

Academic impact and perceived value of *Wikipedia* as a primary learning resource in higher education

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Abstract

Wikipedia is an open educational resource whose frequency of use and importance in higher education are growing. However, empirical evidence about *Wikipedia*'s contribution to students' academic performance is scant and many higher education actors express concern regarding its value. By applying a combined theoretical and empirical approach, we examine the impact of *Wikipedia* as a primary learning resource on both students' academic performance and the perceived value of *Wikipedia*. Based on an experimental research design conducted with 2,330 university students, we show that the primary use of *Wikipedia* in combination with conventional learning resources has a positive effect on students' academic performance. Furthermore, the students' perceived value of *Wikipedia* is positive and, generally, not influenced by individual academic performance.

Keywords

Wikipedia; Academic performance; Perceived value; Higher education; Open education resources.

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3. Methodology

3.1. Participants and design

The participants were 2,330 university students who took part in the experiment. We manipulated the primary use of *Wikipedia* (using *Wikipedia* versus not using *Wikipedia*) in a 4 × 2 between-course discipline design. The conditions were derived by combining undergraduate courses in four disciplines (Consumer Behaviour, Human Resources, Marketing and Statistics) with tasks and activities divided into two groups, whereby one group used *Wikipedia* as a primary learning resource and the other did not.

3.2. Stimulus and procedure

All participants were students enrolled in bachelor's programmes in business administration, tourism or marketing at a fully-online European university. They were taking a course in one of the four selected disciplinary groups (i.e. Consumer Behaviour, Human Resources, Marketing or Statistics), which were all in the curriculum of their bachelor's programmes. In each course, participants were instructed to complete five assignments and take a final exam to earn course credit.

Participants in the non-*Wikipedia* condition were not specifically asked to use *Wikipedia* to prepare their assignments (i.e. the lecturers explicitly mentioned only conventional didactic materials to be used); whereas students in the *Wikipedia* condition had to perform two out of five assignments by using *Wikipedia* along with other core learning resources (e.g. e-books, business cases, conventional articles and computer simulators). The assignments that required the use of *Wikipedia* were uniform across the four courses and consisted in comparing a specific *Wikipedia* article with the conventional didactic materials used in the course. Each *Wikipedia* article had been previously selected by the corresponding course lecturer or lecturers, and addressed the main topics, issues or problems tackled in the assessment.

Table 1. Student distribution

Course discipline	Using <i>Wikipedia</i>	Not using <i>Wikipedia</i>
Consumer Behaviour	290	235
Human Resources	510	479
Marketing	44	38
Statistics	388	346
Total	1,232	1,098

Note that the sample of Marketing students was substantially smaller than the sample of students in other majors.

"Marks" means grades. Note that students in all majors performed better if they were allowed to use *Wikipedia*.

Table 3. Influence of *Wikipedia* use on overall final marks and across course disciplines

	Mark	t-test	Course discipline	Mark	Difference	t-test
Using <i>Wikipedia</i>	6.846	12.759*	Consumer Behaviour	6.885	+0.904	9.223*
			Human Resources	7.117	+0.705	8.120*
			Marketing	7.620	+0.407	2.250**
			Statistics	6.378	+0.634	5.828*
Not using <i>Wikipedia</i>	6.130		Consumer Behaviour	5.981		
			Human Resources	6.412		
			Marketing	7.213		
			Statistics	5.744		