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**TOWARDS A MORE
EQUITABLE EDUCATION:
FROM RESEARCH TO CHANGE**

BOOK OF PROCEEDINGS

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ASSESSING EDUCATIONAL OPPORTUNITIES: FROM THE FIRST STATISTICAL ANALYSIS IN SERBIA

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Introduction

In 1882, Serbia's Law on Primary Schools established a six-year schooling requirement for every child between the ages of 7 and 11. The intent was to ensure equal access to education for all children and achieve full school enrollment by 1892 (Ilić Rajković, 2021). This paper uses official statistical data to explore the equality of educational chances in the years immediately following the adoption of the law. Specifically, we delve into the indicators of equal educational opportunities and their interpretation by statisticians. The paper has two primary objectives: to illuminate the notion of *equal chances* at this transformative juncture in Serbian educational history and to highlight pertinent methodological and statistical approaches.

Research Source and Data Analysis

The earliest analysis of school education in Serbia appeared in 1833. Subsequent systematic data collection efforts were spearheaded by prominent figures like Petar Radovanović, Milovan Spasić, and Milan Đ. Milićević. Between 1875 and 1909, detailed data on schools were organized and published, with the system largely initiated by Bogoljub Jovanović and later continued by Zaharije Popović. They prepared a serial publication entitled *Statistics of Public Education* (1875). The data were collected using forms filled out by teachers, supervisors during school visits, and school principals

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within annual reports. The primary source in our research is the Statistics of Teaching for the School Year of 1884/85 by Bogoljub Jovanović (Jovanović, 1894). We conducted a content analysis to identify the indicators of equality recognized in the statistical report's section on primary schools.

Dimensions of Educational Equality in Jovanović's Statistical Report

Jovanović does not directly address the concept of equal educational opportunities for all children. Yet, his interpretation of the results of statistical analyses positions equality as a foundational objective in the context of late 19th-century educational policies. He evaluates equality across multiple dimensions, including schools, teachers, students, classroom furnishings, educational materials, libraries, and funding strategies for education. In the domain labeled Schools, equality could be recognized in indicators such as the number of schools, their geographical distribution, school condition and comfort levels, the number of classes, the space and volume allocated to school departments, and the student count. In the Teachers domain, some of the equality indicators we identified include the teacher count, teachers' educational background, their professional success, salary, and age, teachers' reasons for leaving their jobs at schools, and teacher reprimands and transfers. Regarding the Students domain, the indicators of equality comprise factors such as the student count, grade repetition, school dropouts, student reprimands, absences, academic performance, rewards, parents' professions, and the distance between a student's home and school. Under the category labeled School Furniture, Materials, and Libraries, the indicators of equality include the condition of school furniture, the number and state of school materials, and the book count in libraries. In the Expenditure on Primary Schools domain, equality indicators encompass remuneration for teacher accommodation and state and municipal expenditures on different schools.

Data on the characteristics of the school network provide crucial insights into the equality of educational opportunities at this specific historical moment, shedding light on the accessibility of schools for all students. In this context, Belgrade was notably well-situated, with one school per 800 m², whereas in the Toplica district, there was one school per 459.9 km². Concerning school funding, urban schools received four times

the funding of rural schools. Rural student education was also less costly than urban student education in 20 out of 22 districts.

The education of rural female students emerges as a pressing concern in the Students domain. Data reveal that cities educated 60 times more girls than rural areas. Nearly 80% of children aged between 6 and 11 years did not attend school. Jovanović also examines student absences and performance, noting that female students and rural children were absent more often, despite girls achieving better average results than boys. He further analyzes the factors leading to student attrition, emphasizing health issues and noting high mortality rates, particularly among students who were travelers. He states that in certain districts, poor school building conditions contributed to student mortality and illness, a significant concern given that some students slept at school.

In terms of school materials and equipment quality, there was no significant variation between schools. However, only in Belgrade and the Aleksinac district were all materials in good condition. A total of 45 schools had no libraries, while others averaged around 86 books, with urban school libraries generally hosting twice as many books as their rural counterparts.

Some Methodological Characteristics of the Statistical Report

In light of contemporary requirements for structuring research reports (Bandur & Potkonjak, 1999), Jovanović's report contains elements of the three basic sections – theoretical introduction, methodology, and research findings – even though these structural elements are not explicitly delineated. The report showcases a wide array of analyses concerning primary schools, from 16 focusing on classroom furnishings, teaching aids, and libraries to more than 150 centering on students. Most of these analyses are accompanied by tables that provide both quantitative and qualitative descriptions. Additionally, some data are visually represented through six cartograms and ten diagrams, rendered in various colors and featured on distinct pages within the report. Compared to contemporary statistical methods, Jovanović's approach primarily consists of calculating frequencies, percentages, averages, and ratios. Though seemingly basic, he enriches his methodology with detailed explanations, data comparisons across multiple analyses, time periods, and a reasoned amalgamation of different data

categories for more poignant results. For instance, while commenting on the number of medium-quality buildings, Jovanović remarked: “Of this percentage, we could easily add one half to the poor-quality buildings, because what is qualified as average always leans more towards poor than good” (Jovanović, 1894, p. 98). Such an approach might seem unconventional in today’s statistical reporting but should be understood in the context of being among the first of its kind in Serbia.

Conclusions

From the analyzed source, it is evident that the accessibility of educational opportunities was significantly influenced by students’ living environment or school location. Three years after making education compulsory, there was still a significant gap in school attendance, especially among female students. However, it is not possible to make reliable generalizations based on this small and selective set of indicators. It might only be relevant to note these trends, especially since some might still be relevant today, considering the urban-rural divide and the disparity between more and less developed districts. The diversity of statistical data and analyses in Jovanović’s report shows how important such reports are for highlighting problems in education. Not only that, but Jovanović occasionally transitions from description to content interpretation (Vuletić, 2017), creating room for translating words into deeds. Undoubtedly, the report encourages further exploration of the potential of statistical analyses.

Keywords: statistics of public education, equality of educational opportunities, Serbia, 1884/5

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