

## STATISTICAL REASONING IN THE TRAINING OF FUTURE MEXICAN TELESECUNDARIA TEACHERS

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### INTRODUCTION

Telesecundaria is a teaching model that combines distance education with face-to-face education. There are few publications that address issues related to the training process of telesecundaria teachers, and even fewer in the context of rural teacher training. The present manuscript is a derivative publication of a broader investigation that analyzed the implementation of statistical projects as a learning strategy in the training of future telesecundaria teachers.

### CHARACTERISTICS OF THE RESEARCH

This research sought to study the statistical learning achieved by trainee teachers through project work in the framework of statistical reasoning. This approach promoted both the development of statistical knowledge and skills useful for solving problems, judging situations and making real decisions, as well as a series of competencies necessary in the teaching profession.

In this poster we report the implementation of statistical projects (about the impact of their own teaching practice in the schools) in which future teachers addressed a problematic situation related to the statistical analysis of the results of the didactic proposals they designed and applied during the teaching practice days they carried out in telesecundaria schools in the northeastern highlands of the state of Puebla, Mexico.

The participants in this research were 17 students –all women– in the second grade of the Bachelor's Degree in secondary education in the fourth semester. Their studies specialized in telesecundaria education and participants were taking the subject of Teaching Mathematics II during the 2018-2019 school year. The average age of the students was 19 years old.

The approach of the present research is qualitative. The data that were considered for this research were obtained from four main sources: (1) the video recordings of the 15 classroom sessions that were dedicated to the development of the project, (2) the Moodle platform forums, (3) the written report on the project submitted by each student, and (4) the recordings of the oral presentations of the project. The analysis of this information was conducted using a framework of indicators and analytical criteria that were used to identify the promotion of statistical reasoning elements.

### CONCLUSION

The results obtained in this research support the assertion that through the implementation of statistical projects in the training process of telesecundaria teachers, elements of statistical reasoning learning can be achieved.

In this case, during the development of the statistical project, several statistical reasoning skills were promoted, such as: (a) Development of central statistical ideas (e.g., data, statistical models, distribution, randomness, center, variability, group comparison, sampling, and statistical inference); (b) Explaining why a result occurs or why a conclusion is justified (e.g., using questions that encourage students to speculate and think, and that do not necessarily have a correct answer, and asking students to explain their reasoning and justify their answers); (c) Develop a deeper and more meaningful understanding of statistics (e.g., integrate the use of appropriate technological tools that allow students to analyze and explore data).

### REFERENCES

Santana, A. (2020). *Un estudio con futuros profesores de telesecundaria sobre el aprendizaje de estadística basado en proyectos* [A study with future telesecundaria teachers on project-based learning of statistics ] [Unpublished doctoral thesis]. Instituto Politécnico Nacional. <https://iaseweb.org/documents/dissertations/20.AlbertoSantanaOrtega.Dissertation.pdf>