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Page Length and Methodological Characteristics of Recently Published Doctoral Dissertations in Education

Abstract

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Keywords

Dissertations, page length

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Page Length and Methodological Characteristics of Recently Published Doctoral Dissertations in Education

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Abstract: In this methodological review, we conducted a quantitative content analysis of a random sample of 107 education-related doctoral dissertations published in Proquest Dissertations and Theses database in 2011. Seven raters coded each article in terms of page lengths (overall and within each chapter), research method (qualitative, quantitative, or mixed-methods), author gender, and university characteristics (online or traditional). We found that the median education dissertation length was 161 pages long, but those page lengths differed between research methods. The median page lengths of qualitative, mixed method, and quantitative dissertations were 210, 187, and 147 respectively. The median page length of education dissertations from online universities was 44 pages shorter than education dissertations from their traditional counterparts. Contrary to previous research, we found no statistically significant relationship between gender and methods choice.

Keywords: Dissertations, page length

Page Length and Methodological Characteristics of Recently Published Doctoral Dissertations in Education

Methodological reviews have led to improvements in research design and reporting, the identification of islands of practice, and the establishment of norms for budding researchers (Gorard & Taylor, 2004; Keselman et al., 1998; Wilkinson & Task Force on Statistical Inference, 1999). While there have been several methodological reviews of education dissertations (Avery, 1970; Coorough, 1993; Coorough & Nelson, 1994, 1997; Melendez, 2002; Morris, 1993; Randolph et al., in press; Rone, 1998; Sharpe, 1993, and Wick & Dirkes, 1973), none to our knowledge have concentrated on page length characteristics or how those page length characteristics covary with methods or university characteristics. We believe that this methodological review can help establish page length norms for the benefit of students and faculty in doctoral-level education programs.

In addition to the establishment of norms, methodological reviews can help identify islands of practice. For example, with the proliferation of online universities providing doctoral degrees in education, we think that it is important to know whether traditional and online universities differ in their dissertation page lengths, especially if page length of a dissertation is an indicator of rigor. Therefore, a second purpose of this study is to examine what factors covary with page lengths.

We were also interested in following up on Plowman and Smith's (2011) line of research on the relationship between gender and methods choice. Plowman and Smith found that, in the field of management, females authors tended to publish a significantly greater proportion of qualitative articles (26%) than male authors (17%). We wanted to see if their finding holds true in education dissertations as well.

In summary, there is little empirical information about the page length norms of doctoral dissertations in the field of education. In addition, there is little information about what methodological and authorial characteristics covary with page lengths. We hope that providing information on these issues will benefit doctoral students and their dissertation supervisors by understanding more about the education research community's norms for doctoral research.

Our specific research questions are listed below:

1. What are the page lengths characteristics of recently published education dissertations?
2. What are the proportions of qualitative, quantitative, and mixed-method education dissertations?
3. Are there statistically significant differences in those total page lengths of qualitative, quantitative, and mixed-method education dissertations?
4. Are there differences in the page lengths of education dissertations from traditional and online universities?
5. Is there a statistically significant association between methods choice and author gender?

Methods

Sampling, Coding, and Interrater Reliability

To find the population of recent education dissertations, we used the Proquest Dissertation and Theses database and searched for works classified as *doctoral dissertations* that had *education* as a subject heading, and were published in 2011. On the day that we searched, the search yielded a population of 8,663 dissertations. From that population we took a random sample with replacement of 131 of those dissertations. (Although we used a

replacement approach, it turned out that no dissertations were sampled twice.) From that sample of 131, we excluded 24 dissertations because they were not traditional five-chapter monograph dissertations or were dissertations written in languages other than English. A list of the dissertations included in this study can be found from Randolph (2012a).

Each of seven raters coded between eight and 23 of those dissertations on the following variables:

- Author's name;
- Gender of author (determined by name, an Internet search, or clues in the acknowledgments section);
- The title of the study;
- The method type (qualitative, quantitative, mixed-methods, or other);
- The name of the university where the dissertation was published;
- Whether the university was a traditional or primarily online university;
- The total number of pages of the dissertation (including the front matter);
- The page lengths Chapter 1 (Introduction), Chapter 2 (Literature Review), Chapter 3 (Methods), Chapter 4 (Discussion), Chapter 5 (Conclusion), the Reference section, Appendices, and CV section; and
- The total number of references.

The coding book and details on the method can be found from Randolph (2012b).

In addition to coding a distinct set of dissertations, each rater coded the same randomly sampled dissertation to establish interrater reliability. For each categorical variable on the interrater reliability dissertation, a multirater free-marginal kappa was calculated (Randolph,

2005; Warrens, 2010). While an intraclass correlation coefficient would normally be used to calculate interrater reliability on continuous variables, the assumptions for that test were not met because of a lack of variance on those variables (i.e., there was perfect agreement).

Therefore, we just report on the disagreements since there were only two. All of the raters were either students in a doctoral-level education program or already held doctoral degrees in education.

Data Analysis

First we examined the demographic and page length characteristics using common descriptive statistics such as frequencies, means, standard deviations, 95% confidence intervals, median, minimum, maximum, and skew. We examined these taken together and also disaggregated by author gender, type of university, and research method. When calculating the page numbers for the appendices and CV sections, we excluded dissertations that did not have appendices or a CV section. The data analysis was conducted with SPSS 20.

Because the data were very highly skewed and because of the high statistical power of our data to avoid Type I errors, we used a nonparametric inferential approach. We used a Kruskal-Wallis test to determine if there was a statistically significant difference in the total page lengths among qualitative, quantitative, and mixed-method dissertations. We used a Mann-Whitney *U* test to determine if there was a statistically significant difference in the total page lengths between online and traditional universities. We used χ^2 analysis to determine if there was a statistically significant association between gender and research method. Since three separate statistical tests were conducted, we used the Bonferroni correction to keep type 1 error rates in check; our a priori α was .017 (i.e., .05/3).

Results

Complications

After choosing the sample, we found that at least one of the dissertations was actually an EdS thesis, rather than a doctoral dissertation. Although it had 47 pages and was an outlier, we decided to leave it in the study because it was classified by Proquest Dissertations and Theses as a *dissertation*.

Another complication was that there was some initial confusion about which universities were traditional and online. After the data were collected, the raters came to a consensus that the universities that would be considered online were Argosy University, Capella University, Liberty University Online, Phoenix University, and Walden University.

Interrater Reliability

There was perfect agreement on all of the categorical variables, kappa = 1.00. There was also perfect agreement on all of the continuous variables except for the total number of pages and the total number of references variables. On the total number of pages, two of the seven raters did not include the front matter. This coding error was caught and fixed before coding the other dissertations. The total number of pages does include the front matter. On the total number of references section, one rater counted 158 references instead of 160 as the other six raters did.

General Characteristics of the Sampled Dissertations

From the population of 8,663 dissertations with the subject *education* published by Proquest Dissertations and Theses in 2011 at the time we did our search, we randomly chose, with replacement, 131 dissertations to include in this study. Of those 131 dissertations, 24 (18.30%) did not meet the criteria for inclusion and were excluded. Of those 24, 21 were

excluded because they were not traditional five-chapter format dissertations, two were excluded because they were written in a language other than English, and one was excluded because the text was not retrievable. The characteristics of the remaining 107 dissertations are presented in Table 1.

The 107 dissertations originated from 73 different universities. The universities with the most dissertations in the sample were Capella University with 10 dissertations and Walden University with six dissertations. The rest of the universities had three or fewer dissertations included in the sample.

Page Length and Methodological Characteristics

Tables 2 through 5 show descriptive statistics for all 107 dissertations combined, qualitative dissertations, quantitative dissertations, and mixed-method dissertations, respectively. Similarly, Figures 1 through 4 show error plots for all dissertations combined, qualitative dissertations, quantitative dissertations, and mixed-method dissertations, respectively. (Although the data were skewed, we decided to present error plots rather than box plots to increase interpretability.) The results of a Kruskal-Wallis test indicated that there were statistically significant differences in page lengths among qualitative, quantitative, and mixed-method dissertations, $\chi^2(2) = 17.18, p < .001$. The median page lengths of qualitative, mixed method, and quantitative dissertations were 210, 187, and 147 respectively.

Figure 5 shows the mean differences in the total number of pages between traditional universities ($M = 190.24, SD = 85.52, Mdn = 172.00$) and online universities ($M = 148.74, SD = 66.60, Mdn = 128.00$). Education dissertations from traditional universities had a median page length that was 44 pages longer than education dissertations from online universities. A Mann-

Whitney U test indicated that the differences were statistically significant, $U = 524.00$, $z = -2.54$, $p = .011$.

Table 6 shows the crosstabulations between the gender of the dissertation author and the type of research method that was used. There was not a statistically significant association between author gender and method type, $\chi^2(2) = 0.01$, $p = .996$.

Discussion and Conclusion

Regarding the first research question, the page lengths of most education dissertations tend to be in the mid to high 100s; however, there is significant variability in page lengths. In terms of the lengths of the different chapters, the page lengths of Chapters 1, 3, and 5 tend to be in the teens and the page lengths of Chapters 2 and 4 tend to be in the thirties.

For the second research question, over half (53%) of the dissertations reviewed here were quantitative, about a third (33%) were qualitative, and the rest (13%) were mixed methods. These proportions are similar to the proportions found in education journals, which Gorard and Taylor in 2004 found to be 54%, 40%, and 5% for quantitative, qualitative, and mixed-methods articles respectively. It is not clear whether the greater proportion of mixed-methods articles in recent dissertations is because of an increase in the popularity of mixed-methods since 2004 or if mixed-methods are used more often in dissertations (where there are not page-constraints) rather than in journals, which do have page constraints.

In terms of the third research question, there was a statistically significant difference in page length among qualitative, quantitative, and mixed-method dissertations. Qualitative dissertations tend to be the longest with a median page length of 210. Mixed-methods dissertations tend to be slightly shorter with a median page length of 187. Quantitative dissertations tend to be the shortest, with a median page length of 147.

For, the fourth research question, there was a statistically significant difference between the page lengths of education dissertations published from traditional and online universities. Education dissertations from traditional universities were about 44 pages (median) longer than dissertations from online universities. Besides our own anecdotal experience, we have no hard evidence that the quantity of pages of an education dissertation is related to the quality of the dissertation (all other things being equal). However, if quantity is related to quality, this leads us to wonder whether online universities are behind their brick and mortar counterparts in terms of the quality of dissertations they deem to be fit to publish. The relation between page length and dissertation quality is an area we plan to address in follow up research. Finally, regarding the fifth research question, we did not find a statistically significant relationship between author gender and method choice. This is contrary to the research of Plowman and Smith (2011) who found that female authors tend to conduct qualitative research 9% more than their male counterparts do. In contrast, in our study male authors tended to conduct qualitative research about 1% more than female authors. The discrepancy between our and Plowman and Smith's findings might be because their research was done in the field of management and organization science, while ours was conducted in the field of education

In summary, we hope that the information on the page length differences between dissertations from traditional and online universities will help faculty and administrators reflect on why those differences are occurring and whether change needs to occur. Also, since our findings were contrary to previous research on the relationship between gender and methods choice, we hope that this will spur more research to shed light on this phenomenon. Finally, we hope that the knowledge gleaned here will help students and faculty in doctoral level education

programs better understand the page length norms for the different types of research methods used and finally answer the age-old question: “How long does it have to be?”

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Tables

Table 1

General Characteristics of the Sampled Dissertations

<i>Characteristic</i>	<i>Frequency (Valid Percentage)</i>
Gender of author^a	
Female	56 (53.30)
Male	49 (46.70)
Research method	
Qualitative	36 (33.60)
Quantitative	57 (53.30)
Mixed methods	14 (13.10)
Meta-analysis	0 (0.00)
Other	0 (0.00)
University Setting	
Traditional university	88 (82.20)
Primarily online university ^b	19 (17.80)

^a The gender of two authors was not able to be determined.

^b The universities that we considered to be primarily online were Argosy University, Capella University, Liberty University Online, Phoenix University, and Walden University.

Table 2

Descriptive Statistics for Education Dissertations (Aggregated)

<i>Section</i>	<i>M</i>	<i>SD</i>	<i>95% CIs</i>	<i>Mdn</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>
Total pages	182.87	83.73	166.82, 198.92	161.00	47	505	1.41
Chapter 1 pages	14.26	6.07	13.10, 15.42	14.00	3	34	0.56
Chapter 2 pages	35.01	16.63	31.82, 38.20	32.00	7	107	1.28
Chapter 3 pages	18.83	13.55	16.23, 21.43	16.00	3	96	2.94
Chapter 4 pages	45.17	49.05	35.77, 54.77	33.00	3	240	3.97
Chapter 5 pages	25.13	29.00	19.57, 30.69	18.00	5	241	4.86
Reference pages	13.28	7.53	11.84, 14.72	12.00	4	48	1.59
Number of references	135.13	81.64	119.48, 150.78	107.00	40	422	1.35
Appendix pages ^a	23.54	23.04	18.94, 28.13	16.00	1	114	1.88
CV pages ^b	2.17	1.53	1.59, 2.74	1.50	1	5	1.05

Note. $N = 107$.

^aOf the 99 dissertations that had appendices.

^bOf the 30 dissertations that had CV pages.

Table 3

Descriptive Statistics for Qualitative Education Dissertations

<i>Section</i>	<i>M</i>	<i>SD</i>	<i>95% CIs</i>	<i>Mdn</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>
Total pages	215.83	84.77	187.15, 244.51	210.00	49	423	0.41
Chapter 1 pages	16.92	6.37	14.76, 19.07	16.00	5	34	0.73
Chapter 2 pages	38.58	17.06	32.81, 43.81	35.00	7	85	0.82
Chapter 3 pages	20.86	14.06	16.10, 25.62	18.00	4	81	2.54
Chapter 4 pages	60.53	55.98	41.59, 79.47	43.00	4	315	3.07
Chapter 5 pages	37.78	43.75	22.97, 52.58	24.00	8	241	3.35
Reference pages	14.28	8.74	11.32, 17.24	12.50	5	48	1.95
Number of references	150.00	87.14	120.52, 179.48	137.50	52	422	1.26
Appendix pages ^a	25.67	23.34	17.39, 33.41	20.00	1	76	1.01
CV pages ^b	2.89	1.67	1.65, 4.13	1.00	1	5	0.23

Note. $N = 36$.

^aOf the 33 qualitative dissertations that had appendices.

^bOf the 9 qualitative dissertations that had CV pages.

Table 4

Descriptive Statistics for Quantitative Education Dissertations

<i>Section</i>	<i>M</i>	<i>SD</i>	<i>95% CIs</i>	<i>Mdn</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>
Total pages	154.82	69.68	136.34, 173.31	147.00	47	505	2.52
Chapter 1 pages	13.18	5.63	11.68, 14.67	13.00	3	26	0.25
Chapter 2 pages	33.74	16.78	29.28, 38.19	32.00	7	107	1.70
Chapter 3 pages	16.44	13.61	12.83, 20.05	14.00	3	96	3.89
Chapter 4 pages	28.65	19.98	23.35, 33.95	24.00	3	119	2.06
Chapter 5 pages	18.51	14.73	14.60, 22.42	15.00	5	107	4.11
Reference pages	12.75	7.07	10.88, 14.63	11.00	4	37	1.19
Number of references	127.63	82.05	105.86, 149.40	98.00	40	349	1.45
Appendix pages ^a	20.94	23.11	14.57, 27.31	15.00	2	114	2.73
CV pages ^b	1.63	1.09	1.05, 2.20	1.00	1	5	2.30

Note. $N = 57$.

^aOf the 53 quantitative dissertations that had appendices.

^bOf the 16 quantitative dissertations that had CV pages.

Table 5

Descriptive Statistics for Mixed-Methods Education Dissertations

<i>Section</i>	<i>M</i>	<i>SD</i>	<i>95% CIs</i>	<i>Mdn</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>
Total pages	212.29	97.51	155.98, 268.59	187.00	106	484	1.77
Chapter 1 pages	11.86	4.89	9.04, 14.68	10.50	5	21	0.55
Chapter 2 pages	31.00	14.07	22.88, 39.12	26.00	13	56	0.82
Chapter 3 pages	23.36	10.43	17.34, 29.38	20.50	8	44	0.83
Chapter 4 pages	72.93	82.36	25.37, 120.48	49.50	17	340	2.97
Chapter 5 pages	19.57	10.07	13.76, 25.38	18.00	7	39	0.47
Reference pages	12.86	6.01	9.39, 16.33	13.00	4	36	0.60
Number of references	127.43	63.10	91.00, 163.86	108.50	48	273	1.20
Appendix pages	28.69	22.33	15.20, 42.18	27.00	7	84	1.38
CV pages	2.60	2.19	-0.12, 5.32	1.00	1	5	0.61

Note. $N = 14$.

^aOf the 13 mixed-method dissertations that had appendices.

^bOf the five mixed-method dissertations that had CV pages.

Table 6

Cross-tabulations between Gender of Author and Method Type

	Qualitative	Quantitative	Mixed-Method	Total
Female	19 (34%)	30 (54%)	7 (13%)	56 (100%)
Male	17 (35%)	26 (53%)	6 (12%)	49 (100%)
Total	36 (34%)	56 (53%)	13 (12%)	105 (100%)

Figures

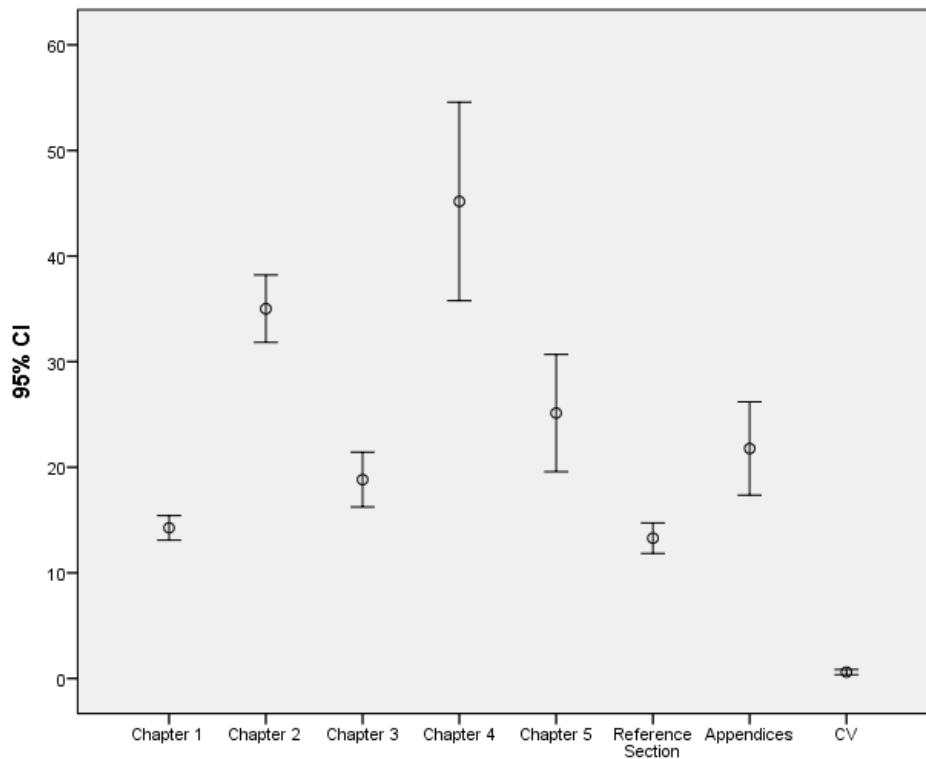


Figure 1. Chapter page lengths of education dissertations. The median total number of pages was 161.

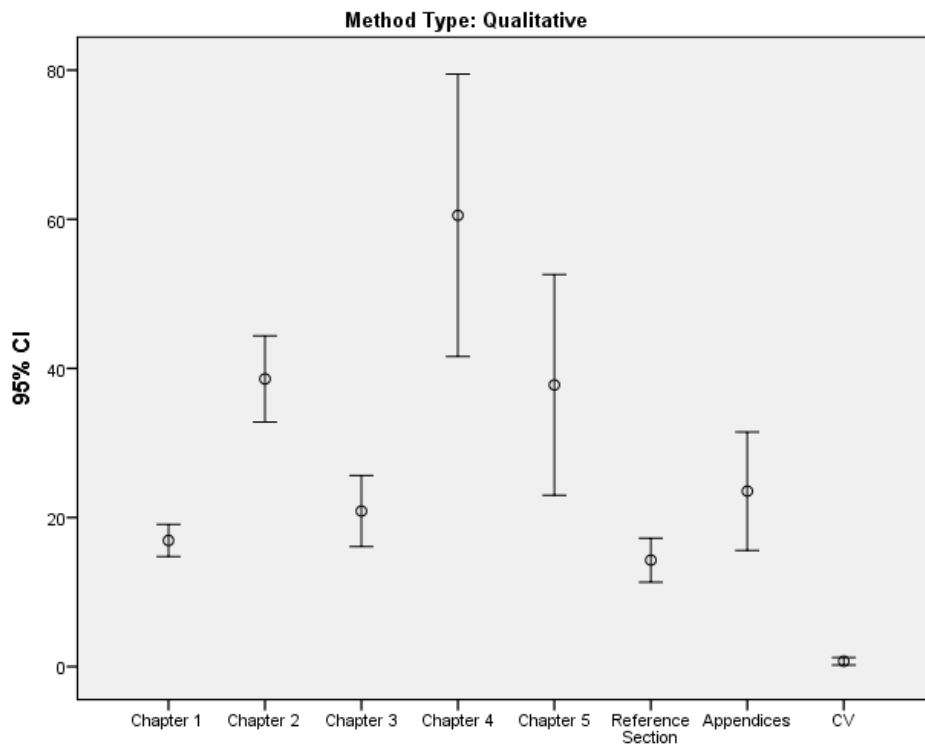


Figure 2. Chapter page lengths of qualitative education dissertations. The median total number of pages was 210.

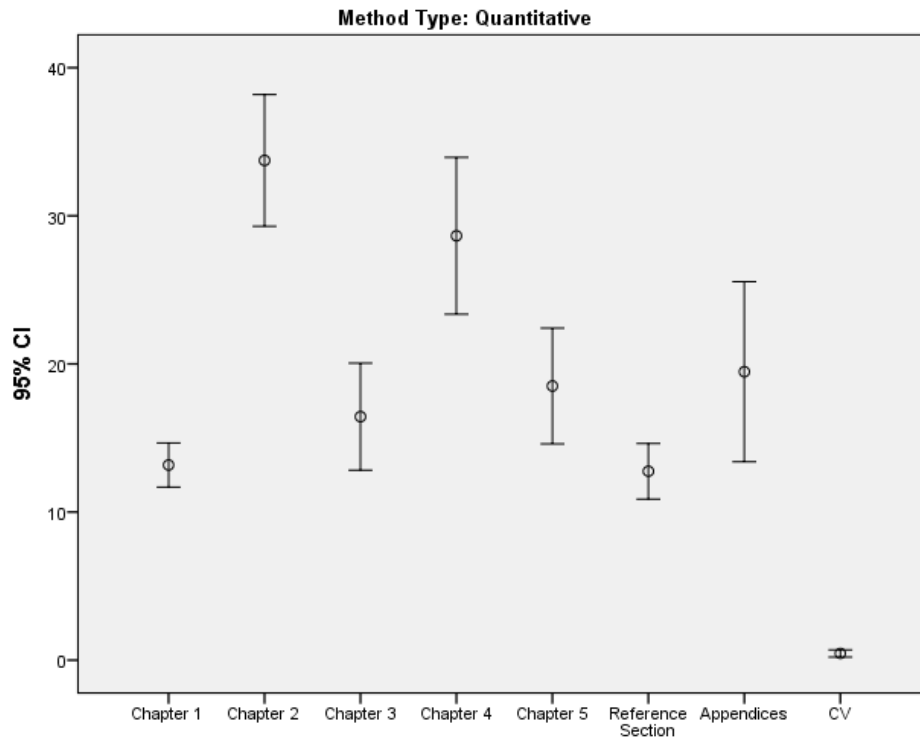


Figure 3. Chapter page lengths of quantitative education dissertations. The median total number of pages was 147.

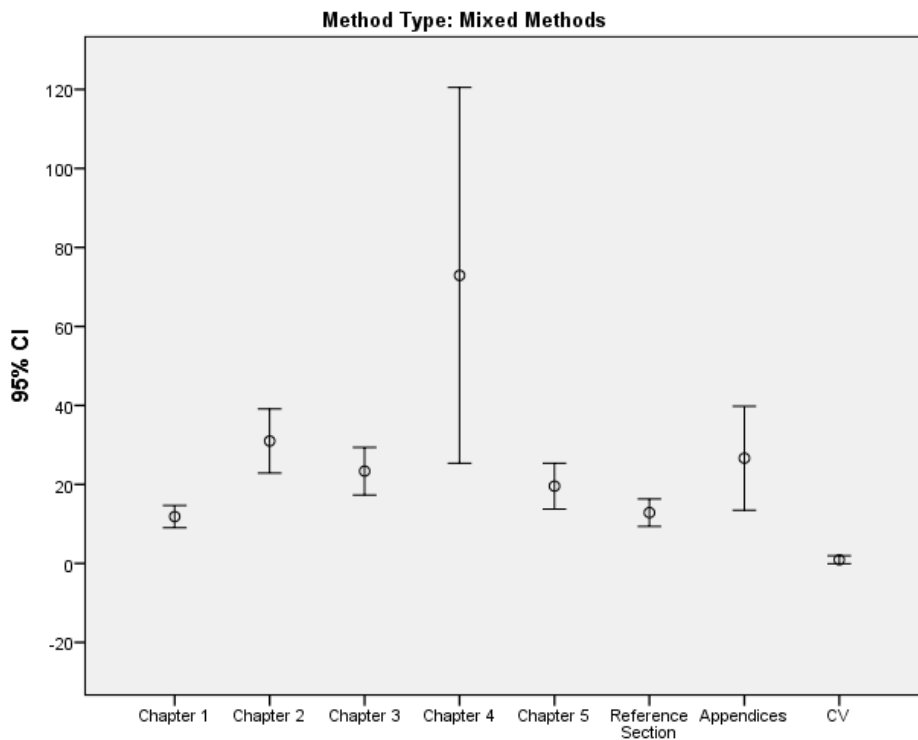


Figure 4. Chapter age lengths of mixed-method education dissertations. The median total number of pages was 187.

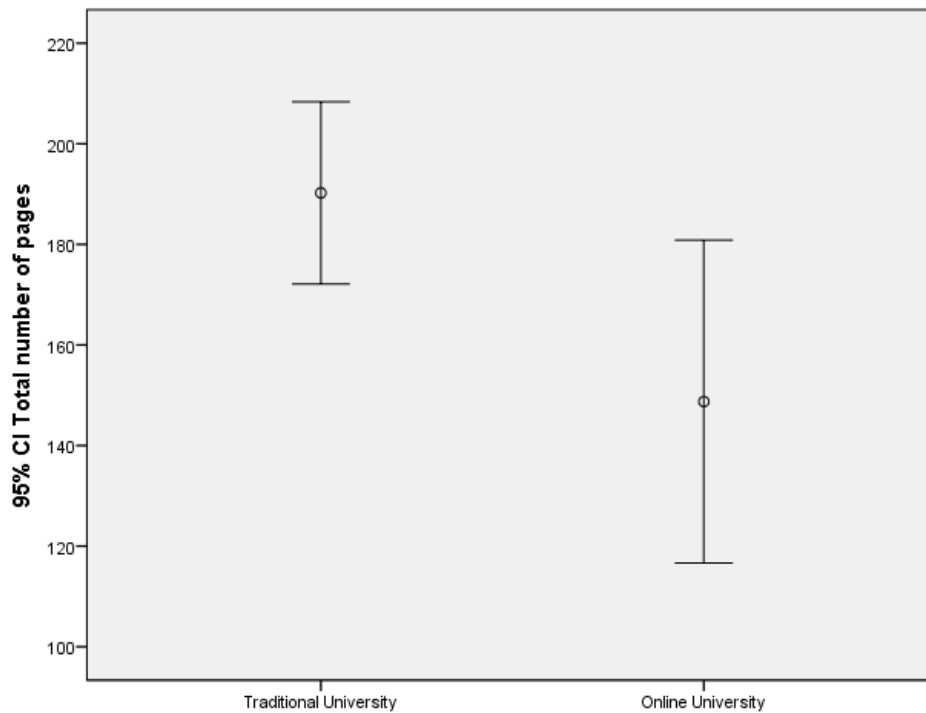


Figure 5. Differences in page lengths between traditional and online universities.