

Professional products of L1 and L2 higher education literacy – a review of the literature on research productivity

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Abstract

One of the principal reasons for developing academic literacy in higher education is to participate in the wider professional community. This participation takes the form of research and the publication of those results in national and international journals. For most academic disciplines publication of research is one of the central benchmarks of professional development. Professional identity, recognition, promotion, various forms of remuneration, job advancement, personal reward, and numerous other benefits come to higher education staff members when they have high levels of academic research production. This review of the literature on academic research production sought to find what the literature has identified as variables associated with high levels of research productivity. These variables generally fall into three broad areas: environmental factors, personal factors, and the processes associated with feedback and processes. The literature associated with these variables is explored in this article.

Resumen

Una de las razones principales para el desarrollo de la alfabetización académica en la educación superior es participar en la comunidad profesional. Esta participación toma la forma de la investigación y la publicación de los resultados en revistas nacionales e internacionales. Para disciplinas académicas más la publicación de la investigación es uno de los puntos de referencia centrales de desarrollo profesional. Identidad profesional, reconocimiento, promoción, diversas formas de remuneración, adelanto de trabajo, recompensa personal y numerosos otros beneficios llegará al personal de educación superior tienen altos niveles de producción de investigación académica. Esta revisión de la literatura sobre la producción de investigación académica intentó identificar lo que la literatura ha identificado como variables asociadas con altos niveles de productividad de la investigación. Estas variables generalmente caen en tres grandes áreas: factores ambientales, factores personales y los procesos asociados con procesos y retroalimentación. La literatura asociada con estos variables es explorada en este artículo.

Introduction

One of the principal reasons for developing L1 and L2 academic literacy in higher education is to participate in the wider professional community. This participation mainly takes the form of research and the publication of those results in national and international journals. For most academic disciplines publication of research is one of the central benchmarks of professional development. Professional identity, recognition, promotion, various forms of remuneration, job advancement, personal reward, and numerous other benefits come to higher education staff members when they have high levels of academic research production. Despite the many advantages of engaging in research and research publication, the majority of

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academics in higher education do not have high levels of research productivity. Among EFL teachers on a national level (Ramirez, 2007) and on international levels involvement of this kind is typically underdeveloped (see, *e.g.*, Borg, 2007) despite the importance attached to it in the professional literature (*e.g.*, Mann, 2005) and by teachers' parent institutions.

Within applied linguistics, the literature on research productivity by ELT personnel has been characterized historically and primarily by a series of exhortations to teachers to participate in research activity, mainly in the form of practitioner research (see, *e.g.*, Edge & Richards, 1993; Freeman & Johnson, 1998; Gebhard, 1996; Nunan & Lamb, 1996; Richards & Lockhart, 1996; Schachter & Gass, 1996). More recently, however, there have been a handful of studies, chiefly by Borg (2007), concerned mostly with surveying to what extent ELT practitioners in various kinds of institutions claim to involve themselves in research activity, what conceptions they have of what counts as "research" and so on.

What is largely missing in this literature, however, are studies which endeavor to go beyond descriptions of the current situation to begin to approach an understanding of the lack of participation in research activity on the part of ELT personnel. To understand the issue of research productivity it is necessary to look at the literature on the topic that lies beyond ELT.

These types of issues associated with academic literacy, lead to concern for the quality of preparation of the next generation of language teachers. Will research activity be part of their professional lives if they are perhaps lacking in their pre-service years adequate research preparation and researcher role models? Understanding academic research productivity in professionals could lead to interventions targeted at encouraging a higher level of research participation among language academic staff. The first step is understanding the wider literature on this topic (Keranen, 2008).

The wider literature

The wider literature, from beyond applied linguistics, shows the issue of university teachers' involvement (or lack of it) in research activity to be a complex matter in terms of the range of variables involved (see, *e.g.*, Barnett, 1992; Breen & Lindsay, 1999; Brew, 1999; Campbell, McNamara & Gilroy, 2004; Coate, Barnett & Williams, 2001; Jenkins, 2000; Neumann, 1992; Ramsden & Moses, 1992; Schachter & Gass, 1996; Schön, 1983; 1987; Vidal & Quintanilla, 2000; Williams, 2003).

By far the majority of subjects of these research productivity studies have been faculty members in the 'hard' sciences (*e.g.* physics and mathematics). A few studies have involved comparisons across disciplines (*e.g.* Blackburn, et al., 1991; Dundar & Lewis, 1998; Ramsden, 1994; Teodorescu, 2000). Many have been correlational, attempting to identify factors that are associated with research productivity (as comprehensively reviewed in Williams, 2003). Some studies have approached research productivity from a theoretical perspective in order to explain

causation (e.g. Blackburn, *et al.*, 1991; Bayer & Dutton, 1977; Dundar & Lewis, 1998; Ramsden, 1994; Bland, *et al.*, 2002; 2005; Tien & Blackburn, 1996).

However, almost all such studies from the past three decades have acknowledged that research productivity is associated with three major groupings of variables: *environmental factors*, *personal or individual factors*, and *feedback processes*.

Environmental factors and research productivity

The first group is concerned with variables related to the *research environment*, *i.e.*, the institutional and other variables that are seen to influence the researcher within and outside of the context where the research activity occurs – see *inter alia* Blackburn, *et al.*, 1991; Bland, *et al.*, 2002; Dundar & Lewis, 1998; Lee, 2004; Porter & Umbach, 2000; Rey-Rocha, *et al.*, 2007. The most common environmental variables identified and studied in the research productivity literature include, for example, variables related to graduate school (research socialization), prestige of department or institution, collegiality, collaboration, and research groups. Some research productivity studies claim that environmental variables are the most important determiners of research productivity (e.g., Bland, *et al.*, 2002; 2005; Dundar & Lewis, 1998; Smeby & Try, 2005). Any research productivity studies looking at environmental factors such as prestige of department or institution, collegiality, collaboration, and research groups should probably consider their relative influence on research productivity in the light of postmodernist interpretations, *i.e.*, that the interaction between the individual and her or his environment is a matter of ongoing interpretation, based on individual characteristics and personal histories, and subject to dynamic and negotiated processes involving all the parties concerned (Grbich, 1998).

Personal factors and research productivity

The second main set of variables identified in the literature on research productivity are those relating to the *characteristics of the individual researcher*, *i.e.*, variables related to personality, demographic background, gender, age, and so on (see *inter alia* Barjak, 2006; Blackburn, *et al.*, 1978; Burke & James, 2005; Fox, 1983; Grbich, 1998; Smeby & Try, 2005). In contradiction to claims that environmental variables are the most important determiners of research productivity, Teodorescu (2000) reviews six studies on factors contributing to research productivity (Wanner, Lewis, & Gregorio, 1981; Finkelstein, 1984; Fox, 1985; Creswell, 1985; Waworuntu, 1986; McGee & Ford, 1987 as cited in Teodorescu, 2000) and concludes the studies unanimously indicate that individual class variables “tend to weigh more in predicting productivity than institutional [environmental] influences” (Teodorescu, 2000, p. 204).

Individual variables of research productivity tend to fall into two distinct categories: i) psychological characteristics, e.g., cognitive and emotional characteristics, perceptive styles, personality traits, biographical background, and ii) demographic characteristics, e.g., age, gender, and race and ethnicity.

Fox (1983) identifies two principal criticisms of studies of research productivity in terms of individual psychological factors. Firstly, as she notes (Fox, *ibid*, p. 288), the subjects of many of the studies have been scientists, and “scientists are a highly trained and rigorously selected élite.” Therefore, she argues, all scientists must possess a certain degree of intelligence, talent, and ability related to their work. Thus, studies looking only at individual characteristics cannot fully explain the observed variability in research productivity among such a population. In other words, according to this view, variation in research productivity cannot be a product of only psychological characteristics. Secondly, she argues that personality traits and creativity are also social products. The effects of institutional and social contexts must therefore also be included in any account of the psychology of the individual researcher.

Demographic characteristics

Studies that look at demographic characteristics of research productivity have also been seen as containing shortcomings. The most common criticism is related to the research design. Many studies examining demographic variables are cross-sectional and therefore are unable to account for other cohort effects related to the passing of time (Levin & Stephan, 1991). Gonzales-Brambila and Veloso (2007) also note that published studies of research productivity of this kind vary from one another in terms of methodologies, sample sizes, length of the studies, and in their identified limitations. This lack of uniformity makes it difficult to identify any consistent set of variables that contribute to or explain research productivity in terms of demographic characteristics. Gonzales-Brambila and Veloso (2007) also report that most of the published studies on research productivity of this type occurred before the 1990’s, and therefore do not take into account the vast changes in the ‘pressure to publish’ and the vast increase in the number of journals that has occurred in the past 20 years. They also claim that all of the published studies of this nature have been conducted in developed nations rather than in developing countries. It has not been established whether those same variables are seen to be associated with research productivity in developing nations.

Research productivity and feedback processes

The third main group of variables identified in this literature is concerned with *feedback processes*, *i.e.*, processes that tend to sustain research productivity or reward research productivity - see Fox’s (1983) oft-cited review of research productivity studies. Two main feedback processes are distinguished, *viz.*, “cumulative advantage theory” and “reinforcement theory”. The former proposes that early research productivity leads to later research productivity. In other words, academics who achieve an early and high level of research productivity can later acquire the time and resources needed to continue on in the same vein (Fox, 1983). However, a shortcoming of the “cumulative advantage theory” is that it does not take into consideration elements of inequality among young academics.

Differences in “talent, ability, and motivation” as well as promotion policies, allocation of resources, and reward systems make cumulative advantage difficult to test. For example, if resources are awarded based on merit, then research and advancement of knowledge by those in receipt of the resources will most likely proceed apace. If, however, resources are allocated based on factors other than research productivity or scholarly activity, then the pattern of progress is likely to be less straightforward (Fox, 1983, p. 296).

“Reinforcement theory” is based on behaviorism (Skinner, 1938), which (*inter alia*) hypothesizes that behavior that is rewarded continues while behavior that is not rewarded ceases. Several studies have attempted to explain research productivity based on this theory, *i.e.*, seeking to understand the motivating effects of rewards on faculty research productivity (*e.g.*, Tien & Blackburn, 1999; Tien, 2000; Tien, 2007). A criticism of reinforcement theory is that it is hard to demonstrate its effect (Fox, 1983). Because of the complex social factors surrounding research productivity, it is difficult to tease apart what factors are reinforcing behavior and what factors are inhibiting it. The promise of various forms of pecuniary rewards for engaging in a particular behavior also ignores any motivational factors based on intrinsic elements within the psychology of the individual researcher. There are also, of course, the well-established general limitations of behaviorism as a model of behavior and learning (see, *e.g.*, Chomsky, 1959).

Conclusion

Despite the large numbers of studies of the kind that have been reviewed, uncertainty remains about the relative influence of individual versus environmental variables on engagement in research productivity (Burke & James, 2005), as well as the role played by feedback processes (Huber, 2002). Nevertheless, in overall terms, the above review also indicates that, while no one set of explanations is likely to be adequate on its own, if further light is to be thrown on academic research productivity, it will occur via research based on taking into account the influences of a combination of environmental as well as individual variables, and the way in which they may be moderated by the effects of feedback processes (Ramsden, 1994).

Among the potential individual variables at play, the personal beliefs, conceptions, and definitions in the minds of teachers of what constitutes research are, of course, constructs which can and have been considered when attempting to understand research engagement. Thus, there is an extant (albeit limited) body of research on teachers’ conceptualization of “research”, both from outside ELT (*e.g.*, Gilley, 2006) and within it (*e.g.*, Borg, 2007). To take into account this aspect in any study seeking to understand research productivity study would be valuable.

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References

- Barnett, R. (1992). Linking teaching and research: A critical inquiry. *Journal of Higher Education*, 63(6), pp. 619-636.
- Barjak, F. (2006). Research productivity in the internet era. *Scientometrics*, 68(3), 343-360.
- Bayer, A. E., & Dutton, J. E. (1977). Career age and research-professional activities of academic scientists: Tests of alternative non-linear models and some implications for higher education faculty policies. *The Journal of Higher Education*, 48(3), 259-282.
- Blackburn, R.T., Bieber, J.P., Lawrence, J.H., & Trautvetter, L. (1991). Faculty at work: focus on research, scholarship and service. *Research in Higher Education*, 32, 385-413.
- Bland, C. J., Center, B. A., Finstad, B. A., Risbey, K. R., & Staples, J. G. (2005). A theoretical, practical, predictive model of faculty and departmental research productivity. *Academic Medicine*, 80(3), 225-237.
- Bland, C. J., Seaquist, E., Pacala, J. T., Center, B., Finstad, D. (2002). One school's strategy to assess and improve the vitality of its faculty. *Academic Medicine*, 77(5), 368-376.
- Borg, S. (2007). Understanding what teachers think about research. *The Teacher Trainer*, 21, 2-4.
- Breen, R. & Lindsay, R. (1999). Academic research and student motivation. *Studies in Higher Education*, 24(1), pp. 75-93.
- Brew, A. (1999). Research and teaching: changing relationships in a changing context. *Studies in Higher Education*, 24(3), pp. 291-301.
- Burke, L. A., & James, K. E. (2005). An empirical investigation of faculty research productivity and implications for practice. *International Journal of Management Practice*, 1(2), 109-130.
- Campbell, A., McNamara, O., & Gilroy, P. (2004). *Practitioner Research and Professional Development in Education*. London: Paul Chapman Publishing.
- Chomsky, N. (1959). A review of B. F. Skinner's verbal behavior. *Language*, 35(1), 26-58.
- Coate, K., Barnett, R., & Williams, G. (2001). Relationships between teaching and research in higher education in England. *Higher Education Quarterly*, 55(2), pp. 158-174.
- Dundar, H., & Lewis, D. R. (1998). Determinants of research productivity in higher education. *Research in Higher Education*, 39(6), 607-631.
- Edge, J., & Richards, K. (1993). *Teachers develop teachers research*. Oxford: Heinemann.
- Fox, M. F. (1983). Publication productivity among scientists: A critical review. *Social Studies of Science*, 13, 285-305.
- Freeman, D. & Johnson, K. E. (1998). Reconceptualizing the knowledge-base of language teacher education. *TESOL Quarterly*, 32(3), 397-417.
- Gebhard, J. (1996). *Teaching English as a foreign or second language: a teacher self-development and methodology guide*. Ann Arbor, MI: University of Michigan Press.
- Gilley, J. W. (2006). Research: The bridge between human resource development practitioners and scholars. *Human Resource Development Quarterly*, 17(3), 235-244.
- Gonzalez-Brambila, C., & Veloso, F. M. (2007). The determinants of research output and impact: A study of Mexican researchers. *Research Policy*, 36, 1035-1051.
- Grbich, C. (1998). The academic researcher: Socialisation in settings previously dominated by teaching. *Higher Education*, 36, 67-85.
- Huber, J. C., (2002). A new model that generates Lotka's Law. *Journal of the American Society for Information Science and Technology*, 53(3), 209-219.
- Jenkins, A. (2000). The relationship between teaching and research: where does geography stand and deliver? *Journal of Geography in Higher Education*, 24(3), pp. 325-351.
- Keranen, N. S. (2008). A multi-theoretical mixed-methods approach to investigating research engagement by university ELT staff. *Unpublished doctoral thesis*. Lancaster University, Lancaster, United Kingdom, 4 Nov 2008.
- Lee, S. (2004). What happens after career's first research grant? Assessing the impact of research grants on collaboration and publishing productivity in the early career of scientists. Paper presented at the 2004 RVM Conference, GCATT Building, Atlanta March 26, 2004 .

- Levin, S. G., & Stephan, P. E. (1991). Research productivity over the life cycle: Evidence for academic scientists. *The American Economic Review*, 81(1), 114-132.
- Mann, S. (2005). The language teacher's development. *Language Teacher*, 38, 103-118.
- Neumann, R. (1992). Perceptions of the teaching-research nexus: a framework for analysis. *Higher Education*, 23, pp. 157-171.
- Nunan, D. & Lamb, C. (1996). *The self-directed teacher: managing the learning process*. Cambridge: Cambridge University Press.
- Porter, S. R., & Umbach, P. (2000). Analyzing faculty workload data using multilevel modeling. *Paper presented at the 40th Annual Association of Institutional Research Forum, Cincinnati, Ohio, May 21-24, 2000*.
- Ramsden, P. (1994). Describing and explaining research productivity. *Higher Education*, 28, 207-226.
- Rey-Rocha, J., Garzón-García, M., & Martín-Sempere, M. J. (2007). Exploring social integration as a determinant of research activity, performance and prestige of scientists. Empirical evidence in the biology and bioscience field. *Scientometrics*, 72(1), 59-80.
- Ramsden, P. & Moses, I. (1992). Associations between research and teaching in Australian higher education. *Higher Education*, 23, pp. 273-295.
- Ramírez Romero, J. L. (2007). *Las investigaciones sobre la enseñanza y el aprendizaje de lenguas extranjeras en México*. México D.F.: Plaza y Valdés.
- Richards, J. & C. Lockhart (1994). *Reflective teaching in second language classrooms*. Cambridge: Cambridge University Press.
- Schachter, J., & Gass, S. (Eds.) (1996). *Second Language Classroom Research: Issues and Opportunities*. Mahwah, N.J.: Lawrence Erlbaum Associates, Publishers.
- Schön, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. USA: Basic Books.
- Schön, D. (1987). *Educating the Reflective Practitioner*. San Francisco, California: Jossey-Bass.
- Skinner, B. F. (1938). *The Behavior of Organisms: An Experimental Analysis*. New York: Appleton-Century.
- Smeby, J. C., & Try, S. (2005). Departmental contexts and faculty research activity in Norway. *Research in Higher Education*, 46(6), 593-619.
- Teodorescu, D. (2000). Correlates of faculty publication productivity: A cross-national analysis. *Higher Education*, 39, 201-222.
- Tien, F. F. (2000). To what degree does the desire for promotion motivate faculty to perform research? *Research in Higher Education*, 41(6), 723-752.
- Tien, F. F. (2007). To what degree does the promotion system reward faculty research productivity? *British Journal of Sociology of Education*, 28(1), 105-123.
- Tien, F. F., & Blackburn, R. T. (1996). Faculty rank system, research motivation, and faculty research productivity: Measure refinement and theory testing. *The Journal of Higher Education*, 67(1), 2-22.
- Vidal, J., & Quintanilla, M.A. (2000). The teaching and research relationship within an institutional evaluation. *Higher Education*, 40, pp. 217-229.
- Williams, H. A. (2003). *A mediated hierarchical regression analysis of factors related to research productivity of human resource education and workforce development postsecondary faculty*. Unpublished doctoral dissertation, Louisiana State University and Agricultural and Mechanical College, Baton Rouge, Louisiana, United States of America.