



# OPTIMAX 2016

Optimising image quality for medical imaging

*University of Salford, Salford, Greater Manchester, UK*

*Edited by: Peter Hogg, Robert Hogg – Thompson, Carst Buissink*

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## Optimising image quality for medical imaging

*University of Salford, Salford,  
Greater Manchester, UK*

### Edited by:

*Peter Hogg, Professor of Radiography, School of Health Sciences,  
University of Salford, Greater Manchester, United Kingdom*

*Robert Hogg – Thompson, University College London, United Kingdom*

*Carst Buissink, Department of Medical Imaging and Radiation Therapy,  
Hanze University of Applied Sciences, Groningen, The Netherlands*



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# OPTIMAX 2016:

## Peer observation of facilitation

Leslie Robinson<sup>1</sup>, Jo Coward<sup>1</sup>, Stephanie De Labouchere<sup>3</sup>, Joanna Lowe<sup>4</sup>,  
Claire Mercer<sup>1</sup>, Charlotte Palmqvist<sup>2</sup> Parvin Tavakol<sup>2</sup>

<sup>1</sup> School of Health Sciences, University of Salford

<sup>2</sup> Karolinska Institutet

<sup>3</sup> Haute Ecole de Sante Vaud-Filiere TRM, University of Applied Sciences and Arts Western Switzerland,  
Switzerland

<sup>4</sup> University College Dublin

### Introduction

In August 2016, a 3-week research Summer School was delivered at University of Salford. The Summer School, known as 'OPTIMAX' was in its fourth year of delivery. Previous iterations were held in the Netherlands (2015), Portugal (2014) and Salford (2013).

The purpose of OPTIMAX is to facilitate collaborative international and interdisciplinary research between university academics and students. This offers an exceptional opportunity not only for students, but also for tutors who want to develop their facilitation skills.

The project reported here used tutor observers (i.e. tutors who attend the summer school, in an observational capacity only, to develop their own skills as teachers) to observe, identify and reflect on a range of facilitation practices for managing the diverse OPTIMAX research groups. The project presents a description of the peer-observation method we used and highlights a number of findings related to facilitator strategies that appeared to influence group dynamics and learning. These observations are then used to make recommendations about how OPTIMAX tutors can be prepared for their facilitation experience.

## Background

Education literature regarding Peer Observation of Teaching (PoT) suggests this method of training new teachers is more effective than de-contextualised didactic approaches (Martin and Double 1998). This is perhaps not surprising since new teachers witness real-life examples of teaching in action rather than reading about them in textbooks.

Nevertheless, PoT is not without its problems. Those being observed can feel intimidated and respond negatively if they feel their practice is being judged. This is particularly true when PoT is undertaken by more experienced peers for the purpose of Quality Assurance (Cockburn 2005). Although the aim of our study was not to review the quality of facilitation but to support new teachers to learn from examples of good practice it was still very important to prepare everyone appropriately to ensure a collaborative approach was achieved.

In order to facilitate this we positioned the study within an Appreciative Inquiry framework (Cooperrider & Whitney 2005). In Appreciative Inquiry observers are only permitted to identify and celebrate good practice. The principle is that by identifying what it is that makes something good, these ideas can be used to move forward, rather than concentrating on a deficiency model of what doesn't work, where people are required to let go and be coerced to change.

We used Siddiqui et al (2007) 12 tips for peer observation of teaching to guide the process, as this provides a useful overview for considering the PoT process from the perspectives of all involved.

In order to help new tutors identify examples of good practice an observational template was required. Although many such templates exist for “teaching” activities it proved difficult to find a template specifically targeted to good practice in small group facilitation. We therefore designed our template by amending the standard PoT form used at the University of Salford (University of Salford 2016/17) to include qualities identified in the literature as being supportive of group facilitation. These covered being supportive of group (peer-to-peer) learning interactions, managing group dynamics and managing conflict (Bosworth 1994, Barkley, Howell Major, Cross 2014, Johnson, Johnson & Smith 2014) (see Appendix 1).

## Purpose of our work

To explore new tutors' reflective observations of small group facilitation learning activities, in order to:

1. develop a tool for the peer-observation of small group facilitation
2. develop a set of tutor guidelines on small group facilitation in a multicultural context
3. make recommendations to the OPTIMAX organising committee about preparation of tutors

Participants

All new tutors who had registered to attend the summer school for the purposes of improving their facilitation skills were invited to take part in the study as tutor-observers. Six out of seven agreed; the seventh was required to participate as an ‘experienced’ group tutor as she had specific statistics skills which were needed to support the research. She felt this would influence her ability to step back into the role of ‘inexperienced’ tutor and would therefore bias her observations.

Of the 6 participants, two were from Sweden, two from the UK, one from Ireland and one from Switzerland. Observation took place through a number of permutations: paired; singly; during week one only; during week 3 only and over the length of OPTIMAX (see **table 1**). This helped limit the influence of intra and inter-observer differences, group dynamics, and changes in facilitator behaviour over time. Tutor-observers did not observe tutors from their own place of work. All experienced tutors consented to being observed.

Observation Case	Observer	Tutor observed (number protects anonymity)	Dates of observation	Working day of summer school	Description
1	JL	1	3/8/16	3	One observer observed two different tutors on subsequent days of week 1
2	JL	2	4/8/16	4	
3	CM	3	2/8 /16 3/8/ 16 11/8/16	2,3, 9	One observer observed same group at beginning and middle of summer school
4	PT/CP	4	2/8/16 3/8/16	2,3	Pair of observers observed two different groups in week 1
5	PT/CP	5	3/8/16	3	
6	SdL	6	16/8/16	12	One observer observed one tutor in final week of summer school
7	JC	7	15/8/16 16/8/16 17/8/16	11-13	One observer observed one group in final week of summer school over 3 days

Table 1 Configuration of Observations

## Method

### Stage 1: Information and consent

Experienced tutors being observed and tutor-observers were informed about the project and asked for consent to participate on-line before the tutors attended the summer school.

### Stage 2: Teaching about group facilitation and peer observation

Tutor-observers were briefed via a tutorial with the project lead (who has teaching and research experience and published on small and intercultural group learning (Robinson 2015, Robinson, Harris and Burton 2015, Schillemans and Robinson 2016)) about what is considered good practice in small group facilitation. This helped them understand the observation tool. Tutor-observers were also made aware of the principles of peer-observation and the requirement for good ethical conduct during the process.

### Stage 3: Observation

Tutor-observers were allocated to a group to carry out observation. This was based on pragmatic issues related to the length of time the tutor-observer was available for the summer school. To avoid difficulties an observer may have had in feeding back to a more experienced colleague they were placed with a tutor from a different country. This also kept the field

‘anthropologically strange’ maximising the ability to detect new and unfamiliar practices (Delamont 2014).

### Stage 4: Interview and debrief with tutor

Tutor-observers then met with the tutor/s they had observed for feedback and discussion about the observations. This is good practice in peer-observation (HEA 2006) but also enabled the tutor-observer to explore any further issues such as why a particular intervention was or was not undertaken, i.e. enriching their notes with an emic perspective.

### Stage 5: Reflective write-up

Tutor-observers then wrote a reflective account of their observations. As well as supporting their own development as tutors the reflective report formed the main document for data analysis.

### Stage 6: Tutor observer analysis, discussion and consensus meeting

Finally, all tutor-observers met to compare their notes and thereby identify important themes and sub-themes emerging from the reflective accounts (see **Table 2**). These themes formed the basis of a framework analysis.



## Analysis

The framework was constructed according to the method described by Ritchie and Spencer (1994). The themes formed columns and each reflective account formed the cases that were attributed to the rows. The cells were then populated with examples and comments by the tutor-observers. The project leader compared and contrasted these comments to arrive at the study findings and recommendations.

## Results and discussion

In order to propose a set of guidelines and recommendations to prepare tutors for OPTIMAX facilitation we first highlighted the good practices observed in terms of supporting learning interactions in groups and managing group dynamics.

### Student versus tutor centred

OPTIMAX is designed to be student-led. Experienced tutors were seen to facilitate this through the use of open language which was encouraging and non-condescending; they were respectful towards the students and attempted to position themselves as equal members of the team rather than being in a position of power.

They were also seen to encourage the students to think for themselves by using open questions in response to requests for information and by paraphrasing and reflecting the question back to

the group for other members to help resolve. One particular good example was a tutor who used an approach that forced students to summarise the project progress and their own understanding rather than attempting to summarise the learning for them. For example instead of asking “is everyone clear on this”, the tutor would ask “tell me what you understand about what you have found” (tutor 4).

### Encouraging participation

The more experienced tutors were not afraid of silences, allowing the group to resolve issues for themselves rather than stepping in too early. The tutor-observers who witnessed more than one facilitation style were able to contrast this with tutors who stepped in to fill a silence, the consequence of which was subsequent student reliance on the tutor to direct the learning.

One experienced tutor was shown to make effective use of body language to engage all students in the discussion by making eye contact with each student individually in order to encourage participation.

### Group Dynamics

Experienced tutors demonstrated a range of strategies to positively influence group harmony. In particular, some tutors used humour to good effect ensuring there was a congenial atmosphere despite the pressure of the learning task. One tutor took a



Key themes	Sub-themes
Roles of OPTIMAX tutors: facilitators and non-facilitators	<ul style="list-style-type: none"> <li>• Influence of OPTIMAX programme lead</li> <li>• Clarification of roles of each facilitator when there is more than one</li> <li>• OPTIMAX facilitator as team leader</li> <li>• Previous experience of OPTIMAX facilitation - was this important?</li> <li>• Should facilitators be knowledgeable about the subject?</li> <li>• Facilitator works as a group member</li> </ul>
Students and student group	<ul style="list-style-type: none"> <li>• Group dynamics</li> <li>• Personalities</li> <li>• Individual student confidence</li> <li>• Group diversity</li> </ul>
Facilitator style and strategies	<ul style="list-style-type: none"> <li>• Humour as strategy by facilitator</li> <li>• Facilitator personality influences group</li> <li>• Facilitator mood influences group</li> <li>• Allowing natural group processes to work to resolve problems without stepping in too soon</li> <li>• Does not answer student questions directly but guides students to answer them themselves</li> <li>• Use of open language to encourage discussion</li> <li>• Non-condescending language</li> <li>• Positive language, encouraging</li> <li>• Respects students and doesn't interrupt them</li> <li>• Paraphrases students' comments to make sure everyone understands</li> <li>• Gets students to clarify daily objectives and responsibilities</li> <li>• Uses metaphors in explanation</li> <li>• Lets students lead the group and project processes</li> <li>• Uses body language and eye contact</li> <li>• Prepared to challenge dominant students rather than avoid conflict</li> <li>• Ensures breaks included</li> </ul>
Group processes	<ul style="list-style-type: none"> <li>• Decision-making</li> <li>• Splitting into sub-groups</li> <li>• Rules</li> <li>• Choice of team leader</li> </ul>
Peer observation method and evaluation	<ul style="list-style-type: none"> <li>• Preparation</li> <li>• Methodology</li> <li>• Feeding back to the facilitator being observed</li> <li>• Value to facilitator being observed</li> <li>• Value to observer</li> <li>• Other</li> </ul>

**Table 2** Key themes and sub themes

more proactive approach by ensuring breaks were scheduled and including social activities during this time.

The tutor mood was observed to have a strong influence on the group dynamic. A number of experienced tutors purposefully chose to demonstrate a calm and relaxed demeanour and the groups were consequently calm and relaxed, whereas tutors who were stressed or unenthusiastic (only occasionally seen) appeared to transfer these qualities to the group.

### Group Processes

There were a number of challenges identified by the observers which, whilst managed well by the tutors, could have been avoided or better supported through adherence to group management processes. As part of the preparation for their OPTIMAX research project, the groups were introduced to the concept of project and group management. This involved creating a set of ground rules, identifying roles and responsibilities, agreeing the decision-making strategies to be used and the creation of a project plan managed through a process of daily reflective logs. These processes were only observed in the initial set-up (week 1) but rarely returned to throughout the project. The observers felt this was a missed opportunity.

For example, in one incident of conflict (where two students dominated one particular group and ignored advice from the tutor), the tutor managed the problem by remaining calm, and using strategies to retain group harmony. The research output was not negatively influenced. However, the tutor had a less than satisfactory experience of OPTIMAX. Returning to the ground rules and agreed decision-making strategy may have helped to address the problem in a more satisfactory way.

In other groups, dynamics changed when new tutors joined half way through the summer school, and when groups were split into smaller groups to divide up the tasks. This left the students unclear about everyone's roles, positions and responsibilities. Again, returning to the ground rules would have been useful to aid clarification.

Group make-up was identified as being a potential barrier to progress despite effective facilitation strategies. For example, in some groups the tutor was also nominated the group leader. This tended to happen because the students' personality styles<sup>1</sup> did not favour the leadership role. In order to progress the research the tutor therefore stepped into the role.

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1 On day 1, all OPTIMAX participants (staff and students) complete a Myers-Briggs (Malpascoe Team Dynamics ND) personality type indicator test to establish team roles and individual group member differences.

Although this did not appear to affect the quality of the group's work, it would have limited the opportunity for students to practice leadership skills.

Groups that were diverse appeared to be more dynamic. This included a mix of personality types, ages, qualifications and countries, as well as having two tutors, rather than one, who each brought different qualities to the group. Tutor-observers suggested that considering these things before the make-up of each group was determined might be useful, i.e. to purposefully configure the group to maximise diversity.

### **Objective 2: Guidelines and recommendations for OPTIMAX facilitation**

From the above observations we make the following recommendations

1. Groups could be configured before the start of OPTIMAX to ensure a diverse mix with regard to age, qualification, discipline, country of study, personality type, research and associated skills. This could be achieved through the development of a registration form which requests the above demographic and personality details. Students would need to complete the Myers-Biggs test prior to OPTIMAX attendance.
2. Student groups to be introduced online before commencement of OPTIMAX using an appropriate Social Media platform.
3. There should be two tutors per group and where possible one of these should have group management skills/experience. The tutors should agree their roles before meeting with the students.
4. Tutors should be provided with a handbook on i) facilitating group learning and ii) managing groups before commencing OPTIMAX.
5. Effective strategies for facilitating group learning to be included in the handbook include:
  - a. Asking students to lead process and clarify daily tasks
  - b. Asking students to articulate their own understanding
  - c. Praising and encouraging students, and helping students who have not been understood by the others to re-phrase their statements/questions
  - d. Establishing equal power through use of supportive and non-condescending language
  - e. Proactively engaging students who are not participating
  - f. Using silence to provide students the opportunity to think through solutions
  - g. Being mindful of actions which threaten group learning such as lack of task clarification, especially when sub-groups are used

6. Effective strategies for managing groups to be included in the handbook include:
  - a. Having daily reflective report on progress of task but also each person's contribution (including tutor)
  - b. Establishing ground rules, roles and responsibilities and referring to these regularly
  - c. Considering the social development of the group by identifying opportunities for doing 'off-task' activities
  - d. Being mindful of tutor mood on the dynamic and development of the group

### **Objective 3: developing a tool for the peer-observation of small group facilitation**

As Martin and Double (1998) also reported in their work, both tutor-observers and expert tutors found the experience useful for professional development. The observers highlighted strategies such as effective use of silences, eye contact and humour as things they would take away and embed within their own practices. Those being observed appreciated feedback and confirmation that their practices were supportive of student learning.

The template was a useful guide. The tutor-observers felt that the only additional information that could be captured might be detail about the experienced facilitator's previous experiences of facilitation

and any aspects of their practice they would like feedback on. Tutor-observers also felt they would like to have had a pre-observation interview with their experienced tutor in order to identify specific issues to look out for. This is certainly identified as good practice in most PoT schemes (HEA 2006) but may have rendered this research project less valid since being directed to specific issues may have meant the observers were biased in what they observed. Nevertheless, future recommendations would include a pre-observation interview with new tutor learners, along with a space to capture this information on the template.

Observers did suggest that students could be better informed about the PoT scheme so that the students did not feel they were being assessed in any way. This was also recommended by Siddiqui, Jonas-Dwyer and Carr (2007).

Tutor-observers felt that maximum benefit would be gained from attending the full three weeks since they could identify changes in the group dynamics and the ways the experienced tutors managed this.

### **Limitations**

This has been a descriptive overview of the reflections and observations of less experienced tutors. We have not attempted to qualify their observations against student or group outcomes to determine whether

what they suggested was good practice could be verified as such. However, the template used was derived from pedagogical theory on group facilitation and this therefore goes some way to supporting the assumptions made. The multiple permutations of paired, repeated and longitudinal observations, observer consensus meetings and comparison of notes has provided a rich data set which demonstrates data saturation around most practices observed and reported here. Finally, the observers were asked to verify their interpretations with the expert facilitators at the post-observation meeting adding trustworthiness to the data.

## References

- Barkley EF, Howell Major C, Cross, KP (2014) *Collaborative Learning Techniques: a handbook for college faculty* Jossey-Bass. San Francisco, Ca
- Bosworth K (1994) Developing collaborative skills in college students. In K.Bosworth & SJ Hamilton (eds) *Collaborative learning: Underlying processes and effective techniques* (pp25-32) New Directions in Teaching and Learning no 59. San Francisco: Jossey-Bass.
- Cooperrider, D.L. & Whitney, D (2005) A positive revolution in change: Appreciative inquiry. In
- Cooperrider, D. L. Sorenson, P., Yeager, T. & Whitney, D. (eds.) *Appreciative Inquiry: Foundations in Positive Organization Development* (pp.9-33). Champaign, IL: Stipes.
- Creswell, J. W. (2009). *Research Design*. Thousand Oaks, California, Sage.
- Delamont Sara (2014) Key themes in the ethnography of education. London. Sage,
- HCPC (2016) *Standards of Conduct, Performance and Ethics* [available at] <http://www.hpc-uk.org/aboutregistration/standards/standardsofconductperformanceandethics/>
- HEA (2006) Peer Observation [available at] <http://escalate.ac.uk/resources/peerobservation/05.html>
- Hogg H and Lança L (eds) (2014) *Erasmus Intensive Programme OPTIMAX#2014 Radiation dose and image quality optimisation in medical imaging* Lisbon, Portugal
- Hogg, P, Blakeley, C and Buissink, C 2015 OPTIMAX 2015 : *Multicultural team-based research in radiography, a holistic educational approach*. University of salford, Groningen, the Netherlands
- Johnson DW Johnson RT & Smith KA (2014) *The power of cooperative learning for university classes: The interrelationship among theory, research, and practice*. Journal on Excellence in College Teaching (25) 4
- Malpascoe Team Dynamics using MBTI Leadership Development Series <http://www.slideshare.net/malpascoe/mbti-team-dynamics> [accessed 18/12/16]
- Martin, G. A. and J. M. Double (1998). "Developing Higher Education Teaching Skills Through Peer Observation and Collaborative Reflection." *Innovations in Education & Training International* 35(2): 161-170.
- Morse, J. M. and Field, P. A. (1996). *Nursing Research the Application of Qualitative Approaches*. Cheltenham, Nelson-Thornes.
- Ritchie J, Spencer L (1994) Qualitative data analysis for applied policy research in *Analyzing Qualitative Data* Eds Bryman A and Burgess RG (pp 173-194). Taylor and Francis Books Ltd
- Robinson L., Harris S., Burton R. (2015) Saving face: Managing rapport in a Problem-Based Learning group Active Learning in Higher Education March 16: 11-24, doi:10.1177/1469787415573355
- Robinson L. (2015) Age difference and face-saving in an inter-generational Problem Based Learning group Journal of Further and Higher Education
- Schillemans Kitty and Robinson Leslie (2016) Team and project management skills in
- OPTIMAX 2015 : Multicultural team-based research in radiography, a holistic educational approach.
- Hogg, P, Blakeley, C and Buissink, C (Eds) University of Salford, Groningen, the Netherlands [available at] <http://usir.salford.ac.uk/38008/>
- Siddiqui Zarrin Seema., Jonas-Dwyer Diana., Carr Sandra E (2007) Medical Twelve tips for peer observation of teaching Teacher 2007; 29: 297-300
- University of Salford (2016/17 version) Observation of Teaching Optional Template [available at] <http://www.salford.ac.uk/qeo/academic/observation#>

# Appendix 1

Context details
Name of tutor/s being observed
Name of peer observer
Name of group being observed
Date and time of observation
Brief explanation of task/s being observed (e.g. what stage of the project was the group engaged in?)



# Observation Notes

Whilst observations are not a process of checking against a checklist, which cannot encompass all the complexities of the teaching situation, there are some common features that do exist and therefore can be used as a guide to provide feedback. The session should focus on the student learning experience as facilitated by the teaching approach. The observer's role is not to focus on the academic content of the session.

## Introducing the activity

### Task clarification

- Explain/remind the students about the activity
- Clarify objectives for the session/day
- Outline the procedure
- Provide the prompts/examples
- Check the students for understanding

### Process clarification

- Remind group of the rules for group interaction
- Check group has considered time limits for the session/day

## Supporting learning

- Be available to clarify instructions, review procedures, and answer questions
- Paraphrase or ask a question to clarify what a student has said
- Compliment the student on an interesting or insightful comment/contribution
- Elaborate on a student's statement or suggest a new perspective
- Energise by using humour or by asking for additional contributions
- Gently disagree with a comment or contribution when necessary
- Summarise the group's learning/support the group leader in doing this

## Managing group interactions

- Help group to use decision making techniques
- Ensure all students participate
- Encourage equal participation
- Bring in quiet, disengaged students
- Manage students who dominate the group

## Managing conflict

- Encouraging the group to solve their group difficulties
- Mediate between students
- Return to group ground rules and contract

Additional notes:

**References: Items on this template have been adapted from**

Barkley E.F., Howell Major C. and Cross  
K.P. (2014) Collaborative Learning  
Techniques. A handbook for College  
Faculty. Chapter 6 Facilitating  
Student Collaboration p90-94 &  
Chapter 8 Avoiding and Resolving  
Common Problems. Jossey-Bass San  
Francisco, CA.

University of Salford Observation of  
Teaching template

# After the observation

Following the observation it is important for both tutor and observer to take some time to reflect on how the session went, and to prepare for the post-observation discussion.

Please use the following interview guide (which has been approved by the University of Salford Research, Innovations and Academic Engagement Ethical Approval Panel)

## Peer observation interview schedule

1. Thank you for allowing me to observe your practice.
2. I would like to feedback my comments.
3. (Go through peer-observation sheet)
  - a) Introducing the activity
  - b) Supporting the learning
  - c) Managing group Interactions
  - d) Managing conflicts
4. Could you comment on my observation and interpretation of what I saw?
5. Is there anything else you would like to highlight about this group or session/s that I have observed that you think I have missed?
6. Thank you for your time

## Interview Notes

# Reflection

Using your observation notes and the notes from your de-briefing meeting with the tutor/s please provide a brief reflection of your experience. Try to identify the strengths and limitations of the facilitation you have seen and highlight the key learning points that you will use to improve your own facilitation style. **If you, and the tutor/s you have observed, have consented to be part of the research, this observation template and reflection should be submitted to Leslie Robinson l.robinson@salford.ac.uk before you leave the UK.**

Reflection

Key Learning points

How will you use this experience to improve your own facilitation?