

Irene-Angelica Chounta

Teaching Statement

I have designed and taught five (5) courses for PhD and master-level students in educational sciences and computer science (Data Science Master Curriculum). Additionally, I have taught practical (hands-on lab) courses for the bachelor program of Department of Electrical and Computer Engineering in the University of Patras, Greece, such as: Introduction to Computers, Web technologies and programming, Human-Computer Interaction for 3 years as part of my PhD research. During my career, I have supervised Bachelor, Master and PhD students as well as student-internships and I have conducted specific purpose seminars and workshops.

For the academic year 2018-2019 I developed and taught two master-level courses:

- “Introduction to Learning Analytics”: Elective course for the Educational Technology Master Curriculum. Eighteen (18) students from various disciplines (for example, Conversion Master in IT, Computer Science, Software Engineering and Educational Technology) participated in the course “Introduction to Learning Analytics” and fifteen (15) completed the course successfully.
- “Research in Educational Technology”. Compulsory course for the Educational Technology Master Curriculum. Thirteen (13) students participated in the course and twelve (12) completed the course successfully.

For the academic year 2019-2020, I teach one PhD-level course (Quantitative Methodologies, 6 students enrolled, 5 students completed the course successfully) and two master-level blended-learning courses:

- “Introduction to Learning Analytics” (37 students enrolled, 35 students completed the course successfully).
- “Research in Educational Technology” (21 students enrolled, 20 students completed the course successfully).

For the academic year 2020-2021, the tentative plan is to teach one PhD-level course (Quantitative Methodologies) and two master-level blended-learning courses:

- “Introduction to Learning Analytics” (Data Science Master Curriculum, Institute of Computer Science, 6 ECTS)
- “Introduction to Learning Analytics – Theoretical Foundations” (Educational Technology Master Curriculum, Institute of Education, 3 ECTS)

The formal teaching evaluation results were excellent for all completed courses. Formal teaching evaluations and qualitative written evaluations are provided in the appendix.

In my courses, my aim is to support students in acquiring much-needed skills for the 21st century learner, such as critical thinking, problem solving and data literacy skills. At the same time, I encourage students to learn from and with each other in a social arena. To that end, I follow a project-based learning approach where each student has to carry out a small project with and through technology (for example, using certain educational technologies,

computational tools or digital resources) following a design-implementation-evaluation iterative process. For each step of the process, students are encouraged to engage in discussions with peers, where they present their work and also review the work of colleagues. For teaching, I combine formal lectures for transferring information and hands-on workshops to foster communication and knowledge building on common ground. At the end of the course, I carry out hands-on workshops where students are presented with their own data – as collected during the semester – and are asked to self-reflect and self-regulate. I provide the sample syllabus of the course “Introduction to Learning Analytics” as an example in the appendix.

To conclude, I am dedicated to bridging the gap between theory and practice with respect to teaching and to engage learners in modern, technology-enhanced learning activities as a means for preparing 21st century citizens for their future endeavors.

Appendix

A. Teaching Evaluations

The formal teaching evaluations for the academic year 2018-2019 as provided by the University of Tartu are summarized in Table 1.

Table 1. Quantitative evaluation of courses provided by the University of Tartu.

Course	Introduction to Learning Analytics (2018 - 2019)	Research in Educational Technology (2018 - 2019)
1. Overall course rating	4.7	4.75
2. The teacher's attitude was supportive of learning and open to students.	2	2
3. The teacher taught the course excellently (sparked interest, clear presentation, engaging, etc.)	1.9	2
4. The materials given or recommended by the teacher were relevant in terms of their content, form and suitability.	1.7	2
5. The teacher gave sufficient feedback about the results of my work in completing the course.	1.9	2
6. Sufficient explanations about the organisation of study were given in the course (learning outcomes, terms of completion, evaluation criteria, etc.).	1.7	2

Scales. Overall course rating (question 1): 5 (excellent) / 4 (very good) / 3 (good) / 2 (satisfactory) / 1 (poor) / 0 (fail) Questions 2-6: I agree entirely (2) / I somewhat agree (1) / I somewhat disagree (-1) / I disagree entirely (-2) / so-so (0)

The formal teaching evaluations for the academic year 2019-2020 as provided by the University of Tartu are summarized in Table 1.

Course	Introduction to Learning Analytics (2019 - 2020)	Research in Educational Technology (autumn/spring 2019 - 2020)
1. The structure of the course supported my learning	3.67	3.82 / 4
2. I understood what and how I am expected to learn on this course	3.38	3.91 / 3.8
3. The teaching was varied (different kinds of methods and tasks were employed)	3.54	3.64 / 3.8
4. Students were given the chance to discuss the subject matter	3.83	3.91 / 3.8

5. The course was intellectually challenging	3.75	3.73 / 3.8
6. The feedback helped me to understand which knowledge and/or what skills I should develop further	3.67	3.73 / 3.8
7. The assessment was closely related to teaching	3.63	4 / 3.8

Scales. I agree (4) / I somewhat agree (3) / I somewhat disagree (2) / I disagree (1) / Not applicable (0)

B. Qualitative written evaluations

- “I would recommend the course for everybody who is somehow interested in a learning process from a teacher's, programmer's, methodologist's or researcher's point of view”.
- “The teacher was helpful; communication was easy and fast”. (In Estonian: “Õppejõud oli abivalmis, suhtlus lihtne ja kiire”).
- “Written feedback on learning projects was very supportive”. (In Estonian: “Kirjalik tagasiside õpiprojektidele oli väga toetav”).
- “I enjoyed working with Irene. She was friendly and supportive”.
- “Really helpful and friendly teacher. Answered my letters pretty quick. Thank you!”.
- “I liked the complicated (and harsh) rating system. Considered different aspects of performance”. (In Estonian: “Mulle meeldis keeruline (ja karm) hindamissüsteem. Võttis arvesse erinevat soorituse aspekte”).
- “The course was taken as an elective and it was much more than I had anticipated. I now have a better appreciation of how to collect data and use data in my research and the wider community ‘of educational science”
- “The course was balanced with written material, webinars providing theory and practical approaches, assignments, and links to tools that were applicable to the courses. This unique balance allowed for the reading before class and then at the end of the webinar, we had a face to face discussion. The discussion was then moved to Moodle Forum after the Webinar had ended”.
- “Arguably the most helpful and involved professor, which aided the process heavily”.
- “The professor support was very important in my learning during this course!”.
- “A relevant and down-to-earth teaching approach made this content approachable and understandable”.
- “It's placement in semester 2 strategically assisted in the thesis write-up. The content was broad enough to help me select the topics that could assist me in identifying a new focal point for my thesis (as COVID-19 changed my original plans). The easy going nature of the Teacher was the "cherry-on-top-of-the-cake". Irene's demeanour disarms and made me feel at-ease with learning complex material”.

C. Sample Syllabus

Course: “Introduction to Learning Analytics”

Professor: Irene-Angelica Chounta

Course Level: Master

Description of the course:

The course provides an overview of the state of the art in learning analytics: that is, the application of data analytics in various educational contexts and learning activities. The course aims to explore the computational methods and tools used in educational research, the impact of data analytics in teaching and learning and to envision future directions for bridging the gap between modern, data-driven practice and pedagogical theory.

This course requires basic programming knowledge and will be supported by digital technologies, such as Moodle, GitHub and Jupyter Notebooks. First, the students are introduced to the definition of learning analytics and what differentiates learning analytics from related concepts, such as educational data mining or learning designs. Then, we will go over the state of the art in learning analytics and how data and analytical methods are commonly used to inform teaching and improve learning in different settings. We will focus on learning analytics that aim to individual learning and learning analytics used for communities/collaborative learning. The students will be introduced to different levels of data and types of analyses: process-oriented analytics, content-oriented analytics, network-oriented analytics. These topics will be discussed during the course but also asynchronously using forum discussions. Next, we will explore and practice over existing course data to answer fundamental questions: for example, predicting student’s performance, identifying students at risk or addressing drop-out rates. The students will apply various learning analytics to existing datasets – including their own data - (analytical tasks), compare and communicate their findings to their peers. Finally, we will discuss main principles, problems and future directions for learning analytics in a webinar. During the semester, the students will have to carry out and deliver a project which will be used for assessment along with a written exam.

Learning Outcomes:

After completing the course, the student will:

- have a general knowledge of learning analytics methods, tools and related concepts for modern, learning contexts and paradigms, such as Intelligent Tutoring Systems (ITSs), Massive Open Online Courses (MOOCs), online (e-) learning, mobile learning, blended learning;
- be able to design analytical strategies, carry out pilot studies in different contexts taking into account the specific needs of these contexts and to apply data analytics on educational data to explore research questions and hypotheses with respect to learning goals and outcomes;
- be able to conduct basic data analysis for learning activities using state of the art tools, such as R and Python.