Epistemologies and Research Paradigms in Applied Linguistics: 10 Years of Published Research

Rod Pederson
(Woosong University)


Recent debates in applied linguistics focusing on the nature and viability of research paradigm and theory formation have raised questions regarding the epistemological primacy of the field (Block, 1996; Firth & Wagner, 1997). Specifically, these debates revolve around the question of whether the social aspects of language may be considered in applied linguistic research, or whether applied linguistics research should be a strictly cognitive enterprise. Following Shannon’s (1989) study on reading research, this study investigates the epistemological orientation of the field of applied linguistics through an inventory of the previous decade (1990-1999) of research articles published in the journals Applied Linguistics, TESOL Quarterly, and Studies in Second Language Acquisition. Abstracts from these journals were classified according to Popkewitz’ (1984) schema of research paradigms by four readers to ascertain their conformity to empirical/analytic, symbolic, or critical science. Results of the inventory reported an epistemological orientation towards symbolic (46%) and E/A (38%) science, with articles judged as conforming to critical science representing only 7.5% of the inventory corpus. Statistical breakdowns are also given across journal, time, scientific paradigm, and editor. While editor tenure data was inconclusive, it nonetheless illustrated paradigmatic representation shifted towards a greater representation of critical science in some editorial regimes.

I. INTRODUCTION

Recent work by theorists such as Canagarajah (2004), Kubota (2001), Pennycook (1998, 2001), and others seems to represent a trend for greater representation of alternative epistemological perspectives in applied linguistics literature. Specifically, it appears that what might be labeled critical or post-structural/post-modern approaches to research are cropping up more frequently in the professional literature. While a casual review of the professional literature in applied linguistics might seem to support this contention, no comprehensive study has been undertaken that clearly explicates the nature of research
being published in professional journals, whether in current or prior literature. Given the assertions of theorists like Kubota (2001) and Pennycook (2001), which posit continuing neo-colonial influences on theory and practice and the domination of positivistic epistemologies in applied linguistics literature, it may be argued that a systematic inventory of relevant professional literature is necessary not only to understand the current research dynamics and theoretical orientation of the field, but also where it may be heading.

An inventory of research in applied linguistics is necessary for many reasons. First, without a systematic inventory that looks at both what has been done and what is being done, the field is in danger of intellectual stagnation, or what Bourdieu (1977, 1990) would call “reproduction in education” and Foucault (1984) elucidated in his treatise on the discursive nature of the academic “disciplines”. Such a course would not only lead to a limitation on new ideas, but would also entrench the field in a conservatism of theory and practice that would be obviously detrimental. Second, the flurry of heated discussions that followed Block (1996) and Firth and Wagner (1997), which questioned the epistemological foundations of applied linguistics in terms of its positivistic orientation, continues today, as evidenced by the recent academic argument between Atkinson (2002) and Kubota (2002) in TESOL Quarterly and theoretical discussions that may be easily heard at international conferences within the field. Moreover, the heated response these articles garnered, which asserted the essential need for cognitively based science in applied linguistics (Crookes, 1992; Gass, 1998; Gregg, Long, Jordan, & Bertta, 1997), illustrated the fundamental divide within the field regarding the dominance and acceptability of contesting epistemologies. Third, an inventory may be able to identify trends, or alternative paradigms of theory and research that may have much value for the field. For these reasons, this inventory focuses on the previous decade in order to explicate not only where we were; but how we got here, and where we may be going. In this way, this study also posits the need for a continuing inventory of the current decade of research.

This paper reports a systematic inventory of research published in applied linguistics and was part of a larger doctoral thesis study that critiqued the epistemological foundations and research practices in the field. The original study followed a critical cultural studies approach that utilized bricolage as a research methodology and included a historiography of theories and methods in applied linguistics, auto-ethnography, literature as research argument, discourse analysis of research articles, and a statistical inventory of research over time and across literature. According to Creswell (1994) and Denzin and Lincoln (1998), bricolage is a comprehensive research methodology that utilizes multiple research methods that may best explicate a phenomenon under study. As such, the researcher may use a quantitative method as a secondary data source in ways that do not require the statistical rigor of purely quantitative studies.

Following a similar study done on reading research (Shannon, 1989), the study reported
here examined 10 years (1990-1999) of research articles published in the journals *TESOL Quarterly*, *Applied Linguistics*, and *Studies in Second language Acquisition* and categorized each article according to Popkewitz’ (1984) schema of scientific research paradigms (empirical/analytic, symbolic, and critical). The period under study was determined by following Shannon’s (1989) study, which also inventoried a 10-year period, and as the data was collected at the end of the decade in the year 2000. In addition, this study also juxtaposed editorial tenure with the inventory results in an attempt to better explicate the findings of the inventory that found a marked dominance of symbolic and empirical/analytic science in the field. While it may be argued that professional literature from specific nations or regions around the globe may better represent critical forms of research, it is clear that what are considered to be more prestigious journals more clearly represent the dominant thought and practices of the field. Finally, it needs to be stated that while the author advocates a greater inclusion of critical research, the purpose of the research reported here is to delineate the epistemological orientation of the field of applied linguistics for the previous decade by reporting on what was actually published. As such, this paper does not advocate critical approaches to research or claim to be critical.

II. METHODS

The professional journals selected for this study were *Studies in Second Language Acquisition*, *TESOL Quarterly*, and *Applied Linguistics* and are acknowledged as being among the leading journals in applied linguistics. Following Shannon’s (1989) inventory of reading research, 3 outside readers each read and categorized a randomized 1/3 of the abstracts in the research corpus over a 10-year period (1990-1999), with the author reading and categorizing the entire research corpus. A total of 580 abstracts were read and categorized according to my adaptation of Popkewitz’ (1984) definition of social science research. Given the large corpus of articles to be classified, utilizing abstracts was the only realistic way to effectively survey the research corpus. This approach seemed reasonable as the American Psychological Association’s guidelines for research article abstracts—purpose, methods, and conclusions—should effectively explicate articles content.

Selection of professional journals to be included within the research corpus was determined by three considerations. First, informal interviews with professionals within the fields of applied linguistics, TESOL, and SLA revealed that the journals *TESOL Quarterly*, *Studies in Second Language Acquisition*, *Applied Linguistics*, and *Modern Language Journal* were most frequently mentioned as the flagship journals for the publishing of research related to issues of second language learning, acquisition, and use. Second, review of relevant literature (Pennycook, 1994; Widdowson, 2000) revealed that these issues,
including the considerations of SLA and TESOL, were generally considered to fall within
the epistemological purview of applied linguistics (Bygate & Kramsch, 1999). Third,
journals included in the inventory must include abstracts with their articles. As *Modern
Language Journal* articles prior to 1998 do not include abstracts, they were not included in
the inventory.

1. Journals

*TESOL Quarterly* is an international, professional, refereed journal published quarterly
by Teachers of English to Speakers of Other Languages, incorporated. *TESOL Quarterly*
publishes articles in both theoretical and practical formats across a wide range of
disciplines including anthropology, applied and theoretical linguistics, communication,
education, English education, psycholinguistics, psychology, first and second language
acquisition, sociolinguistics, and sociology (Chappelle, 2000). In addition to full-length
articles, *TESOL Quarterly* publishes reviews, review articles, and brief reports and
summaries. Its primary publishing interests lie in the following areas:

1. Psychology and sociology of language learning and teaching; issues in research and
   research methodology.
2. Curriculum design and development; instructional methods, materials, and techniques.
3. Testing and evaluation.
5. Language planning.

In addition, *TESOL Quarterly* is primarily interested in articles bridging theory and
practice through the publishing of articles drawing on relevant research. Submissions are to
be 20-25 double-spaced pages in length and include an informative abstract of a maximum
of 200-words. Relevant editorial guidelines include the following:

- The manuscript strengthens the relationship between theory and practice: Practical
  articles must be anchored in theory, and theoretical articles and reports of research
  must contain a discussion of implications or applications of practice.
- The manuscript offers a new, original insight or interpretation and not just a
  restatement of others’ ideas.
- The manuscript makes a significant (practical, useful, plausible) contribution to the field.
- The manuscript reflects sound scholarship and research design with appropriate,
correctly interpreted references to other authors and works (Chappelle, 2000, p. 197).
Studies in Second Language Acquisition is a refereed journal that is published quarterly by the Cambridge University Press, New York, New York. According to its editorial policy, Studies in Second Language Acquisition publishes full-length articles and book reviews that are:

…devoted to problems and issues in second and foreign language acquisition in any language. Theoretically based articles reporting research studies are preferred. However, empirical investigations of the interface between SLA and language pedagogy, such as classroom interaction or the effects of instruction, will also be considered (Valdman, 2000, p. 1).

In addition, Studies in Second Language Acquisition requires an informative abstract of 100-150 words and accepts between 10% and 20% of its submissions.

Applied Linguistics is a refereed journal published quarterly by the Oxford University Press, Oxford, United Kingdom. It publishes full-length and review articles that include inquiry into second language learning and teaching, critical linguistics, discourse analysis, language in education, language planning, language testing, lexicography, multilingualism and multilingual education, stylistics and rhetoric, and translation. Its stated aims are:

…to promote a principled approach to research on language and language-related concerns by encouraging enquiry into the relationship between theoretical and practical studies (Bygate & Kramsch, 1999, p. 291).

According to the descriptions of the three journals, all have an interest in publishing articles that are involved in a synthesis of theory and practice that may include full-length article formats of research reports, theoretical essays reporting on research, and essays propounding theoretical arguments, or “think pieces”. As the size of the research corpus and methodology utilized precluded the lengthy processes of reducing the corpus to include only articles reporting on empirical research, particularly as only abstracts were analyzed, all articles reviewed in the inventory were considered to be research articles.

Three photocopies were made of each article abstract to form three identical corpus sets. Each abstract in each set was identically coded for identification. One set of copies was kept in this original form for my reference, while the corpus sets given to the readers to analyze, including the author, had the names of the journals and authors obscured by correction tape and were and re-copied for the purpose of limiting reader bias through recognition. Each reader was given one third of the total corpus of 580 abstracts distributed randomly through journal name and inventory time frame for analysis, while the author
analyzed the entire corpus (see Table 1). As such, each article abstract in the corpus was analyzed by one reader and the author. In addition, each reader was directed to write a short classification rationale for the purposes of data verification.

### TABLE 1

<table>
<thead>
<tr>
<th>Journal Name/Year</th>
<th>TESOL Quarterly # per year</th>
<th>Applied Linguistics # per year</th>
<th>SSLA # per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>23</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>1991</td>
<td>24</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>1992</td>
<td>23</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>1993</td>
<td>25</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>1994</td>
<td>22</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>1995</td>
<td>21</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>1996</td>
<td>23</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>1997</td>
<td>18</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>1998</td>
<td>14</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>1999</td>
<td>18</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>Total #</td>
<td>212</td>
<td>198</td>
<td>170</td>
</tr>
</tbody>
</table>

2. Classification Schema

Abstracts from the research corpus were categorized according to Popkewitz’ (1984) schema of three paradigms of scientific research: empirical/analytic, symbolic, and critical (see Table 2). In theorizing his schema, Popkewitz built upon the works of Kuhn (1970) and Habermas (1973, 1988) that explicated the differences between research methodologies, the epistemologies related to them, and the significance these differences may have for the praxis of science. I used Popkewitz’ (1984) rendering of the classifications of scientific research over those of Kuhn and Habermas for two reasons. First, Popkewitz’ schema is more succinct than those of Kuhn (1970) and Habermas (1973, 1988) in that they are stated clearly and briefly within the context of historical shifts in scientific epistemologies. The works of Kuhn and Habermas are not. Second, clear, concise definitions of the classification schema were necessary for ease of training and facilitation of reader agreement of the inventory.
1) Empirical/Analytic Science

According to Popkewitz (1984), empirical/analytic research may be defined through the interrelation of five central assumptions. First, theory is universal and devoid of context. This means that theory, as a set of principles and rules of inference, is used to deduce behaviors that transcend social and historical significance that are, thereby, generalizable across contexts. Second, empirical/analytic science is a disinterested science. Science is employed to deduce ‘facts’ that are independent of the values, beliefs, and goals of the researcher and subject population. In this way empirical/analytic science deduces ‘laws’ of social behavior that gives science an apolitical stance. Third, the social world may be reduced to a system of variables that may be studied independently. This aspect of empirical/analytic science allows for the scientific expression of causality within the systematic relationship of dependent and independent variables. Fourth, empirical/analytic science assumes a belief in formalized knowledge. This assumption necessitates a clear definition of variables prior to the inception of research activities. This not only facilitates and supports the notion of causality, but also serves to limit the scope of inquiry. Fifth,
beliefs in formal and disinterested knowledge presuppose reliance upon mathematics. This assumption supports the systematic development of deductive reasoning of empirical/analytic science and facilitates the basis for replication as a measure of validity in research (p. 38).

2) Symbolic Science

According to Popkewitz (1984), symbolic science “defines social life as being created and sustained through symbolic interactions and patterns of conduct” (p. 40). Embedded in this view of science are five central assumptions. First, negotiation defines behaviors. Unlike empirical/analytic science, which views theory as being universal, symbolic science applies theory to context. This means that instead of the generalization of law-like rules that apply across contexts, symbolic science defines the rules of social behavior as negotiated among participants within a specific context. Second, like empirical/analytic science, symbolic science is disinterested and neutral, separating theory from the practical matters of the social world. Third, unlike empirical/analytic science, which views the methods and results of science as being relevant across contexts, symbolic science is contextual. It describes a single system in a specific period of time. Fourth, symbolic science identifies the conditions of communication and intersubjectivity. Symbolic science describes rule making and governance, as opposed to empirical/analytic science that describes laws of human behavior. However, symbolic science may use statistical methods to define communication. As such, symbolic science employs the concepts of intersubjectivity, motive, and reason as the guiding principles of method. Fifth, theory is contemplative. Like empirical/analytic science, symbolic science may have political implications. Questions of the possibilities for social change may be driven by political, social, or philosophical considerations within society. However, the neutrality of symbolic science does not mean that researchers cannot take a value stance on the context under study. Theory is contemplative in that the description of contexts objectifies reality and does not engage in changing that reality. In these ways symbolic science focuses on the negotiation of social rules and meanings.

3) Critical Science

According to Popkewitz (1984), “the goal of critical science is to demystify the patterns of knowledge and social conditions that restrict our practical activities” (p. 45). This orientation concerning the purpose of science underlies Popkewitz’ five assumptions of critical science. First, theory serves to interrogate relations of power within and between systems. Unlike empirical analytic science (which employs universal theory to deduce laws
of behavior) and symbolic science (which employs theory to define negotiated behaviors), critical science uses theory to orient practice. This assumes that participants engage in negotiation from positions of unequal power and among the unequal distributions of goods and services. Theory is employed to demystify systems of relationships for the purposes of changing these unequal relationships. Second, critical science is not disinterested. Unlike empirical/analytic science (which views its methods and results as apolitical) and symbolic science (which views its methods as apolitical and results as having potential political significance), critical science connotes a political stance as a basis for inquiry. Third, critical science is historical, not contextual. Unlike empirical analytic/science (which creates generalized laws that transcend time and space) and symbolic science (which describes specific, limited contexts), critical science investigates the construction and maintenance of systems over time and space. This means that social structures are investigated in terms of how they affect and are affected by social agents, who can be singular and/or collective. Implicit to this historical perspective is inquiry into the philosophical and epistemological issues that affect the dynamics of the systems under study. Fourth, critical science is not tied to specific methodologies. Critical science may employ methods from empirical/analytic and symbolic science in its methodological corpus. Fifth, critical science investigates the social effects of structure/system relationships. As opposed to the law deduction of empirical/analytic science and the quasi-disinterested nature of symbolic science, the purpose of critical science is the description of socio-historical relations for the purposes of social change.

3. Readers

The three readers for this study were all Ph.D. students in applied linguistics at the Pennsylvania State University at the time the data for this study was gathered. Prior to our first training session, all readers were given chapter 2 of Popkewitz’ Paradigm and Ideology in Educational Science (1984) and my version of his scientific paradigms classification schema (see Table 2). Three 2-hour meetings were conducted to familiarize each reader with the classification schema and to practice classification of abstracts. The first meeting entailed discussion of the classification schema and group discussions of the classifications of five randomly selected abstracts. After the first meeting, readers were given 10 identical, randomly selected abstracts from the research corpus to classify. The second meeting entailed discussions of the 10 classified abstracts in terms of the reasons for agreements and conflicting classifications. Following the second training session, all readers were given 15 identical, randomly selected abstracts from the research corpus to classify, with the understanding that the classification of these abstracts were to be subject to statistical verification for the purposes of determining the degree of reader agreement.
The final meeting entailed further discussion of the classification schema and common agreement that all readers were ready to begin the study. Examples of reader’s rationales from the second session may better illustrate how the classification schema worked.

After reading Van Lier’s (1994) *Forks and Hope: Pursuing Understanding in Different Ways*:

*Reader 1:* Symbolic. The material is descriptive – the argumentation and negotiation merely draws attention to further possibilities.

*Reader 2:* Symbolic. Limitations – abstract doesn’t say enough about whether it would Change things for the better.

*Reader 3:* Symbolic. Primarily descriptive and is ambiguous about change.

After reading Pennycook’s (1994) *Incommensurable Discourses?*

*Reader 1:* Critical. Invokes socio-cultural aspects of identity and ethnicity in connection to research traditions.


*Reader 3:* This seems pretty critical to me. The examination of the natural scene as a Success story worthy of emulation seems to examine the construction of systems and approaches to research.

4. Methods of Data Verification

Following the final training session, the readers were given 15 abstracts to categorize over a one-week period. The following classifications of these abstracts were input into the SPSS statistical program and cross-analyzed under the KAPPA Coefficient to compute inter-rater agreement. Results from this three-way tabulation were averaged to produce an overall average of 83 percent from the group of readers. As the training benchmark for inter-rater agreement was set at 80 percent agreement by the thesis committee, readers were instructed to begin the inventory.

Results of the inventory were tabulated and charted across Popkewitz’ (1984) schema. Percentages of each scientific category were given with conflicting classifications listed separately (see Table 3). Four randomly selected articles from each classification corpus were analyzed to determine level of agreement with the classification schema. As the purpose of the larger study was to: 1) Determine the nature of the research being done in Applied Linguistics, 2) Determine how the relationship among language, culture, and power are represented in the literature, and 3) Theorize the possible social effects of this
epistemological orientation, these articles were also interrogated in terms of how they represent the relationship among language, culture, and power. In addition, in order to more clearly define the nature of critical science and its applications to applied linguistics, two articles that were adjudged alternatively by readers as critical and symbolic science were also subject to review. Finally, it needs to be reiterated that although this paper reports on a specific part of a larger research corpus designed to critique the epistemological foundations and theoretical applications of the field applied linguistics, this paper will only report the findings of the statistical inventory of the literature and editor tenure data.

III. RESULTS

Following Shannon’s (1989) inventory of reading research, a 10-year (1990-1999) corpus of 580 abstracts from the journals TESOL Quarterly, Applied Linguistics, and Studies in Second Language Acquisition were classified according to Popkewitz’ (1984) schema of scientific research paradigms (empirical/analytic, symbolic, and critical), with each of three outside readers categorizing one third of the research corpus and the author categorizing the entire corpus. Results were then tabulated across reader and research paradigm, including the number and percentage of disagreements of abstract categorizations (see Tables 3 and 4).

<table>
<thead>
<tr>
<th>Reader/Paradigm</th>
<th>Reader 1 Abstracts</th>
<th>Reader 2 Abstracts</th>
<th>Reader 3 Abstracts</th>
<th>Author Abstracts and % of corpus</th>
</tr>
</thead>
<tbody>
<tr>
<td>E/A</td>
<td>91</td>
<td>72</td>
<td>60</td>
<td>223</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>38.4%</td>
</tr>
<tr>
<td>Symbolic</td>
<td>75</td>
<td>94</td>
<td>101</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>46.6%</td>
</tr>
<tr>
<td>Critical</td>
<td>16</td>
<td>13</td>
<td>15</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.6%</td>
</tr>
<tr>
<td>Total Abstracts</td>
<td>196</td>
<td>193</td>
<td>191</td>
<td>580</td>
</tr>
</tbody>
</table>

As the intent of this study was to determine the epistemological nature of research being done in applied linguistics, it is necessary to view the results in terms of multiple corpus’, i.e., by field and by individual journal. In this way, a better picture of the epistemological orientations of the field and respective journals may be understood, as well as allowing for an analysis of the possible influence of editorial policies. Results of the inventory of
research in applied linguistics reveals that the research epistemologies favored within the field (corpus totals) were symbolic science (270 abstracts; 46.6% of the research corpus), followed by empirical/analytic science (223 abstracts; 38.4% of the research corpus). Critical science had only 44 abstracts represented for a 7.6% share of the research corpus. The results also show 43 disagreements in classification, with 17 abstracts classified as empirical/analytic and symbolic science by two readers and 26 being classified a symbolic and critical science by two readers (see Table 4). No disagreements in classification between E/A and critical sciences occurred. The difference between instances or E/A-symbolic and symbolic-critical disagreements in both TESOL Quarterly and Applied Linguistics indicated a greater level of difficulty in distinguishing between symbolic and critical sciences, as opposed to E/A and symbolic sciences. In addition, the total lack of disagreements between E/A and critical paradigms indicated that the differences between these two paradigms are easily distinguishable (see Appendices A-C for examples of reader disagreement abstracts). The resulting 7.4% disagreement within the research corpus suggests that all four readers effectively followed the classification schema utilized in this study and that this schema is also effective in classifying the nature of published research in applied linguistics. However, in order to assess the validity of this claim, it is necessary to investigate the nature of the disagreements by analysis of reader justifications of two randomly selected abstracts per disagreement subset (e/a-symbolic and symbolic-critical) and across outside readers.

Analysis of the randomly selected samples of disagreements from the subsets of E/A-symbolic and symbolic-critical classifications suggests that disagreements were a manifestation of ambiguous representations of article content in specific abstracts. It is apparent that these ambiguities allowed differing interpretations of meaning and assumptions of actual article content. Therefore, given the ambiguity of specific abstracts and corpus percentage (7.4%, see Table 4), the classification schema utilized in this study may be said to be internally valid.

**TABLE 4**

<table>
<thead>
<tr>
<th>Reader/Paradigm Disagreement</th>
<th>Reader 1/Author</th>
<th>Reader 2/Author</th>
<th>Reader 3/Author</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Analytic/Symbolic</td>
<td>2 E/A 3 Symbolic</td>
<td>3 E/A 3 Symbolic</td>
<td>2 E/A 4 Symbolic</td>
<td>10 E/A 7 Symbolic</td>
</tr>
<tr>
<td>Symbolic/Critical</td>
<td>3 Symbolic 6 Critical</td>
<td>4 Symbolic 4 Critical</td>
<td>5 Symbolic 4 Critical</td>
<td>14 Symbolic 12 Critical</td>
</tr>
<tr>
<td>Totals</td>
<td>14 (7.1%)</td>
<td>14 (7.2%)</td>
<td>15 (7.8%)</td>
<td>43 (7.4%)</td>
</tr>
</tbody>
</table>
1. Inventory Results across Journal and Paradigm

Inventory totals for *TESOL Quarterly* (see Table 5) showed that it heavily favored symbolic science (63% of TQ corpus), with E/A and critical science accounting for 24% and 13% of the TQ corpus. While these figures related a strong preference for publishing symbolic science, and marginal publishing of E/A and critical science, corpus totals by field (all journals) illustrated that *TESOL Quarterly* represents 59% of critical science, 45% of symbolic science, and 21% of E/A science. These figures showed that although critical science has marginal representation (13% of corpus), *TESOL Quarterly* is more critically based than the other two corpus journals.

Inventory totals for *Applied Linguistics* (see Table 5) showed a relatively even distribution between E/A (43%) and symbolic (48%), while critical science had marginal representation with 9% of the *Applied Linguistics* corpus. However, corpus totals by field (E/A 34%, Symbolic 33%, and critical 39%) revealed that *Applied Linguistics* publishes more than one third of the critical work in the field. In this way it may be stated that *Applied Linguistics* positions itself along the epistemological center of the field.

Inventory totals for *SSLA* (see Table 5) showed a heavy preference for the publishing of E/A science by exhibiting *SSLA* corpus totals of 62% E/A, 37% symbolic, and .6% critical. This epistemological orientation towards E/A science became more apparent in light of the field corpus totals, which showed *SSLA* representing 45% of E/A science, 22% of symbolic science, and 2% of critical science. By publishing almost half of the corpus’ E/A articles, it may be stated that *SSLA* most clearly represents E/A epistemology in the field of applied linguistics.

### TABLE 5

<table>
<thead>
<tr>
<th>Journal/Paradigm</th>
<th>E/A Total &amp; Paradigm % By Field</th>
<th>Symbolic Total &amp; Paradigm % By Field</th>
<th>Critical Total &amp; Paradigm % By Field</th>
<th>Abstract Totals &amp; Paradigm % By Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>TESOL Quarterly</em></td>
<td>47, 21%</td>
<td>121, 45%</td>
<td>26, 59%</td>
<td>Total: 194, E/A: 24%, Symbolic: 63%, Critical: 13%</td>
</tr>
<tr>
<td><em>Applied Linguistics</em></td>
<td>76, 34%</td>
<td>89, 33%</td>
<td>17, 39%</td>
<td>Total: 182, E/A: 43%, Symbolic: 48%, Critical: 9%</td>
</tr>
<tr>
<td><em>SSLA</em></td>
<td>100, 45%</td>
<td>60, 22%</td>
<td>1, 2%</td>
<td>Total: 161, E/A: 62%, Symbolic: 37%, Critical: 6%</td>
</tr>
</tbody>
</table>

Paradigm Totals & % of Corpus: 223, 38.4%, 270, 46.6%, 44, 7.6%, 580
2. Inventory Results by Journal across Paradigm and Time

Inventory results charted across journal, paradigm, and time, more clearly revealed the epistemological trends by individual journal and the field of applied linguistics. Graphic representation of inventory results from TESOL Quarterly (see Figure 1) revealed a stark separation between E/A and symbolic sciences, excepting the years 1990 and 1992. In addition, it revealed a large separation between symbolic and critical sciences, with the exception of the year 1999, which included the special topic issue, Critical Approaches to TESOL (33:3). It also illustrated a general fluctuation of critical abstracts over time, revealing that although TESOL Quarterly publishes 59% (see Table 5) of the critical science by journal corpus, its publishing of critical science remains uncertain and marginal.

**FIGURE 1**

*TESOL Quarterly* Results Across Journal, Time, and Paradigm

Graphic representation of inventory results for Applied Linguistics (see Figure 2) across paradigm and time revealed that although it published similar numbers of E/A (43%) and symbolic (48%) sciences (see Table 5), these numbers fluctuated through the corpus timeframe. In addition, it is equally apparent that although Applied Linguistics exhibited a steady number of critical science abstracts from the year 1993 on, the number of critical abstracts was well below those of E/A and symbolic science.
FIGURE 2

Applied Linguistics Results Across Journal, Time, and Paradigm

![Graphic representation of inventory results for SSLA (see Figure 3) across paradigm and time revealed a fairly even distribution between E/A and symbolic sciences through the years 1992-1996, with the year 1990 showing a wide split favoring E/A science and the years 1997-1999 fluctuating between the two sciences. More apparent, however, is the regular nonexistence of critical science representation. This graphic representation clearly illustrates SSLA’s epistemological orientation favoring E/A science and complete marginalization of critical science. Finally, graphic representation of inventory totals across journal (see Figure 4), paradigm and time revealed that the representations of A/E and symbolic sciences in the field of applied linguistics fluctuated over the time of the corpus, but were relatively even in number (see Table 3). It is also apparent that although representations of critical science increased from the year 1993 on, critical science was marginally represented in the publishing of the field. However, in order to make clear statements regarding the nature of publishing in the field of applied linguistics, it was necessary to investigate what influence respective journal editors had on the articles published in the research corpus. Therefore, it was necessary to track the inventory results across the tenures of individual journal editors.]}
FIGURE 3
*SSLA* Results Across Journal, Time, and Paradigm

*Studies in Second Language Acquisition*

![Graph](image)

FIGURE 4
Inventory Totals by Journal Across Paradigm and Time

*Field Totals*

![Graph](image)
3. Inventory Results across Editor Tenure

Investigation of the epistemological orientation and historical trends in applied linguistics would be incomplete without an analysis of the effect editors have on the publishing of research. While inventory results may reveal dominant epistemologies and historical trends within the overall field of applied linguistics, it will not reveal whether these trends were totally field based or were attributable to the editorial policies of specific corpus journals. Therefore, an analysis of inventory results across editor tenure was undertaken to determine the extent to which editorial polices influence the epistemology of the field.

1) TESOL Quarterly Editors

*TESOL Quarterly* has historically had one managing editor per issue. Managing editors for the corpus timeframe were:

- Carol Chapelle, Iowa State University (1999; v33:2-v33:4).

Inventory results from Silberstein’s tenure (see Table 6) revealed a distribution of 31 E/A, 56 symbolic, and 5 critical abstracts, with 5 E/A-symbolic and 4 symbolic-critical disagreements. This distribution illustrated that her tenure favored publication of symbolic over E/A science and marginal publication of critical science articles. Inventory results from McKay’s tenure revealed a sharp increase in the ratio between symbolic and E/A science (57 symbolic and 15 E/A abstracts) and a 10 abstract increase in critical science from Silberstein’s tenure. These data revealed a strong trend in *TESOL Quarterly* to move away from the publishing of E/A science towards a greater representation of symbolic and critical sciences. While critical science under McKay’s tenure accounted for only 15% of her corpus, it is significant that this equals her tally from E/A science. However, even if the disputed symbolic-critical abstracts were added to the critical science total, it would still amount to only a marginal (22%) of the total publishing corpus. Chapelle’s tenure revealed a continuation of McKay’s trend towards greater representation of symbolic and critical science. However, as her tenure was less than one year and included the special-topic issue (*Critical Approaches to TESOL*, 1999, v33:3), no strong statements may be made about her tenure. While the differing tenure results between Silberstein and McKay suggest that individual editors may have influence over which types of research are published, the results are not conclusive in that it may also illustrate a trend in the field as a whole, and the influence of assistant editors. Nonetheless, a marked shift towards a greater
representation of critical science did occur.

**TABLE 6**

<table>
<thead>
<tr>
<th>Paradigm/Editor-Tenure</th>
<th>E/A</th>
<th>Symbolic</th>
<th>Critical</th>
<th>E/A-Symbolic Disagreements</th>
<th>Symbolic-Critical Disagreements</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silberstein v24,1-</td>
<td>31</td>
<td>56</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>101</td>
</tr>
<tr>
<td>v28,1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McKay v28,1-v33,1</td>
<td>15</td>
<td>57</td>
<td>15</td>
<td>2</td>
<td>7</td>
<td>96</td>
</tr>
<tr>
<td>Chappelle v33,2-v33,4</td>
<td>1</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>

2) Applied Linguistics Editors

*Applied Linguistics* has historically had two managing editors per issue. Managing editors for the corpus timeframe were:


Inventory results for *Applied Linguistics* (see Table 7) revealed a very even distribution between E/A and symbolic sciences for the tenures of Chaudron (36-40), Mitchell (44-49), Lantolf (36-38), and McCarthy (27-29). The results revealed that the only noticeable trend in *Applied Linguistics* publishing was in an increase of critical science publications in Lantolf and McCarthy’s tenure. While this data, in conjunction with the disputed symbolic-critical abstracts, may indicate a trend towards a greater representation of critical articles in *Applied Linguistics*, critical science would still be marginally represented. The tenures of Kramsch and Bygate suggested movement away from E/A science (with 4 and 3 abstracts, respectively) and a continuation of a trend towards greater critical science representation (2 abstracts for 1999). However, as their tenure is of such brief duration, no strong statements regarding their tenure may be made. Inventory analysis revealed that although the number of critical science articles published during Lantolf and McCarthy’s
tenure increased, the increase in representation of critical science articles fell well below what was published in *TESOL Quarterly*. This data seems to confirm the inventory results across journal and paradigm (see Table 3) that indicated that *Applied Linguistics* represented a middle ground or consensus on epistemological orientations within the field of applied linguistics.

### TABLE 7

<table>
<thead>
<tr>
<th>Paradigm/Editor-Tenure</th>
<th>E/A</th>
<th>Symbolic</th>
<th>Critical</th>
<th>E/A-Symbolic Disagreements</th>
<th>Symbolic-Critical Disagreements</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chaudron v11,1-v13,4</td>
<td>36</td>
<td>40</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>83</td>
</tr>
<tr>
<td>Mitchell v11,1-v15,4</td>
<td>45</td>
<td>49</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>103</td>
</tr>
<tr>
<td>Lantolf v15,1-v19,4</td>
<td>36</td>
<td>38</td>
<td>12</td>
<td>3</td>
<td>6</td>
<td>95</td>
</tr>
<tr>
<td>McCarthy v16,1-v20,1</td>
<td>27</td>
<td>29</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>80</td>
</tr>
<tr>
<td>Kramsch v20,1-v20,4</td>
<td>4</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Bygate v20,2-v20,4</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>15</td>
</tr>
</tbody>
</table>

3) SSLA Editors

*SSLA* has historically had only one managing editor per issue. Albert Valdman (University of Indiana) was the managing editor for the entire corpus timeframe. Inventory results for *SSLA* (see Table 8) revealed clear epistemological favoritism for E/A science (100 abstracts) over symbolic science (60 abstracts) and a nearly complete rejection of critical science (1 abstract and 3 symbolic-critical disagreements). Given the fact that *SSLA* has had only one managing editor over the entire corpus timeframe, statements regarding editorial influence are difficult to make. However, a comparison of the editorial trends between *TESOL Quarterly* and *Applied Linguistics* suggested that significant editorial influence towards the publishing of E/A science was exerted in *SSLA*. At the very least, the data indicates that *SSLA* represents the bastion of E/A science publishing in the field of applied linguistics.
Analysis of editorial trends indicated that editors may have considerable influence over the research published in their respective journals. This assertion is illustrated by the relative epistemological stasis in *Applied Linguistics* and *SSLA* and the large shift in *TESOL Quarterly* towards symbolic and critical science. Stronger statements may not be made as the results may also be affected by a general paradigm shift within the field as a whole and the influence of assistant editors. Clearly, the shift in the representation of critical science between the editorships of Silberstein and McKay (see Table 6), and the paradigm totals of *TESOL Quarterly* in juxtaposition to *Applied Linguistics* and *Studies in Second Language Acquisition* suggest the influence of editorial policy. While it is also clear that critical science receives marginal representation in the corpus timeframe, the true extent of the marginalization of critical science in the field of applied linguistics was not represented in the inventory data, for the epistemological nature of submitted but refused articles were not included within the corpus of this study. Therefore, it may be that many critical articles are refused, or that few are submitted. This question is important as the refusal of many critical articles would indicate a clear gate-keeping function for editorial policy. Conversely, if few are submitted, it reveals an overall epistemological orientation in applied linguistics that marginalizes critical science. While this aspect of editorial policy was not included in this study, and I am not certain of the extent to which such research is possible, close textual analysis of critical articles might shed some light on this issue by illustrating how critical research is represented in the field.

**TABLE 8**  
**Inventory Results by SSLA Editors**

<table>
<thead>
<tr>
<th>Paradigm/Editor-Tenure</th>
<th>E/A</th>
<th>Symbolic</th>
<th>Critical</th>
<th>E/A-Symbolic</th>
<th>Symbolic-Critical</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valdman v12,1-v21,4</td>
<td>100</td>
<td>60</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>170</td>
</tr>
</tbody>
</table>

Analysis of inventory results across journal, paradigm, time, and editor indicated that four conclusions about the publishing of research in applied linguistics during the prior decade may be made: First, the 38.4%-46.6%-7.6% ratio of E/A, symbolic, and critical sciences clearly indicated an epistemological orientation towards symbolic and E/A sciences and marginal representation of critical science (see Table 3). Second, inventory analysis across journal, paradigm, and time indicated a trend of increasing representation of critical science, although remaining at marginal levels by field and journal (see Table 4). Third, inventory analysis by journal across time and paradigm indicated that *TESOL Quarterly* exhibited strong trends towards increasing its representations of symbolic (63%)
and critical science (13%), while decreasing representations of E/A science (24%), thereby positioning itself as the dominant journal for representing symbolic and critical sciences in the field. *Applied Linguistics*, while increasing its representations of critical science, steadily maintained a balance between E/A and symbolic sciences, thereby displaying a middle ground epistemological orientation within the field; *SSLA* exhibited a heavy preference for E/A (62%) over symbolic science (37%), while almost completely rejecting critical science (6%), thereby representing itself as bastion E/A science in the field (see Table 5). Fourth, while the data was inconclusive, inventory analysis of editors across journal, paradigm and time indicated that editors may exercise epistemological influence over the publishing of research.

**IV. CONCLUSION**

The inventory results presented here illustrate the epistemological orientation and trends of applied linguistics of the previous decade as well as the editorial trends of the professional journals surveyed. The data indicates that although the field of applied linguistics exhibited a trend towards a greater representation of critical science in the previous decade, it remained firmly rooted in the E/A and symbolic epistemologies. While there may be a greater move towards critical science in the current decade, it seems unlikely anything approaching parity in the representation of research paradigms in the professional literature of applied linguistics has been achieved. These findings suggest that the concerns of Block (1996) and Firth and Wagner (1997) regarding the reproduction and entrenchment of epistemological and research perspectives in applied linguistics remain valid today.

The dangers of the continued dominance of empirical/analytic and symbolic sciences in applied linguistics go far beyond the considerations of the intellectual stagnation of the field. The implications of the possibilities and limitations of each research paradigm have direct affects on the theories and pedagogies that flow from them, and thereby, affect the students and teachers who are the consumers of what we produce (Habermas, 1988; Popkewitz, 1984; Shannon, 1989). While no consensus regarding the nature and limitations of research paradigms exists within applied linguistics, according to Popkewitz (1984) and Shannon (1989), empirical/analytic and symbolic science are not able to effectively explicate or theorize issues of culture and power. Their *a priori* apolitical, distanced stance confines them to the role of describing phenomena, thereby precluding from direct involvement in social change. In a world environment where the learning and use of English as an international language is continually increasing, it is naïve to believe that a field of study, and the epistemologies that underlie each field, can be neutral. In this way, it
may also be said that dominance of empirical/analytic and symbolic sciences in applied linguistics is detrimental as their descriptive nature also precludes them from investigating or advocating issues of social justice. Given the contents of recent literature that posits the colonial genealogy and continuing neo-colonial influences in applied linguistic theory and pedagogy (Kubota, 2001; Phillipson & Skutnaab-Kangas, 1996; Pennycook, 2001), it is clear that the potential social effects of our efforts can no longer be ignored or marginalized in terms of published research.

What is not clear is the extent to which editorial policies and the tenure of specific editors affect the nature of research being published. The results of this study suggest that there may be some connection between these issues and the marginalization of critical approaches to research. The recent investiture of Suresh Canagarajah as editor of the TESOL Quarterly and the subsequent research published in that journal may signal an opening of epistemological perspectives in applied linguistics. Regardless of the actual nature of the research currently being published in applied linguistics, it is clear that we need a more comprehensive understanding of the nature of research being done. In this way, the following limitations of this study may serve to spur further research in this area. First, the inventory of research articles was taken from only three professional journals. Many other journals relevant to this study exist. Second, only the previous decade of research articles within study’s corpus were examined. An inventory of greater duration would give a clearer picture of epistemological development within applied linguistics. Third, the use of abstracts for article classification may obscure the actual research epistemologies of individual research articles. Fourth, as this study did not include paradigmatic representation of articles submitted but refused, statements made regarding the actual epistemological orientation of applied linguistics as they are applied in the field may not be conclusive. Fifth, as this study does not investigate how the ownership of respective journals may affect editorial policy, definitive statements regarding the epistemological control of published research by editors may not be made. Sixth, the 7.4% (see Table 2) disputed abstracts indicated that abstract representation of actual article content was the primary cause of classification disagreements and that ambiguous or misleading abstract representations occurred across journal and time. Therefore, comparative samplings between abstract and article content may be necessary.

REFERENCES

findings and the heart and soul of SLA. *Applied Linguistics, 17*(1), 63-83.


APPENDIX A
Example Disagreement Between Author and Reader 1

Critical Realism: An Emancipatory Philosophy for Applied Linguistics?

David Corson

Applied linguistics goes beyond ideal matters of linguistic meaning and into the real world of human interaction. It relates theory (and theories) to practice. So its concerns reach into questions of ‘being’ itself. The influential philosophy of the human sciences, critical realism, begins with questions of being. It views the non-human properties of the social world as real entities, especially the reasons and accounts that people offer to interpret the material and immaterial aspects of their worlds. If applied linguists were to take these accounts more seriously, applied linguistics might contribute more directly to improving the human condition after locating applied linguistics within its implicit theories of knowledge, this article outlines critical realism as a philosophy, comparing it with the work of prominent social theorists, and arguing for its clear relevance to applied linguistics. The article presents six areas in applied linguistics that might be reformed the hegemonic nature of theories, dictionary-making, language planning, linguistic nomenclatures, the treatment of standard and non-standard varieties, and the delivery of second language programs. The author ends by arguing that if critical realism were to become a guiding philosophy for applied linguistics, then the epistemology ethically suited to the field would be a much more inclusive theory of knowledge than the one that presently dominate (p. 166).

Author Rationale: Critical science. Implies historiography and is obviously political. Praxis.

Reader 1 Rationale: Symbolic Science. Uses the big words, but does not situate them.

**APPENDIX B**

*Example Disagreement Between Author and Reader 1*

*Some Properties of Bilingual Maintenance and Loss in Mexican Background High-School Students*

**Hakuta Kenji and Daniel D’Andrea**

Properties of the maintenance and loss of Spanish/English bilingualism were investigated in 308 high-school students of Mexican background. Subjects were classified by their depth of familial establishment in the United States. The key variables investigated were their actual and self-reported proficiencies in Spanish and English, self-reported language choice behavior in various settings, and their language attitude. The largest difference in Spanish proficiency was found between the cohort who were born in the United States but whose parents were born in Mexico and the cohort whose parents were born in the United States, with maintenance of Spanish evident up to this group. Maintenance of Spanish proficiency was principally associated with adult language practice in the home, and was not predicted by the subject’s language choice outside the home or their language attitude. In turn, adult language choice was found to be affected by the demographic fact of immigration, the adults ability to use English in the home, and increasing distance in the familial social network ties to Mexico. Outside of the home domain, language choice was found to show rapid and constant shift towards English. This shift in language choice was unrelated to Spanish proficiency, but instead was predicted by the subject’s language attitude. Language attitude also appeared to contaminate self-reported proficiency in both Spanish and English. Finally, a response latency task for vocabulary production and recognition in Spanish suggested that attrition of Spanish is best characterized as difficulty in retrieval rather than total loss (1992, p. 72).

Author Rationale: Symbolic science. Contextual and explicates rules of symbolic interaction.

Reader 2 Rationale: E/A science. Quantitative and apolitical.

**APPENDIX C**
Example Disagreement Between Author and Reader 3

*Language Curriculum Development in South Africa: What Place for English?*

**Gary P. Barkhuizen and David Gough**

As in other parts of the world, language-in-education planning in South Africa is composed of two interrelated domains: decisions about languages taught as subjects and decisions about languages used as media of instruction (or languages of learning, as they have come to be known in South Africa). Alternative political ideologies and educational philosophies have clearly determined the nature of each of these decisions and their implementation—a point especially true of the South African situation. In this article we focus on the changing role and status of English within new language-in-education policies in South Africa. Because the implementation of new policies needs to be understood in the light of past policies and their effects, we briefly place current policy debates in their historical context. We then present a model that provides a descriptive framework for analyzing and evaluating decisions made relating to language-in-education planning. We discuss existing constraints on policy implementation in the South African context and conclude by identifying issues related to the process of language-in-education planning that we discovered through ongoing assessment of the planning process itself (1996, p. 453).

Author Rationale: Symbolic science. Historical and situated, yet describes a context with no clear political agenda.

Reader 3 Rational: Critical science. It has everything it needs for critical science.

Epistemologies and Research Paradigms in Applied Linguistics: 10 years of Published Research

Applicable levels: University
Key words: Epistemology, Research, Critical Pedagogy

Rod Pederson
Graduate school of TESOL-MALL
Woosong University
17-2, Jayang-dong
Dong-gu, Daejeon
300-718, Korea
Email: docrod588@yahoo.com

Received in November, 2006
Reviewed in December, 2006
Revised version received in February, 2007