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THE CURRICULAR STATUTE OF THE DISCRETE MATHEMATICS DISCIPLINE IN THE BRAZILIAN SYSTEMS ANALYSIS AND DEVELOPMENT TECHNOLOGY

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This poster presents a post-doctoral research (Biajone & Santos, 2019) on the statute of the Discrete Mathematics (DM) course curriculum production in terms of objectives and contents for the System Analysis and Development (SAD) undergraduate course offered by 134 public technological colleges and universities in Brazil. Developed in 2018, this research investigated the DM discipline constitution at the undergraduate level according to what contents and purposes are needed for the SAD course and its prescribed curriculum under the perspective of curriculum policy cycle (Ball et al, 1992) and history of disciplines (Goodson,1997).

DISCRETE MATHEMATICS, CURRICULAR STATUTE & CURRICULAR INDUCTION AGENT

Teaching Discrete Mathematics (DM) for a System Analysis and Development (SAD) can be a challenging one to a mathematics college professor as to what curriculum choices are to be made for that computer related undergraduate course. Besides what prescribes the DM curriculum, those decisions are ultimately subject to his or her own contextual conditions and idiosyncratic beliefs towards DM, that is, in his or her opinion, what roles DM plays in computing and what means to be educated by it, as well as the dialog that he or she engages with the students, other instructors and SAD courses during the DM class implementation (Goodson, 1997).

In order to know the scope of these choices made by DM math professors to SAD public courses around Brazil, this post-doctoral research aimed to characterize the curricular statute of that discipline, that is, the configuration that its prescribed curriculum assumed as to what contents to teach and objectives to accomplish in SAD undergraduate courses offered by 134 public technological colleges in Brazil. Such characterization, however, demanded an historical understanding of the DM curriculum production within the brazilian public SAD course chosen universe, that is, as a curriculum trajectory production description that began with the establishment of DM as a college degree course and reached its stabilization as an official prescription within its curriculum matrix (Ball; Bowe & Gold, 1992).

The main results of this investigation pointed out that the diversity of DM curricular statutes found by the research on those 134 SAD courses was generally based on base discourses common to its discipline constitution and to its curricular prescription by the American and the Brazilian Computer Science Bachelor´s Degree course. Moreover, the configuration of the DM discipline was also influenced by the contents of Mathematical Logic and Set Theory, both topics of the mathematics questions of the National Examination of Student Performance (NESP) in SAD taken by all students who graduate from this course around the country. These contents and their related objectives were present as contents of the majority of DM disciplines in the 134 SAD courses, which led to the conclusion that the NESP might have been a potential curricular inductor agent (Santos, 2014) to the DM prescriptive curricular statutes in the Brazilian SAD public courses studied.

References

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