Implementing Case-Based learning: Hitches, Hurdles and Highlights

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Outline of Session

- Case Based Learning
- Planned Project
- Actual Project
- Evaluation
- Next steps
- Wider Application
Case Based Learning - Definition

“CBL is learning and teaching approach that aims to prepare students for clinical practice, through the use of authentic clinical cases. These cases link **theory to practice**, through the **application of knowledge** to the cases, and encourage the use of **inquiry-based learning methods**”. Thistlethwaite et al (2012)p434
Claims made for Case-Based Learning

- Application of knowledge
- Applied reasoning skills
- Deeper learning
- Reflective skills
- Active participation
- Patient-centred

Case-Based Learning Verses Problem-Based Learning

**Problem-Based**
- Little advance study
- Student driven
- Students may pursue ‘blind alleys without correction’

**Case-Based**
- Builds on foundational knowledge
- Instructors intervene with guiding questions
Evidence around Case-Based Learning

- Students generally like it more than lectures and problem-based learning
- Some studies find students reporting improved confidence and critical thinking
- Students report not liking having to spend ‘extra’ time on preparation
- Minimal evidence that it is more effective than other methods in improving knowledge or attitudes

Thistlethwaite et al (2012)
Current Project
Current Project

- 14 hour lecture strand (Developmental Language Impairment)
- Speech and Language Therapy students
- Postgraduate and Undergraduate students together
- Approximately 100 students (22 UG and 80 PG)
- At least 35 days clinical experience (at least 3 different settings)
- Assessment PG Case Based, UG Essay Questions (usually applied)
Drivers for Project

- **2015/16 Module Evaluations**
  - The teaching has helped my understanding of the subject
    - UG: $n_{17} = 3.8$ (2 Students Disagreed)
    - PG: $n_{57} = 3.9$ (4 Students Disagreed)
  - Staff are enthusiastic about what they are teaching
    - UG: 4.4
    - PG: 4.4
  - Comments about balance of theory and activities and wanted more clinical application*
- **Simulated practice within SHS**
Project Plan

- Develop and pilot case-based online simulated learning resources
- LEaD SHS Educational Technology Project 2016/17
Online Resources

- Clinical Management Model
  - 1. Is there a need for SLT involvement?
  - 2. What is the nature of the SLT difficulty?
  - 5. What is the ultimate goal of therapy?

- 3 Fictional cases and 1 real

- Moodle Lesson

- Available to students after first session
DLI Cases

Case One

Adam is 2;7 has come to a ‘drop in’ session as his mum is worried that he is not talking much.
Your clinical question at this stage is ‘Is there a need for SLT involvement?’ What is the information you need to gather to answer this question?
DLI Cases

What specifically would be your next steps if you felt there was (or could be) a need for SLT involvement?

Your answer:

Your essay will be graded by your teacher.

Continue
Hitches!
DLI Cases

What specifically would be your next steps if you felt there was (or could be) a need for SLT involvement?

Your answer:

Your essay will be graded by your teacher.

Continue
Further issues

- Persistent problem
- Limited uptake
- In lectures students very ‘flat’ and ‘unresponsive’
Solution

- Move case-based activities into lectures
- Began in session 3 with some activities not based on cases
- Session 4, 5 and 6 all linked to cases
Structure of Sessions

Session 4
- Activity
- Feedback
- Present
- Case Activity (applying Teaching)
- Feedback
- Present
- Case Activity (apply Teaching)
- Feedback

Session 5
- Case Activity
- Feedback
- Present
- Case Activity (applying Teaching)

Session 6
- Present
- Feedback
- Present
- Feedback
- Present
- Feedback
Method

- Students in groups of 4-5
- 4-5 groups working on each case
- 4 cases
- Low Tech!
Evaluation
Module Evaluations

- The teaching has helped my understanding of the subject:

<table>
<thead>
<tr>
<th>Year</th>
<th>Undergraduate</th>
<th>Postgraduate</th>
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<tbody>
<tr>
<td>15/16</td>
<td>3.8 (2 Disagree)</td>
<td>3.9 (4 Disagree)</td>
</tr>
<tr>
<td>16/17</td>
<td>4 (2 Disagree)</td>
<td>4.2 (0 Disagree)</td>
</tr>
<tr>
<td>Change</td>
<td>+0.2</td>
<td>+0.3</td>
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</table>
Evaluation

- UG Comments
  - Liked case discussions and interactivity
  - Unclear that they had learned new knowledge, felt they wanted knowledge before cases, perception of not being prepared for the exams
- PG Comments
  - Enjoyed cases, felt prepared for exam
  - Wanted model answers, uncertain about notes made in session, knowledge first then activities
### Evaluation

#### Student Marks

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<th>Postgraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/16</td>
<td>N=38 Mean 58.47 (11.8)</td>
<td>N=76 Mean 63.76 (6.9)</td>
</tr>
<tr>
<td>16/17</td>
<td>N=23 Mean 60.56 (8.05)</td>
<td>N=76 Mean 63.2 (7)</td>
</tr>
</tbody>
</table>
Evaluation Summary

Strengths
- Enjoyment

Weaknesses
- Impact on outcomes
So what now?
Continue but need to address...

- Some students want ‘model answers’
- Some students feel like they have nothing to revise from
- Going through feedback slow in session and low tech
- Balance of information giving and case-based work
Next Steps taken already

- Tried to produce ‘answer’ too time consuming

- Reviewed Lecture Capture as part of peer review
  - Need to be more consistently explicit when going through answers as to which answers are good and why and which are not and why
  - Plan to mark on answers and then scan and upload to Moodle

- Discovered Cognitive Load Theory!
Plan for 2017-2018

- Be much more explicit about what knowledge I am teaching or are expecting students to draw on
- Tweak some activities so that maps more closely to order of teaching
- Use worked examples
- Be more explicit about correct and incorrect answers in feedback
- Investigate technological solutions to feedback — any ideas
Lessons to be learned from my experiences

- If going for online, split cases up
- Be clear about knowledge expecting students to apply
- Plan on how to manage less correct answers
- Do you need to step the students more gently through worked examples?
- Talk the students through what doing and why
- Use polls at end of sessions for immediate feedback especially at the start
Lessons to be learned from my experiences

- Cases didn’t need to be real, students didn’t ask
- Can you build in time for you to quickly review answers before feedback
- Make sure put case name on feedback sheet
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