



Argumentative writing and academic achievement: A longitudinal study



David D. Preiss^{a,*}, Juan Carlos Castillo^a, Elena L. Grigorenko^b, Jorge Manzi^a

^a Escuela de Psicología, MIDE UC Measurement Center, Pontificia Universidad Católica de Chile, Chile

^b Child Study Center, Department of Epidemiology and Public Health, Department of Psychology, Yale University, USA

ARTICLE INFO

Article history:

Received 15 March 2012

Received in revised form 31 October 2012

Accepted 22 December 2012

Keywords:

Writing
Writing assessment
University admissions
High-stakes testing
Academic achievement

ABSTRACT

Capitalizing on the implementation of a writing assessment initiative implemented at a major Chilean university, we test how predictive writing is of subsequent academic achievement. First, using a multilevel analytic approach ($n = 2597$), the study shows that, after controlling for socio-demographic variables and the university admission tests, writing skills significantly predict first-year university grades. Second, using information about the performance of students during their first eight semesters in the university ($n = 1616$), a longitudinal hierarchical analysis showed that writing remains a significant predictor of university grades over time, also after controlling socio-demographic variables and university admissions tests. Moreover, language skills retain or improve their predictive role over time, whereas mathematics skills seem to decrease in their importance. Our results show that writing, and the cognitive skills involved in writing, play a critical role in advanced stages of academic training, consequently offering additional support for the consideration of this ability for university admission purposes.

© 2013 Elsevier Inc. All rights reserved.

1. Introduction

Currently there is a growing interest in the inclusion of alternative assessments to the conventional ones used in university admission processes (Atkinson & Geiser, 2009; Kyllonen, 2012; Manzi, Flotts, & Preiss, 2012; Stemler, 2012; Sternberg, 2004, 2010). In this context, writing assessment has taken a prominent place as an additional high stakes measure. Part of this interest originates in a concern for the quality of writing high-school graduates and university level students are capable of producing (Kellogg & Raulerson, 2007; Kellogg & Whiteford, 2009; Lee & Stankov, 2012; Manzi et al., 2012; The National Commission on Writing in America's schools and colleges, 2003). Thus, several North American university admission tests such as the GRE, SAT and ACT¹ incorporated writing measures (Jeffery, 2009; Norris, Oppler, Kuang, Day, & Adams, 2004). The analytical part of the GRE was transformed in a writing assessment that

evaluates both critical thinking and analytical writing skills; the SAT has a section assessing writing by means of a short essay; the ACT has an optional section assessing students' level of understanding of the conventions of standard written English as well as their ability to produce text.

In Chile, where this study was carried out, high stakes writing assessment has never been implemented. Yet a growing awareness of entry-level university students' deficits in writing has prompted higher education institutions to develop writing assessment initiatives, although they do not play a role in admissions yet. Specifically, in 2003, the Pontificia Universidad Católica de Chile developed a test of argumentative writing: The Writing Communication Test (WCT) (Manzi et al., 2012). The WCT differs from the abovementioned American examinations in two critical dimensions. On the one hand, it is a test that is taken once the student has been accepted to his or her undergraduate programs —i.e., the test does not play a role in admission decisions. Yet, it is still a high-stakes test since taking and passing the test is a graduation requirement. Indeed, the score obtained in the test is used as a criterion to determine whether the student must or must not attend additional classes to improve his or her writing communication skills (hereafter, WCS). On the other hand, the test uses an analytic rubric that assigns independent scores for several dimensions of the essay. In the study reported in this paper, we evaluate how predictive WCT scores are of subsequent academic achievement during students' undergraduate education.

Large-scale assessment of WCS has many educational advantages. First, it has an impact on teaching and learning, as educational systems are more likely to teach what is finally assessed (Grigorenko, Jarvin, Nui, & Preiss, 2008; Sternberg, 2010). Second, it informs public

* Corresponding author at: Escuela de Psicología, Pontificia Universidad Católica de Chile, Av. Vicuña Mackenna - 4860. Macul, Santiago 7820436, Chile. Tel.: +56 2 3544605; fax: +56 2 3544844.

E-mail addresses: davidpreiss@uc.cl, davidpreiss@gmail.com (D.D. Preiss).

¹ The GRE (Graduate Record Examinations) is a standardized test created and administered by the Educational Testing Service (ETS). It has three subtests in verbal reasoning, quantitative reasoning and analytical writing. The GRE is required as an admission requirement for graduate or business school in the United States and in some other English speaking countries. The SAT is a standardized assessment of critical reading, mathematical reasoning, and writing skills administered by the College Board and used for college placement in the USA. The ACT is a curriculum- and standards-based standardized test administered by ACT Inc., which works as an alternative to the SAT. It has subtests in English, Mathematics, Reading, and Science Reasoning as well as an optional writing test.

policy and decision-making processes targeting the development of writing within the educational system. Moreover, writing assessment has a broad appeal because it has some attributes that make it distinguishable from other assessment tools (O'Neill, Moore, & Huot, 2009; Powers, Fowles, & Willard, 1994). In fact, writing tests are commonly labeled as *direct writing assessment* (hereafter, DWA) since the skills that are the target of measurement are assessed directly. In contrast to multiple-choice tests, which measure latent constructs, DWA does not measure a latent ability. Provided that measurement standards are established precisely, writing abilities can be assessed in a straightforward way.

DWA involves relevant assessment challenges, which include those related to the generation of writing prompts, the definition of the construct, and the rating process (Manzi et al., 2012). Because topic knowledge affects text quality (McCutchen, Teske, & Bankston, 2008), a bad choice of a thematic prompt may bias the measurement process by giving a relative advantage to a group more versed on the topic, independently of its writing abilities. In addition to different topics, when generating the writing prompt, test designers may opt between different genres: the narrative, descriptive, argumentative, and expository genres are those most commonly mentioned. The option for a specific genre has an impact on writing performance and the scoring process (Beck & Jeffery, 2007; Kellogg & Whiteford, 2012; Lee & Stankov, 2012). Writing argumentative and expository text is more cognitively demanding than writing narrative and descriptive text (Weigle, 2002). Because of its relevance in academic discourse, the argumentative genre has been one of the most favored genres in writing assessment. Additionally, benchmarks to assess the written products must be aligned to the genre demanded by the test prompts. This is not always the case. Beck and Jeffery (2007) assessed the genre demands related to writing examinations existing in the three most populated American states and found that the benchmarks used were not aligned to the type of genre stimulated by the prompts and, consequently, the examinations faced several validity issues. Last but not least, there are challenges related to the definition of the construct, which materialize at the moment of setting up the rubrics used to assess the writing samples.

The composition literature distinguishes three types of rating scales: primary trait scales, holistic scales and analytic scales (Lee & Stankov, 2012; Weigle, 2002). The option for any of these procedures involves an implicit definition of what quality writing is. Primary trait assessment involves the identification of one or more primary traits relevant for a specific writing task and related to its purpose, assignment and audience. Holistic assessment is based on the overall impression the rater has about the written product. This impression is based on a scoring rubric that is complemented by benchmarks. This scoring strategy guides the writing assessment made for the National Assessment of Educational Progress (Lee & Stankov, 2012). Although holistic scoring is a practical option, it does not allow diagnosing strengths and weaknesses in writing (Weigle, 2002). More detailed information about writing is provided by analytical assessment. It involves assessing different features relevant for good writing. Some analytical scales weight these attributes, so certain attributes are considered more relevant (e.g., the global organization of the text) and have a larger weight in the final score than others (e.g., orthography). Besides its utility in providing a more detailed profile of students' writing, analytical scoring is more instrumental in rater training as it provides inexperienced raters with more specific guidelines about the assessed construct (Weigle, 2002).

The use of writing measures has allowed researchers to start assessing how predictive writing is of subsequent academic success. Recent studies show that the ability to produce good argumentative text is the best predictor of academic success during the first year of the university (Geiser & Studley, 2002; Kobrin, Patterson, Shaw, Mattern, & Barbuti, 2008). Specifically, a study which explored discrepant SAT Critical Reading and Writing Scores found, after controlling for

student characteristics and prior academic performance, that students who had relatively higher writing scores, as compared with their critical reading scores, obtained higher grades in their first year of college and in their first-year English course (Shaw, Mattern, & Patterson, 2011). In Chile, the only evidence available concerning the predictive value of writing assessments is related to the test described here. Specifically, for the 2008 round of assessment, WCT performance was positively correlated to academic achievement in most undergraduate programs at the Pontificia Universidad Católica de Chile with an average correlation of .12 (Manzi et al., 2012). Studies assessing how predictive writing is beyond the first year at the university are scarce. Here, capitalizing on the implementation of the Chilean assessment, we intend to address that issue by assessing how predictive WCT scores are of academic achievement during the students' subsequent eight semesters of university study.

2. Methods

2.1. Sample

Data from the Pontificia Universidad Católica de Chile's 2007 freshmen cohort of students were analyzed in this study. Students entering the university graduated from three different types of high schools: some of them graduated from schools entirely funded by the State (public schools), some others graduated from schools that are privately managed but receive public funding and, in many cases, charge the parents an additional fee (voucher schools), and some others from entirely private schools. In Chile, the school of origin is a proxy of the socioeconomic background of the families: students from more affluent families go to private institutions whereas those from disadvantaged backgrounds go to public institutions (Drago & Paredes, 2011; Elacqua, Schneider, & Buckley, 2006). Although voucher schools as a whole recruit a relatively diverse pool of students, there are significant socioeconomic gaps between voucher schools as they select their students depending upon their educational and financial goals (Mizala & Torche, 2012). A large part of the students participating in the study were undergoing professional training as in the Chilean university system the majority of the students enroll in professional programs directly, that is, professional training is part of the core of their undergraduate curriculum. Table 3 summarizes the background information for the sample.

The students were automatically registered to take the WCT when enrolling for their courses and were recruited by their respective academic units. Students were expected to take the test during their first year, although they were given the opportunity of taking the test two more times during their studies. From the 3760 students enrolled in 2007, 2879 (76.56%) took the test during their first year. Missing data were handled in the analysis by means of listwise deletion. For the cross sectional multilevel estimation, which was made on all the students having data available at the end of their first year of studies, the final sample was 2597. For the longitudinal estimation, which was made on all the students enrolled in programs that had at least 15 students who had completed their fourth year of studies by the second term of 2010, the number of participants was 1616.

2.2. Measures and procedures

2.2.1. The Written Communication Test

The WCT presented the students with three topics and asked them to produce a 2-page essay on a theme of their preference, among three possible alternatives. These themes were related to issues of general interest, excluding themes related to specific disciplines to avoid possible biases. The topics were presented as an opinion that could be challenged or defended by the student. An example of the proposed themes is the following: *Some people think that freedom of speech, or of the press, is an essential value that is severely damaged*

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات