Problem-based learning (PBL)

- Student-centered pedagogy adopted by three faculties in The University of Hong Kong for more than 10 years
- Small group discussion
- Use prior knowledge and use mobile devices to access Internet information, to solve the problem

BACKGROUND

OBJECTIVES

- Identify students’ patterns of mobile device usage
- Provide recommendations on effective use of the devices

PARTICIPANTS

Participants

Bachelor of Medicine and Bachelor of Surgery (MBBS) programme:
First and second year students from the 5-year and 6-year programme (n = 630)

Bachelor of Dental Surgery (BDS):
First to fourth year students from the 5-year and 6-year programme (n = 321)

Bachelor of Sciences in Speech and Hearing Sciences (BSc):
Second to fourth year students from the 4-year and 5-year programme (n = 134)

Methods

Questionnaire:
Emails sent twice to invite students to voluntarily complete the anonymous online questionnaire.
Definition of mobile devices explained at the very beginning of the questionnaire

Data collected:
- Demographic information
- How students use their mobile devices
- Why some students do not use mobile devices during PBL
- Students’ degree of agreement to certain guidelines regarding the use of mobile devices in PBL

RESULTS

How many students use mobile devices in PBL:

- 346 students completed the survey
- 99%: own one or more mobile devices
- 98%: have used mobile devices in PBL
- 96%: have used mobile devices for learning purposes
- 35%: have used mobile devices for non-learning purposes
- Learning activities: information search & synthesis, and facilitation of discussion

The types of mobile devices students use most frequently in PBL:

- Have been using mobile devices for:
  - 0 year: 54%
  - 1-4 years: 45%
  - 5-10 years: 1%

Students’ agreement to the guidelines on the use of mobile devices:

<table>
<thead>
<tr>
<th>To what extent do you agree with the following recommendations?</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roles&lt;br&gt;1. The use of mobile devices by students should be&lt;br&gt;regulated within PBL tutorials.</td>
<td>36%</td>
<td>28%</td>
<td>35%</td>
</tr>
<tr>
<td>2. Only designated student(s) should do online searching when the PBL group decides internet information is needed.</td>
<td>17%</td>
<td>14%</td>
<td>68%</td>
</tr>
<tr>
<td>3. Only laptops should be used in PBL tutorials (i.e., other mobile devices should not be used).</td>
<td>17%</td>
<td>19%</td>
<td>64%</td>
</tr>
<tr>
<td>Processes&lt;br&gt;4. The use of mobile devices to search for&lt;br&gt;factual information (e.g., definitions of terms, specific laws, epidemiological data, etc.) should be encouraged.</td>
<td>89%</td>
<td>9%</td>
<td>2%</td>
</tr>
<tr>
<td>5. The use of mobile devices to search for multimedia&lt;br&gt;files should be encouraged in PBL tutorials, since&lt;br&gt;they can facilitate visualization and co-construction of&lt;br&gt;knowledge.</td>
<td>86%</td>
<td>12%</td>
<td>3%</td>
</tr>
<tr>
<td>6. The use of cloud-based services such as Google Docs, etc, should be encouraged for collaborative note-making in PBL.</td>
<td>80%</td>
<td>18%</td>
<td>2%</td>
</tr>
<tr>
<td>7. Mobile devices should not be used for non-educational purposes, such as chatting with friends, surfing the net, etc.</td>
<td>67%</td>
<td>20%</td>
<td>13%</td>
</tr>
<tr>
<td>8. PBL tutorial time should mostly be spent on discussion, instead of searching for information.</td>
<td>60%</td>
<td>22%</td>
<td>19%</td>
</tr>
</tbody>
</table>

CONCLUSIONS

Recommendations based on the findings

- Almost all students use mobile devices for the PBL discussion.
- The uses include: information search & synthesis, and facilitation of discussion.
- Recommendations on effective use of mobile devices can guide students to use their mobile devices better for learning.