IMPORTANCE OF PEDAGOGY IN TEACHING AND LEARNING PROCESS

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https://doi.org/10.5281/zenodo.8050751

Annotation Pedagogy is often described as the act of teaching. The pedagogy adopted by teachers shapes their actions, judgments, and teaching strategies by taking into consideration theories of learning, understandings of students and their needs, and the backgrounds and interests of individual students.

Key words: Pedagogical science, methods of teaching, study of teaching, learning process, instructional theory

Pedagogical science is the study of methods of teaching and gaining a systematic understanding of how the human mind acquires new information. This includes elements of the teacher, the student, and the overall learning environment that all have an impact on the learning process. So as not to be confused with the study of teaching science subjects itself, pedagogical science is often referred to as just pedagogy, or instructional theory. The focus of pedagogical science is on the teaching of children in formal educational settings, but it can also be applied to adults as well as informal methods of learning for all ages.

The pedagogical approach to learning is considered to be approximately 60 years old as of 2011, with over 100,000 formal studies conducted into pedagogy by 1950. The first attempts to systematically orient the learning process, however, are traced back to 1897, with close to 4,000 investigations into how to streamline learning in reading and math being conducted by 1939 alone. Despite a long, intense history of investigation into what constitutes the best of learning practices, pedagogical science is considered by many to be not a true science to date. This is because much of what has been learned does not point to definitive conclusions, and many educational systems, therefore, become mired in popular trends and fads of the period as to what is the best approach at instructing students.

The pedagogical approach to understanding learning has resulted in some meaningful data that is considered to be definitive. Evidence suggests, as of 2003 research, that, in the typical formal learning process, teachers account for 30% of the variability in how well a student learns, with another 50% of the variability focused on the student himself or herself, and the remaining 20% of variance being a result of environmental factors. This evidence suggests that, contrary to popular ideas about the school and home environment, they have little actual effect on how well a student learns.

The 2003 research went further in its conclusions as to the nature of pedagogical science, by providing ratios as to what influences a student's learning capacity most. These elements included feedback from the teacher, which was considered to be most important at 1.13, with 1.0 being an average influence. The prior ability of a student to learn was rated as a 1.04 in determining success, the quality of instruction that the educator provided was rated a 1.0, and direct one-on-one instruction between teacher and student only rated a value of 0.82. Areas that seemed to have little overall influence on successful learning were computer-assisted learning techniques rated as a 0.31, individual study for the student at 0.14, and teaching the student using a team of educators together as only having an influence of 0.06.

While such data may be outdated as computer systems and custom learning environments grow in the 21st century, they highlight the fact that a century of data in pedagogical science may not be useful or apply to changing technological and social environments. Modern pedagogical learning, therefore, attempts to focus on what teachers are currently doing in the classroom, and what elements of that process appear to be working better than others. As of 2007, the focus in pedagogical science has come to be on the theory of learning instead of the theory of teaching. This means that the learning method that is most effective must take precedence over whatever teaching method was used to produce it.

The teaching tools offered to working educators in the 21st century are increasingly being based on flexible approaches that will accommodate learning theories for the local environment within which teachers work. By contrast, students in universities who are majoring in pedagogical science are still being taught to focus their attention on the political, social, and historical aspects of the learning environment. This does not keep pace with the trend in the teaching world where instead effective learning theories for the students themselves should be first on the priority list.

Pedagogical science is a difficult science to quantify in meaningful ways, as, like economics, there remain many competing theories as to what works best and what the data shows. Simple concepts like literacy are hard to define. Geographical literacy or technological literacy could just be terms for how much knowledge a student has accumulated, or they could represent skills that often supersede knowledge. Defining the terms upon which learning theories draw in a systematic way is therefore necessary before tying data to them, and before its possible to gain meaningful conclusions about what actually works in the learning environment.

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