

Problem-based learning as an exemplar of innovative constructivist learning

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Constructivism

- **John Dewey** experiential learning ~1900
- **Maria Montessori** scientific (self) education ~1940
- **Jean Piaget** schemata ~1940
- **Lev Vygotsky** zone of proximal development ~1930
- **Jerome Bruner** discovery learning ~1960
- **David Ausubel** advance directives ~1968

Problem-based learning principles

- **Student learning > staff teaching**
- **Encourages student to determine extent of study**
- **Small group discussion, meaning-making & knowledge-building, guided by facilitator**
- **Practice-based ‘problem’**
 - not to be solved, but to be understood in order to grasp nature of ‘problem’**

Introduction of PBL at UKZN

- **Nursing** **1994**
Function effectively,
especially in under-resourced health-care settings
- **Medicine** **2001**
Integrate basic sciences
with clinical applications
- **Public governance** **2011**
Self efficacy,
citizenship education,
and critical theory approach

Student responses

Nursing:

- contextual understanding
- wider view of health and illness
- more consideration of patient's context
- maintenance of competence

Student responses

Medicine:

- PBL more interesting and more useful than didactic lectures
- confidence in expressing themselves
- consolidate their abilities by teaching others
- differing cultural and intellectual backgrounds found common ground

Student responses

Public governance:

- wider understanding of how to contextually identify and manage HRM problems and issues
- PBL more suitable for facilitating critical thinking
- PBL enhanced communication, leadership, and conflict management skills
- Combined with critical theory, PBL generated appreciation for human diversity
- PBL improved their grades

Student responses

BUT –

- *...more lectures, less presentations/industrial theatre; we feel like we are doing the lecturer's job.*
- *...personally, I work extra hard to achieve a good mark if I don't have a good facilitator.*
- *...the team process was time-consuming and I had no concern for this area.*

Staff responses

Nursing:

- PBL educators must communicate effectively with clinical staff regarding purpose and process of learning

Medicine:

- Some initially enthusiastic
- Some enthusiastic after facilitator training
- Some withdrew from participation

Public governance:

- PBL facilitation improved PG studies
- PBL work contributed to PG employment
- External examiner: *assigned work was beyond what expected*

Advantages

- **Group collaboration**
- **Exposure to different ideas that promoted critical thinking**
- **Ability to integrate different views to produce a solution that covers all the issues**

Challenges

- **Introduction of PBL to a Course/ Discipline/ School unfamiliar with the pedagogy**
- **Regulated curricula [Medicine, Nursing]**
- **Facilitator availability, training, cost**
- **Assessment congruence with pedagogy**
- **Student expectations of being taught**
- **Facilitators' anxiety to teach**

Conclusion

- **Problem-based learning at UKZN is a good, but not a pure, example of constructivist learning**
- **PBL is flexible enough to be innovatively adapted to different academic fields**
- **PBL can incorporate different philosophical worldviews**