Student engagement through problem-based learning: A contemporary “solution” for higher education

Helen Heaviside, Joanne Hudson, & Andrew Manley
OVERVIEW

Introduction to PBL

Rationale, methods, & findings

Conclusion and recommendations
INTRODUCTION TO PBL

One of your clients sends you a “Friend Request” on Facebook…

What would you do?
IMPLEMENTATION OF PBL

1. Students confronted with a problem
2. Students attempt to understand the underlying principles or processes
3. Students activate their prior knowledge and discover that some issues need further study
4. Students individually search for additional resources to study the issues identified
5. Students discuss findings and difficulties with the rest of their group
6. Tutorial groups are guided by tutors – task of the tutor is to guide the students through the learning process

(Dolmans et al., 2001)
DRIVERS

• Need to increase student engagement (Gibbs, 2012; HEPI/HEA, 2014)
• Pressed to produce graduates who are relevant in the 21\textsuperscript{st} Century (Anderson et al., 2001)
• Traditional lectures ineffective at:
  • Promoting thought
  • Changing attitudes
  • Teaching behavioural skills (Gentelli, 2015)

Employers receive 39 applications for every graduate job
Study shows number of graduate-level openings available has returned to pre-recession levels, with big increases in media, engineering and consultancy

(The Telegraph, 2014)
Encourages reflection, student autonomy, and critical thinking.

Prepares students for employment.

Increases student satisfaction and engagement.

Encourages independent learning.

Provides a greater opportunity to optimise learning.

Promotes collaboration among students.

Develops communication skills (written and verbal).

Encourages knowledge application and transfer.

Increases self-confidence.

Encourages recall.

Increases recall.
Encourages reflection, student autonomy, and critical thinking.

Provides a greater opportunity to optimise learning.

Prepares students for employment.

Encourages independent learning.

Promotes collaboration among students.

Develops communication skills (written and verbal).

Increases student satisfaction and engagement.

Increases self-confidence.

Encourages knowledge application and transfer.

Increases recall.

Study rationale:
- Limited research (7) in SPEX with only 2 looking specifically at Sport and Exercise Psychology.
- Lack of research making direct comparisons between traditional methods of teaching and PBL.
- Focus on practical application and outcomes of PBL; limited research on students’ experiences.
- Focus on undergraduate courses; limited on postgraduate courses.
- Dearth of research exploring the perspective of staff within higher education.
PURPOSE

To consider whether PBL can enhance student engagement, learning, critical analysis, and self reflection in Level 6 and 7 Sport and Exercise Psychology students
IMPLEMENTATION

Problem ‘first’ learning – problem defines what is to be learnt (Spencer & Jordan, 1999)

Hybrid model – part of curriculum rather than full (Dahlgren & Oberg, 2001; Pawson et al., 2006)

Type I PBL curriculum – a few PBL scenarios per academic year (Kwan & Tam, 2009)

40 HOUR PLACEMENT

ATHLETE CASE STUDY
RESULTS

Mixed Design ANOVA with follow-up comparisons;
*significant at $p = .023$
The problem based one helps you learn it and the traditional one is just providing the information as more of a tool, that’s how I see it (L6).

In the PBL cause you’ve got that scope for debate, you can be more critical. Whereas in traditional you’re just sort of reading from the slide and being told and you just accept it as facts whereas in the PBL session you’ve got other people there who have different opinions than you and you can kind of voice them and discuss (L6).

I think it was good to build up some rapport with your group, and get to know them (L7).

I think the problem based approach really helped to reflect really, because then you were able to say okay now that I feel a little bit more knowledgeable to deal with this situation (L7).

That stuck with you so you’d then remember that case study and also how they went about it (L6).

The problem based ones I enjoyed because they’re more practical, hands on so they get you thinking (L6).

The problem based ones where we actually had to do something. I found them far more engaging than just being stood at and just talked to for an hour, I can’t, I don’t know, I don’t engage in them at all, I just switch off (L6).

I think the problem based approach really helped to reflect really, because then you were able to say okay now that I feel a little bit more knowledgeable to deal with this situation (L7).
It was quite nice to have something quite new and in kind of like an environment like the lecture theatre. So it wasn’t kind of your typical lecture.

...some of the larger modules where we’ve got people teaching for the first time, I think they would probably struggle a bit [to deliver PBL sessions].

The planning was much more difficult I found for the PBL than the traditional probably because of the unstructured nature of it, it gives much more room for uncertainty.

I do like the traditional ones if say there was an exam and you just want an hour’s lecture to give you all the key information that you’re going to need for that exam. But because there was no exam it kind of meant that whenever you had a lecture like that, you were sat there thinking well I’m never going to be tested on this and I’m just sat here listening.

I think doing a combination’s good because the lectures are really important...you can’t just have one or the other.

If it was interactive every week people would kind of realise oh they could get away with maybe just having a chat every time.

...some of the larger modules where we’ve got people teaching for the first time, I think they would probably struggle a bit [to deliver PBL sessions].

The planning was much more difficult I found for the PBL than the traditional probably because of the unstructured nature of it, it gives much more room for uncertainty.

I think it works quite well at level 6, whether it would work at levels 4 and 5, not so sure.

I think doing a combination’s good because the lectures are really important...you can’t just have one or the other.
LECTURER REFLECTIONS

Jo (L6 Module Leader)
Andrew (L7 Module Leader)
1. PBL could be used as a means of enhancing student engagement, student learning, critical thinking, and self-reflection.

2. Students tended to prefer a variation of PBL and traditional teaching approaches across a module as opposed to the module adopting purely one or the other of these approaches.

3. Careful consideration should be taken regarding constructive alignment with module assessment modes, topics, and level of students when implementing PBL within the curriculum.

4. Planning and delivering PBL to students can be a positive and rewarding experience, however, careful and extensive planning is required if PBL is to be applied appropriately and effectively.

5. From a Sport & Exercise Psychology perspective, PBL appears to be an effective vehicle for conveying the importance of developing employable skills such as critical thinking.
Thank you for listening

H.Heaviside@leedsbeckett.ac.uk
joanne.hudson@swansea.ac.uk
A.J.Manley@leedsbeckett.ac.uk

@Helen8590Brown
@DrAndrewJManley
REFERENCES


