An interactive seminar to develop grantsmanship

Andreas Prokesch1, Matthias Frühwirth2

1 Institute of Cell biology, Histology and Embryology, Medical University Graz, Austria
2 FH JOANNEUM University of Applied Sciences, Graz, Austria

Concept

Here we present a novel concept for an interactive, semester-long seminar aimed at developing students’ grant writing skills. The seminar is being held since five years at the University for Applied Sciences, FH JOANNEUM in Graz in a master’s degree curriculum, but could easily be adopted to medical students who can imagine to be involved in the grant acquisition process for clinical studies in their later career. The seminar was carefully designed for teaching demanding highly interdisciplinary and communicative skills from students and lecturers as well.

In the seminar, students are divided in several groups mimicking a research consortium collaboratively working on a grant application for a fictitious clinical multi-centered study in the field of personalized medicine. Typically, areas of expertise covered by the single groups are: (1) Project management and cohort recruitment; (2) Genomics; (3) Epigenomics; (4) Transcriptomics; (5) Proteomics; (6) Metabolomics and; (7) Microbiomics (Fig 1).

At the beginning of the summer semester students are introduced to the modus operandi and are asked to present research and review papers that were assigned by the lecturer. These paper presentations aid the immersion into the area of expertise the groups should cover within the consortium. Students are also encouraged to identify themselves with their parts in the consortium by coming a name (e.g. Institute for Genome Research) and designing a logo (examples are given in Fig 2), or even write fictional curricula vitae. The topic of the grant is provided by the lecturers and a comprehensive introduction into the relevant research fields is given at the beginning of the semester. Additionally, students are familiarized with scientific writing skills, grant application procedures, and relevant research methods. The structure and formal framework of a proposal is explained in a dedicated lecture unit on the basis of a Horizon 2020 proposal.

Two thirds of the semester the first concepts, developed by the students are presented in a “progress report” session, after which comprehensive feedback is given by the lecturers. One end point is the “final report” session, where every consortium member presents their contribution to the proposal and has to answer critical questions about their approaches, methods, and budgeting. The second end point is submission of a cohesive written proposal by the end of the semester.

Outside of the class room, the moodle platform and email is used as means of didactic communication between lectures and students. Moreover extensive use of social media of choice come into play naturally. Lecture units, student’s presentations, and discussions are all held in English language.

Conclusion

This hands-on seminar helps students to practice and improve: (1) their understanding and communication of science in English; (2) their literature-based writing skills; (3) their ability to perform as a team within and between the groups; and ultimately (4) their grantsmanship, by providing an interactive playground with comprehensive insight into the proposal writing process. With this approach and the provided scientific topic and specifications that the seminar is highly integrative in nature as it draws from and enforces the content of several lectures the students are exposed to during their master curriculum.

Contact: andreas.prokesch@medunigraz.at

Figure 1. An interactive seminar to develop grantsmanship. Every in the semester students are divided into “consortium members” and are asked to choose a name based on the suggestions in Figure 1. They also are encouraged to design a consortium logo. Examples are given from 2015 and 2016.

Figure 2. Task assignment for consortium groups. Initially these task assignments are eventually refined by the lecturers. The exact specification of the task is taken over by the project management group in the semester program.

Figure 3. Timeline of a typical semester as detailed in the text above.

Figure 4. mighty skills that are demanded and emphasized in this seminar.
Here we present a novel concept for an interactive, semester-long, co-teaching seminar aimed at developing students’ grant writing skills. The seminar is being held since five years at the University for Applied Sciences, FH Joanneum in Graz in a Master’s degree curriculum, but could easily be adapted to medical students who can imagine to be involved in the grant acquisition process for clinical studies in their later career.

In the seminar, students are divided in several groups mimicking a research consortium collaboratively working on a grant application for a fictitious clinical multi-centered study. Typically, areas of expertise covered by the single groups are: (1) Project management and cohort recruitment; (2) Genomics; (3) Epigenomics; (4) Transcriptomics; (5) Proteomics; (6) Metabolomics; and (7) Microbiomics. At the beginning of the semester students are introduced to the modus operandi and are asked to present research and review papers that were assigned by the lecturer. These paper presentations aid the immersion into the area of expertise the groups should cover within the consortium. Students are also encouraged to identify themselves with their parts in the consortium by coining a name (e.g. Institute for Genome Research) and designing a logo. The topic of the grant is provided by the lecturers and a comprehensive introduction into the relevant research fields is given at the beginning of the semester. Additionally, students are familiarized with scientific writing skills, grant application procedures, and relevant research methods. The structure and formal framework of a proposal is explained in a dedicated lecture unit on the basis of a Horizon 2020 proposal. Two thirds into the semester the first concepts developed by the students are presented in a “progress report” session, after which comprehensive feedback is given by the lecturers. One end point is the “final report” session which is open to the entire faculty teaching staff. Each consortium member presents their contribution to the proposal and has to answer critical questions about their approaches, methods, and budgeting. The second end point is the submission of a written, cohesive proposal at the end of the semester. Additionally to the class room, the moodle platform and email is used as means of continuous communication. Lecture units, students’ presentations, and discussions are all held in English language.

Hence, this hands-on seminar with role-play character helps students to practice and improve: (1) their understanding and communication of science in English; (2) literature-based writing skills; (3) their ability to perform as a team within and between the groups; and ultimately, (4) their grantsmanship, by providing a comprehensive insight into the proposal writing process.