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# The AO foundation Faculty Education Program – Description and evaluation

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## I. INTRODUCTION

The AO foundation aims to improve patient outcomes in the surgical treatment of trauma and musculoskeletal disorders and promote education and research. Yearly, approximately 30,000 Orthopaedics surgeons worldwide attend AO foundation courses. To ensure that the planned curriculum is delivered, the AO foundation requires its surgeon-faculty to attend the Faculty Education Program (FEP) before teaching at regional and international courses.

FEP participants are AO member-surgeons who are actively teaching within their own countries. They are selected by their local AO committees and invited to attend. Every participant is encouraged to teach at regional and international courses thereafter.

## II. METHODS

Course structure:

- Five weeks of online learning

This includes a self-assessment. Thereafter, participants learn through reading assignments, case studies and peer discussion at their own pace. These provide a problem-based and collaborative approach to learning. Most participants experience the same planned curriculum. Participants from locations with poor internet signals require a modified delivery of the curriculum e.g. email and hard copies.

- One-and-a-half days of live event

This begins with a group discussion to derive the core principles of effective learning from one's learning experiences. This is followed by an "introduction to the

Pendleton method of giving and receiving feedback". Thereafter, each participant presents a lecture, conducts a small group discussion and demonstrates teaching of a practical session through role playing. For each activity, each participant receives feedback from the other participants and the faculty (Benton & Young, 2018). The event concludes with feedback to evaluate the course. Face-to-face learning activities are contextual and allow for learning of knowledge and skills of teaching strategies in a collaborative fashion. The online and face-to-face curriculum follow the SPICES model and align with the learning outcomes (Harden et al., 1984).

- One week of online follow-up with a post-course self-assessment.

The learning outcomes are:

- Prepare and present a lecture
- Moderate a small group discussion
- Instruct in practical exercises
- Receive and give feedback
- Evaluate one's own teaching
- Work with outcomes in teaching strategies
- Set expectations of a teaching or learning activity
- Use information about learners e.g. learners' needs and cultural context in the educational process
- Motivate learners
- Encourage interaction among learners

The outcomes encompass knowledge and skills in teaching and awareness of best practice guidelines in teaching strategies i.e. attitudinal domain. They are specific, relevant and timely for the participants who are

young surgeons interested in teaching (Harden et al., 1999).

Some outcomes are easily measurable e.g. prepare and present a lecture, moderate a small group discussion, instruct in practical exercises and receive and give feedback. Participant performance is measured against a set of guidelines (Kogan et al., 2009). Some outcomes are embedded within the learning activities e.g. set outcomes and expectations in learning activities, motivate learners and encourage interaction among learners and evaluate one's own performance. Some outcomes are not easily measurable e.g. using learner information to plan learning activities. Overall, Kirkpatrick's level three achievement is met in most outcomes.

For outcomes that cannot be easily measured during the course, longitudinal assessment of the participants will allow these outcomes to be measured i.e. when they teach at future AO courses after the FEP. Thus, entrustable professional activities from the FEP are aligned with the course outcomes (Shorey et al., 2019).

Feedback was gathered from participants attending the FEP courses where the author Siow was one of the faculty. All participants verbally consented to give feedback. A total of 103 participants attended six FEP courses between 2016 to 2019. The response rate was 100%. Achievement of course outcomes was measured using three categories ranging from "not achieved" to "fully achieved". Faculty effectiveness, content relevance and overall course impact were assessed using five categories ranging from "not at all effective" to "very effective".

According to the Canton Zurich Ethical commission, this study does not require an authorisation from the ethics committee (BASEC-Nr. Req-2022-00536).

### III. RESULTS

Eighty percent or more of graduates agreed that the following outcomes were fully achieved: prepare and present a lecture, moderate a small group discussion, instruct in practical exercise, encourage interaction, work with outcomes in teaching strategies, set expectations and evaluate one's own teaching.

Seventy-five to seventy-eight percent of graduates agreed that the following outcomes were fully achieved: motivate learners, receive and give feedback and manage time and logistics.

Sixty-six percent of graduates agreed that the following outcome was fully achieved: using learner's information in the educational process.

Ninety-five to ninety-eight percent of graduates agreed that the faculty, the course content and the overall course impact were very effective.

### IV. DISCUSSION

A large majority of the participants were able to fully achieve these outcomes: prepare and present a lecture, moderate a small group discussion, instruct in practical exercise, encourage interaction, work with outcomes in teaching strategies, set expectations and evaluate one's own teaching. This is likely because these outcomes are more familiar to the participants.

Seventy-five to seventy-eight percent of graduates agreed that the following outcomes were fully achieved: motivate learners, receive and give feedback and manage time and logistics. The achievement rate for this group of outcomes is slightly lower than the previous group of outcomes possibly because these outcomes are less familiar to the participants. Furthermore, the AO method of giving and receiving feedback presents a new concept and practice to many participants.

Sixty-six percent of graduates agreed that the following outcome was fully achieved: using learner's information in the educational process. One reason for this lower score may be because the application of this outcome was not specifically highlighted and explained to the participants. This outcome was strictly adhered to and applied in the planning and the execution of the very FEP course attended by the participants, but the manner in which participant's information was used to do so was not clearly explained to the participants themselves.

### V. CONCLUSION

The FEP is a rare opportunity for surgeon-educators to learn about scholarly teaching. Feedback from the courses support the continuation of these courses to help faculty improve their teaching skills.

#### Notes on Contributors

Chi Sum Chong reviewed the literature, performed data analysis and developed the manuscript. Woei Yun Siow reviewed the literature, designed the study, performed the data collection and wrote the manuscript. All authors read and approved the final manuscript.

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## Declaration of Interest

All authors declare that there are no conflicts of interest.

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