



Developing and maintaining a website for teaching and learning about intelligence ☆



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ABSTRACT

This article describes the development of the website *Human Intelligence: Historical Influences, Current Controversies, Teaching Resources* (<http://www.intelltheory.com/>). Organized historically, the site is a “living text” that can be used flexibly as a pedagogical resource in stand-alone courses focusing on intelligence, or as a supplemental resource in undergraduate and graduate-level psychology, education, and philosophy courses covering intelligence. Site resources include: an interactive map demonstrating the chains of influence among theorists and researchers, biographical profiles of prominent individuals who have contributed to the development of intelligence theory and testing, in-depth articles exploring important controversies related to intelligence, and sample course syllabi. Site usage data suggest that intelligence is being taught in U.S. high schools and universities in several countries around the world.

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1. Introduction

The history of intelligence research, theory, and application mirrors the growth of psychology as a discipline and, not coincidentally, includes many colorful individuals and anecdotes. Yet in our experience teaching intelligence, beginning in the mid-1990s, most students believed the topic to be dry and boring. In an effort to capitalize on the rich and fascinating history of intelligence, we created *Human Intelligence:*

Historical Influences, Current Controversies, Teaching Resources (<http://www.intelltheory.org/>), a website to guide the study of intelligence.

Organized based on learning and cognitive science research about how people interact with information (in both traditional print-based and technological forms), the site is meant to be a “living text” that can be used flexibly as a pedagogical resource in stand-alone courses focusing on intelligence, or as a supplemental resource in undergraduate and graduate-level psychology, education, and philosophy courses covering intelligence. The purpose of this article is to describe the development of the site and suggest how it may be used to facilitate teaching and learning about intelligence.

2. Components of the website

2.1. Interactive Map

This thematic figure was created to help students understand the numerous, complex themes that run through the history of intelligence theory, testing, and research. It was created by the first author as a course project during his

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master's degree studies to provide a figural depiction of the complex interactions and influences among major thinkers in the field. The initial selection of individuals for the Map was accomplished through a survey of the major reference works on the history of intelligence (e.g., Benjamin, 1988; Carroll, 1982; Fancher, 1985; Gould, 1981; Weinberg, 1989). This initial pool of scholars was further developed through close examinations of biographies (Hearnshaw, 1979; Karier, 1986; O'Connell & Russo, 1990; Ross, 1991; Seagoe, 1976; Woodworth, 1973; Zusne, 1975), autobiographies (Anastasi, 1972; Boring, Langfeld, Werner, & Yerkes, 1952; Eysenck, 1977; Guilford, 1967; Inhelder, 1989; Krawiec, 1974; Lindzey, 1980; Murchison, 1930, 1932, 1936), obituaries (Comrey, Michael, & Fruchter, 1988; Elkind, 1981; Gough, 1980; Haywood, 1992; Jensen, 1989; Lubinski, 2013; Matarazzo, 1981), historical analyses of psychology and the behavioral sciences (Joynson, 1989; Puccio, 1991; Taylor, 1980; Von Mayrhauser, 1989), and original sources (e.g., Burt, 1949; Goddard, 1912; Horn & Cattell, 1966; Intelligence, 1921; Spearman, 1904; Thurstone, 1938; Wissler, 1901). After the Map began to approach its current form, prominent living scholars who had been selected for inclusion were contacted for their feedback and constructive criticism.

In most cases, reliance on a variety of sources provided a check and balance for the Map structure. As a result, questionable connections could be verified or rejected. For example, G. Stanley Hall was never shy about being a former student of Wundt, but most third party accounts describe their interactions at Wundt's Leipzig laboratory as being minimal and insignificant. Likewise, one eminent researcher questioned our assertion that one scholar influenced another, noting that "The two of them never agreed on anything." Yet when we returned to the research, we noted that the younger scholar cited the older over a dozen times in his seminal work, primarily to contrast their approaches to the topic – no one said influence is purely positive! Over time, we essentially became historians of the psychology of intelligence. We see this as a positive development, because a strength of teaching the topic are the wonderful stories that can be told and shared with students, and taking a primarily historical approach to our work with intelligence has made us better teachers of the topic to our own students.

The current map is not meant to be definitive. Any subjective listing of important historical figures is bound to generate some controversy, and this map is not an exception. One member of the "intelligence family tree" (who has since passed away) once told us – in strong terms – that only eight or nine of the included individuals made any contribution to intelligence theory or research, and the rest simply were not important. Another researcher suggested that individuals who made significant contributions to statistical methodology should be placed in the Map. Given the importance of statistical advances to the study of intelligence (and to social science more generally), several individuals who made primarily statistical contributions are listed on the Map (e.g., LaPlace, Gauss, and Pearson), but due to space considerations, several dozens of their counterparts are not included. Similarly, the influence of Piaget on succeeding generations of developmental psychologists is widely acknowledged, but the inclusion of these individuals would have been logistically impossible. When we have used the Map to teach graduate level courses,

these controversies have been used to initiate productive discussions as to why some individuals, and not others, were included. A Spanish version of the Map was created by colleagues in Spain and is also available on the site (http://www.intelltheory.com/images/figura_2.6.jpg), and a Portuguese version is in development by colleagues in Portugal.

2.1.1. Time periods

In order to provide an overarching structure to the relationships and help students gain an appreciation for the dominant paradigms, the Map was overlaid with six distinct time periods: Historical Foundations, a period of several thousand years in which philosophy laid the foundation for the modern social sciences; Modern Foundations, marked by the emergence of psychology from philosophy; the Great Schools period, when the first European and later American psychology laboratories trained the first significant waves of professional psychologists; the subsequent period of the Great Schools' influence on the study of intelligence; Contemporary Explorations, the period including the second world war and the following three decades; and Current Efforts, when criticisms of psychometrics and the growing availability of relatively inexpensive computer analyses influenced (and are still influencing) the study of intelligence, albeit in very different ways. These rough categories are meant solely to be guides, not rigid barriers. Although these time periods have met their stated objectives (i.e., they facilitated students' understanding of dominant themes in the study of intelligence), we anticipate making changes to align with new directions in the field. For example, the Current Efforts period will eventually be relabeled Tensions and Reconceptualizations, with a new, seventh era referred to as Current Efforts.

2.2. Biographical Profiles

Another feature of the site is a set of approximately 80 biographical profiles of prominent intelligence researchers and other eminent individuals who have contributed to the development of intelligence theory and testing. Source material and criteria for inclusion in these profiles are the same as with the *Interactive Map*. They can be accessed through a time-period index, an alphabetical index, or through links on the Map. Providing multiple pathways for interacting with the information was done deliberately and was influenced by research suggesting that people prefer to interact with information in different ways (e.g., Duit & Treagust, 1998; Hoque & Lohse, 1999; Jones, Ravid, & Rafaeli, 2004; Reeves & Reeves, 1997; Xiang & Gretzel, 2010). Rather than provide, for example, only the Map as the entry point to the site content, someone may prefer the alphabetical index. And the predominance of search engines such as Google for finding information often means that people will enter the site on a specific page (e.g., after searching for Piaget or the Flynn Effect and being directed to the site's page on that person or topic) then explore other aspects of the site when they realize the targeted page is part of a much larger, richer resource.

An important undertaking over the last decade has been to expand the profiles so that prominent living researchers are represented in greater numbers. An early criticism of the site was that it was too historical and lacked profiles of some major, contemporary scholars; many profiles have been added

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