

Journal Pre-proof

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PII: S1475-1585(20)30463-X

DOI: <https://doi.org/10.1016/j.jeap.2020.100929>

Reference: JEAP 100929

To appear in: *Journal of English for Academic Purposes*

Received Date: 29 June 2020

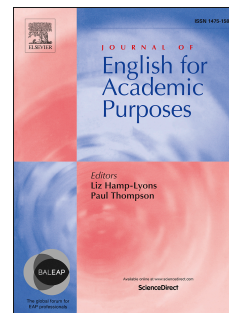
Revised Date: 25 September 2020

Accepted Date: 15 October 2020

Please cite this article as: Hyland, K., Jiang, F.(K.), A bibliometric study of EAP research: who is doing what, where and when?, *Journal of English for Academic Purposes*, <https://doi.org/10.1016/j.jeap.2020.100929>.

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A bibliometric study of EAP research: who is doing what, where and when?

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1. Introduction

English for Academic Purposes (EAP), has, in the last 40 years, emerged from being a peripheral element of the English for specific purposes movement to become an important force in English language teaching and research. Concerning itself with language research and instruction that focuses on the communicative needs and practices of individuals working in academic contexts, its growth has been driven by the global expansion of English. With countless students and academics around the world now needing to gain fluency in the conventions of academic writing and speaking in English to understand their disciplines or successfully navigate their learning or their careers, EAP has become a significant, although often overlooked, aspect of higher education. Importantly, it has also come to provide applied linguistics with a substantial body of research describing the literacies of the academy and how these might best be taught. It is with this body of research, or rather, with its changing preoccupations and predominant sources, we are concerned with in this paper, both as a way of indexing the concerns of the field and of tracking its historical development.

In this study, then, we examine the literature in EAP over the past 40 years (1980-2020) through changes in its research topics, influential publications and authors and geographical sources. Specifically, we set out to answer the following questions:

- (1) What have been the most frequently explored topics and have these changed?
- (2) Which authors have been most influential and have these changed?
- (3) Which publications have been most influential and have these changed?
- (4) Which countries/regions have been most productive in contributing to this research over the period and have these changed?

2. EAP, changing contexts and shifting demands

The term *EAP*, first coined by Tim Johns in 1974 (Jordan, 2002), is defined by Hyland (2018) as:

an approach to language education based on identifying the specific language features, discourse practices, and communicative skills of target academic groups, and which recognizes the subject-matter needs and expertise of learners (2018, pp. 383–384).

It therefore includes a range of activities from designing listening materials to describing the features of academic blogs, and while often characterised as a practical affair, it goes beyond preparing learners for study in English to understanding the kinds of literacy found in the academy. EAP is, then, a branch of applied linguistics, and now consists of a significant body of research.

At its core, EAP is a practitioners' movement, concerned with questions confronting teachers and students in real world contexts. As Ding and Bruce (2017: 53) observe, its role within universities is as a 'specialist, theory- and research-informed branch of English language and literacy education'. But as much as classroom instruction this involves seeking to establish the needs and discourse features required by target groups of learners. There has, then, always been a commitment to research-based language education in EAP, drawing on broad theoretical foundations and the subject-matter expertise of its students. Several book length treatments, for example, point to the rich and growingly diverse coverage of the field (e.g. Ding & Bruce, 2017; Flowerdew & Peacock, 2001) with the recent Routledge EAP Handbook (Hyland & Shaw, 2016), for example, including 45 chapters covering a range of perspectives, conceptions and contexts informing the field. Over time, this drive to uncover the constraints of academic contexts on language use may have come to overshadow a concern for the ways learners can be helped to gain control over these constraints. This is, however, uncertain, and there remains a strong interest in the *application* of research so that research and pedagogy are often conflated.

The growth of research in EAP is a result of two major social changes. The first is the increasing complexity and diversity of EAP contexts. The commercial and globalising forces which have propelled English into every crevice of academic life means that learners now comprise a diverse and heterogeneous group. Practitioners now not only work with undergraduates studying in English as an additional language, but also first language English speakers, secondary and primary students, graduates preparing for their oral defence and academics writing for publication (e.g. Humphrey, 2016; Feak, 2016). An understanding of these students, of language learning, of educational contexts, and of the discourses of the academy is therefore an imperative for teachers.

The second reason for the expansion of research in EAP is the result of a sustained and conscious effort to professionalise the field. The corporatisation of higher education and growing dependence on fee-paying student ‘customers’ has created a mass of teachers around the world tasked with supporting students. These teachers are often working in environments which offer them little respect and fewer resources, with their work treated as a remedial ‘service activity’ on the periphery of university life (Hyland, 2018; Ding & Bruce, 2017). Determined that their expertise be recognised, many practitioners have turned to research, either as consumers or producers, to both satisfy their intellectual curiosity and demonstrate their academic credentials.

EAP, then, has changed over these years, becoming a more theoretically grounded and research-informed enterprise than it was in 1980. The field has come to recognise that the communicative demands of the modern university involve more than controlling linguistic error, managing study time or polishing style. Students, including native English speakers, have to take on new roles and engage with knowledge in new ways when they enter university. They find that they need to write and read unfamiliar genres and participate in novel speech events. So while EAP continues to involve syllabus design, needs analysis and materials development, it has had to respond to the heightened, more complex and highly diversified nature of such demands.

We expect these concerns to be reflected in the research preoccupations of the field. We therefore believe it may be of considerable interest to EAP professionals to know what research topics have been most popular (and so most important) over time and which publications and authors have been most influential. This is partly because such information may help them to become more familiar with the field, to stay current with research trends and to make informed decisions on what research issues to investigate. Equally, however, we believe that this provides an interesting way of mapping the development of the EAP, so offering a picture of a maturing discipline.

3 Methodology

3.1 Approach

The method adopted in this paper is ‘bibliometrics’, an approach which refers to “the application of mathematics and statistical methods’ to the analysis of academic publications” (Pritchard, 1969: 348). Essentially this is a quantitative approach used in library and information sciences to describe patterns of publication within a given field or body of literature. Thus, bibliometrics is behind the Science Citation Index (e.g. Garfield, 2007) and has been used to study the research productivity of individual scholars and countries in the hard and social sciences (Ma et al, 2014; Liu et al, 2015). It has also been employed to determine the degree of authorial collaboration in particular fields (Davaranah & Aslekhia, 2008), to explore research networks (González-Alcaide et al., 2012) and to examine publication gender inequalities (Sebo et al, 2020). In applied linguistics, Bromley and Scott (2020) present a bibliometric analysis of citations and authorship in a German journal of writing centres.

Generally, however, bibliometric studies have not sought to identify the most popular research topics or highly cited authors and publications in a field. There are two exceptions as far as we can see. Recently, Zhang (2020) used a bibliometric method to provide an overview of the main trends in second language acquisition between 1997

and 2018 retrieved from Web of Science. Our study, however, draws on Lei & Liu's (2019) exploration of topics, authors and publications in 40 Social Science Citation Index (SSCI) applied linguistics journals published between 2005–16. They found that sociocultural/ functional/identity issues have seen a significant increase and phonological/ grammatical/linguistic topics a substantial decline. They also discovered a substantial rise in papers from Chinese authors. Our procedures, with some variations, follows this pioneering work.

3.2 Selection of journals and papers

The first step in answering our research questions was to create a corpus of journals. To do this we had to identify journals which publish articles related to the linguistic, sociolinguistic and psycholinguistic description of English as it is used for academic study and scholarly exchange. A more concrete characterisation of EAP is provided in the Statement of Aims in the *Journal of English for Academic Purposes* (JEAP), which lists the following broad areas of interest:

classroom language, teaching methodology, teacher education, assessment of language, needs analysis, materials development and evaluation, discourse analysis, acquisition studies in EAP, research writing and speaking at all academic levels, the socio-politics of English in academic uses and language planning¹.

Taking each topic in turn together with 'academic', we searched all the abstracts in the linguistics category of the *Web of Science* database published in the last 5 years. While casting the net wider than the usual core EAP journals, we sought to ensure that all relevant papers were included in our study. This produced a list of 40 key journals which most often publish research articles on EAP (see Appendix 1).

¹ <https://www.journals.elsevier.com/journal-of-english-for-academic-purposes>

Having identified the most prominent journals publishing EAP papers, we then narrowed these down to papers whose abstracts which contained the word ‘academic’, before further sifting out manually those unrelated to EAP. This proved to be very labour intensive as the *Web of Science* database contains the abstract, keywords, and author information of papers only from the year when a journal is indexed in the SSCI and our study goes back to 1980, before many in our 40 journals were included. Thus, for journals such as JEAP, which was first indexed in 2012, ten years after it was first published, this meant extracting the data manually from the journal websites themselves. We then divided these into two equal time periods: 1980-2000 and 2001-2020. This was to determine broad changes in the dataset, with the publication of JEAP as the flagship journal at roughly the midpoint, announcing a coming of age for the field.

This process identified 12,619 research articles for our corpus, 78% of which were published in the later period. This massive increase in the number of EAP-relevant papers, averaging 122 papers per journal each year in 2001-2020 compared with just 35 in 1980-2000, is a clear indication of the growing enthusiasm for research and increasing professionalism among EAP practitioners and graduate students. It is also, in addition, due to the explosion of journals, papers, and scholars which has accompanied the globalisation of research and the imposition of publishing metrics on scholars across the planet (Hyland & Jiang, 2019).

3.3 Data searches

We then interrogated these two corpora to answer the questions mentioned above, to discover:

- 1) The most frequently explored topics overall and in each period
- 2) The most cited authors overall and in each period
- 3) The most cited books, chapters and articles in the two periods
- 4) The most productive countries/regions over the two periods

To answer **question 1**, about topics, involved the following procedures:

- 1) We annotated all the extracted abstracts with part-of-speech and lemma information² using Schmid's (1995) *TreeTagger* programme
- 2) We searched the tagged corpora to identify all nouns and n-grams of 2 to 5 words using *AntConc* (Anthony, 2019) to identify candidate topics.
- 3) We filtered the n-grams using an automatic process (using stop words) to exclude function words (modals, pronouns, etc) which do not occur in research topic phrases.
- 4) We manually checked all remaining cases to exclude phrases which did not constitute research topics.

It is impossible to remove all subjectivity in this process, but we believe it is as objective and comprehensive as possible in locating key topics. We included only nouns in identifying potential subject areas as these are far more likely to constitute research topics than adjectives, adverbs, and verbs, while 2-5 word *n*-grams seem a reasonable range to capture research topics such as *academic writing* (2-word gram) and *English as an additional language* (5-word gram). We then manually discarded three main categories of monograms and n-grams: a) words and clusters common in language in general (*ability to* and *in terms of*), b) concepts and issues not specific to EAP (*analysis of, significant difference, the study*), c) concepts and issues that are common in EAP but too general to be useful (e.g. *language, academic English*) (see also Lei & Liu, 2019).

Topics were selected for inclusion in the study if they met a threshold frequency of at least 30 occurrences over the 40-year period. We follow Lei and Liu (2019) here in accepting this frequency as high enough to ensure the significance of the selected items but not too high as to exclude important topics. We added a further criterion, however,

² A lemma is the dictionary or citation form of a word, e.g. run, runs, ran and running are indexed by the lemma 'run'. This ensured that we captured all examples of a form.

that candidate items must also occur in 10% of the publications (at least 4) to ensure a reliably widespread appearance of a topic in the literature. Having identified the topics, we normalised the frequencies by representing the number of occurrences of each topic per 100 papers. This was to avoid biases in comparing the two time periods with the huge increase in papers after 2001. Finally, to ascertain whether there was a statistically significant difference in the topic frequencies, we ran a one-way chi-square test for each of the topics across the two periods.

To address *questions 2 and 3*, concerning the most influential authors and publications, we first identified the most-cited authors in the references of the papers in the two corpora and then calculated the frequencies of their citations. To find the most highly cited publications, we extracted all the publications (including books, chapters, and articles) from the reference lists in the corpus and computed the frequencies of these in the two periods. *Question 4*, regarding the most productive countries in EAP publishing, we answered by extracting the affiliation of every author of every paper in the corpus. Finally, both authors worked independently and achieved an inter-rater agreement of 96% on the most explored topics, 97% on publications and authors and 98% on the most productive countries before resolving disagreements.

4 Results and discussion

In this section we discuss our findings taking each research question in turn: (i) the most frequently explored topics, (ii) the most highly cited authors, (iii) the most highly cited publications, and (iv) the most productive countries/regions.

4.1 The most frequently studied research topics

The criteria discussed in 3.3 yielded 551 frequently discussed research topics overall, with 329 figuring in both periods. 222 new topics therefore emerged after 2001. Table 1 shows the list in three groups related to all topics showing statistically significant increases and declines, those significantly similar in the two periods, and the top 5

which showed a noticeable but not significant rise and fall. The topics are organised by their percentage change in normed frequency.

It will be seen that some of these items, such as *control group*, *action research*, and *case study*, are not research topics per se in the sense of referring to the theme, issue or matter dealt with in a text. They describe instead research methods or elements of context. They do, however, tell us something about EAP research activity over the period and are central to what is being talked about or how it is being studied.

Table 1 Changes in the most frequently explored research topics in EAP

	1980-2000		2001-2020		% normed change	Chi-value	p
	raw	normed	raw	normed			
Significantly increased							
identity	91	3.2	1626	16.6	413.0	133.9	0.00
academic writing	57	2.0	775	7.9	290.4	46.4	0.00
learning process	42	1.5	461	4.7	215.2	19.0	0.00
graduate students	48	1.7	490	5.0	193.1	17.2	0.00
peer assessment	46	1.6	456	4.7	184.6	14.9	0.00
prof development	80	2.8	787	8.0	182.5	25.1	0.00
genre	103	3.7	953	9.7	165.7	25.6	0.00
interaction	190	6.7	1613	16.5	143.8	32.3	0.00
reading comprehension	76	2.7	645	6.6	143.7	12.9	0.00
discipline	201	7.1	1511	15.4	115.8	17.3	0.00
higher education	859	30.5	5390	55.0	80.2	12.6	0.00
Significantly decreased							
case study	251	8.9	191	1.9	-78.2	583.3	0.00
approach to teaching	57	2.0	76	0.8	-61.6	77.3	0.00
teaching practice	99	3.5	191	1.9	-44.6	78.6	0.00
action research	65	2.3	127	1.3	-43.6	50.5	0.00
Remained constant							
learning strategy	30	1.1	114	1.2	8.0	1.7	0.26
education system	68	2.4	254	2.6	6.6	1.3	0.42
secondary school	34	1.2	127	1.3	6.6	0.9	0.61
learning outcomes	53	1.9	191	1.9	2.8	1.4	0.42
critical thinking	68	2.4	241	2.5	1.3	1.8	0.20
Top 5 not sig. increased							
student perception	31	1.1	225	2.3	108.6	2.1	0.18
undergraduate students	33	1.2	223	2.3	89.5	1.2	0.36
course	521	18.5	2837	28.9	56.4	0.1	0.89
discourse	289	10.3	1529	15.6	51.4	0.4	0.56

writing skill	30	1.1	133	1.4	23.3	1.2	0.38
Top 5 not sig. declined							
classroom	513	18.2	1295	13.2	-27.5	5.6	0.05
control group	42	1.5	109	1.1	-25.1	5.5	0.06
textbook	30	1.1	81	0.8	-23.5	5.4	0.06
native speaker	95	3.4	267	2.7	-19.4	4.9	0.05
content knowledge	33	1.2	101	1.0	-12.1	3.8	0.03

As we have noted, some 60% of the research topics appeared in both periods indicating a certain consistency in the interests of EAP researchers since 1980. Some items in the ‘remained constant’ category continue to have high raw number. *Learning outcome*, *strategies* and *critical thinking* represent the field’s enduring concerns with student development. We also find a consistent interest in *education system* and *secondary school EAP*. Similarly, among the topics which have remained constant by rising or falling only slightly, we find those such as *writing*, *course*, *classroom*, *textbook* and *content knowledge*. Some of these have substantial raw figures, with *course* occurring 2837 and *classroom* 1295 times in the 9804 research articles in the later period. The consistency of these interests to EAP researchers underlines a discipline with its feet on the ground as researchers are also practitioners and remain interested in the practicalities of everyday pedagogy. We have to be mindful, however, of the research topics which indicate a continuing interest in researching target language in the occurrence of *discourse* and students in experimental studies as indicated by *control group*.

We do, however, also see some major changes in the interests of the field, as might be expected from a new and rapidly growing area of study. The significant increases in topics dealing with *graduate student*, *professional development*, *higher education* and *learning process* speaks of a discipline moving from the hands-on, everyday concerns of the classroom to issues which reflect the challenges of advanced literacy and the professionalisation of practitioners. While classroom practices in the form of *peer assessment* and *reading comprehension* also increased significantly, testifying to an educational, student-orientated disciplinary arm, other hands-on classroom practices

such as *teaching approach* and *practice* showed a marked decline, together with *case study* and *action research*, methodologies which are common ways of exploring them.

Instead, there is a general appreciation that the field is more than an assembly of teaching strategies and best practices for the classroom. Some of the topics which show a significant increase in the more recent period are also those which have attracted those working in the parent discipline of applied linguistics more generally, particularly *identity* and *genre* (see Lei & Lui, 2019). Together with *interaction* and *discipline*, however, we can see a growing preoccupation with the kinds of literacy found in the academy and the ways academics seek to argue their claims and make sense to each other. In other words, the data show that EAP is no longer a purely practical affair involved predominantly with local contexts and classroom practices.

As the interconnectedness of contexts and our understanding of needs have developed, so too has the ways to explore these needs, finding answers in the interactions that occur in the disciplinary specific arguments and genres used by students and researchers. This is a change which, we might argue, suggests a movement away from EFL more broadly: it also announces that a distinctive research space being carved out for a new disciplinary endeavour.

4.2 Most cited authors

To identify the most highly cited authors we used the reference lists in our corpus of 12,619 research articles, dividing them into the two time periods. We then normalised the frequencies by dividing by 100 papers to ensure a meaningful comparison. Table 2 lists the top 15 authors in each period, their raw number of citations and their normalised number.

Table 2: Most highly cited authors across the two periods

Authors	1980-2000		Authors	2001-2020	
	raw	normed		raw	normed
Noel J. Entwistle	321	11.4	Ken Hyland	2068	21.1
Ference Marton	251	8.9	Pierre Bourdieu	942	9.6
Linda Flower	185	6.6	John M. Swales	917	9.4
Michael K. Halliday	144	5.1	Zoltán Dörnyei	872	8.9
Tony Becher	113	4.0	Lev S. Vygotsky	869	8.9
Charles Bazerman	109	3.9	Douglas Biber	867	8.8
Rod Ellis	108	3.8	Michael K. Halliday	688	7.0
Pierre Bourdieu	99	3.5	Jean Lave	606	6.2
John M. Swales	79	2.8	Etienne Wenger	568	5.8
Greg Myers	64	2.3	James Paul Gee	540	5.5
Dell Hymes	60	2.1	Jim Cummins	527	5.4
Mikhail M. Bakhtin	54	1.9	Tony Becher	468	4.8
Ulla Connor	43	1.5	John Flowerdew	447	4.6
Robert B. Kaplan	42	1.5	Theresa Lillis	418	4.3
Carolyn R. Miller	37	1.3	Suresh Canagarajah	366	3.7

Some names appear in both periods, with Michael Halliday, Pierre Bourdieu, Tony Becher and John Swales having an enduring influence on the field. Swales, Myers and Bazerman, two linguists and an education scholar, are perhaps the best-known academics working in the early years of EAP and are responsible for establishing the importance of writing, genre and the social constructionist leanings of the field. It may be surprising to see the name of Rod Ellis on the list, but his work on Second Language Acquisition and task-based instruction was influential in ensuring that classroom practice in EAP was informed by wider research in applied linguistics. Other educationalists influential in the 1980s are the educational psychologists Noel Entwistle, who has made significant contributions to theories of student learning in higher education, Ference Marton, who introduced the distinction between deep and surface

approaches to learning, and the educational sociologist Tony Becher, renowned for his work on the organization and practices of academic disciplines.

In addition to authors from education, we find the names of several scholars, of various hues, who established the field's continuing interest in writing research. Linda Flower, the pioneer of understanding writing as a socio-cognitive process, Carolyn Miller, with her conception of genre as a rhetorical form of social action, and Kaplan and Connor, who founded contrastive rhetoric as a major area of inquiry. These authors obviously inspired researchers publishing in this period and gave an impetus to many of the studies conducted through the 1980s and 90s in EAP. The anthropological linguist Dell Hymes probably did more than anyone to bring ethnographic studies to applied linguistics and EAP practitioners embraced the approach, ensuring that the field did not become entirely enamoured of written text research. Together with Bourdieu, Mikhail Bakhtin has provided important philosophical underpinnings to EAP research. His theory of dialogism and the idea that meaning emerges from interactions between the author, the text and the reader/listener and that these are influenced by social contexts has been hugely influential in shaping EAP conceptions of texts, communities and interaction.

Michael Halliday and Pierre Bourdieu, whose names appear high in both lists show the field's continuing interest in both the systematic analysis of spoken and written texts and of social theory in gaining an understanding of the manifold environments and discourses of the academy. Halliday, of course, is the most influential linguist of the last 50 years and his model of language as a system of choices for making meaning has shaped how analysts have seen discourse across all areas of linguistics. In EAP it has been invaluable in describing how language works in the service of the negotiations required to display understanding, construct knowledge, and persuade others.

Bourdieu's work has provided the theoretical means to conceptualise how such choices are considerably circumscribed because of structural constraints and unequal access to institutional resources.

The 2001-2020 list shows 11 new names with other EAP stalwarts such as Paul Nation, Ulla Connor, Ann Johns and Maggie Charles just outside the 15. Sitting near the top, Biber, Swales and Hyland have helped to establish the tendency towards a textual orientation in EAP through corpus analyses of academic texts. Dörnyei is a highly cited psycholinguist specializing in theories of learner motivation and names such as Flowerdew, Gee and Cummins are applied linguists, mainly working in language education and discourse analysis while Lillis and Canagarajah, in different ways, have emphasised the political dimensions of academic writing and the impacts of social and institutional inequalities experienced by non-native English speakers. The name Lev Vygotsky as a highly cited contributor to EAP is expected. His theories of social learning and development are central to ideas of scaffolding students through various kinds of linguistic and instructional support. Similarly Lave and Wenger's view that learning is social and the result of our experience of participating in communities has been extremely influential in EAP discussions of disciplinary membership and engagement.

In these lists of the most highly cited authors in EAP we can see both the eclectic nature of the field and something of its development. The inclusion of linguists, educationalists, sociologists, anthropologists, cognitive psychologists and others suggests a field which values theories of learning, of language and of social interaction in communication while acknowledging socio-political contexts of being and learning.

4.3 Most influential publications

We assume that the most influential publications in a period are those which have received the most citations. Citation is the standard means by which authors acknowledge the source of their methods, ideas and findings, and are widely used as a rough measure of a paper's importance. There are confounding factors here though, with the volume of citations increasing across the two periods as research expands and

the fact that older publications have had more time to accrue citations. Bibliometricians therefore recoil from simply counting citations when they want to measure a paper's value and instead prefer to compare counts for papers of similar age (e.g. Cooper, 2015). Our question is different, however, and while we recognise that the influence of more recent publications may not be recorded in these lists, our study shows how the field has changed and the influence of key publications in this change.

Identifying the most cited publications we extracted from our 12,619 papers the bibliometric data and calculated the raw and normed frequencies for each of the 20-year periods. Tables 3 and 4 show the top 15 of these results.

Table 3: Most highly cited publications from 1980 to 2000

Publications	cites	normed
Swales, J (1990). <i>Genre analysis: English in academic and research settings</i> . Cambridge: Cambridge University Press.	209	7.4
Myers, G (1990). <i>Writing biology: Texts in the social construction of scientific knowledge</i> . Madison, WI: University of Wisconsin.	71	2.5
Marton, F & R Säljö (1976). On qualitative differences in learning: outcome and process. <i>British Journal of Educational Psychology</i> , 46(1), 4–11.	70	2.5
Becher, T (1989). <i>Academic tribes and territories: Intellectual inquiry and the cultures of disciplines</i> . Milton Keynes: SRHE/OUP.	60	2.1
Entwistle, N. & P Ramsden (1983). <i>Understanding student learning</i> . London: Croom Helm.	54	1.9
Halliday, M. A. K., & R Hasan (1976). <i>Cohesion in English</i> . London: Longman.	44	1.6
Bazerman, C (1988). <i>Shaping written knowledge: The genre and activity of the experimental article in science</i> . Madison, Wisconsin: University of Wisconsin Press.	43	1.5
Marton, F, D Hounsell & N. Entwistle (1984) <i>The experience of learning</i> . Edinburgh: Scottish Academic Press.	42	1.5
Flower, L & J R Hayes (1981) A cognitive process theory of writing. <i>College Composition and Communication</i> , 32, 365-387.	41	1.5
Bakhtin, M. (1981). <i>The dialogic imagination: Four essays</i> . Austin: University of Texas Press.	41	1.5
Myers, G (1989). The pragmatics of politeness in scientific articles. <i>Applied Linguistics</i> , 10(1), 1–35.	40	1.4
Halliday, M. A. K. (1985). <i>An introduction to functional grammar</i> . London Edward Arnold.	36	1.3

Connor, U & RB. Kaplan (1987). <i>Writing across languages: Analysis of L2 text</i> . Reading, MA: Addison-Wesley.	33	1.2
Halliday, M. A. K. (1978). <i>Language as social semiotic: The social interpretation of language and meaning</i> . London: Edward Arnold.	32	1.1
Flower, L & JR. Hayes (1981). Images, plans and prose: the representation of meaning in writing. <i>Written Communication</i> , 1(1), 120-160.	30	1.1

Table 4: Most highly cited publications from 2001 to 2020

Publications	cites	normed
Vygotsky, LS. (1980). <i>Mind in society: The development of higher psychological processes</i> . Harvard: Harvard University Press.	502	5.1
Swales, J (1990). <i>Genre analysis: English in academic and research settings</i> . Cambridge: Cambridge University Press.	370	3.8
Hyland, K (2000). <i>Disciplinary discourses: Social interactions in academic writing</i> . Harlow: Longman.	272	2.8
Lave, J, & E Wenger (1991). <i>Situated learning: Legitimate peripheral participation</i> . Cambridge: Cambridge University Press.	263	2.7
Becher, T, & P Trowler (2001). <i>Academic tribes and territories: Intellectual enquiry and the culture of disciplines</i> . Philadelphia: Open University Press.	235	2.4
Wenger, E (1998). <i>Communities of practice: Learning, meaning, and identity</i> . Cambridge: Cambridge University Press.	225	2.3
Biber, D, S Johansson, G Leech, S Conrad, & E Finegan (1999). <i>Longman grammar of spoken and written English</i> . Harlow: Longman.	180	1.8
Swales, J (2004). <i>Research genres: Explorations and applications</i> . Cambridge: Cambridge University Press.	157	1.6
Bandura, A (1977). Self-efficacy: toward a unifying theory of behavioral change. <i>Psychological Review</i> , 84(2), 191–215.	124	1.3
Dörnyei, Z (2005). <i>The psychology of the language learner: Individual differences in second language acquisition</i> . Mahwah, NJ: Lawrence Erlbaum.	113	1.2
Hyland, K (2005). <i>Metadiscourse: Exploring interaction in writing. Continuum discourse series</i> . London: Continuum.	96	1.0
Gee, JP (1996). <i>Social linguistics and literacies: Ideology in discourses</i> . London: Taylor & Francis.	92	0.9
Dörnyei, Z (2009). <i>The psychology of second language acquisition</i> . Oxford: Oxford University Press.	90	0.9
Cummins J (2000). <i>Language, power and pedagogy</i> . Bristol: Multilingual Matters.	72	0.7
Lillis, T & MJ Curry (2010). <i>Academic writing in a global context: The politics and practices of publishing in English</i> . London: Routledge.	65	0.7

All the authors discussed in the previous section appear on either of the two most cited publications lists, with only the addition of the psychologist Albert Bandura in the latter group. His 1977 article on self-efficacy, promoted the importance of agency and self-belief in learning. The idea that learning occurs in a social context with a reciprocal interaction of the person, environment, and behavior of others meshed with those of Lave, Wenger, Vygotsky and Bakhtin, to support social views of learning in EAP and the importance of interaction. Vygotsky's *Mind in Society* has significantly more citations than any other publication on the list and is, apparently, the sixth most cited book in the social sciences overall (Green, 2016). There is one example of two editions of the same book on the list, with Becher and Trowler updating Becher's classic 1989 analysis of the structure and workings of the academy. This accommodates changes in higher education over the years and the new challenges facing academics. The book is a perceptive account of the cultures and lived experiences of scholars and their relationships to disciplinary knowledge and has been inspirational to those in EAP seeking to understand the contexts in which knowledge is constructed.

Only one title, John Swales *Genre Analysis*, appears on both lists, testament to its enduring influence on a generation of EAP discourse analysts and teachers. Pulling together work in sociolinguistics, text linguistics and discourse analysis the book offers practitioners a different view of specialist areas of language. Swales also has a second book in the 2001-2020 list, one which refreshes the first with an exploration of new genres and new understandings of the concept itself. There are other authors with two publications in the lists, five in the first period and four in the second. Before 2000, Greg Myers ground-breaking detailed textual analyses of science writing has been instrumental in inspiring hundreds of similar studies up to the present day. Noel Entwistle and Ference Marton's books on student learning informed the practices of teachers during the period and Halliday's systematic description of grammar as a semiotic resource supports a great deal of EAP discourse analyses. Uniquely the two

works by Flower and Hayes are both journal articles and both from the same year. These works, suggesting a view of writing as comprising three main cognitive processes: planning, translating and reviewing, went a long way to professionalizing the status of EAP writing teachers 40 years ago.

More recently, there are two books by Etienne Wenger, on his theory of social learning systems and the connections between knowledge, community, learning, and identity. The terms *communities of practice* and *legitimate peripheral participation* are now part of the EAP vocabulary. Dörnyei's books on the psychology of learning, individual learner differences and motivation have also been influential as has Hyland's corpus work describing the interactions involved in negotiating academic knowledge claims. His two books which appear here, on metadiscourse and disciplinary differences in academic discourses, have motivated a considerable amount of research into the social exchanges in academic written texts.

Interestingly, only five of the 30 publications are journal articles (with just one in the later list) and none are book chapters. Despite the attempts of institutional research assessors to channel academics' endeavours into research papers, it seems that the most influential and enduring work, in EAP at least, is found in monographs. Articles offer authors (and their institutions) a short-term advantage with immediate visibility, but the tables above show that, unless the work is truly ground-breaking, it is unlikely to have the longevity of a published book. A scan of Google Scholar confirms that the citations of almost any well-published author will find books clustering at the top of the list.

It should be remembered that we are focusing on the most successful work here. Many academic books – expensive and unread - languish on remote library shelves or unvisited publisher platforms. Similarly, many journal articles are never cited, perhaps as many as 32% for the social sciences and 82% for the humanities (Larivière, Gingras & Archambault, 2009). We should also point out that there have obviously been other

influential works which are heavily used to inform teaching rather than research, and so do not get cited to the same extent. We have also noted the age effect on citation counts, which means that more recent influences may not appear here. However, we believe the lists show both the reach which EAP authors have cast their net in the early years of the field, gaining inspiration for their research from a range of authors across the social sciences, and how the field has become more specialized and professional since then.

4.4 Most productive countries

Historically, western countries, and particularly the United States, have been at the centre of scholarly publishing, supported by massive investments in research and the necessary scientific, technical and educational infrastructure. Since the turn of the twenty first century however, the scholarly world has become increasingly globalized. Driven by advances in technology, increased funding for research, more efforts by developing countries to raise the status of their universities, and more pressures on individual authors, there is now greater participation of previously peripheral countries in the publication marketplace. We can see something of this expansion in the affiliations of the authors in our database, suggesting both the spread of EAP and the widening involvement of Asian countries in particular. Table 5 reports, in ranking order, the 15 most productive countries in research over the period using the affiliation of every author in the corpus.

Table 5 Most productive countries/regions across the 40 years (by author affiliation)

1980 to 2000			2001 to 2020		
country/region	publications	percentage	country/region	publications	percentage
England	647	23.0%	USA	1961	20.0%
USA	479	17.0%	England	1863	19.0%
Australia	422	15.0%	China	940	9.6%
New Zealand	282	10.0%	Australia	686	7.0%
Canada	197	7.0%	HK, China	629	6.4%
Japan	141	5.0%	New Zealand	588	6.0%
HK, China	125	4.4%	Canada	490	5.0%

Taiwan	113	4.0%	Japan	294	3.0%
Scotland	56	2.0%	Taiwan	294	3.0%
Netherlands	56	2.0%	Sweden	294	3.0%
Sweden	28	1.0%	Spain	196	2.0%
Singapore	28	1.0%	Iran	196	2.0%
Finland	27	1.0%	Malaysia	196	2.0%
Belgium	26	1.0%	Turkey	108	1.1%
Germany	26	1.0%	Singapore	98	1.0%

The results show that most of the countries in the earlier period are still major contributors to the field in the second. The USA has taken a greater role in leading research but the other top 6 countries in the 1980-2000 period have all fallen both in ranking and the percentage of work they have added to the whole. The countries with traditional publishing pedigrees such as England, Australia, New Zealand, Canada, Japan and Taiwan have all slipped down the list and Scotland, the Netherlands, Finland, Belgium and Germany have dropped out of the top 15 altogether. They have been replaced by one European and five Asian countries. Spain has a strong group of productive EAP researchers and their publications have earned a significant number of citations, but it is the surge of work from Asian countries which catches the eye.

This reflects the fact that emerging economies have largely driven the 4-5% per year growth in publishing output in recent years (UNESCO, 2017). The leading Asian countries, for example, have accounted for 8–12% annual growth in recent years compared to around 2.9% for the G8, and 1% in the US and EU. Japan has remained a major source of scientific publishing, but it is one of the rare Asian countries where output has declined. If we look at the wider publishing statistics for Asian countries now excelling in EAP research, we find that Iran nearly doubled its share of world publications to 2% between 2008 and 2014 and Turkey to 1.9%. Scientific articles by Malaysian authors grew by 251% between 2008 and 2014, to reach three times the average of Asia as a whole (UNESCO, 2017).

Hong Kong (listed as HK, China in the tables) is a Special Administrative Region of China and is included in China's data in the Web of Science system. We distinguish it here to recognise both the significant contribution made to EAP by authors working in Hong Kong, especially during the earlier period, and to track China's phenomenal rise in the rankings in the second. Hong Kong has an extremely well-resourced higher education system which attracts some of the world's top academics and graduate students, giving it five universities in the world top 100 (QS, 2020). Because this is an English- medium system, EAP has played an important role in supporting students language development and has attracted significant research funding.

The biggest change, of course, is the appearance of China at number three, emerging as a significant player in EAP publishing. One key reason for this is the massive increase in funding and support for research by the government in recent years (e.g. Qiu 2010; Zhang et al. 2013). Articles in SCI journals written by authors from Chinese institutions has increased from some 120,000 a year in 2009 to 450,000 in 2019 (Mallapaty, 2020). Some estimates even suggest that Chinese authors, from anywhere in the world, were listed on 34.5% of all papers published in 2016 – a 22% increase since 2000 (Xie & Freeman, 2019). In Chinese journals alone, Jiang (2019) found a recent surge in articles discussing EAP with over half of those published between 2000 and 2018 appearing in the last three years of that period. Such is China's ambition to increase the status of its international research that it plans to invest US\$29 million to develop the quality of local journals (Cyranoski, 2019). Those working in EAP have clearly benefited from these incentives and are working to make China an important contributor to the growing literature in the field.

These findings suggest that more and more scholars from outside the traditional publishing countries are managing to gain visibility for their work in EAP in international journals. We need to remember, however, that our findings show the affiliations of authors and not their nationality. We can say little about their country of

origin, native language, or ethnic background. Some authors are likely to be expatriates employed in overseas institutions while scholars working at the periphery often seek to enhance their academic research and overcome the disadvantages they experience in publishing internationally by working with overseas partners. It is certainly the case that there has been a massive growth of international collaboration in science in recent years, rising from 17% to 23% between 2008 and 2018 (White, 2019). Collaborations of Chinese authors with those from G7 countries, for example, have increased Chinese publications exponentially (He, 2009).

Of course, research in the soft knowledge fields is generally less collaborative and more local than in the sciences, but the results shown here not only reflect wider shifts in publishing (Hyland, 2015) but index the internationalization of EAP. The changes in the source of author affiliations away from traditional European centres of research towards academics working in previously peripheral countries confirms the field as a global force of academic endeavour.

5 Comments and conclusions

This bibliometric study has tracked, in broad strokes, something of the short but eventful life of EAP as an academic field of inquiry. Supported by an expanding range of publications, authors and research journals, and characterised by a widening array of topics and contributing countries and institutions, EAP has made an extremely influential contribution to applied linguistics and language education.

We have shown that researchers have displayed a consistent interest in topics related to teaching, learning and classroom practices. Many of the topics introduced in the period after 2001, however, have focused on the contexts, discourses, and implications of these practices with substantial attention devoted to issues of identity, interaction and genre. In terms of authors, we find a shift towards those individuals bringing a theoretical and discourse analytic perspective to research, supporting an interest in academic writing,

language description and perspectives underpinning social relationships in learning and communication. The themes of the most cited publications confirm these interests and the growing concern with both the working of discourse and of learning. Finally, our study shows that EAP is not outside the growing internationalism of research more generally. On the contrary, it is now achieving a global reach as authors affiliated with emerging centres of research begin to make a mark on the field.

One limitation of this study, of course, is that it focuses on the apex of the publishing pyramid. The topics, most cited authors, publications and affiliations we have explored are based on an analysis of a corpus of SSCI international journals. While these are the most accessible and celebrated works, the very nature of EAP as a practitioner-led and applied discipline means that a great deal of research is highly localised and either unpublished or found in the pages of regional and local journals, especially in South America and Asia. The nature of this less widely disseminated research is a rich vein for future study, but it is highly probable that many of the concerns addressed will reflect, and perhaps be led by, what is published internationally.

It is also important to note the obstacles to publishing created by the ambivalent position that many EAP practitioners occupy in their institutions in terms of their academic status and teaching role. While EAP teachers are tasked with inducting students into the discourses of the academy, their own academic position is often uncertain in the university. EAP is distinguished from other academic fields by being treated as a business in many universities, making practitioners academic status vague at best and adding to this heavy teaching workloads which makes research difficult. As a result, as Ding and Bruce (2017) point out, teachers and researchers of EAP tend to be different people. As Davis observes:

The lack of agreement about where EAP belongs within institutions can mean it has no clear niche in a faculty, which has negative implications for research. (Davis, 2019: 73)

EAP practitioners around the world thus struggle to find the time, the support and the advice to translate their interests and curiosity into publishable research. The absence of institutional incentives and lack of an established research culture in EAP acts as a brake on the advance of publishing and on the future development of the field.

Another point worth making is that while we have documented the growth of research in EAP, we have said little about its quality. In a recent 'personal essay' in JEAP, John Swales, the doyen of EAP, bemoans the current state of research in the field. Focusing principally on papers dealing with genre, he argues that this research is:

a) too textual, b) too 'thin' in Geertz's sense, c) too concerned with overall structure, d) too interested in the interpersonal and promotional aspects of research writing, and e) over-focused on our own fields of applied linguistics and ESL. (Swales, 2019: 81)

There are, almost certainly, many in the field who might wish to challenge (at least some of) these opinions, but there is a sense in which Swales is right. Among the norms and practices that are shared by members of a discipline are sets of conventions, modes of inquiry and what counts as doable, or fashionable, topics. Demonstrating membership of this culture involves, to some extent, participating in areas of research deemed to be useful and popular. As a discipline becomes more established, then, its research begins to run along more predictable tracks, and it is possible that EAP has lost some novelty in what is published. Some of the excitement in picking up a new paper is dissipated when we find it is only marginally different to one we read last week.

There is, however, little doubt that research, and publication, has done a great deal in establishing EAP as a productive and active field with legitimate pretensions to be recognised as a serious academic endeavour. In the last 40 years EAP has consistently provided grounded insights into the structures and meanings of texts, the demands placed by academic contexts on communicative behaviours, and the pedagogic practices by which these behaviours can be developed. As we have noted in this study, it has been

assisted in this by a healthy receptiveness to the understandings of different perspectives, by the development of new areas of research and by the participation of a widening international research base. The applied nature of EAP, its role in conducting research-based language education, can be challenging for those working in difficult conditions, but in terms of research it is also one of its greatest strengths.

Theory-building, of course, is a central plank of research and how we understand real-world contexts, but EAP has not become detached from student needs and classroom practices. On the contrary, it has been successful in tempering any overindulgence in theory with a grounded awareness of practical utility.

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Journal Pre-proof

Appendix 1: Number of articles in the 40 journals publishing EAP research

Journals	1980 to 2000	2001 to 2020
1. Annual Review of Applied Linguistics	13	46
2. Applied Linguistics	29	115
3. Applied Linguistics Review	0	106
4. Asia Pacific Education Researcher	0	196
5. Asia Pacific Journal of Teacher Education	27	203
6. Assessing Writing	3	176
7. Assessment Evaluation in Higher Education	53	205
8. Australian Journal of Linguistics	0	42
9. College Composition and Communication	237	355
10. Computer Assisted Language Learning	58	309
11. Discourse Context & Media	0	14
12. Discourse Studies	2	163
13. ELT Journal	36	195
14. English for Specific Purposes	281	484
15. Foreign Language Annals	131	185
16. Higher Education	171	366
17. Higher Education Research and Development	70	354
18. Ibérica	5	84
19. International Journal of Corpus Linguistics	2	200
20. Journal of Computer Assisted Learning	74	278
21. Journal of English for Academic Purposes	0	627
22. Journal of Higher Education	82	288
23. Journal of Pragmatics	13	289
24. Journal of Second Language Writing	127	415
25. Language and Education	105	339
26. Language Culture and Curriculum	0	167
27. Language Learning	8	216
28. Language Teaching	0	263
29. Language Testing	14	162
30. Lingua	0	26
31. Linguistics and Education	52	279
32. Reading and Writing	67	261
33. ReCALL	0	253
34. Studies in Higher Education	89	348
35. System	184	284
36. Teaching and Teacher Education	163	281
37. Teaching in Higher Education	108	352
38. TESOL Quarterly	252	352
39. Text & Talk	74	157
40. Written Communication	285	369

Journal Pre-proof

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Love that feeling

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