

Fostering Scientific Reading and Writing Competencies in Future Teachers: A Reflection on Two Higher Education Teaching Practices

Abstract

(199/200 words)

The Bachelor in Educational Sciences (BSCE) and the Bachelor in Music Teaching (BEM) offer stimulating teacher training that combines academic and practical knowledge. As in many other initial teacher training programmes, the development of a scientific stance and of scientific reading and writing competencies are important objectives here. In the BSCE, first-year students have to collaboratively write a review of the literature, where they develop an empirically grounded answer to a self-chosen research question. The aim here is to contribute to the overall objective of becoming a reflective practitioner. In the BEM, second-year students are introduced to the practice of scientific reading and writing through a combination of individual and collective practices, related to the different stages of the research process. The aim of the course is to promote autonomous and informed critical thinking about music educational practices and to connect scientific reading and writing competencies to their musical and pedagogical competencies. Here, we will describe, analyse, and critically evaluate our own higher education teaching practices, based on observations of our students' learning processes and the products they were able to deliver. We will also discuss possible lessons learned that might lead to adaptations in our respective training programmes.

Keywords: Initial teacher training, scientific stance, scientific reading and writing competencies, higher education

Extended summary

(1000/1000 words - not counting titles)

Main goals and problems

The focus of the present paper is (1) to describe our own teaching practices and (2) to critically discuss opportunities and challenges that we have encountered.

We are indeed teachers in the Bachelor in Educational Sciences (BSCE), respectively in the Bachelor in Music Teaching (BEM) at our university. The BSCE prepares students to become teachers in fundamental schools, while the BEM prepares them to become music teachers in music schools.

As in many other teacher training programmes, the development of a scientific stance and of scientific reading and writing competencies are considered important objectives since they help students become "reflective practitioners" (Schön, 1987), who can develop a scientifically informed position for themselves, without having to rely on authority figures to ground and reflect their professional decisions.

The ability to read scientific papers is deemed crucial for future teachers in view of engaging with relevant research literature throughout their careers. By being able to

read and critically evaluate empirical research, teachers can make informed decisions about their teaching and incorporate evidence-based approaches into their practice. Similarly, these skills are important in view of writing reports, developing systematic lesson plans, and communicating ideas effectively to students, parents, and colleagues. Attitudes we try to develop are critical thinking, understanding the research process, a willingness to engage with research, an attention to detail, systematic thinking, and an ability to communicate complex ideas clearly. Students should be well-prepared to contribute to the ongoing development of education.

Music education programmes have always been considered “professional” programmes, focusing on craftsmanship and artistry. However, following the Bologna declaration, these programmes – typically provided at Music Conservatoires – have been subjected to a process of academisation. Not seldom, this has led to a direct confrontation between the acquisition of practical skills and scholarly knowledge (Moberg, 2019). One consequence of this process is the introduction of courses on scientific reading and writing, to guide students in developing critical reading skills in view of informing their teaching with scientific findings, and to develop academic writing skills, often in view of writing their thesis. In addition, they aim at developing knowledge about the research process in view of developing one’s BA or MA research project.

Factors that made the process successful

In both programmes, we are using active pedagogy approaches, like project-based learning, problem-based learning, meaningful tasks, student autonomy, collaborative and cooperative learning, dialogues, and discussions, to help students develop their competencies.

In the BSCE, students are required to collaboratively write a review of the literature, where they develop an empirically grounded answer to a self-chosen research question. Before writing their review, they need to (1) search for scientific, primary, empirical and peer-reviewed research papers, (2) read them, analyse and evaluate them in terms of content, relevance and credibility, (3) develop an annotated bibliography about 5 sources. In addition, they have to document their working and learning process and to reflect on it. We provide a diversity of online resources, as well as systematic formative feedback. We scaffold their learning process without doing the work for them.

In the BEM, second-year students are introduced to the practice of scientific reading and writing through a combination of individual and collective practices, related to the different stages of the research process. The leitmotif here is the connection to the daily practice of music teaching. Students first focus their work, like searching and critically evaluating research papers, or constructing a research question, on their individual topic of interest. Then they discuss their work in groups. In addition, students jointly reflect on the same text, using models such as PICO (Nishikawa-Pacher, 2022) or Pollock’s (2021) pathologies of academic writing, or based on peer evaluation. Discussions are often scaffolded by online tools. While the core of the course is joint reflection on the different aspects of scientific reading and writing, the connection to practice is often fueled by the teacher demonstrating possible practical applications.

Factors that made the process challenging

In the BEM, the main challenge for the students is making their thoughts explicit in a systematic way and motivating the students to engage in reading and writing. For years, they have been trained in a culture of doing based on a master-apprentice approach, often being told (intuitive verbal explanations) or shown (demonstration by the teacher) how to play rather than being scaffolded to think for themselves about how to play, why to interpret music in a certain way. A major challenge for the teacher is therefore to motivate students by constantly making a link to pedagogical practice, helping them to reflect on how their practice and teaching can be improved through scientific thinking.

In the BSCE, students also struggle with certain aspects of the course. First, they did not have much prior exposure to scientific or academic writing. Second, they tend to bring along a positivist conception of science that makes it difficult for them to engage in critical thinking about research papers. Third, many of them simply lack the motivation in scientific reading and writing, because it simply does not fit into their social representation of the professional identity of teachers. Finally, many students find our teaching approach itself very challenging, because we give them a lot of freedom to make choices, which also means that they become responsible for them.

Main conclusions

Overall, we are quite satisfied with our teaching practices, in both programmes, because we think that (1) teaching scientific reading and writing to our future teacher students is important and relevant and (2) that we implement appropriate hands-on, learning by doing approaches. There are nevertheless some challenges we have been facing and wish to address in future iterations of our courses.

Interactivity

We will ensure interactivity in our presentation (1) by asking the audience about their own experiences with teaching about scientific reading and writing, (2) by asking the audience to ask them for their opinions about our teaching approach, e.g. what they like about it, what they do not like, what they would change and how they would improve it, and (3) by showing concrete anonymized examples of products and process documentations produced by our students.

References

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