Enhancing the Human Experience of Learning with Technology:
New challenges for research into digital, open, distance & networked education
European Distance and E-Learning Network (EDEN) Proceedings
2020 Research Workshop | Lisbon, 21-23 October, 2020
ISSN 2707-2819
doi: 10.38069/edenconf-2020-rw0039

WIKIPEDIA IN UNIVERSITY PROGRAM: WHAT DOES THE META-ANALYSIS OF THE COURSES' PAGE TELLS US?

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Abstract

Wikipedia is an unavoidable resource when we do a web search with the aim of obtaining information. Its content is built from a bottom-up perspective and for this reason it is not always accepted in academia. However, this is not the view of the Wikimedia Foundation. Thus, under the motto "Wikipedia belongs to education", the Wikimedia Foundation has partnered with educational institutions through the Wikipedia Education Program, which includes the Wikipedia in University Program. Within this scenario, it was considered important to do the meta-analysis of the page related to the courses offered in the context of this program with regard to the Wikipedian Portuguese speaking community. For this purpose, methodologically, we followed the MAECC®, the Meta-model to Analyse and Explore Scientific Knowledge®. Our corpus includes 22 Higher Education institutions, 21 of which are Brazilian and 1 Portuguese – Universidade Aberta (Open University Portugal). In this text, we will present the meta-analysis grid created to meet the research aims, identifying the data obtained in all the 5 macro categories of the MAECC® model. In general, the meta-analysed courses are diverse and refer to dynamic practices and valid work strategies.

Keywords: Wikipedia, Wikipedia Education Program, Wikipedia in University Program, Meta-analysis, MAECC®, Knowledge Mapping.

Introduction

Understanding the network as an educational interface that integrates and provides the opening and sharing of knowledge, according to Cardoso, Pestana, and Brás (2018), we redirect our look specifically to Wikipedia. This online encyclopaedia can be seen as a source of information through collaborative and anonymous writing, and through the self-regulation of the knowledge-building system. As Knight and Pryke (2012) refer, Wikipedia is a new and controversial topic in the history of education. Under the motto "Wikipedia

belongs to education", the Wikimedia Foundation, an entity that financially supports several projects, including Wikipedia, has been betting on partnerships with educational institutions through the Wikipedia Education Program (WEP), which includes the Wikipedia in University Program (WUP) (Pestana, 2014; 2015; 2018). It is in this context that it was considered pertinent to meta-analyse the page related to the courses available in the context of the Portuguese-speaking WUP. For this, we methodologically use the Meta-model for Analysis and Exploration of Scientific Knowledge® (MAECC®).

The article is organized in three parts: The first is dedicated to the theoretical context where issues related to open education are worked and in this the open educational practices (OEP) and open educational resources (OER). The second part is dedicated to the methodological analysis system, that is, to MAECC®. Finally, in the last part, the data inherent to the identified problem are discussed and presented.

Theoretical contextualization

Openness issues, particularly in the context of open education, are pressing. In order to illustrate this concept, polymorphic and polysemic, we used the perspective of Conole and Brown (2019), Cronin and MacLaren (2018) and Pestana (2018). For these authors, open education integrates individual and / or institutional resources, tools and practices in order to promote access, efficiency, success and equity in education in the world. In this context, we emphasize the essential role that OER and PEA play in that promotion. And we clarify that the PEA are understood as the combination of the use of OER with open architectures in the creation of learning environments (Ehlers & Conole, (2010). They conclude that "OEP means the use of OER and the opportunity to benefit from experiences and expertise of others".

Concretely directed to Wikipedia while OER it is important to mention that in the context of the opening one of the winning proposals was the existence of OER, a reflection of this will be their sustained and progressive growth since 2009. These are currently seen as a natural path in the implementation of distance learning, open education and new pedagogical approaches (Pestana, 2014; 2015; 2018).

Taking Wikipedia as an object of study and as a pedagogical strategy, it is important to highlight that this issue has become increasingly present at different levels of education in the world, namely because the Wikimedia Foundation identifies as a priority the partnership with the various educational institutions, putting on the ground the initiative designated as the WEP and in this the WUP. In Portugal, this partnership was made with Universidade Aberta (UAb) through LE@D, Laboratory of Distance Education and Elearning, more recently, through the International Academic Network WEIWER® (Wikis, Education & Research / Wikis, Education & Research) which has promoted several

projects, studies and training on these topics, namely the one that is now being presented. According to Cardoso, Pestana, and Pinto (2019), WEIWER® was officially formalized in 2018 with Open Sessions, an annual event that fosters debate on issues associated with the Wikipedia phenomenon, and promotes and investigates a set of practices that embody their curricular integration at different levels of education. The next point is dedicated to the methodological system of analysis.

Methodological contextualization

The research carried out, of which this text is an excerpt, aims to answer the following question: What does the meta-analysis of the course of the only Portuguese university tell us? Now considering the design used, it developed in an approach that combines quantitative and qualitative methods.

With regard to MAECC®, according to Pinto, Cardoso, and Pestana (2019), the systematization of knowledge, embodied in mixed or multimodal meta-analysis, allows combining document analysis from a qualitative and quantitative perspective to content analysis, privileging the theories proposed by van der Maren (1996), categorized according to the following levels: description, understanding, explanation and formalization of knowledge, which promote an appropriation of critical and reflective knowledge on the issues in question. It is important to clarify our understanding of meta-analysis, supporting, for this purpose, the perspective of Gene Glass, who in 1976 introduced the term for the first time. Thus, for Glass (1976; p.3), "[m] eta-analysis refers to the analysis of analyzes. I use it to refer to the statistical analysis of a large collection of analysis results from individual studies for the purpose of integrating the findings".

From the meta-analysis, we considered for our study, according to Cardoso (2007), the following procedural steps: (a) the selection and inclusion of all existing courses on the platform of the Wikipedia Program at the University; (b) the definition of inclusion and exclusion criteria, for the constitution of the corpus; (c) the development of coding categories, to cover most of the identified courses; (d) the analysis and graphic representation of the results and their distribution; (e) the combination of quantitative and qualitative reviews. Figure 1 systematizes the conceptual model built for our study, meta-analytical, in its various phases, which we describe below.

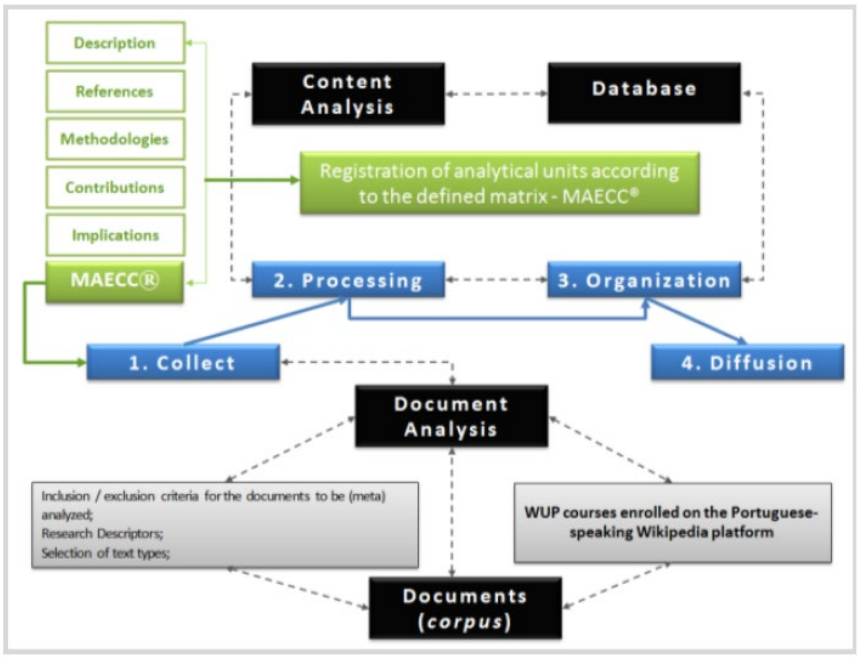

Figure 1. Methodological analysis system: conceptual model (from Pestana, 2020)

According to Cardoso (2007), phase 1 (Collection) was based on documentary analysis and culminated in the identification of documents to be part of the corpus. For this purpose, the inclusion and exclusion criteria of the documents to be (meta) analysed and the respective research descriptors were defined and applied. Phases 2 and 3 (Treatment and Organization) refer to stages of consecutive readings, through which the information in the corpus texts gradually emerged from each document induced by the content analysis, in a constant resource to the data and in a permanent dialogue with the same. The analytical units were recorded in the analysis instrument, according to the defined categorical matrix (Chart 1). It is important to remember that we had the support of MAECC® and, therefore, we incorporated the respective five macro dimensions (Characterization, References, Methodologies, Contributions, Implications). Finally, phase 4 (Diffusion) closes the methodological sequence of this study. Below we present the context that supported the investigation and the *corpus*. The following part presents the fundamentals and procedures for applying the methodological system of analysis.

Context

WUP is part of WEP and the Portuguese-speaking WUP website brings together all the courses developed under this program in Portuguese. The welcome page, as its name implies, serves to welcome potential interested in the program and is also directed to the actors directly involved in the program – teachers, students and wikipedists. In addition to the welcome page, the program includes the tabs "Courses", "Campus Ambassadors", "Online Ambassadors", "Resources" and "Help". In the "Courses" tab are the courses

taught in this program in Portuguese. At the date of the corpus definition, the meta-analysis for the identified period was 2011-2018.

Figure 2. Screen of the "Courses" tab of the WUP page in Portuguese (https://bit.ly/31jyHVv)

Table 1: Corpus of (meta) analysis

Courses	Universities
1. Desenvolvimento de Software Livre	Universidade de S. Paulo (Instituto de Matemática)
2. Sistemas Multimidia	Universidade Federal do Estado do Rio de Janeiro
3. Tópico Especial em História Antiga - "A história romana na Wikipédia"	Universidade Federal do Estado do Rio de Janeiro
4. História da Cultura	Universidade Estadual Paulista
5. Eletromagnetismo	Universidade Federal do Rio de Janeiro
6. Espalhamento Elástico de Luz e Raios-X por Biossistemas	Universidade de S. Paulo
7. Política Cultural	Universidade de S. Paulo
8. Antiguidade Clássica	Universidade Federal do Estado do Rio de Janeiro
9. Memória e Vivência	Universidade Estadual Paulista
10. Curso de extensão	Universidade Federal do Estado do Rio de Janeiro
11. Direito Sanitário	Fundação Getúlio Vargas
12. Atividades Acadêmico-Científico-Culturais	Universidade de São Paulo
13. Cidade e Imaginário	Universidade de São Paulo
14. Química Geral e Experimental	Universidade de São Paulo
15. Equações Diferenciais	Universidade Estadual Paulista
16. Design e Editoração	Faculdades Integradas Rio Branco
17. Física III-C – Física para engenharia	Universidade Federal do Rio Grande do Sul
18. Literatura - Teoria e Crítica	Universidade Estadual do Sudoeste da Bahia
19. Sistemas de Produção I	Universidade Federal do Paraná
20. Tópicos Especiais em Biologia Evolutiva	Universidade Federal do Espírito Santo
21. Língua Latina 2	Universidade Federal do Espírito Santo
22. Evolução	Universidade Federal do Espírito Santo
23. Introdução às Tecnologias da Comunicação	Universidade Federal Fluminense
24. Antropologia e Sociologia - Grandes Pensadores Brasileiros	Universidade Federal do Rio de Janeiro
25. Eletromagnetismo II	Universidade Federal do Rio de Janeiro
26. Seminário de Pesquisa em Cultura Histórica e Documento	Universidade Federal do Estado do Rio de Janeiro
27. Física III-C – Física para engenharia	Universidade Federal do Rio Grande do Sul
28. Instrumentação Física	Universidade Federal do Rio Grande do Sul
29. Cálculo Numérico	Universidade Federal do Rio Grande do Sul
30. Aplicações da Matemática – A	Universidade Federal do Rio Grande do Sul
31. Introdução ao Cálculo Fracionário	Universidade Estadual Paulista
32. Sociedade de Consumo e Litígios em Massa	Universidade de São Paulo
33. Tradução Inglês – Português	Universidade Gama Filho
34. Planejamento Wikipédia na	Universidade com FGV SP Fundação Getulio Vargas (SP)
35. Introdução às Tecnologias da Comunicação	Universidade Federal Fluminense
36. WikiProjeto Medicina	WikiProjeto Medicina
37. Física IV Civil (FIS01223)	Universidade Federal do Rio Grande do Sul
38. Cálculo Numérico (MAT01169)	Universidade Federal do Rio Grande do Sul
39. Tradução do Alemão	Universidade Federal do Rio Grande do Sul
40. Introdução às Tecnologias da Comunicação	Universidade Federal Fluminense
41. Física III-C – Física para engenharia	Universidade Federal do Rio Grande do Sul
42. Instrumentação Física	Universidade Federal do Rio Grande do Sul
43. Física IV Civil (FIS01223)	Universidade Federal do Rio Grande do Sul

44. Cálculo Numérico (MAT01169)	Universidade Federal do Rio Grande do Sul
45. O Mundo Helenístico	Universidade Federal do Estado do Rio de Janeiro
46. Introdução às Tecnologias da Comunicação	Universidade Federal Fluminense
47. Ciência Política	Faculdade Cásper Líbero
48. Matemática Aplicada II (MAT01168) (2014-2)	Universidade Federal do Rio Grande do Sul
49. Análise I (MAP0101)	Universidade Federal do Rio Grande do Sul
50. Cálculo Numérico (MAT01169)	Universidade Federal do Rio Grande do Sul
51. Termodinâmica e Mecânica Estatística (FIS01232)	Universidade Federal do Rio Grande do Sul
52. Gestão de Pessoas	Universidade Federal de Uberlândia
53. Liderança e Comportamento Organizacional	Universidade Federal de Uberlândia
54. Ciência Política	Faculdade Cásper Líbero
55. Sociologia	Faculdade Cásper Líbero
56. Gestão de Pessoas II	Universidade Federal de Uberlândia
57. Gestão de Pessoas I	Universidade Federal de Uberlândia
58. Criação de verbetes sobre História da Antiguidade Ocidental	Universidade Federal de Santa Catarina
59. Laboratório didático de Física e Práticas Pedagógicas VII	Universidade Federal do Rio Grande do Sul
60. Física III-C – Física para engenharia	Universidade Federal do Rio Grande do Sul
61. Comportamento_Organizacional	Universidade Presbiteriana Mackenzie
62. Evolução: o sentido da vida	Universidade Estadual de Santa Cruz
63. Criação de verbetes sobre História da Antiguidade Ocidental	Universidade Federal de Santa Catarina
64. Laboratório didático de Física e Práticas Pedagógicas VII	Universidade Federal do Rio Grande do Sul
65. Instrumentação Física	Universidade Federal do Rio Grande do Sul
66. Física III-C – Física para engenharia	Universidade Federal do Rio Grande do Sul
67. Wikipédia na Universidade/Cursos/Contextos Educacionais	Universidade Aberta
68. Evolução: o sentido da vida	Universidade Estadual de Santa Cruz
69. Ecologia Geral	Universidade Estadual de Santa Cruz
70. Ciência Política	Faculdade Cásper Líbero
71. Biologia da Conservação	Universidade Estadual de Santa Cruz
72. Ecologia Geral	Universidade Estadual de Santa Cruz
73. Criação de verbetes sobre História da Antiguidade Ocidental	Universidade Federal de Santa Catarina
74. Laboratório didático de Física e Práticas Pedagógicas VII	Universidade Federal do Rio Grande do Sul
75. Introdução ao Cálculo Fracionário	Universidade Estadual Paulista
76. Ciência Política	Faculdade Cásper Líbero
77. Comportamento Humano nas Organizações	Universidade Presbiteriana Mackenzie
78. Gerenciamento Editorial em Mídias Digitais: Jornalismo de Dados	Pontifícia Universidade Católica de São Paulo
79. Caminhão com Ciência	Universidade Estadual de Santa Cruz
80. Tópicos Especiais em Ciência da Informação	Universidade Federal do Estado do Rio de Janeiro
81. Criação de verbetes sobre História da Antiguidade Ocidental	Universidade Federal de Santa Catarina
82. Laboratório didático de Física e Práticas Pedagógicas VII	Universidade Federal do Rio Grande do Sul
83. Gerenciamento Editorial em Mídias Digitais: Jornalismo de Dados	Pontifícia Universidade Católica de São Paulo
84. Gerenciamento Editorial em Mídias Digitais: Jornalismo de Dados	Pontifícia Universidade Católica de São Paulo
85. Extensão: Reformulação e construção de verbetes da Wikipédia na área de Teoria da História.	Universidade Federal de Santa Catarina
86. Extensão: Reformulação e construção de verbetes da Wikipédia na área de Teoria da História.	Universidade Federal de Santa Catarina
87. História Moderna II	Universidade Federal de São Paulo
88. Seminário de Pesquisa em História Antiga	Universidade Federal do Estado do Rio de Janeiro
89. Introdução à Biofotônica	Insper
90. Gerenciamento Editorial em Mídias Digitais: Jornalismo de Dados	Pontifícia Universidade Católica de São Paulo
91. Audiologia Educacional e Reabilitação Auditiva	Universidade de São Paulo
92. Editatona de Prevenção em Saúde	Universidade de São Paulo

Analysis Instrument

Once the corpus of analysis was constituted, and based on both the objectives and the defined research questions, the methodology of analysis was designed, with the background of the identified methodology, which is presented below, duly completed with the identified Course as 67 in the corpus previously presented (Table 1). In its final version, it presents five macro categories that are segmented into subcategories (meso), and, in the case of the Referential and Methodology categories, they are further segmented into micro subcategories.

Table 2: Course Meta-Analysis Grid "Contextos Educacionais"

1. Description
- **1.1. Course Designation**: Wikipédia na Universidade/Cursos/Contextos Educacionais
- **1.2. Higher Education Institution**: Universidade Aberta
- **1.3. Year / Semester**: 2016 / 1st Semester
- **1.4. Country**: Portugal

2. References
- **2.2. Curricular Area**
  - **2.2.1. Exact Sciences:** —
  - **2.2.2. Social and Human Sciences:** ✓

3. Methodologies
- **3.1. Actors (course participants)**
  - **3.1.1. Teachers**: Teresa Cardoso (Teacher) and Filomena Pestana (Researcher)
  - **3.1.2. Students**: 4
  - **1.1.3. Ambassadors**: Alchimista
- **3.2. Course availability format / typology**
  - **3.2.1. Tipologia "A"** (Edit-a-thon):—
  - **3.2.2. Tipologia "B"** (Dashboard):—
  - **3.2.3. Tipologia "C"** (Project Page):—
  - **3.2.4. Tipologia "D"** (Project with 4 pages – Main, Discussion, Resources and Help): ✓

4. Contributions
- **4.1. Level of access to information**:
  - **4.1.1. Access Link Active:** ✓
  - **4.1.2. Access link not active:** —

5. Implications
- **5.1. Articulation with other initiatives**: Not detected.

Presentation and discussion of data

The analysis of the identified corpus tells us that in the period between 2010 and 2018 the page that aggregates the PWU courses from the Portuguese-speaking Wikipedia has a total of 92 courses, of which only 1 is from a Portuguese university, the remaining 91 come from educational institutions higher education (22 institutions). As can be seen in Table 1, the course took place in the first semester of 2016 with Universidade Aberta (Portugal) and is related to Social and Human Sciences, which in the corpus totals 51 occurrences with Exact Sciences 41 occurrences. With regard to the actors involved, this includes 1 professor, 1 researcher, 4 students and a Wikipedia ambassador. In total, the analysed corpus includes 42 professors, ~ 3,557 students and 62 ambassadors. Regarding the Format / Typology the course belongs to "D" (Project with 4 pages - Main, Discussion, Resources and Help). Format / typology "D" has the largest number of courses (33) with "A" having 5, "B" having 1 and "C" having 19 courses. We can see in Figure 3 the screen of the course page where the project page can be divided into 4 parts: Main, Discussion, Resources and Help. Another aspect that should be highlighted refers to the Level of access to information: which in the case of the course under analysis has its respective open link. The data collection was carried out in two stages: the first associated with the analysis and treatment

of the data collected from the page that is in the "Courses" tab of the PWU; the second stage was the result of the analysis and treatment of the page of each of the courses per se, which was, in some cases impossible, given that the link to the page of the respective course was inactive. As a result of these two phases, if on the one hand it was possible to list a wide range of evidence, on the other, we found, in some cases, little information. Thus, it was only possible to meta-analyse 57 as it was not possible to access 35 courses.

Conclusion

Under the motto "Wikipedia belongs to education", the Wikimedia Foundation created in 2010 the WEP and, in this, the WUP, in order to give higher quality to the content made available on Wikipedia, also involving the academic community in its construction. Having started in 2011 in Portuguese, it was important to map and meta-analyse the courses implemented since then. This problem is framed by an exploratory study, of a descriptive nature and meta-analytical nature, of mixed nature, integrating a quantitative and qualitative approach. In this field of action, MAECC®, Meta-model of Analysis and Exploration of Scientific Knowledge®, was adopted as an analytical-methodological instrument, supported simultaneously by document analysis and content analysis. Thus, the present article assumes itself as a part of a broader study and its main purpose is to identify, in the constituted corpus, what the meta-analysis of the only Portuguese university tells us? Thus, we conclude this highlighted point that in the context of 23 higher education institutions, a Portuguese one has implemented in the context of the 92 identified courses the course designated as "Educational Contexts". Since the Portuguese institution has its pedagogical strategy defined, clear, and open promoting the PWU's own objectives and serving the transparency purposes defended by it. Like Knight and Pryke (2012), we also consider that Wikipedia, although controversial, assumes a role in education and therefore we continue to be instigated in order to contribute to the use of Wikipedia as OER.

References

Cardoso, T. (2007). *Interacção verbal em aula de línguas: meta-análise da investigação portuguesa entre 1982 e 2002.* Doctoral thesis. Universidade de Aveiro.

Cardoso, T., Pestana, F. & Brás, S. (2018). A Rede como Interface Educativa: uma Reflexão em Torno de Conceitos Fundamentais. *Revista Interfaces Científicas – Educação, 6*(3), 41-52. doi:10.17564/23163828.2018v6n3p41-52

Cardoso, T., Pestana, F., & Pinto, J. (2019). Rede académica WEIWER: a Wikipédia como objeto de estudo? *PRISMA.COM, 40*, pp. 107-117. https://doi.org/10.21747/16463153/40a12

Conole, G., & Brown, M. (2019). Reflecting on the impact of the Open Education Movement. *Journal of learning for Development, 5*(3), 187-203.

Cronin, C., & MacLaren, I. (2018). Conceptualising OEP: A Review of Theoretical and Empirical Literature in Open Educational Practices. *Open Praxis, 10*(2), 127-143.

Ehlers, U.-D., & Conole, G. (2010). Open Educational Practices: Unleashing the power of OER. Retrieved September 20, 2019, from https://bit.ly/3ca81f9

Glass, G. (1976). Primary, secondary, and meta-analysis of research. *American Educational Research Association, 5*(10), 3-8.

Knight, C., & Pryke, S. (2012). Wikipedia and the University, a case study. *Teaching in Higher Education, 17*(6), 1-11. doi:10.1080/13562517.2012.666734

Pestana, F. (2014). *A Wikipédia como recurso educacional aberto: conceções e práticas de estudantes e professores no ensino superior online.* Master thesis. Universidade Aberta.

Pestana, F. (2015). *A Wikipédia como Recurso Educacional Aberto: Práticas Formativas e Pedagógicas no Ensino Básico Português.* Master thesis. Universidade Aberta.

Pestana, F. (2018). *A Wikipédia como recurso educacional aberto: um contributo para o Programa Wikipédia na Universidade.* Doctorial thesis. Universidade Aberta.

Pestana, F., & Cardoso, T. (2020). Programa Wikipédia na Universidade: meta-análise dos cursos da comunidade lusófona entre 2011 e 2018. *Journal Indagatio Didactica, 12*(3), 245-264.

Pinto, J., Cardoso, T., & Pestana, F. (2019). Competência Digitais, Qualificação e Empregabilidade: Mapeamento dos documentos em Português com acesso aberto indexados no RCAAP em repositórios portugueses. *Em Revista de Educação a Distância e Elearning – RE@D, 2*(1), 26-45.