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Adult Learners and Credit for Prior Learning: Analytical Thinking and Drives

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Abstract

This study examined 364 adult learners using linguistic inquiry and word count (LIWC) of reflective writing assignments with implications for adult learners and educators and credit for prior learning (CPL).

Keywords: adult learners, nontraditional students, credit for prior learning (CPL), prior learning assessment (PLA)

Many Americans are missing out on the benefits associated with having a college degree (Cherrstrom & Boden, 2018). Only 37.8% of Americans aged 25+ have a bachelor's degree, and further analysis indicates disparities based on race/ethnicity (Census Bureau, 2022). Adult learners represent up to 41.33% of undergraduate students (NCES, 2021) and, compared to younger counterparts, have unique characteristics, challenges, and needs (Knowles, 1973; Ross-Gordon, 2011; Suwinyattichaiorn & Johnson, 2022). Credit for prior learning (CPL) can make the difference between adult learners earning a college degree or not (Boden et al., 2019). CPL awards academic credit for college-level learning gained outside the classroom using assessment testing or competency portfolios (Klein-Collins & Wertheim, 2013). Irrespective of age, gender, and race/ethnicity, CPL learners have higher graduation rates than non-CPL learners (CAEL, 2010). Adult learners merit examination to maximize the benefits of CPL and a college degree.

Purpose of the Study and Research Questions

The purpose of this study was to examine adult learners (nontraditional students) using linguistic inquiry and word count (LIWC) of reflective writing assignments. Based on this research purpose, our ongoing research of CPL, access to over 10,000 pages of student writing, and relevant features of LIWC analysis, research questions guided the study, two of which follow:

- What similarities and differences exist between CPL and non-CPL students in analytical thinking, clarity, authenticity, and emotional tone?
- What similarities and differences exist between CPL and non-CPL students in overall drives and underlying affiliation, achievement, and power?

The results of this study offer implications for adult learners, for adult educators and advisors, those facilitating CPL programs, and the field of adult education.

Perspective and Relevant Literature

In addition to adult education and CPL, this study situates at the intersection of reflective writing assignments, linguistic inquiry and word count analysis, and drives.

Reflective Writing Assignments

In higher education, reflection serves to generate, deepen, and document learning (Ash & Clayton, 2009). The process supports learners in sense making and in reimagining experiences to benefit themselves and society (Ryan, 2013). The reflective writing assignments analyzed in this study used Kolb's (1984) experiential learning model to promote self-reflection. Course content included theory (e.g., adult development, adult transition, disciplinary learning and ways of knowing) and learning activities to foster such reflection.

Linguistic Inquiry and Word Count Analysis

Words reflect our thinking, feelings, perspectives, and attentions (Tausczik & Pennebaker, 2010), and linguistic inquiry offers better understanding of adult learners. Widely used in the social sciences (Chung & Pennebaker, 2012), LIWC-22 software analyzes over 100 dimensions of text to understand a person's emotions, feelings, concerns, thoughts, and personality (Chung & Pennebaker, 2012; LIWC, n.d.). The software compares each word of a text file or group of files with the words in over 100 dictionaries, each corresponding to a specific category and relevant collection of words (LIWC, n.d.). Thus, researchers can analyze considerable amounts of textual data.

Analytical Thinking, Clout, Authenticity, and Emotional Tone

LIWC-22 uses four summary measures—analytical thinking, clout, authenticity, and emotional tone—to summarize and offer insight into a person's linguistic, psychological, and social processes (LIWC, n.d.; Pennebaker et al., 2015). Based on associated dictionary words and relevant research, each measure is algorithmically determined. The four summary measures may provide insight into the analytical thinking, clout, authenticity, and emotional tone of adult learners and differences between CPL and non-CPL learners.

Drives

McClelland (1985) identified three implicit drives, also referred to as needs or motives in the literature, learned in early childhood—affiliation, achievement, and power. LIWC-22 uses an overarching language dimension of *drives* and captures the underlying dimensions of affiliation, achievement, and power. Understanding the drives of adult learners and differences between CPL and non-CPL learners may offer insight for effective teaching, learning, and persistence to a college degree.

Research Design

The IRB at a large, public, HSI approved a study of adult learners in a degree completion program using existing data and an opt-out email. The major output from two required introductory courses was a reflective writing assignment, the professional growth plan (PGP), in which adult learners reflected on course content; their experiences in life, school, and work; and future goals. In an elective course, some also reflected on prior learning and created a competency portfolio for CPL evaluation.

Using criterion sampling, participants comprised nontraditional students who completed a comprehensive PGP, had accessible demographic data, and did not opt-out of the study. Based on university classifications, the final 364 participants comprised 57.4% women and 42.6% men and were 51.1% White, 33.8% Hispanic, 11.8% African American, 1.4% Asian, and less than 1% each Multi-racial, Unknown, International, and American Indian/Alaskan. Lastly, 49%

participated in CPL, and 51% did not. Lastly, 49% participated in credit for prior learning (CPL students), based on creating a competency portfolio during the elective CPL course, and 51% did not (non-CPL students).

Data collection comprised the PGP for each participant and corresponding participant information from university systems. Data analysis comprised linguistic analysis of the PGP files using LIWC-22 software and independent-samples t-tests to compare each LIWC summary measure as well as the drive language dimension scores for CPL and non-CPL learners.

Results

The section presents highlights from the results of the study, organized by research question. Traditional statistical tables are available upon request.

The first research question asked, what similarities and differences exist between CPL and non-CPL students in analytical thinking, clout, authenticity, and emotional tone? As similarities, results indicated no significant difference between CPL and non-CPL students in three of the four summary measures. CPL and non-CPL students scored low in clout, high in authenticity, and had a more positive than emotional tone. However, while scoring high in the fourth summary measure, results indicated a significant difference between CPL and non-CPL students in analytical thinking. For CPL students, analytical thinking was higher than for non-CPL counterparts.

The second research question asked, what similarities and differences exist between CPL and non-CPL students in overall drives and underlying affiliation, achievement, and power? Each language dimension score denoted the percentage of overall words affiliated with the dimension. Results indicated similarities and differences in drives. For overall drives, results indicated CPL students had a statistically significant and higher overall drive than non-CPL counterparts. To better understand these results, we then looked to the three underlying dimensions. As highest and lowest drives, with no significant difference, CPL and non-CPL students scored highest in achievement and lowest in power. In the middle, however, results revealed CPL students had a statistically significant and higher affiliation score than non-CPL counterparts.

Discussion

This section discusses key findings related to analytical thinking in adult learners as well as their drives.

Analytical Thinking

This study found adult learners who participate in CPL have higher analytical thinking compared to non-CPL counterparts. Analytic thinking “captures the degree to which people use words that suggest formal, logical, and hierarchical thinking patterns” (LIWC, n.d., Analytical Thinking (Analytic) section, para. 1). Analytical thinking skills are highly valued in higher education and in the workplace. In higher education, instructors frequently use Bloom’s taxonomy to develop learning objectives for courses. The revised taxonomy comprises six verbs, ranging from lower-order (remembering, understanding, applying) to higher-order (*analyzing*, evaluating, creating) thinking skills (Anderson & Krathwohl, 2001). In an elective course, CPL students in the current study learned and applied Bloom’s Taxonomy in creating a competency portfolio for evaluation. Recognizing and reflecting on everyday learning develops students as complex thinkers and reflective practitioners (Boden et al., 2019). Developing analytical thinking skills in college benefits students during school and beyond.

Drives in Nontraditional and CPL Students

In addition to traditional functional reasons, social and emotional reasons prompt adult learners to return to school (Horn, 2021). Drives motivate us to act and take a course of action (American Psychological Association, 2020). McClelland (1985) identified three implicit drives learned in early childhood—affiliation, achievement, and power. This study identified achievement as the highest drive for adult learners, seeking excellence and competing with themselves and others for high performance (McClelland, 1985). The study also found CPL students scored significantly higher in affiliation, making friends and meeting the demands or needs of others (McClelland, 1985). In contrast, power was the lowest drive for adult learners, who were less driven to impact others (McClelland, 1985) and less focused on status, dominance, and social hierarchies (Boyd et al., 2022). This lack of focus on status may intersect with adult learners' lack of clout and offer further insight.

Implications for Adult Education

For theory, this study adds an examination of nontraditional undergraduate students using LIWC of reflective writing assignments to the literature. For practice, similarities and differences between CPL and non-CPL adult learners offer implications. The study identified higher analytical thinking in adult learners who participated in CPL. Adult educators can use develop learning objectives requiring higher order thinking skills and learning activities and assignments to develop such skills. Future research might examine the CPL course content and activities to determine if additional reflection influenced the development of analytical skills.

The study also identified achievement as the highest drive among adult learners. For recruiters, advisors, and adult educators, increased focus on achievement and allure might boost interest, applications, and enrollments. The study further identified affiliation as a higher drive for CPL adult learners than non-CPL learners. Program coordinators, advisors, and adult educators might highlight affiliation and reward to promote interest in CPL. These examples and additional implications will guide adult learners, adult educators, and advisors, those facilitating CPL programs, and the field of adult education to support adult learners in earning a college degree.

In summary, adult learners aspire to a college degree but face challenges while pursuing one. Using linguistic inquiry and word count (LIWC) of reflective writing assignments, this study found adult learners have a high drive for achievement. The study also found students participating in credit for prior learning (CPL) had statistically higher analytical thinking and drive for affiliation. These results offer implications for prospective and adult learners, for academic advisors and instructors, as well as higher education institutions and CPL programs. Understanding the skills and drives of adult learners and those participating in CPL opens pathways to a college degree, providing access for all to the benefits associated with having one.

References

- American Psychological Association. (2022). *drive*. <https://dictionary.apa.org/drive>
- Anderson, L. W., & Krathwohl, D. R. (Eds.) (2001). *Taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.
- Ash, S. L., & Clayton, P. H. (2009). Generating, deepening, and documenting learning: The power of critical reflection in applied learning. *Journal of Applied Learning in Higher Education*, 1(1), 25-48. <https://scholarworks.iupui.edu/bitstream/handle/1805/4579/ash-2009-generating.pdf?sequence=1&isAllowed=y>

- Boden, C. J., Cherrstrom, C. A., & Sherron, T. (2019). Redesign of prior learning assessment in the award-winning degree completion program. *International Journal of Adult Vocational Education and Technology*, 10(3), 1-19. <https://orcid.org/0000-0001-5991-5908>
- Boyd, R. L., Ashokkumar, A., Seraj, S., & Pennebaker, J. W. (2022). *The development and psychometric properties of LIWC-22*. University of Texas at Austin. <https://www.liwc.app/static/documents/LIWC-22%20Manual%20-%20Development%20and%20Psychometrics.pdf>
- CAEL. (2010). *Fueling the race to postsecondary success*. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiWqaqGjen7AhXuEEQIHR1EApYQFnoECBEQAQ&url=https%3A%2F%2Ffiles.eric.ed.gov%2Ffulltext%2FED524753.pdf&usg=AOvVaw2cqZBVBpZizejWIwgm2W8Z>
- CAEL. (2011). *Underserved students who earn credit through prior learning assessment (PLA) have higher degree completion rates and shorter time-to-degree*. <https://www.cael.org/pla/publication/underserved-students-who-earn-credit-through-prior-learning-assessment-pla-have-higher-degree-completion-rates-and-shorter-time-to-degree>
- CAEL. (2017). *Chart the path to adult student success with PLA*. https://www.cael.org/pla/publication/chart_the_path_to_adult_student_success
- Cherrstrom, C. A., & Boden, C. J. (2018). Beacon of hope: Award-winning program redesign for post-traditional students. *International Journal of Adult Vocational Education and Technology*, 9(2), 30–47. <https://doi.org/10.4018/IJAVET.2018040103>
- Chung, C. K., & Pennebaker, J. W. (2012). Linguistic inquiry and word count (LIWC): Pronounced “Luke,” . . . and other useful facts. In P. M. McCarthy & C. Boonthum (Eds), *Applied natural language processing and content analysis: Advanced in identification, investigation, and resolution* (pp. 206-229). IGI Global.
- Horn, M. B. (2021, February 18). *Why do adults return to college? It's more complex than higher ed leaders' data suggest*. Forbes. <https://www.forbes.com/sites/michaelhorn/2021/02/18/why-do-adults-return-to-college-its-more-complex-than-higher-ed-leaders-data-suggest/?sh=6fcb21084aab>
- Klein-Collins, R., & Wertheim, J. B. (2013). Growing importance of prior learning assessment in the degree-completion toolkit. *New Directions for Adult & Continuing Education*, 2013(140), 51-60. <http://dx.doi.org/10.1002/ace.20073>
- Knowles, M. (1973). *The adult learner: A neglected species*. Gulf Publishing Company.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Prentice-Hall.
- LIWC. (n.d.). *Introducing LIWC-22*. Pennebaker Conglomerates, Inc. <https://www.liwc.app/>
- McClelland, D. C. (1985). How motives, skills, and values determine what people do. *American Psychologist*, 40(7), 812-825. <https://doi.org/10.1037/0003-066X.40.7.812>
- National Center for Education Statistics. (2021). *Table 303.45. Total fall enrollment in degree-granting postsecondary institutions, by level of enrollment, sex, attendance status, and age of student: 2015, 2017, and 2019*. https://nces.ed.gov/programs/digest/d21/tables/dt21_303.45.asp

- Pennebaker, J. W., Booth, R. J., Boyd, R. L., & Francis, M. E. (2015). *Linguistic inquiry and word count: LIWC2015* [operator's manual]. Pennebaker Conglomerates.
<https://www.liwc.app/static/documents/LIWC2015%20Manual%20-%20Operation.pdf>
- Ross-Gordon, J. M. (2011). Research on adult learners: Supporting the needs of a student population that is no longer non-traditional. *Peer Review: Emerging Trends and Key Debates in Undergraduate Education*, 13(1), 26–29. <https://www.aacu.org/publications-research/periodicals/research-adult-learners-supportingneeds-student-population-no>
- Ryan, M. (2013). The pedagogical balancing act: Teaching reflection in higher education. *Teaching in Higher Education*, 18(2), 144-155.
<https://doi.org/10.1080/13562517.2012.694104>
- Suwinyattichaiporn, T., & Johnson, Z. D. (2022). The impact of family and friends social support on Latino/a first-generation college students' perceived stress, depression, and social isolation. *Journal of Hispanic Higher Education*, 21(3), 297-314.
<https://doi.org/10.1177/1538192720964922>
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29(1), 24-54. <https://doi.org/10.1177/0261927X09351676>
- U.S. Bureau of Labor Statistics. (2018, September 12). *Unemployment rate 2.1 percent for college grads, 3.9 percent for high school grads in August 2018*.
https://www.bls.gov/opub/ted/2018/unemployment-rate-2-1-percent-for-college-grads-3-9-percent-for-high-school-grads-in-august-2018.htm?view_full