

Li-Chun Li Talks About Quantitative Research and Statistical Analysis

On March 15th, the Center for Teacher Professional Development held a lecture in classroom T505, delivered by the director of the center, Dr. Li-Chun Li, on "Introduction to Quantitative Research and Statistical Analysis." She shared how to use quantitative research to develop appropriate teaching research designs and analyze student performance in learning motivation and learning effectiveness. Over 40 teachers attended the lecture.

First, Dr. Li explained the methods of evaluating teaching effectiveness, which can be done through qualitative research of "words" and quantitative research of "numbers." Quantitative research mainly involves collecting objective data. She gave an example that to prove the hypothesis that "students of different genders have different academic performance." requires corresponding data rather than just textual descriptions. She then shared the 4 main tasks of quantitative research: "research questions," "data collection," "data processing," and "judging results." Each task has different content, and the research cycle will be completed when the "judging results" are returned to the "research questions."

Dr. Li went on to talk about 2 types of simple statistical processing methods. The first is "descriptive statistics," which primarily describes the characteristics and distribution of data, commonly using measures such as frequency, percentage, and standard deviation. The second type is "inferential statistics," which infers population parameters based on sample statistics, and includes various statistical methods. Finally, through practical exercises, Dr. Li arranged for teachers to form groups, design and discuss different teaching research designs, and the teachers were seen discussing with enthusiasm and passion.

Assistant Professor Fu-Tzu Kuo from the Physical Education Instruction and Activities Section stated that although she had studied related theories before, she was not very familiar with them as they were not used

frequently. The lecturer explained the topic in a very organized manner and provided practical examples, which made her more willing to attempt quantitative research in the future and would likely receive significant help from the lecture.

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