An online platform for ‘student-other’ learning dyad interaction, multimodal feedback and assessment.

Lunch and Learn for Education Focused academics, Feb 8th 2019
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Convenor of Clinical Skills, UNSW Medicine
Acknowledgment

I am deeply indebted to:
Dr Renee Lim who was instrumental in the development of both the SPP and OSPIA.
Dr Chunfeng Liu and Prof Rafael Calvo from Affective Computing at University of Sydney in developing OSPIA and the EQClinic.
Kiran Thwaites for her exceptional work in administering all CS activities.
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Communication skills learning and teaching

Why important?

Challenge
• The need for experiential learning

Solutions
• Peers?
• Patients?
  – Real?
  – Simulated?
Your setting?

Student/’other’ dyad – who is the other?

Challenge
• What do you want the student to learn in an interaction?

Solution
• Could a platform like the one I’ll now describe address teaching deficits in your program/course?
Simulated Patient Programs

What is a Simulated Patient?

Problems
• Place
• Time
• Participant numbers
  – Students
  – SPs

Solution
• A ‘virtual’ experience?
Taking Simulated Patients online

Why?
• Real, not virtual!
• Online as a venue, with time less constraining

How?

What else?
• A ‘virtual’ appointment
• Purpose
  – Learning
• Opportunity
  – Teaching / Feedback
OSPIA functionality

1. Calendar function to book interactions

2. Participant interaction using **live video-conferencing**, recorded for later **review** and **reflection**

3. **Feedback** to students includes:
   - Directly from the SP
     - ‘thumbs up/down’ or smile/frown face emoji tool (mouse click)
     - written comments (free text)
       » both time-stamped to the recording of the interaction
OSPIA functionality (2)

3. Feedback to students includes:
   – Computer generated
     o sophisticated ‘read-the-screen’ algorithms provide detailed non-verbal communication behaviour analysis
       ▪ available on the timeline of the recording of the interaction

4. Innovative patient-led assessment
5. Guided reflection
6. Administration and reporting
Outcomes / benefits of OSPIA

Creates a **community of practice**
- Of learners and diverse ‘teachers’

Achieves what is near unachievable otherwise, with detailed **feedback** on non-verbal communication behaviours
- As well as on verbal communication
- Individualising & personalising the student experience

Allows (**inspires**?) student-SP interactions, both for learning (practice) and (formal) assessment
- (Almost) anywhere with internet
- At a mutually agreed time

Consistent with **being digital**
- Reflect new realities of telemedicine – prepares students for the particularities of online interactions
- Blends learning and assessment of these skills seamlessly with on-campus and workplace activities
Outputs related to OSPIA

Teaching/learning:
• Over 1000 student/SP interactions to date
• 300 registered online SPs, across Sydney plus Melbourne & Perth

Research: *Publications*:
• Liu C; Lim RL; McCabe KL; Taylor S; Calvo RA, 2016. A web-based telehealth training platform incorporating automated nonverbal behavior feedback for teaching communication skills to medical students: A randomized crossover study. Journal of Medical Internet Research, vol. 18, http://dx.doi.org/10.2196/jmir.6299, ROS ID: 850134
• 9 conference papers and one workshop
Student feedback

“convenience of practicing communication skills from anywhere … good for both the student and the simulated patient (SP).

a recording of your history with feedback on your performance - can revisit it anytime and track progress, after doing a few
detailed feedback on non-verbal cues”

“thanks for making OSPIA a compulsory part of our training. I'm fine talking to people in public and casually, but for some reason, I get a bit "tight" and anxious when it comes to taking a history, because I don't know if I'm using the right body language, asking the right follow up questions, etc. Consequently, the history sometimes feels like a bit of a blur to me, and afterwards, I find it difficult to remember all the little bits that happened during the history. The playback feature and the analysis is super handy. Of course, practicing face to face is also important, but this is a great strategy.”

“Going forward: I think this platform can be a really useful way for students to practice history-taking skills, even with each other.”
What OSPIA looks like

Different participants have somewhat different views:

- **SP**
- **Student**
  - During initial interaction
  - On subsequent review
- Initial landing page for SP’s for
  - Intro and info
  - Registration
Hi Ian
change password

Requests from students

<table>
<thead>
<tr>
<th>Appointment Date</th>
<th>Appointment Time</th>
<th>Student Name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th September, 2016</td>
<td>11:00 am</td>
<td>Year 2</td>
<td>CONFIRM</td>
</tr>
</tbody>
</table>

Your appointments in the next two weeks

<table>
<thead>
<tr>
<th>Appointment Date</th>
<th>Appointment Time</th>
<th>Student Name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th September, 2016</td>
<td>10:00 am</td>
<td>Year 2</td>
<td>START APPOINTMENT</td>
</tr>
</tbody>
</table>

Your unfinished consultations

You have no unfinished consultations.
This is a sound check page.
The system will make a recording which will not be seen by others. Please always accept requests to share your camera and microphone.

Until the following task is completed, you will not see the student.

Task: Please use several sentences to describe the weather today.

When you are ready, please click the "Start" button below, speak, and when finished please click the "Stop" button.
SP view during interview

Feedback devices

Onscreen guide for assessment

For best quality interview

Safety
Student-Patient Observed Communication Assessment (SOCA) form

Observe student interviewing patient (real or simulated) and comment on the student’s ability to:

<table>
<thead>
<tr>
<th>1. Provide structure</th>
<th>F</th>
<th>P-</th>
<th>P</th>
<th>P+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>F</td>
<td>P</td>
<td>P+</td>
</tr>
</tbody>
</table>

Please consider how well the students achieved these criteria, and then mark any descriptors that **were not achieved**

- A. Initiates the session appropriately with introductions, defining the purpose and agenda
- B. Clariﬁes and summarises at key points during the interview
- C. Uses transitions and signposting
- D. Manages time effectively
- E. Closes the session appropriately with a plan and/or summary

<table>
<thead>
<tr>
<th>2. Gather information</th>
<th>F</th>
<th>P-</th>
<th>P</th>
<th>P+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>F</td>
<td>P</td>
<td>P+</td>
</tr>
</tbody>
</table>

Please consider how well the students achieved these criteria, and then mark any descriptors that **were not achieved**

- A. Encourages the patient to tell their story in their own words
- B. Explores the patient’s problems and perspectives (beliefs, worries, feelings, goals)
- C. Uses open questions initially, listens attentively, and then synthesizes closed questions as appropriate
- D. Facilitates patient’s responses using encouragement, pause/pause, repetition, paraphrasing, interpretation - with limited interruptions
- E. Avoids using jargon and requests clarification and further information where needed
What OSPIA looks like

https://ospia.med.unsw.edu.au/video/cali_1.mp4

The linked video is the ‘compressed’ version which students, and faculty, can review after the event.
Student view – pre-assessment result

This is the completed assessment form on your interaction. Please review, click Submit, then proceed to your Reflection on the next page.

The simulated patient hasn't finished the SOCA form, please wait for several minutes and refresh this page.

Thanks your cooperation
Completed assessment form for student reflection

UNSW Medicine

This is the completed assessment form on your interaction. Please review, click Submit, then proceed to your Reflection on the next page.

Student-Patient Observed Communication Assessment (SOCA) form

<table>
<thead>
<tr>
<th>Criteria</th>
<th>F</th>
<th>P-</th>
<th>P</th>
<th>P+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provide structure</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Please consider how well the students achieved these criterion, and then mark any descriptors that were not achieved

- A. Initiates the session appropriately with introductions, defining of the purpose and agenda
- B. Clarifies and summarises at key points during the interview
- C. Uses transitions and signposting
- D. Manages time effectively
- E. Closes the session appropriately with a plan and/or summary

<table>
<thead>
<tr>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
</tr>
<tr>
<td>F</td>
</tr>
</tbody>
</table>

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Completed assessment form for student reflection

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>P-</th>
<th>P</th>
<th>P+</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Build relationships &amp; developing rapport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Ensure a shared understanding of patient's needs and perspective/impact of problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please consider how well the students achieved these criterion, and then mark any descriptors that were not achieved:

- A. Picks up and acknowledges patient's non-verbal behaviour (e.g. body language, speech, facial expressions, affect)
- B. Demonstrates respectful, encouraging and non-controlling non-verbal behavior (eye contact, facial expressions, posture, position, movement) and vocal rate, volume and tone
- C. Acknowledges patient's perspective and efforts to cope and is non-judgemental
- D. Handles uncomfortable topics sensitively
- E. Involves the patient, and shares own thinking as appropriate - ideas, thought processes, dilemmas

Overall Feedback
Skills to focus on
- Providing structure
- Gathering information
- Building relationships and developing rapport
- Ensuring a shared understanding with the patient

Please provide any further overall or specific feedback to the student:

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>P-</th>
<th>P</th>
<th>P+</th>
</tr>
</thead>
</table>

Submit
Guided student reflection

Personal Reflection (2)

Now we would ask that you take a moment to reflect on your interview and assessment. Thinking about the interview you just completed and the SOCA you just reviewed, please respond to the following questions:

1. How you felt the interview went for you at the time?

2. How this compares with the grade and comments entered by the assessor?

3. What this means to you for how you will continue to develop your communication skills?
Student review – 48 hours later

Students receive notification that analysis of the video files is complete and ready for review.

Non-verbal communication analysis occurs across 11 cues including

- body language (kinesics),
- distance (proxemics),
- voice (paralanguage)
- touch (haptics).
- the use of time (chronemics)
- eye contact (oculesics)
Turn-taking

**Overall Movement**

<table>
<thead>
<tr>
<th>You</th>
<th>SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total speaking percentage: 61.35%</td>
<td>Total speaking percentage: 38.65%</td>
</tr>
<tr>
<td>Number of turns: 108</td>
<td>Number of turns: 107</td>
</tr>
<tr>
<td>Average length of each turn: 2.24 seconds</td>
<td>Average length of each turn: 1.42 seconds</td>
</tr>
<tr>
<td>Longest turn: 19.65 seconds</td>
<td>Longest turn: 6.94 seconds</td>
</tr>
<tr>
<td>Overlapping time: 16.26 seconds (6.72%)</td>
<td>Overlapping time: 16.25 seconds (10.66%)</td>
</tr>
</tbody>
</table>

**Tips:**
1) This graph depicts all the speaking periods of you and the SP.
2) Green labels represent your speaking periods.
3) Red labels represent the SP’s speaking periods.
4) Scroll your mouse to zoom in or zoom out the graph, and drag the graph to move forward or backward.
# Smiling

<table>
<thead>
<tr>
<th>Turn Taking</th>
<th>Speak Ratio</th>
<th>Sound Volume</th>
<th>Sound Pitch</th>
<th>Smile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frown</td>
<td>Body Leaning</td>
<td>Head Tilting</td>
<td>Nodding &amp; Shaking</td>
<td>Hand Gesture</td>
</tr>
</tbody>
</table>

**Overall Movement**

**Smile intensity**

![Smile intensity graph](image)

**Tips:**
1) This graph depicts the time and intensity you smiled.
2) The higher the value, the more obvious the smile is.
3) The values above the red dash line would be considered visible smiles.
4) The "C" labels in the graph represent the comments from the SP.
5) Highlight a section of the graph to zoom in to that time period.
Hand gestures

**Tips:**
1) This graph depicts the frequency and magnitude of your hand gesture.
2) The values that above the red dash line would be considered visible hand gesture.
3) The "C" labels in the graph represent the comments from the SP.
4) Highlight a section of the graph to zoom in to that time period.
Training

Welcome to the training page for OSPIA. The videos will take less than 30 minutes to view in total. If there are any issues, please contact CS Administrator

T: +61 (2) 9385 2560  E: csadmin@unsw.edu.au

- The code of conduct
- The guide to the interview
- Scenarios
- SOCA assessment
- Research consent form

1. Program overview
   - Summary

2. How to use the scenario
   - Summary

3. Booking appointments
   - Summary

4. The interview
   - Summary

5. Assessing the student
   - Summary

6. Conclusion
   - Summary

To test your set up (microphone and camera) before your first interview go to https://ospia.med.unsw.edu.au/tester

Now you’ve completed the training, visit this Assessment Training page to view sample interviews and practice assessing students. They are up to 20 minutes long - a little longer than what you will normally experience with students.
Training

https://ospia.med.unsw.edu.au/sp/train_sp

Program overview - https://vimeo.com/153144880
How to use scenario - https://vimeo.com/153151741
Booking appointments - https://vimeo.com/152947628
The interview - https://vimeo.com/152960383
Assessing the student - https://vimeo.com/152970934
Conclusion - https://vimeo.com/153154365
Bibliography


6. Ker, Jean S.; Dowie, Alan; Dowell, Jon; Dewar, Gillian; Dent, John A.; Ramsay, John; Benvie, Sheena; Bracher, Lee; Jackson, Cathy (2005). Twelve tips for developing and maintaining a simulated patient bank. Med.Teach 27 (1) 4-9