Methodological Trends in Disability and Higher Education Research: Historical Analysis of the Journal of Postsecondary Education and Disability

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Abstract

In order to assess the status of the research base that informs "what works" for students with disabilities in higher education, it is necessary to conduct an examination of the methodologies used in the literature. The authors of the current study analyzed the methodological trends across the thirty-year lifespan of the *Journal of Postsecondary Education and Disability*, spanning the years 1983 to 2012. Every article published by *JPED* was coded using an electronic tool comprised of four domains and corresponding subdomains. The authors concluded that data-based studies constitute more than half of all studies published in the *Journal*, with the majority of articles being descriptive and quantitative in nature. Only six studies used a control or comparison condition. Additional findings and implications are discussed.

Keywords: Methodology, evidence-based practices, quantitative research, qualitative research, data-based articles, postsecondary education, disability

Today, the near nation-wide adoption of Common Core State Standards ([CCSS]; National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010) and college and career-ready initiatives (U.S. Department of Education, 2010) in K-12 settings has brought greater attention to issues of equitable access to postsecondary education for students with disabilities. The reauthorization of Individuals with Disabilities Education Act (IDEA) in 1997 and 2004 emphasized the inclusion of students with disabilities in accountability reporting, thus further raising both standards and expectations for students with disabilities. While these federal policy initiatives are certainly encouraging, the true challenge is to ensure that students with disabilities have equitable access to postsecondary education. In order to promote authentic access, there must continue to be advancements in the process of education, programs, and policies in higher education that result in improved outcomes for students with disabilities.

Together, policy changes and significant social movements have enabled disability to be included in the greater discourse regarding institutional diversity. Just as with race, ethnicity, socioeconomic status, and sexual orientation, disability is merely a quality of the human condition; in other words, a way in which people are alike and different (Wehmeyer, 2013). The Higher Education Opportunity Act (HEOA) of 1965 was among the earliest policies directed at ensuring equal opportunity and access (Madaus, Kowitt, & Lalor, 2012). Among the seven titles of the original policy were provisions for financial aid programs, scholarships, insured loans, inter

est subsidies, and work-study programs. Decades later, in 2008, "programs to provide students with disabilities with quality postsecondary education" was specified among the general provisions of the reauthorization (Madaus et al., 2012, p. 35).

As a result, higher education has experienced a significant and rapid increase in enrollment of students with disabilities over the past 40 years. Today, students with disabilities comprise approximately 11% of the college student population (Newman et al., 2011). Higher education has long been thought of as an opportunity for upward social mobility; in fact, the average college graduate earns 84% more over a lifetime than an individual with only a high school diploma (Carnevale, Rose, & Cheah, 2011). Yet, equal opportunity to both access and earn a college degree has long been unavailable to many in American society (e.g., students of color, women). While considerable progress has been made toward addressing this inequality, persistent disparities remain insofar as access to and success in postsecondary education for people with disabilities. For example, findings from the National Longitudinal Transition Study -2 (NLTS2) show dismal degree completion rates for student with disabilities; specifically 41% for 2-year and 34% for 4-year postsecondary degree programs over an 8-year period (Newman et al., 2011). As such, for people with disabilities, degree attainment in postsecondary education remains a persistent obstacle.

Identifying Trends in the Literature on Students with Disabilities in Higher Education

Chronology of research and programs. Research and the subsequent literature base serves as a vital resource for evaluating the effectiveness of programs and supports to determine trends in research that includes college students with disabilities. Of 1,342 research articles on disability and higher education over the past 55 years, 25% were published in the *Journal of Postsecondary Education and Disability* (*[JPED]*; Dukes, et al., 2014).

JPED serves as the primary professional journal for personnel who work to advance the goal of full participation by students with disabilities in higher education. *JPED* is celebrating its thirtieth year of publication, and this special issue honors this historic occasion. Originally published by the Association on Handicapped Student Service Programs in Postsecondary Education (AHSSPPE), who renamed their organization the Association on Higher Education And Disability (AHEAD) in 1992, *JPED* has been the publication outlet for more scholarship about the diverse experiences of students with disabilities in college than any other journal. Its rich history makes it an excellent source for examining the methodological trends common in the literature base about services and supports for and the experiences and beliefs of college students with disabilities.

In order to assess the research base for programs and practices to improve outcomes for students with disabilities in higher education, a close examination of the methodologies used throughout the literature is warranted. Thus, the purpose of the current study was to examine the methods used to conduct research on disability within the context of postsecondary education throughout the thirty-year history of *JPED*.

Method

The present study is a secondary analysis of data collected as part of a review of the literature on postsecondary education and disability published between the years 1955 and 2012 (Dukes et al., 2014). Articles (*n* = 336) from 25 volumes of *JPED* and its predecessor, the *AHSSPPE Bulletin*, were analyzed for the present study (see Madaus, Lalor, Gelbar, & Kowitt, this issue). Volumes 1-4 of the *AHSSPPE Bulletin*, published between 1983 and 1986, were found in hardcopy as they are not presently available electronically; volumes 5 – 25 of *JPED*, published between 1987 and 2012, were accessed electronically. Volumes 5 – 8 of *JPED* were obtained via ERIC as a compilation (Lesh & Ozer, 1990) and volumes 9 – 25 were retrieved from the AHEAD website. The hardcopies of the *AHSSPPE Bulletin* were made available to four research team members, while the *JPED* articles were made available to the complete research team by use of a cloud server (i.e., Dropbox™).

All 336 *JPED* articles published between 1987 and 2012 were reviewed by a seven-person research team. Of the 336 articles, 283 met the criteria for inclusion in the study. To be included, articles were about postsecondary education for students with disabilities (broadly considered to include faculty, disability services, etc.). Furthermore, the article focused on one or more of the following topics and/or populations: (a) programs and services for accepted students into degree-granting programs at a 2- or 4-year college or university; (b) programs, services, or experiences of matriculated students; or (c) articles about the experiences of students who had withdrawn or graduated from a degree granting program at a 2- or 4-year college or university. Articles (n = 53) about secondary students in transition, transition-aged programs, and non-matriculated students were excluded from the study.

Domain and Subdomain Development

In the absence of an established taxonomy to classify articles on postsecondary education and disability, the research team undertook the task of identifying themes within the literature that could form the basis of a taxonomy. The taxonomy is organized around four distinct levels of study dealing with both different and specific units of analysis (i.e., Students; Programs or Institutions; Faculty or Non-Disability Support Staff; and Construct Development). As a matter of procedure, a no-fit code was created for current anomalies in the research literature. These levels or collections of studies became the four domains, with related subdomains and definitions, used as the taxonomy classifications (see Table 1). Domain development followed a rigorous and iterative process of review including multiple stages of pilot testing, formal review by previous editors of *JPED*, and a final review by the research team (see Madaus et al., this issue, for more). It should be emphasized that the domains are not rank-ordered by level of importance nor are they hierarchical in nature. The domain numbers have no meaning other than to convey how classifications resulted from the analysis.

Instrument Development

The electronic coding instrument used for the present study was developed through an iterative process of pilot testing and refinement (available from the first author on request). The procedures for developing the instrument were based on those used for similar literature coding studies on the topic of career development and transition of individuals with disabilities (Carter et al., 2013; Madaus et al., 2013). Developed in SurveyMonkey™, the study's instrument consists of 148 possible items. Items address whether an article includes original data (e.g., not secondary data analyses such as NLTS2 or NSSE), whether it is data-based or non-data-based, the research methodology employed, and domain and subdomain identification. Skip logic directed coders to follow-up questions based on prior choice selections (e.g., selection of the Student-Level Domain prompted selection of related Student subdomains). In total, the instrument underwent three rounds of pilot coding to adjust instrument clarity and skip logic accuracy (see Madaus et al., this issue, for more information).

Coding Process

Unique alphanumeric codes were developed for each article, allowing for results to be linked to year of publication and matched to coders for reliability analyses. Two research team members coded each article. When coding disagreements were noted, the relevant study team members met to address discrepancies with the goal of reaching consensus. When discrepancies could not be resolved between the initial two coders, a third study team member reviewed the articles and served as an arbiter.

Inter-Rater Reliability

As indicated, members of the research team coded each article (n = 336) from all journal volumes (n = 30). All data were subjected to an inter-rater reliability check. Across the four domains, and including the no-fit domain, overall reliability between the two primary coders was 91.3%. Inter-rater reliability of coders for the individual domains was as follows: Student-Level Domain (91.8%), Program or Institutional-Level Domain (88.2%), Faculty or Non-Disability Support Staff-Level Domain (94.3%), Construct Development-Level Domain (91.4%), and No Fit (100%).

Results

This study primarily sought to identify articles reporting original data throughout the thirty-year history of *JPED*.[1] Results indicate that data-based studies constitute more than half (54.4%, n = 154) of the 283 total articles from 1983-2012. Data-based studies largely presented experiences, perceptions, knowledge, attitudes, or beliefs of students with disabilities pursuing higher education. Additionally, studies examined faculty knowledge, attitudes, beliefs, training, and teaching practices as well as descriptions of postsecondary disability programs. The remaining 129 non-data-based studies (45.6%) focused on institutional compliance, descriptions of disability programs, conceptual models of instruction and service delivery, and programs for specific cohorts of students with disabilities. Results are further explored by trend across five six-year increments (e.g., 1983-1988, 1989-1994) and by the domain structure taxonomy developed by the Literature Mapping Group (2014) research team (see Madaus et al., this issue) below.

Data-Based Trends

Overall. Of the 154 data-based articles, the majority (28.6%, n = 81) provided descriptive-quantitative data (see Table 2). The second most common methodological design was qualitative with 15.1% (n = 43). Other designs included group (2.4%, n = 7), single subject (1%, n = 3) and mixed method (7.1%, n = 20). Quantitative designs represented 72% of all data-based articles with simple descriptive designs (22.5%, n = 64) and comparative designs (12.7%, n = 36) being the most common.

1 Methodological analysis of features in non-data-based articles is beyond the scope of this paper.

Table 1

Domain Descriptions

Domain	Domain Description
I. Student-Level Studies	Articles describe experiences and/or perceptions of students with disabilities in and after higher education.
II. Program or Institution-Level Studies	Articles describe service provision by the disability services office in a higher education institution. They can also relate to institutional policies and procedures pertaining to students with disabilities.
III. Faculty or Non-Disability Support Staff-Level Studies	Articles describe knowledge, attitudes, and beliefs of faculty and non-disability services personnel to enhance access to higher education for students with disabilities. They can also relate to education or support for faculty and staff in this practice.
IV. Construct Development-Level Studies	Articles describe development, evaluation, or validation of a variable, including development/validation of assessment instruments, evaluation metrics, theoretical models of service delivery, standards of practice, or ethics. The variable must be under proposal, in development, or being used in practice to gather empirical evidence.
No Fit	Articles meet criteria for inclusion in the study, but do not meet criteria to be included in any of the four domains.

Note. The domain numbers are not intended to suggest a hierarchical nature or rank ordering of the topics.

Table 2

Percentage of Data-Based Articles by Method and Type by Year

	Publication Year Increments											
Design category/Type of design	1983-1988		1989-1994		1995-2000		2001-2006		2007-2012		All Years	
	N	%	N	%	N	%	N	%	N	%	N	%
Study reported original data	17	25.4	20	58.8	19	57.5	35	67.3	63	64.3	154	54.2
Descriptive-quantitative designs	13	19.4	10	30.3	10	30.3	18	34.6	30	30.6	81	28.6
Group designs	1	1.5	0	0.0	2	6.1	1	1.9	3	3.1	7	2.4
Single subject designs	0	0.0	0	0.0	1	3.0	1	1.9	1	1.0	3	1.0
Mixed methods designs	2	3.0	2	5.8	0	0.0	4	7.6	12	12.2	20	7.0
Qualitative designs	1	1.5	8	23.5	6	18.1	11	21.2	17	17.3	43	15.1
Quantitative designs												
Simple descriptive design	12	17.9	9	28.1	8	24.2	14	26.9	21	21.4	64	22.5
Comparative design	5	7.5	3	9.4	1	3.0	8	15.3	19	19.3	36	12.7
Correlation design	0	0.0	1	3.1	3	9.1	1	1.9	10	10.9	15	5.2
Qualitative designs												
Phenomenological	2	3.0	7	20.6	6	18.1	8	15.3	17	17.3	40	14.1
Case studies	1	1.5	2	5.8	0	0.0	1	1.9	9	9.1	13	4.6
Grounded theory	0	0.0	1	2.9	0	0.0	5	9.6	4	4.0	10	3.5
Not clear	0	0.0	0	0.0	0	0.0	2	3.8	0	0.0	2	0.7
Features of rigor												
Included a control or comparison	1	1.5	0	0.0	2	5.7	1	1.9	2	2.0	6	2.1
Two different treatments	0	0.0	0	0.0	2	5.7	1	1.9	1	1.0	4	1.4
Typical practice	1	1.5	0	0.0	0	0.0	0	0.0	1	1.0	2	0.7
Randomized control trial	0	0.0	0	0.0	1	2.9	1	1.9	1	1.0	3	1.0
Established group equivalence	0	0.0	0	0.0	1	2.9	1	1.9	1	1.0	3	1.0
Time of measurement												
Pretest	1	1.5	0	0.0	2	5.7	1	1.9	2	2.0	6	2.1
Progress	0	0.0	0	0.0	0	0.0	0	0.0	1	1.0	1	0.3
Posttest	1	1.5	0	0.0	2	5.7	1	1.9	2	2.0	6	2.1
Maintenance	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Note. Publication year increment percentages are calculated within each increment (i.e., 67, 34, 33, 53, and 98 respectively). For all years the percentage is of the total articles (e.g., 283).

The 43 articles using qualitative methodologies were primarily phenomenological in design (14.1%, *n* = 40), while others employed case study (4.6%, *n* = 13) and grounded theory designs (3.5%, *n* = 10).[1]

Only 2.1% (*n* = 6) of the articles utilized a control or comparison condition. Of these, four studies compared different conditions (1.4%), with the remaining two studies employing a control of typical practice (0.7%). Across the 154 data-based articles, three studies (1%) were classified as having used randomization or establishing group equivalence. Further, six studies (2.1%) combined pre- and post-test data to measure differences over time.

Yearly increments. Data-based articles ranged from just one per year (for five separate years) to 18 in 2012, during years when the journal was published (it is important to note that no issues of *JPED* were published in 1992 and 1999). Across the thirty-year lifespan of the journal, there has been an increasing trend in the publication of articles with original data and the relative percentage of data-based studies in each six-year increment (see Table 2). For example, during the first ten years of the journal, 19.6% of articles (*n* = 3.2 per year) were data-based as compared to 58.4% (*n* = 9.0 per year) in the most recent ten-year period. Additionally, the most recent period 2007-2012 (*n* = 63) had nearly double the number of data-based articles than the previous period (2001-2006, *n* = 35).

As evidence of the gradual shift in methodological trends over the life of the journal, in *JPED*'s first ten years, quantitative methods were used in 28.5% (*n* = 26) of all studies (data-based and non data-based), while in the most recent ten-year period 48.1% (*n* = 66, see Figure 1) of studies employed quantitative methodology. Since 1989, the number of simple descriptive studies has been on the rise, though, as other methodologies emerged in the literature, descriptive studies represented a smaller percentage of the total number of studies each year (26.4% to 21.7%). More recently, the number of comparative and correlational designs has grown from 8 to 19 and 1 to 9, respectively, when comparing data from 2001-2006 and 2007-2012.

The use of qualitative methods has also increased from 6.5% to 19.7% when comparing the first ten years and most recent ten-year period (see Figure 1). Phenomenological designs maintained a relatively consistent proportion of the published research (15-17%) from 1989-2001. However, the sum has more than doubled between the 2001-2006 increment (*n* = 8) and the 2007-2012 increment (*n* = 17). Case study and grounded theory designs have been used on a limited basis but have increased in number during the last two time periods from 2001-2012, constituting 19 of the total 23 (82.6%) of these research designs used over the last thirty years.

Domain increments. The total number of articles ranged from a low of 38 in the Faculty or Non-Disability Support Staff-Level Domain to 101 in the Program or Institution-Level Domain (see Table 3). When examining the range, across 154 total articles containing original data, the Construct Development-Level Domain had 17 articles while the Student-Level Domain had 80. It is interesting to note that there are more data-based articles in the Student-Level Domain than the Program or Institution-Level Domain; however, the Program or Institution-Level Domain contained a greater total number of articles. Student-Level Domain (87%, *n* = 80) studies comprised the largest number of data-based studies, with Faculty or Non-Disability Support Staff-Level Domain being the next most common (55.3%, *n* = 21).

The descriptive-quantitative research design was most often employed with 38% of Student-Level Domain (*n* = 35), 31.6% of Faculty or Non-Disability Support Staff-Level Domain (*n* = 12), and 25.7% of Program or Institution-Level Domain (*n* = 26) studies using this method. The Construct Development-Level Domain had only six articles. Group studies were rarely used with three in Student-Level Domain (3.1%) and two each in Faculty or Non-Disability Support Staff-Level Domain (5.3%) and Construct Development-Level Domain (4.4%). Only three single subject studies were published in JPED's history and all were coded as Student-Level Domain studies (3.1%). Comparative studies were found in both Student-Level Domain (28.2%, *n* = 26) and Program or Institution-Level Domain (3.96%, *n* = 4).

Qualitative designs make up the second largest number of data-based studies. Of these, phenomenological designs are most common with 27 in Student-Level Domain and four in Faculty or Non-Disability Support Staff-Level Domain. Case studies and grounded theory designs are much less frequent, with Student-Level Domain having the greatest number with five case studies and eight grounded theory designs. Half of the control or comparison studies (*n* = 3) were in Student-Level Domain, with all three delivering instruction in two conditions. Additionally, Student-Level Domain had two of the three randomized design studies (with Construct Development-Level Domain having the only other) and also the only time of measurement to include a progress or mid-point data collection assessment.

1 Note that, due to mixed method and the use of multiple qualitative methods in single study, the individual number of articles may appear greater than the total in each category.

Table 3

Percentage of Data-Based Articles by Method and Type by Domain

	Domains											
Design category/Type of design	Student-Level		Program/ Institution-Level		Faculty/ Non-Disabil. Support Staff-Level		Construct Develop.-Level		No Fit		All Domains	
	N	%	N	%	N	%	N	%	N	%	N	%
Study reported original data	80	86.9	34	33.6	21	55.3	17	37.8	2	28.6	154	54.2
Descriptive-quantitative designs	35	38	26	25.8	12	31.6	7	15.6	1	14.3	81	28.5
Group designs	3	3.1	0	0.0	2	5.3	2	4.4	0	0.0	7	2.4
Single subject designs	3	3.1	0	0.0	0	0.0	0	0.0	0	0.0	3	1.0
Mixed methods designs	11	11.8	3	2.9	3	7.9	3	6.7	0	0.0	20	7.0
Qualitative designs	28	30.1	5	4.9	4	10.5	5	11.1	1	14.3	43	15.1
Quantitative designs												
Simple descriptive design	25	26.9	23	22.8	11	28.9	4	8.9	1	14.3	64	22.5
Comparative design	26	28.0	4	3.9	4	10.5	2	4.4	0	0.0	36	12.7
Correlation design	6	6.5	4	3.9	1	2.6	4	8.9	0	0.0	15	5.2
Qualitative designs												
Phenomenological	27	29	4	3.9	5	13.2	3	6.7	1	14.3	40	14.1
Case studies	5	5.4	3	2.9	2	5.3	3	6.7	0	0.0	13	4.6
Grounded theory	8	8.3	1	1.0	1	2.6	0	0.0	0	0.0	10	3.5
Not clear	0	0.0	0	0.0	0	0	2	0.0	0	0.0	2	0.7
Features of Rigor												
Included a control or comparison	3	3.1	0	0.0	1	2.6	2	4.4	0	0.0	6	2.1
Two different treatments	3	3.1	0	0.0	0	0.0	1	2.2	0	0.0	4	1.4
Typical practice	0	0.0	0	0.0	1	2.6	1	2.2	0	0.0	2	0.7
Randomized control trial	2	2.1	0	0.0	0	0.0	1	2.2	0	0.0	3	1.0
Established group equivalence	2	2.1	0	0.0	0	0.0	1	2.2	0	0.0	3	1.0
Time of Measurement												
Pretest	3	3.1	0	0.0	1	2.6	2	4.4	0	0.0	6	2.1
Progress	0	0.0	0	0.0	0	0.0	1	2.2	0	0.0	1	0.3
Posttest	3	3.1	0	0.0	1	2.6	2	4.4	0	0.0	6	2.1
Maintenance	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Note. Domain year increment percentages are calculated within each increment (i.e., 92, 101, 38, 45, and 7 respectively). For all years the percentage is of the total articles (e.g., 283).

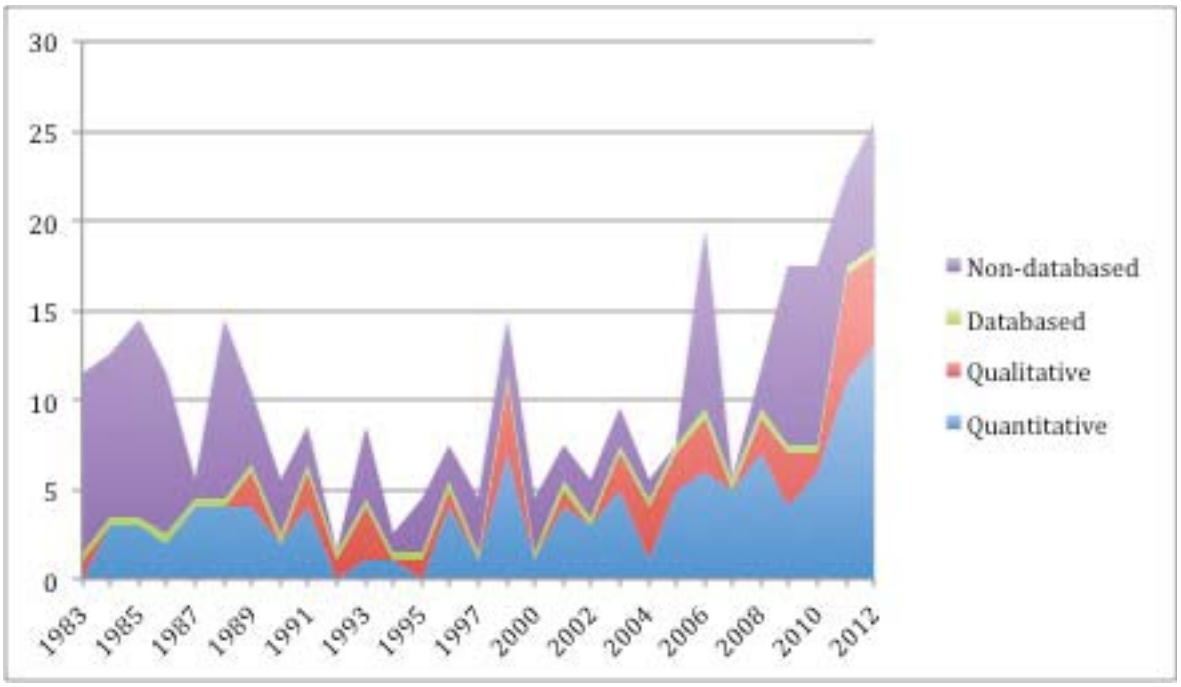

Figure 1. Number of articles by type across publication years.

Non-Data-Based Studies

Overall. Though specific analysis of non-data-based studies was beyond the scope of this review, a brief summary is provided given the large number of articles fitting this type of study. The 129 non-data-based articles had a range from one (in three separate years) to 11 (in 1985) during years when the journal was published. In contrast to the trend observed with data-based studies, non-data-based articles have decreased over the life of the journal with 45.4% (n = 5.9 per year) during the first 10 years to 36.1% (n = 4.7 per year) in the most recent 10-year period of the journal. Notably, the non-data-based studies exhibited a bi-modal distribution, with an average of 20.7% (n = 2.4 per year) during the journal's middle 10-year period, and a higher frequency on either end of the publication distribution across JPED's 30 years (see Figure 1).

Due to the statutory nature of educating students with disabilities, non-data-based articles were coded for whether they addressed legal or public policy issues. This category constituted 5% (n = 14) of the article total. Of note is that in the first ten-year period there were 10 such articles (71.4% of legal articles) with only two published from 2001-2012. The remaining 116 non-data-based articles (40.3%) address topics such as institutional compliance, descriptions of disability programs, conceptual models of service delivery and instruction, and programs for specific cohorts of students with disabilities (see Madaus et al., this issue for more).

Discussion

The purpose of this study was to examine methodological trends in research articles published in *JPED* over its lifespan. The thirtieth anniversary serves as an important benchmark in the journal's history and, arguably, the field of postsecondary education for students with disabilities. The examination of methodological trends allows readers to reflect upon – at least through the lens of *JPED* - what we know about students with disabilities in postsecondary environments as well as what we have yet to learn and translate into effective practice. *JPED* has served as the outlet for more than one-quarter (25.4%) of all of published research on disability and higher education, thus making it an ideal resource for examining methodological trends. This project coded all of the published articles in *JPED* from 1983 to 2012. Specifically, we examined the methodologies in all published research articles. In addition, results were categorized according to four identified domains: Student-Level, Program or Institution-Level, Faculty or Non-Disability Support Staff-Level, and Construct Development-Level studies.

Since 1983, over half of the *JPED* articles reported original data (54.4%), a trend that closely mirrors the 55.6% of data-based articles found in Carter and colleagues' (2013) review of the journal *Career Development and Transition for Exceptional Individuals*. Importantly, both the number and percentage of data-based articles in *JPED* increased over its thirty-year

history, indicating that the journal editorial leadership may be increasingly prioritizing the publication of data-based articles.

As shown in Figure 1, in the most recent years *JPED* has published more articles overall, with the majority being quantitative and data-based. There has not been the same trend with qualitative designs, which have only slightly increased in total number of articles each year while decreasing over the thirty-year period in terms of the relative percentage of articles over time. The number of qualitative articles remained relatively stagnant when compared to the quantitative studies. Notably, the number of issues published per year increased from two to four[1] since 1999, helping to explain the overall relative gain in number of articles.

A second important finding is the large majority of descriptive studies. Within the data-based article category, nearly 30% were quantitative descriptive designs, which was the most frequently used type of methodology across all *JPED* articles. Examples of this type of research include survey research, frequency counts and percentages of population characteristics, accommodation qualification and usage, and other program features. Descriptive studies are important in that they help the field understand the characteristics of a population, including how students with disabilities in higher education feel, what they do, and what types of services and supports they utilize.

The Student-Level Domain (i.e., students were the primary unit of analysis) had the most descriptive studies (38%), followed by Faculty or Non-Disability Support Staff-Level Domain, which addressed faculty and staff (32%), Program or Institution-Level Domain (26%), Construct Development-Level Domain (15%), and No Fit (14%). Thus, population characteristics of students are most commonly reported, with faculty and staff following. These findings help us understand both student and faculty/staff populations alike as they are currently characterized, or the "what is?" of the higher education and disability landscape (Carter, et al. 2013). Given that this is the most frequent type of methodology employed across the journal's lifetime, we can say with a good degree of confidence we know the characteristics of student populations, and are somewhat confident about faculty and staff populations.

Third, the growing number of phenomenological and case study qualitative designs (n=35 since 2001) enriches the quantitative descriptive studies by providing depth and subtlety to findings. Specifically, results provide direction for intervention development to fit the diverse landscape of higher education, including how students, programs, and policies impact one another in unintended ways. Unfortunately, not all studies adhered to recommendations for quality indicators of qualitative designs (e.g., Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005), leading to difficulty in identifying both the type of qualitative research and the credibility of the findings.

Fourth, and perhaps the most troublesome finding, concerns the very small percentage of studies that actually evaluate interventions for college students with disabilities. Empirical studies that include features of rigorous designs will help the field determine "what works?" for students with disabilities in higher education settings. The current study analyzed for critical features of rigor to begin the process of assessing quality. However, as the results indicate, only 6% of studies included features of rigor (e.g., pre/post test design, control or comparison group), thus precluding any discussion of overall quality. These findings are similar to the research conducted by Carter and colleagues (2013) on secondary transition and special education, which also showed an overall lack of rigor. However, it is important to emphasize that the lack of features of rigor is even more pronounced in the current study.

Fifth, across all data-based study types (qualitative and quantitative), our analysis determined that there were significant limitations to replication and generalization across *JPED* issues. For example, populations were often identified as postsecondary students with disabilities with no specific demographic or categorical identification. Moreover, when subjects were identified with a specific disability (e.g., autism, intellectual or learning disabilities), no additional information was provided (e.g., if the individual had a reading or math related disability). Further, it was frequently unclear what standing the subject had (e.g., Freshman, Senior, Graduate student, part-time, etc.), again limiting any conclusions that might be drawn regarding a target population (see Madaus, et al. this issue for more).

Sixth, the domain categorization demonstrates that the yearly and methodological trends can obscure how much research is done in specific areas. For example, of the 64 total simple descriptive designs, 75% were in the Student-Level Domain and Program or Institution-Level Domain, and of the 36 comparative study designs, 72% were in the Student-Level Domain. That is, while the majority of studies used the simple descriptive design, the categorization shows that descriptions are mostly about students and programs, and that the vast majority of comparisons are limited to populations of students, thus resulting in less research of this nature in the remaining domains. Similarly, the features of rigor are highly concentrated in Student-Level Domain where

1 No Fit articles constituted the remaining two articles and were not counted as a separate domain.

50% of the total number of studies including a control or comparison and 66% of the total number of studies using randomization and equivalence were employed. Taken together, it is clear that while the second most researched category in *JPED*, Program or Institution-Level Domain, is focused on programs, without stronger research designs to substantiate claims, the journal may be limited in supporting improvement of program-level best practice.

Finally, the concentration of articles using such a limited number of research designs constrains the growth of the field of postsecondary education for students with disabilities relative to *JPED*. Depth of understanding across the field requires both a macroscopic (systems or programs) and a microscopic (individual students) unit of analysis, as well breadth of research methodology from qualitative to quantitative (Skrtic, 1995). Such comprehensive application of research methods moves the field beyond considering a problem or describing a population toward developing theories and interventions than can be implemented at scale to improve outcomes for students with disabilities. However, given the substantial percentage of articles on postsecondary education for students with disabilities published in this journal (25.4%), *JPED* is well positioned to contribute to serve as a major knowledge base in the field.

Limitations

While we examined 336 published articles over thirty years in the current study, there are several important limitations to consider in the interpretation of the findings. Perhaps the greatest limitation is the fact that we selected only articles from *JPED*, even though this journal has published approximately one-fourth of the research concerning college students with disabilities. Despite this high concentration of research in a single journal, there are other journals that have also published research on this topic. Following *JPED*, the next most common source is the *Journal of Learning Disabilities* with 5.3% of published studies on disability and higher education. Following that, the *Journal of College Student Development* (3.4%), *College Student Journal* (2.2%), *Disability and Society* (1.7%), the *Journal of Vocational Rehabilitation* (1.6%), *Learning Disabilities Research & Practice* (1.3%), and *Exceptional Children* (1.2%) have made notable contributions (Dukes et al., 2014). Although *JPED* remains the dominant source on research of disability and higher education, it is important to consider research published in other journals when making further generalizations. Therefore it is essential that the entirety of the extant research literature be reviewed and summarized in a manner similar to this more focused review.

A second limitation concerns the broad focus on methodology rather than a specific focus on quality indicators within the research studies printed in *JPED*. We did not study the type of design beyond broad classifications (e.g., quantitative, qualitative, mixed methods). This broad focus leads to a more general understanding of the literature but lacks further detail of study designs, such as multiple regression or ANOVA. Moreover, without assessing the quality of the current studies, we are unable to comment on the reliability and generalization of what data-based studies do conclude across *JPED*'s history.

Finally, as stated in previous research that also examined the extant literature of a particular journal or field (e.g., Carter et al., 2013), we have not chosen to speculate on the historical factors related to methodological trends. Federal funding initiatives, public policies, and a set of related societal factors very likely impact chosen methodologies over time. Moreover, the pragmatics of achieving the most robust randomized control trial designs may be impractical at best and at times impossible to achieve. However, developing a historical picture of methodological trends over time (as in Figure 1) provides at least an initial large-scale perspective of how a field such as postsecondary education for students with disabilities is progressing (or not). In this case, recent growth in numbers of studies is a strong indicator of vitality in the field.

Implications

The future of disability and higher education research must begin to consistently employ more features of rigorous designs. Particularly, such designs in high profile journals like *JPED* will allow us to address causality and begin to define "what works" for this population. Longitudinal studies are also warranted. Such designs would allow for a better understanding of life after college in order to determine the connection between higher education, employment outcomes, and quality of life. For example, we assume students with disabilities with college degrees are better off than their peers with disabilities who do not hold college degrees, and some findings have shown this to be true (e.g., Madaus, 2006).

JPED's editorial board has propelled the journal into the twenty-first century by keeping it in step with the changing culture of methodological design and growing focus on students with disabilities in postsecondary education. Changes over time in total number of issues, articles, and data-based articles are a sign of the health of the journal and the field. As the leader in publishing articles in the area of postsecondary education and disability, current and future editors might consider:

(a) continuing to utilize more rigorous designs, (b) helping policy makers to connect new grant funding to this target population, (c) encouraging special issues that bring together scholars concerning diversity on higher education so that disability can be at the table, and (d) continuing to prioritize and showcase research conducted in college environments.

Moving forward, it is critical to consider creative partnerships among scholars in higher education, special education, and personnel in postsecondary disability service offices. Such partnerships can help produce high quality research. Some of the barriers for higher education and disability scholars are a function of population access, particularly in regards to privacy laws (e.g., FERPA) and other institutional review board compliance regulations (e.g., avoiding discriminatory practice, equitable recruitment of human subjects, obtaining consent). At the same time, disability services personnel themselves face similar barriers to conducting high-quality research, particularly a lack of time and resources. It seems sensible for these professionals to partner and, thus, complement each other. Examples of this type of partnership exist in the research (Lombardi, Murray, & Dallas, 2013; Murray, Lombardi, Seeley, & Gerdes, 2014; Murray, Wren, Stevens, & Keys, 2009). Yet, these efforts remain the exception rather than the rule. Working to develop these partnerships should be a priority so that research can be embedded into the daily practices of disability service personnel.

It is the responsibility of the research community to provide an understanding of best practice to meet the needs of students currently pursuing postsecondary education, while also applying a comprehensive set of research questions and corresponding designs to identify and improve these practices and related outcomes for students with disabilities entering postsecondary education tomorrow. The methodological history of research in *JPED* on individuals with disabilities in postsecondary education highlights how the field has endeavored to establish itself, yet much work lies ahead.

References

Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional children, 71*(2), 195-207.

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011). *The college payoff: Education, occupations, and lifetime earnings.* Washington, DC: Georgetown University Center on Education and the Workforce.

Carter, E. W., Brock, M. E., Bottema-Beutel, K., Bartholomew, A., Boehm, T. L., Cease-Cook, J. (2013). Methological trends in secondary education and transition research: Looking backward and moving forward. *Career Development and Transition for Exceptional Individuals, 36*(1), 15-24.

Carter, E. W., Trainor, A. A., Cakiroglu, O., Swedeen, B., Owens, L. A. (2010). Availability of and access to career development activities for transition-age youth with disabilities. *Career Development and Transition for Exceptional Individuals, 33*(1), 13-24.

Dukes, L. L., Faggella-Luby, M., Madaus, J. M., Lombardi, A., Lalor, A. R., & Kowitt, J. S. (April, 2014). *Effective Practices for Students with Disabilities in Higher Education: Analysis from 1985-Present*. Presentation at the 2014 annual convention of the Council for Exceptional Children. Philadelphia, PA.

Individuals with Disabilities Education Act. (1997). P. L. 105-17.

Individuals with Disabilities Education Improvement Act. (2004). P. L. 108-446.

Lesh, K., & Ozer, M. (1990). Journal of Postsecondary Education and Disability. Volumes 5-8, 1987-1990. *Journal of Postsecondary Education and Disability*.

Lombardi, A. R., Murray, C., & Dallas, B. (2013). University faculty attitudes toward disability and inclusive instruction: Comparing two institutions. *Journal of Postsecondary Education and Disability, 26*(3), 221-232.

Madaus, J. W. (2006). Employment outcomes of university graduates with learning disabilities. *Learning Disability Quarterly, 29*(1), 19-31.

Madaus, J. W., Gelbar, N. W., Dukes, L. L., Faggella-Luby, M., Lalor, A. R., & Kowitt, J. S. (2013). Thirty-five years of transition topics: A review of CDTEI from 1978 to 2012. *Career Development and Transition for Exceptional Individuals, 36*(1), 7-14.

Madaus, J. W., Kowitt, J. S., & Lalor, A. R. (2012). The higher education opportunity act: Impact on students with disabilities. *Rehabilitation Research, Policy, and Education, 26*(1), 33-42.

Murray, C., Lombardi, A., Seeley, J., & Gerdes, H. (2014). Effects of an intensive disability-focused training experience on university faculty self-efficacy. *Journal of Postsecondary Education and Disability, 27*(2), 179-193.

Murray, C., Wren, C. T., Stevens, E. B., & Keys, C. (2009). Promoting university faculty and staff awareness of students with learning disabilities: An overview of the Productive Learning u Strategies (PLuS) project. *Journal of Postsecondary Education and Disability, 22*, 117-129.

National Governor's Association, & Council of Chief State School Officers. (2010). *Common Core State Standards Initiative*. Retrieved from http://www.corestandards.org/

Newman, L., Wagner, M., Knokey, A., Marder, C. Nagle, K., Shaver, D., & Wei, X. (2011). T*he post-high school outcomes of young adults with disabilities up to 8 years after high school: A report from the National Longitudinal Transition Study-2*. (NCSER 2011-3005). Menlo Park, CA: SRI International.

Skrtic, T. (1995). Power/knowledge and pragmatism: A postmodern view of the professions. In T. Skrtic (Ed), *Disability and democracy: Reconstructing (special) education for postmodernity* (25-62). New York, New York: Teachers College Press.

United States Department of Education. (2010). *College- and career-ready standards and assessments*. Retrieved from www2.ed.gov/policy/elsec/leg/blueprint/faq/college-career.pdf

Wehmeyer, M. L. (2013). Beyond pathology: Positive psychology and disability. In *The Oxford Handbook of Positive Psychology and Disability* (ed. M. Wehmeyer). New York, NY: Oxford University Press.

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