

Assessment, Evaluation, and Outputs: A Comparison Between the United States and European Higher Education Systems

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*Please note that although this paper compares and contrasts the differences between the United States and European higher education systems, there was an emphasis placed on the Swiss education system, as well as the French and Italian educational systems, for the 2018 Global Perspective Program (GPP).

Entrance Exams

For acceptance into graduate school in the United States (U.S.), typically one must take the Graduate Records Examination (GRE). The GRE consists of three main sections: analytical writing, verbal reasoning, and quantitative reasoning (Educational Testing Service, n.d.). Many higher education institutions and programs within the U.S. have minimum required scores denoted for each section of the GRE for program admittance. GRE scores are generally used for the majority of graduate schools except for subject-specific professional schools (i.e. medical school, law school, business school, etc.). Particular entrance exams are often used for application purposes to subject-specific professional schools, like the Medical College Admission Test (MCAT), Law School Admission Test (LSAT), and the Graduate Management Admission Test (GMAT). From my own personal experience, sometimes the GRE has very little to do with the subject in which a student may wish to study; I had to answer mathematical problems using high school math for the GRE, but I entered into the field of Food Science.

The Matura examination is taken by students in Europe at the completion of secondary school, before they apply for higher education admittance. The Matura has obligatory sections as well as sections that are subject-specific and can be chosen by the student (National Examinations Centre, n.d.). Undergraduate admissions are not selective for Swiss Nationals. In fact, at ETH Zurich, admission is granted to every

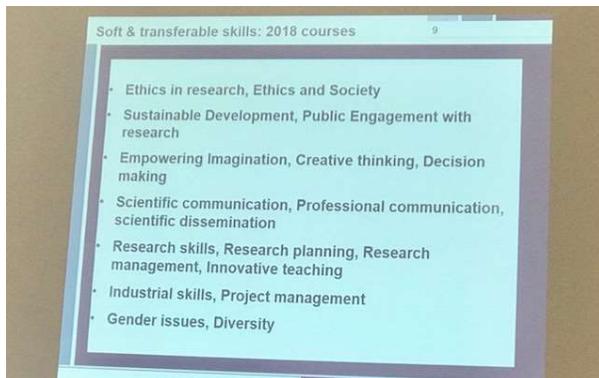
Swiss student that took the Matura. Instead, an exam occurring after the first year of coursework at ETH is what determines if one can move forward in an academic program. The *Basisprüfung* tests students on all first year courses and results in about 50% of the students failing. Students at ETH must retake their full first year if they did not initially pass. At SUPSI, the University of Applied Sciences and Arts of Southern Switzerland, entrance exams are based upon the faculties, or departments. Additionally, in some instances, European universities have doctoral programs in place of where the U.S. would have subject-specific professional schools. For example, our GPP18' group was able to visit the City Parliament building in Basel where an individual having been selected for the city council had obtained a PhD in law, rather than attending a law school.

Coursework and Tests

While it is common for U.S. students to take multiple tests per course, this is not very common at European universities. In undergraduate courses at U.S. institutions, students may have multiple exams per semester as well as a midterm exam and final exam. It is more standard for European courses to implement one single exam at the completion of a semester. Graded homework is fairly customary in U.S. higher education, especially at the undergraduate level. The graded homework can be used as a way for students to potentially maintain their overall grade if performing poorly on tests.

The majority of doctoral students in the U.S. must meet course requirements for Ph.D. programs, even if a student has already obtained a Master's degree in a similar field. It is not unheard of for European students to have no course credit requirements in order to complete a doctoral degree. For the universities visited that did require course credits, they tended to be very minimal. At ETH Zurich, doctoral students needed 12 credits for the entire program, with 6 of those credits outside of a student's department. At USI/University of Lugano, students took a total of 15 credits, with 12 of them being taken during the first year of a doctoral program. At Politecnico di Milano, students were required to take short courses having to do with transferable skills such as scientific communication, research skills, and gender issues. At the University of Zurich,

our GPP18' cohort heard from a student that said he had taken multiple courses that involved no tests or assignments, but only took attendance into consideration. Our group also did not speak to any individual who required homework for their students or who had homework in their classes themselves, with the exception of it being a personal responsibility for one's own benefit.



[Transferable skills 2018 course list at Politecnico di Milano]

Teaching

In the U.S., doctoral students are often required to fulfill teaching assistant responsibilities within their departments. These assignments can either be a general obligation to a department or can also serve as graded credit hours. There are also a variety of programs that support doctoral students serving as the Instructor of Record for collegiate courses. Sometimes student teaching is evaluated by peers and/or teaching mentors. If a doctoral student is an Instructor of Record, they will more than likely be involved in overall course development such as assessment development and policies and procedures. Having already served as Instructor of Record for an undergraduate course at Virginia Tech, I was responsible for all teaching, student communication, and assessments unless otherwise specified. Instructors of Record are also evaluated through Student Perceptions of Teaching (SPOT) scores. Students have the opportunity to provide their thoughts, feelings, and opinions about courses and instructors directly before final grades are due, so that feedback may be used for course/teaching improvement purposes.

After speaking with many students and faculty, I now am aware that teaching is uncommon for doctoral students at European universities. The students that were teaching assistants did so as part of an increased stipend, but not because it was a requirement per their program/department. I did meet one student at the University of Strasbourg who was currently serving as a teaching assistant for a laboratory, consisting of many sections. He was responsible for the grading all of the student coursework. However, he did not contribute to any of the other course responsibilities. A theme among all the universities visited was that students do not teach/lecture. While it is common for doctoral instructors in the U.S. to teach introductory level collegiate courses, in Europe, it is viewed as an honor to instruct the basic-level courses. It is typically the senior faculty that have the “privilege” of doing so. Also, new faculty at European universities take their first class lecture very seriously. Their first lecture is viewed as an event to showcase one’s teaching and it is open for the attendance of others who are not enrolled in the course.

Thesis/Dissertation

It is standard in both the U.S. and Europe for doctoral students to write a dissertation as part of degree completion. In both countries, there are options to either write a dissertation or substitute with manuscript submissions and/or publications. In the U.S., a doctoral advisory committee is selected by either the Principal Investigator (PI) and/or the doctoral student himself/herself. It is this committee that determines if a student passes or fails their final defense. In my department, this committee also determines whether a student passes or fails their qualifying examinations. Only some programs require a research proposal document (my own department being one of them) which is evaluated by the committee. Also, it is standard for a student to go through a defense for Masters programs that require a thesis.

At our visit to USI, it was stated that a jury commission served as the “committee,” consisting of the PI, two external members, and a jury president. There is the potential for a co-director to also be a member of the committee if the research is cross-disciplinary. The external members of the committee are appointed and not chosen by the doctoral student. A student at ETH Zurich stated that he was required to

submit a research proposal, but that it had to be approved by every faculty member in his department before moving forward with research. At European universities/institutions, a student may not be required to go through a defense process at the Masters level, but may just present their research.

Outputs

Currently, doctoral students at Virginia Tech are required to submit a dissertation document to the Graduate School encompassing their research and findings. There is no alternative to this output (students may choose the manuscript route, but these must still be submitted to the Graduate School in the form of a dissertation/monograph).

SUPSI requires their students in the accelerated Master's program to design a product and submit a business plan as a final project. The business plan/pitch included the creation of an actual prototype, along with a cost assessment and marketing strategies. The FHNW Academy of Art and Design (FHNW Academy) also allows for students to produce a final output that is not traditional to universities. The FHNW Academy recently began a doctoral program independent from other universities; the PhD students there may not have a large written component like a dissertation. Students at the FHNW Academy may have a final project that is in the form of a display that is open to the community or another type of output. At USI, it was mentioned that doctoral students may be required to produce something valuable to the community because "ultimately you are paid by the community". This stance was similar to that of the U.S. when related to the responsibilities having to do with Cooperative Extension, typically at Land Grant Universities.



[Cubetto coding toy, a project by a former SUPSI student, now sold on Amazon and in stores]

Personal Thoughts

As a student who takes courses in both pedagogy and food science, I find it to be interesting that there is such a focus placed upon research and not teaching. This theme is common among both U.S. and European universities. In my opinion, doctoral students who are preparing to become future faculty should be evaluated on aspects other than just research. U.S. academic faculty often have split appointments that range from teaching, research, and Extension. Although I take courses, teach a class, perform Cooperative Extension-related activities, and conduct research, ultimately, it is my research that is the major determining factor for degree completion. This sends the message that research is more important than the other facets of a doctoral degree. Personally, I believe that this focus undermines my learning, progress, and work in teaching and Extension-based activities.

After visiting various European higher education institutions, my biggest takeaway is that U.S. universities may benefit from having other options outside of a research dissertation as a final output for doctoral students. This would allow for a more personalized academic experience for students. Although research is often crucial to one's Ph.D., there may be students that do not want to pursue careers in research and find other aspects of a doctoral degree to be more essential to their future career. I am an advocate for an alternative "output" for which doctoral students conducting research are assessed and evaluated. I believe that an electronic/digital portfolio (ePortfolio) would showcase a student's variety of work. This output could also be used for future

job applications. After all, the intention of higher education is to better prepare students for their future careers. It is rare that a student submits a dissertation or published journal article with a job application, however, a digital portfolio would more than likely be an output that could benefit a student during this process. I was inspired by some of the European universities' business plans, creation of models and prototypes, and final projects designed for the benefit of the surrounding community as alternatives to a stand-alone dissertation.

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