Do you teach using R or Python, but your students struggle with the basics or have varied abilities? SAGE Campus online data science courses are made specifically for social scientists to give skills that can be directly applied to social research. Our academically robust courses are perfect to use as a prerequisite or supplementary material to your class. Read our case study to find out about how students and instructors at the University of Mannheim benefitted from SAGE Campus’ Introduction to R course.

Preparing students with the necessary R skills ahead of class

As the world becomes increasingly digitized, there is an increasing demand for big data literacy in research and practitioner positions. The International Program in Survey and Data Science (IPSDS), offered through the University of Mannheim and the Joint Program in Survey Methodology at the University of Maryland, aims to equip professionals working with data with such skills.

Earlier this year Dr. Florian Keusch, Professor of Statistics and Methodology at the University of Mannheim, used SAGE Campus’ Introduction to R online course to prepare students for IPSDS classes. We spoke to Dr. Keusch about why they used the course and their experience with SAGE Campus.

THE CHALLENGE: Students didn’t have the required R skills

“We use the R programming language and RStudio in many of the classes, but no introductory programming class is offered as part of IPSDS,” says Keusch, who likes R’s countless packages and ability to handle different types of data.

“IPSDS courses cover intermediate and advanced data science and the original expectation was that students would either have R skills already, or would catch up in their own time using free resources.”

IPSDS is fully online and taught in a flipped classroom approach with limited online meetings and students have a very diverse background, so, Keusch explains; “it isn’t feasible for faculty members to spend the first weeks in each class teaching intro-level programming skills.”
However, Dr. Keusch found that some free resources were poor quality, or didn’t give practical skills that could be applied to the materials taught in IPSDS, so some students still struggled with the R requirements of classes. As a result, students differed in their knowledge and abilities in R—which made teaching tricky.

Dr. Keusch needed an efficient and effective way of upskilling students from different countries and with different backgrounds in R, in order for them to be prepared for class requirements.

**THE SOLUTION: SAGE Campus’ Introduction to R online course**

The level of the Introduction to R online course and the trusted SAGE quality were two aspects that attracted Dr. Keusch to SAGE Campus. The course was offered to all IPSDS students as an optional preparatory course to take before or during the program.

The Campus course is self-paced and chunked into manageable modules, meaning students could fit it around busy schedules. Additionally, the guiding videos of an expert instructor throughout the course meant students with no prior knowledge of R could work through modules sequentially, while those who simply wanted a refresher could dip in and out.

Furthermore, students could access the course directly from the University of Maryland’s Learning Management System, Canvas, alongside their other course resources—requiring little to no support from IT, Dr. Keusch, or other instructors.

**THE OUTCOME: Supported student success on IPSDS**

All 23 students who took Campus’ Introduction to R course reported that they felt ‘motivated’ or ‘highly motivated’ to complete it. A majority 74% completed all modules of the course—with 65% completing every single module and activity. This, Dr. Keusch noted, is a much higher retention rate than what he experienced from Massive Open Online Courses (MOOCs).

92% of the students said the course taught them skills they can use in their research.”

Dr. Keusch found the level of Introduction to R ideal; it suited students who had no prior experience in R while students who already knew R still found the course helpful. In fact, 92% of the students said it taught them skills or knowledge they can use in their research.

The real value of the course, however, was revealed in how students performed in IPSDS classes after completing the course. Students appreciated the head-start they received from the Introduction to R class before joining the substantive IPSDS courses that used R as a programming language and for data analysis. This also made it easier for instructors to focus on the content of the course and not spend too much time with teaching the basics of R. “I have heard both from our students and the IPSDS faculty that the transition into working with data and actual use cases was much faster this summer than in the past,” Keusch said.