LVI SBPO SIMPÓSIO BRASILEIRO DE PESQUISA OPERACIONAL
DE 04 ATÉ 07 NOVEMBRO 2024
FORTALEZA | CEARÁ

Extracting topics from Brazilian Education discourse: insights to support public policies

Maria Gabriela Valeriano
Instituto Tecnológico de Aeronáutica - Universidade Federal de São Paulo
Brazil
valeriano@ita.br

Leila Abuabara
Instituto Tecnológico de Aeronáutica - Universidade Federal de São Paulo
Brazil
carlos.kiffer@unifesp.br

Carmen Belderrain
Instituto Tecnológico de Aeronáutica
Brazil
carmen@ita.br

Ana Carolina Lorena
Instituto Tecnológico de Aeronáutica
Brazil
aclorena@ita.br

ABSTRACT

In a democracy, the public sphere must influence the State's decision-making process. To accomplish this, citizens' participation is essential. The media has a fundamental role in organizing an open and impartial dialogue that relies on experts' knowledge. In this article, we adopted topic modelling to identify relevant issues in a collection of interviews organized by public television during the Brazilian pre-election period in October 2018. The primary objective of this research was to identify and explore pertinent topics that can serve as a foundation for future public policies in education. At a more granular level, we employed probabilistic topic modelling using Latent Dirichlet Allocation (LDA) specifically designed for the Portuguese language. LDA is a non-supervised text-mining technique that allows us to extract relevant topics from a collection of discourses by education experts organized by journalists and conducted through public media channels. The extracted knowledge was then subjected to qualitative analysis. A minor objective was to follow up on whether the issues pointed out by the education experts were present in the government agenda of the following years. The graphical representation of all the transcript interviews provided by the word cloud left clear that we need to pay attention to the primary elements (and actors) of the educational system, that is, teacher and student, and their relationship, which is present regardless the level or configuration of learning. By analyzing the list of topics generated by our model more deeply, we confirm that the role of the teacher is hugely relevant to contribute systematically to a quality education. That includes their training, skills, and competencies. Financing and norms (common national curriculum base) are issues responsible for the State and supporting all education systems. Lastly, the family follows the student from childhood to youth in their different needs and levels, guaranteeing that the education cycle is not broken. Our findings offer insights to assist public policy development in Education in Brazil, indicating that attention to simple issues can contribute to

https://proceedings.science/p/193444?lang=pt-br

a systemic improvement. We also compare these topics with those generated by the official news of the Ministry of Education in the subsequent years, evidencing the absence of relevant issues pointed out by education experts.

KEYWORDS. First keyword. Second keyword. Last keyword.