> ''I don't think anyone really realized what a trigger really was''
> ''You had to get used to looking at a lot of pictures rather than text to get where you were going. It was difficult to look at a lot of pictures rather than text when you're used to looking at text''
> ''cause it was just a picture it shocked you into thinking that the trigger could be absolutely anything''

While many students found the trigger initially confusing this appeared to relate more to their lack of knowledge of the PBL concept. A number of students recommended that at the outset greater explanation and time be given to the PBL process. Although students had been given sessions focusing specifically on the PBL process they felt they didn't fully understand what the process entailed. One student stated ''it just went over my head''. This confusion and uncertainty experienced by the students is consistent with previous literature (Biley, 1999; Newman, 2003; Ashby et al., 2005). Students find PBL initially stressful due to the deliberate ambiguous nature of the presenting trigger and the requirement upon them to direct their own learning (Carlisle and Ibbotson, 2005; Rowan et al., 2007). This further supports the assertion that students require more guidance and support at the beginning of the PBL process to allow them to advance through the process successfully (Biley and Smith, 1999). Consistent with previous research, we also suggest that it is ''standard'' for students to experience an initial period of confusion and uncertainty in the transition phase from teacher to student centered learning (Biley, 1999). Although, the students stated that they didn't really know what lecturers expected them to do, with the trigger, at the outset, they highlighted that they realized, at a later point in time, that it [trigger] was broad and that they could explore their own take on it while still focusing on the two main topics, play and education.

The crucial role the facilitator plays in supporting students to learn, utilising the PBL approach, has been frequently documented. However, an issue much debated within the literature is that the facilitator is often faced with the challenge of balancing non-participation with active intervention (Biley and Smith, 1999; Barrow et al., 2002; Haith-Cooper, 2003b). There is the risk that if the facilitator intervenes too early this may stifle the student transition process. In order to effectively make the transition to student centered learning, we argue that it is customary for students to experience some degree of initial uncertainty to allow them to unfreeze their previous exposure of a more didactic style of learning. This must be

recognised and highlighted to students in their early introductions to PBL.

Trigger diversity

A number of students referred to the difficulty they faced in finding a specific focus within the collage ''trigger''. They commented on how broad the ''trigger'' was, covering a vast array of issues. As facilitators we were intrigued by what the students identified within the images, which was far more than we had anticipated. The diverse nature of the collage ''trigger'' meant there were many possibilities for the students to explore, as illustrated in the excerpts below.

> ''It [collage trigger] seemed very broad... I don't know...kind of hard to pin point exactly what you were asking...kind of confusing... I know you were trying to do lifespan of child but I didn't know exactly what you were trying to focus on...was it play ...or..... .like ...we had trouble with was it learning or education''
> ''There was so much in it... like ...different types of play and all different age groups...this was good as it easier to see what information you needed to get and what you were going to split the information into''
> ''You could have gone anywhere with it [trigger], it was.....really big''

This illustrates that although the collage was focused on the broad module learning outcomes of children's play and education, it was also diverse enough to allow students to explore their own line of enquiry, identifying and meeting their own learning objectives.

Exploring own line of inquiry

Although the students initially reported finding difficulty with the diversity of the collage ''trigger'', as time progressed they became engrossed in exploring different options. Students embraced the challenge of taking control of their own learning, becoming more independent in their exploration for new knowledge, as suggested by the comments below.

> ''Every week we brought something in we changed our mind and went in different direction and it was different''
> ''You had to do it all by yourself like instead of having the lecturer say you have to do it that way or this way, it was total independent you could do what you wanted all based around the one thing''
> ''The more time you spent looking at it you could connect more pictures together..and follow the way it goes''

The ''trigger'' encouraged students to explore their own learning outcomes in addition to the module learning outcomes. This was enabled by the style of facilitation offered to the groups. It is important to maintain consistency in the style and purpose of facilitation for PBL (Carlisle and Ibbotson, 2005). Previous evaluation studies (Das et al., 2002; Haith-Cooper, 2003b; Mete and Yildirim Sari, 2007) have acknowledged the varying perceptions between students and facilitators of the facilitator role specifically with students expecting more support from the facilitator (Rowan et al., 2008). Regular communication between the facilitators for this module ensured there was consistency and continuity. We concur with Carlisle and Ibbotson (2005) in that trusting the philosophy of PBL is likely to enable a facilitator to intervene more appropriately and to focus on supporting the process of the group, rather than imposing knowledge on the students.

Stimulation of learning

One of the major strengths inherent in the collage ''trigger'', identified by the students, was that it stimulated their independent learning. This occurred progressively over time and with prolonged engagement with the collage ''trigger''. For example, one student relayed *''the more I looked at it [collage] the more ideas I got''*. Initially the students described seeing children of different ages and a variety of games / toys *''it was pictures scattered of all different games and ages''*, as time went on students began to see *''children at different ages play in different ways''* Thus, the trigger stimulated the development of critical thinking and student learning in relation to the importance of play in children's lives. Students commented that prior to this exploratory collage ''trigger'' they did not recognise the importance of play to all aspects of children's development.

> ''It did emphasise the importance of play, our awareness of how important play is, in every single aspect of development includes play''
> ''I never knew play was so important, play is in every aspect of child development''

Dukes et al. (1998) explored the variation in conceptions of PBL held by undergraduate nursing students and their approaches to study using a modified phenomenographic analysis of open

ended questions. With their findings, they argued that students participating in their first PBL subject generally reported unsophisticated conceptions of, and approaches to, learning, which were not linked to professional practice outcomes. Students, in our evaluation, acknowledged that while it was confusing at the start and they didn't know what they were expected to focus on, once they had come through the process they realised that it was about what the students saw *''it's what we saw in the picture and not what yee wanted us to see''*

Conclusion and recommendations

Well designed, open ended, real life and challenging ''problems'' or ''triggers'' are key elements to the success of PBL implementation. Moreover, time spent in the planning and preparation of ''triggers'' is crucial to successful ''trigger'' development. There is, however, a dearth of literature that focuses on the development and evaluation of ''triggers'' or problems'' used in PBL nursing programmes. We argue that ''triggers'' themselves, as opposed to the wider concept of PBL, require further evaluation/research, from the perspectives of both students and facilitators. We strongly suggest that there is a need for published work which concentrates more on ''trigger'' development and evaluation. This would increase the availability of a body of knowledge that could be embraced by others keen to incorporate PBL into existing and new programmes. One of the future challenges in ''trigger'' development, we suggest, is to encourage student participation in the development of ''triggers''. This can be achieved in partnership with PBL facilitators and evaluated by both students and facilitators. This would enable students to have more ownership of their educational experiences and have an active influence on the educational experiences of other students.

Acknowledgements

We would like to acknowledge our gratitude to the students for sharing their experiences, opinions and views with us.

References

Albanese, M.A., Mitchell, S., 1993. Problem-based learning: a review of literature on its outcomes and implementation issues. Academic Medicine 68 (8), 615.

Ashby, J., Hubbert, V., Cotrel-Gibbons, L., Cox, K., Digan, J., Lewis, K., Langmack, G., Matiti, M., McCormick, D., Roberts, L., Taylor, D., Thom, N., Wiggs, M., Wilson, L., 2005. The enquiry-based learning experience: An evaluation project. Nurse Education in Practice 6 (1), 22–30.

Ausubel, D.P., 1968. Educational psychology: A cognitive view. Holt, Rinehart & Winston, New York.

Azer, S.A., 2007. Twelve tips for creating trigger images for problem-based learning cases. Medical Teacher 29 (2), 93–97.

Barrett, T., 2005. Understanding problem-based learning. In: Barrett, T., Mac Labhrainn, I., Fallon, H., (Eds.), Handbook of Enquiry and Problem-based Learning: Irish Case Studies and International Perspectives. AISHE & CELT, NUI Galway. <www.nuigalway.ie/celt/pblbook>.

Barrow, E.J., Lyte, G., Butterworth, T., 2002. An evaluation of problem-based learning in a nursing theory and practice module. Nurse Education in Practice 2, 55–62.

Biggs, J., 1999. Teaching for Quality Learning at University. SRHE and Open University Press, Buckingham.

Biggs, J., 2003. Teaching for Quality Learning at University, second ed. SRHE and Open University Press, Buckingham.

Biley, F.C., Smith, K.L., 1999. Making sense of problem-based learning: the perceptions and experiences of undergraduate nursing students. Journal of Advanced Nursing 30 (5), 1205–1212.

Biley, F., 1999. Creating tension: under graduate students nurses' response to a problem-based learning curriculum. Nurse Education Today 19 (7), 586–589.

Blackford, J., Street, A., 1999. Problem-based learning: an educational strategy to support nurses working in the community. Nurse Education Today 19, 364–372.

Boud, D., Feletti, G., 1998. The Challenge of Problem Based Learning. Kogan Page, London.

Brown, J.S., Collins, A., Duguid, P., 1989. Situated cognition and the culture of learning. Educational Researcher 18, 32–42.

Burnard, P., 1991. A method of analysing interview transcripts in qualitative research. Nurses Education Today 11, 461–466.

Carlisle, C., Ibbotson, T., 2005. Introducing problem-based learning into research methods teaching: student and facilitator evaluation. Nurse Education Today 25 (7), 527–541.

Cooke, M., Moyle, K., 2002. Students' evaluation of problem-based learning. Nurse Education Today 22, 330–339.

Cooke, M., Donovan, A., 1998. The nature of the problem: the intentional design of problems to facilitate different levels of student learning. Nurse Education Today 18 (6), 462–469.

Cote-Arsenault, D., Morrison-Beedy, D., 1999. Practical advice for planning and conducting focus groups. Nursing Research 48 (5), 280–283.

Das, M., Mpofu, D.J., Hasan, M.Y., Stewart, T.S., 2002. Student perceptions of tutor skills in problem-based learning tutorials. Medical Education 36 (3), 272–278.

Department of Health & Children, 2000. The National Children's Strategy. Our Children-Their Lives. The Stationery Office, Dublin.

Dochy, F., Segers, M., Van den Bossche, P., Gijbels, D., 2003. Effects of problem based learning: a meta analysis. Learning and Instruction 13 (5), 533–568.

Downey, S., Hayes, N., O'Neill, B., 2007. Play and Technology for children aged 4–12years. Centre for Social and Education Research, Dublin Institute of Technology.

Duke, M., Forbes, H., Hunter, S., Prosser, M., 1998. Problem-based learning (PBL): conceptions and approaches of undergraduate students of nursing. Advances in Health Sciences Education 3 (1), 59–70.

Fanning, B., 2007. Immigration and Social Change in the Republic of Ireland. Manchester University Press, Manchester.

Fogarty, R., 1997. Problem-Based Learning and other Curriculum Models for the Multiple Intelligences Classroom. Hawker Brownlow Education, Melbourne.

Gibson, I., 2005. Designing projects for learning. In: Barrett, T., Mac Labhrainn, I., Fallon, H., (Eds.), Handbook of Enquiry and Problem-based Learning: Irish Case Studies and International Perspectives. AISHE & CELT: NUI Galway. <www.nuigalway.ie/celt/pblbook>.

Government of Ireland, 2001. Quality and Fairness: A Health System for you: Health Strategy. The Stationery Office, Dublin.

Haith-Cooper, M., 2003a. An exploration of tutors' experiences of facilitating problem-based learning Part 1 — an educational research methodology combining innovation and philosophical tradition.. Nurse Education Today 23, 58—64.

Haith-Cooper, M., 2003b. An exploration of tutor' experiences of facilitating problem-based learning Part 2 — implications for the facilitation of problem based learning.. Nurse Education Today 23, 65—75.

Horne, M., Woodhead, K., Morgan, L., Smithies, L., Megson, D., Lyte, G., 2006. Using enquiry in learning: from vision to reality in higher education. Nurse Education Today 27 (2), 103—112.

Hwang, S., Kim, M., 2006. A comparison of problem-based learning and lecture based learning in an adult health nursing course. Nurse Education Today 26 (4), 315—321.

Johnson, A.K., Tinning, R.S., 2001. Meeting the challenge of problem-based learning: developing the facilitators. Nurse Education Today 21 (3), 161—169.

Kahn, P., O'Rourke, K., 2005. Understanding enquiry based learning. In: Barrett, T., Mac Labhrainn, I., Fallon, H., (Eds.), Handbook of Enquiry and Problem-based Learning: Irish Case Studies and International Perspectives. AISHE & CELT: NUI Galway. <www.nuigalway.ie/celt/pblbook>.

Kreuger, R.A., 1994. Focus Groups: A Practical Guide for Applied Research, second ed. Sage Publications, London.

McCourt, C., Thomas, G., 2001. Evaluation of a problem based curriculum in midwifery. Midwifery 17 (4), 323—331.

McLafferty, I., 2004. Focus group interviews as a data collecting strategy. Journal of Advanced Nursing 48 (2), 187—194.

Mete, S., Yildirim Sari, H., 2007. Nursing students' expectations from tutors in PBL and effects of tutors' behavior on nursing students. Nurse Education Today. doi:10.1016/j.nedt.2007.07.008.

Moust, J.H., Berkel, H.J., Schmidt, H.G., 2005. Signs of erosion: reflections on three decades of problem-based learning at maastricht university. Higher Education 50 (4), 665—683.

Moyles, J., 2005. The Excellence of Play, second ed. Open University Press, London.

Murray, I., Savin-Baden, M., 2000. Staff development in problem-based learning. Teaching in Higher Education 5 (1), 107—126.

National Children's Office, 2004. Ready, Steady, Play! A National Play Policy. The Stationary Office, Dublin.

Newman, M., 2003. A pilot systematic review and meta-analysis on the effectiveness of problem-based learning. On behalf of the Campbell Collaboration Systematic Review Group on the Effectiveness of Problem-based Learning. Newcastle upon Tyne, UK: Learning and Teaching Support Network-01, University of Newcastle upon Tyne.

Office of the Minister for Children, 2007. National Recreation Policy for Young People. The Stationery Office, Dublin.

Price, B., 2003. Studying Nursing Using Problem-Based and Enquiry-Based Learning. Palgrave Macmillan, Basingstoke.

Roberts, D., Ousey, K., 2004. Problem based learning: developing the triggers. Experiences from a first wave site. Nurse Education in Practice 4, 154—158.

Rowan, C.J., Mc Court, C., Beake, S., 2007. Problem based learning in midwifery — The teacher's perspective. Nurse Education Today 27, 131—138.

Rowan, C.J., Mc Court, C., Beake, S., 2008. Problem based learning in midwifery — The students' perspective. Nurse Education Today 28, 93—99.

Schmidt, H.G., 1993. Foundations of problem-based learning: some explanatory notes. Medical Education 27, 422—432.

Stepien, W., Gallagher, S., Workman, D., 1993. Problem based learning for traditional and interdisciplinary classrooms. Journal for the Education for the Gifted., 338—345.

Vandecreek, L., Allen, J.B., 2005. Innovations in Clinical Practices: Focus on Health and Wellness. Professional Resources Press, Florida.

Wilkie, K., Burns, I., 2003. Problem-Based Learning. A Handbook for Nurses. Palgrave Macmillan, Basingstoke.

Wood, E., Attfield, J., 2005. Play, learning and the early childhood curriculum, second ed. Paul Chapman Educational Publishing, London.