ALLIES Final Year Leadership Report:

Part 1, Key Quantitative Findings

by

Margaret Becker Patterson, PhD

Research Allies for Lifelong Learning

September 2016

The ALLIES Evaluation was generously supported by **Dollar General Literacy Foundation.** VALUEUSA greatly appreciates their sponsorship in 2014 and 2015. ALLIES received the Adult Literacy Leadership award from the National Coalition for Literacy in 2016. The author thanks Usha Paulson for assistance with data and Anne Guison-Dowdy, Sara Prewett, and Wei Song for reviewing earlier versions of the report. For correspondence about the report, e-mail Margaret@researchallies.org.

Early in 2016 VALUEUSA and Research Allies for Lifelong Learning released *"A Big and Excellent Opportunity for My Future": Adult Learner Leadership in Education Services (ALLIES) Evaluation Year 1 Findings*. That report introduced the ALLIES evaluation and provided initial findings from the first year of data. The present report follows up on that report by presenting the final year key quantitative findings of the ALLIES evaluation. It also highlights the growth that 133 adult learners experienced between rounds of data collection. This report is Part 1 of a series of planned final ALLIES reports. Comparisons in this report focus on adult learner leaders in participating programs in contrast with their peers in control programs.

Background

Recent *Workforce Innovation and Opportunity Act* (WIOA) legislation requires that employment and education services for adults needing to "upskill" along career pathways are aligned and integrated (U.S. Department of Education, Office of Career, Technical, and Adult Education, OCTAE, 2015). Essential to upskilling are technical and soft skills such as leadership, critical thinking, and collaboration (USDOE, n.d.; Partnership for 21st Century Skills, 2008). Within that framework, adult learner leadership has the potential to improve adult education program services and boost adult learners' outcomes.

Adult learner leadership is defined as adult learner involvement in all components of an adult education program (Patterson, 2016). The experiences and prior knowledge of adult learners can support them in becoming effective advocates for adult education and mentors to others (Greene, 2007). Adult learners as leaders gain empowerment, voice, and increased interaction with peers. They also gain the opportunity to "give back" and develop content knowledge and literacy skills (Toso & Grinder, under review). In practice, though, adult learners rarely take on full leadership roles (Jurmo, 1989; Toso, Prins, Drayton, Gnanadass, & Gungor, 2009), often because they have yet to develop and practice leadership skills (Greene, 2007).

Building and practicing leadership skills such as problem-solving, communication, and interpersonal skills is critical. Daniels and Gillespie wrote that "we need additional research to help us develop models for teaching these skills" (2005, p. 25). While working on leadership skills in an adult education program, learners prepare these transferrable skills for use in the workplace, family, and community (Black, Balatti, & Falk, 2006; Jurmo, 2010; Toso, et al., 2009). Engaging adult learners in supported and structured leadership activities encourages them into more formal positions of leadership and community activism (Bolivar & Chrispeels, 2011; Olivos, 2012; Toso & Gungor, 2012).

The ALLIES evaluation findings expand the limited knowledge base of adult learner leadership in the USA. Envisioned and developed by VALUEUSA, the evaluation allowed for 13 programs in seven states to be randomly selected for leadership training and developing a learner-led project locally. This report highlights the quantitative findings from the evaluation, both in its final year (2015) and in the growth measured from 2014 to 2015.

Intervention

The ALLIES intervention consisted of an eight-hour training developed and delivered by VALUEUSA Executive Director Marty Finsterbusch. The goal of the intervention was to train adult learners in understanding and applying the components of leadership to a learner-led project that would benefit the program and its learners. A member of VALUEUSA's board of directors joined in most of the training sessions. Typically, 8 to 15 adult learners participated in each of the trainings, but some groups were larger (up to 50 people).

As a first step of the training, the Executive Director and his co-trainer introduced the components of leadership and elicited reactions from adult learners and staff. The training provided adult learners with foundational knowledge on how to think critically, how organizations are structured, and how to prioritize, according to the Executive Director. In the training adult learners learned to identify internal and external assets as resources. The training also covered how to collaborate and how culturally diverse groups work together.

In the next step, adult learners and staff reflected on and described what worked well in their program and what they would like to see change. This step provided a unique vehicle for program improvement. Through the eyes of the consumer, program staff learned what the major needs of the program were. They also identified, jointly, how the most pressing need could be met – and that adult learners would provide manpower to meet that need. For example, in one program staff and adult learners realized that the program needed more tutors. Adult learners were acutely aware of this need as members of their small community waited their turn for a tutor. Not only were learners willing to identify the need, they also actively recruited tutors from the community and worked with the staff to create opportunities for outreach.

To build from participant responses, trainers then explained to participants how they could develop a project that was unique to that program, was responsive to its needs, and would use the leadership skillset of the adult learners in the group. Trainees then discussed what a leadership project is and how they could establish one in their program. By the end of the training, the group had formed at least a nucleus of a project and had determined who would be involved and what the next steps were.

Projects in participating programs included raising awareness in the community, fundraising, and improving staff-learner communication. In other projects adult learners were involved in developing and teaching a program orientation, revitalizing the center's physical appearance, establishing a recycling program, and, as described above, recruiting tutors for the program. Project descriptions and successes adult learners achieved will be included in a planned qualitative report later in this report series.

Evaluation Method

The ALLIES evaluation was designed as a mixed methods experimental study. The present report focuses on quantitative data from final year visits and on growth from the baseline year. Outcomes were measured through surveys, critical thinking and writing assessments, program documents, and evaluator observations of staff-learner interactions. Programs within a state were randomly assigned to either participating or control condition, and programs selected adult learners. Evaluators requested they select adult learners with intermediate or higher skills, typically 10 to 15 adults in participating programs and 15 to 25 in control programs.

Evaluators collected data before leadership training (if applicable) and approximately 10 months later. Participating programs received leadership training from VALUEUSA. No intervention occurred between visits in control programs. For being involved in the evaluation, however, control programs were offered a training session after final data collection.

For more information on the evaluation's methodology, see Appendix B. This appendix includes detail about data sources, evaluation design, evaluation questions, and analyses. In response to 54% adult learner attrition from baseline to the final year, statistical weights adjusted for differences in attrition by age group and language status. Although this evaluation presents compelling evidence for important relationships of leadership and adult learner outcomes, the reader should not infer causality. For a review of attrition and its effects, see Appendix C.

Key Findings

Adult Learner Leaders

Three-fourths of 133 adult learners in both conditions (i.e., participating and control) during the final year were women. Adult learner leaders (i.e., participating adult learners) tended to be younger (i.e., under the median age of 39 years). Participating adult learners had higher rates of unemployment. Six in 10 were English language learners (ELLs) and 4 in 10 native speakers of English (See Figure 1). They frequently aspired to take high school equivalency (HSE) tests (e.g., GED®, TASC®, or HiSet®) and go to college or university. Adult learner leaders experienced moderately higher growth from the first to the final year in aspiring to take HSE tests. They more often considered themselves leaders and had higher self-ratings of leadership (7 on a 10-point scale). They had greater knowledge of who is authorized to make decisions and implement change in their programs. They experienced moderate growth in this knowledge since the first year, as well as even stronger growth in knowing who implements changes. By 2015 most were near the end of the program or already finished it, and they experienced slight growth in making this progress even after controlling for first-year rates.

In contrast, adult learners in control programs were older (i.e., 39 and older), tended to be out of the workforce more often if not employed, and more than 75% were ELLs. Most considered themselves about halfway through the program in 2015. They less often considered themselves as current leaders, though most reported wanting to be a leader in the future. They tended to aspire to

keep their current job or get a better one. They seldom knew who makes decisions and implements change in their programs. (For more detail, see Tables A1 and A4 in Appendix A)

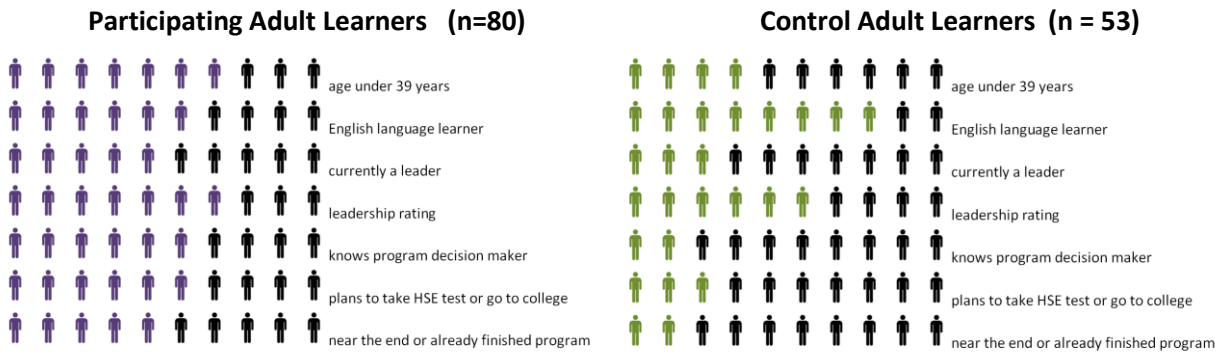

Figure 1. Final year (2015) characteristics of participating and control adult learners

Perceptions of the Program and Leadership

On the final-year survey participating adult learners rated the helpfulness of their program's learning services, such as small group sessions or computer instruction. **They rated the helpfulness of learning services moderately higher than control adult learners did. Growth in participating adult learners' perceptions of this helpfulness was strong from first to final year (adj. R^2 = 0.27). Participating adult learners tended to perceive the benefits of leadership, such as improving learning or enhancing program services, slightly more than control adult learners. Their perceptions of the advantages of diversity within the adult education program were moderately stronger and grew substantially beyond first-year levels (adj. R^2 = 0.16).**

Participating adult learners saw themselves as slightly more involved in their programs than control adult learners did. Adult learners did not differ by condition in perceptions of teacher support, comfort with adult learner leadership, organization, or collaboration. Both groups of learners were similarly determined to persist and willing to give back or remain involved in the program after completing. (For more detail, see Table A2)

Critical Thinking and Writing Assessments

As in the baseline year, adult learners were assessed in their approaches to critical thinking and to writing. (See Appendix B for more assessment information) **In the final year adult learner leaders gained slightly higher scale scores in reasoning and information processing. After controlling for first-year scores in information processing, growth on scale scores was moderately higher (adj. R^2 = 0.07). Analysis scores were slightly lower for participating adult learners compared with control adult learners.** Control learners had slightly higher writing assessment scores overall, with much higher scores in metacognitive strategy use. (See Table A3 for details)

Adult Learner Attendance

No increases in adult learner leader attendance occurred. Average attendance during the period of study did not differ from that for control adult learners. Average attendance in the first half of 2014, before the evaluation started, was 87.6 hours per participating adult learner and 127.5 hours per control adult learner. When the evaluation began, in the second half of 2014, average hours per participating learner remained approximately the same, 82.4 hours. Control learner attendance decreased to an average 76.8 hours. In the first half of 2015, as many participating adult learners completed the program, their average attendance decreased to 55.3 hours and to 46.9 hours by the end of 2015. Control learner attendance further decreased to an average 51.4 hours by the end of 2015.

Learner-Led Interactions with Staff and Peers

During observation how often and for how long adult learner leaders led interactions with staff or peers was measured. At baseline, staff tended to lead discussions or other interactions during classroom activities at least two-thirds of the time, regardless of condition**. With time, many adult learner leaders found their voice in settings where directors or teachers would traditionally lead.**

Compared with staff-led interactions, adult learner leaders experienced significant growth from baseline to final year in amount of time leading interactions (see Figure 2). Learner leaders increased leading interactions from 41.1% to 55.1% of the time (not shown), whereas staff-led interactions decreased to 44.9% of the time, $X^2 = 3.9$, $p < .05$. During the same timeframe, control adult learners led even fewer interactions, decreasing from 19.8% to 13.6% of the time. As shown in Figure 2, participating adult learners led these interactions much more often (an average 24.2 minutes in 2015) than their peers in control programs (an average 5.8 minutes, d = 1.24).

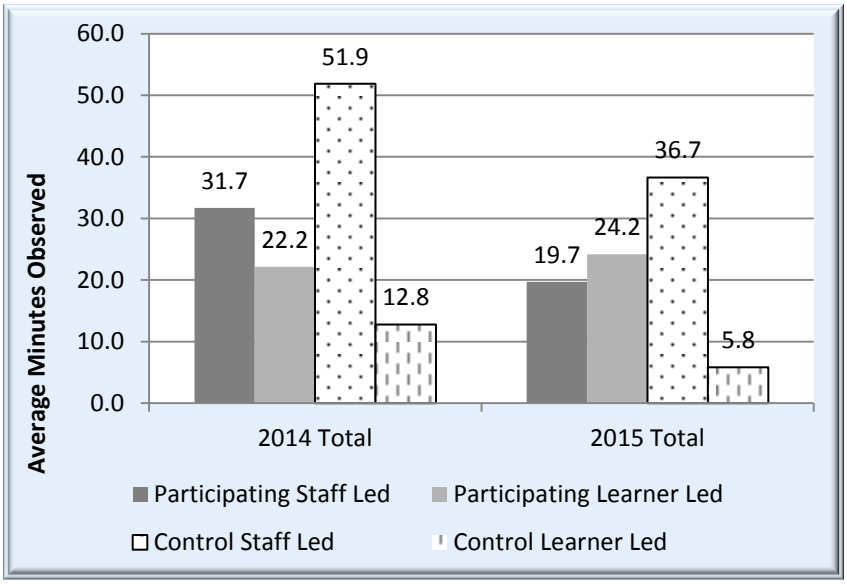

Figure 2. 2014 to 2015 change in observed staff-led vs. learner-led interactions by condition

Agreement of Staff and Adult Learner Perceptions

Thirty-one staff members (31), both participating and control, completed electronic staff surveys on perceptions of the program, learners, and leadership. **When asked about program services, staff in participating programs agreed much more often that the program met learner needs in computer literacy instruction (73.9%, *OR* = 8.5) than staff in control programs (25%). Participating staff agreed much more often that accommodations for disabilities met learner needs (69.6%, *OR* = 6.9) than did control staff (25%).** Mentoring adult learners was an important role to the vast majority of staff, but even more so to participating staff (100% agreed) than to control staff (75% agreed).

Across both conditions, staff in the final year had greater comfort with adult learner leadership than adult learners did, primarily in terms of their individual levels of comfort with leadership. Staff also had more positive perceptions of leadership benefits, of diversity, and of learning services in the program than did adult learners (see Table A5).

Adult learners across both conditions, on the other hand, rated learner collaboration and post-program involvement higher in the final year than staff did, although gaps in agreement between staff and adult learners narrowed across time. Adult learners saw themselves as much more inclined to volunteer to help out in the program or to lead an activity after completing the program than staff thought they would do (see Figure 3). Staff with higher expectations of adult learners' post-program involvement tended to be younger, administrators rather than teachers, and more comfortable with learner leadership. Staff expecting higher post-program involvement also tended to have higher comfort with adult learner leadership (r = 0.64) and to value diversity more (r = 0.65); these correlations are considered strong. Administrators expected slightly more (average 11.8 out of 15) post-program involvement than teachers (average 10.9, d = 0.39). Staff under 50 years of age tended to believe that adult learners would stay on to lead an activity much more often (75%) than staff age 50 and over did (36.8%, *OR* = 5.1).

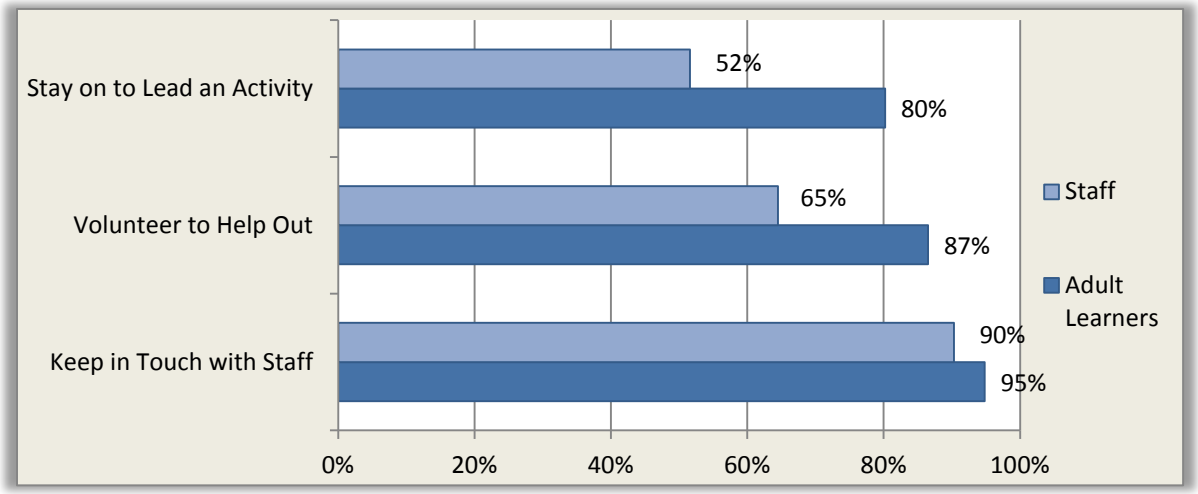

Figure 3. Final year staff and adult learner agreement on adult learner post-program involvement

Adult learners aspiring to be future leaders wanted to remain involved in the program after completing it much more often (average 12.8 of 15) than those who did not want to be leaders in the future (10.8, d = 1.21). Interest in post-program involvement was slightly higher for adult learners who viewed themselves as leaders currently (12.8) than for those who did not view themselves as current leaders (12.2, d = 0.35). Additionally, those who used to be leaders (12.9) were slightly more interested in post-program involvement than those who weren't previous leaders (12.2, d = 0.42).

Outstanding Adult Learner Leaders

Sixty (60) participating adult learners were designated as outstanding leaders, either by staff in staff surveys or by having final year leadership self-ratings above 7 (on a 10-point scale). These outstanding leaders were 83.3% females and 73.3% ELLs. Half (49.2%) were under age 39. They had been in the program an average 2.5 years as of 2015. Outstanding leaders frequently aspired to take an HSE test (37.7%) or go to college or university (24.5%) next. Almost half of them (48.2%) were near the end of the program or already finished. More than half had been leaders before (53.7%) and knew who was authorized to make decisions in the program (59.6%) and who implemented changes in the center (52.9%). They rated themselves an average 8 out of 10 in leadership, and almost all (92.5%) wanted to be leaders in the future.

Outstanding leaders experienced slight gains in their ratings of program services (d = 0.32), of the advantages of diversity (d = 0.29), and of the personality attributes of leadership (d = 0.35). The average scores of outstanding leaders increased slightly in approaches to critical thinking (d = 0.19) and writing (d = 0.20; see Figure 4). Outstanding leaders improved slightly in information processing (d = 0.24) and enquiry scales (d = 0.30) of critical thinking. In writing outstanding leaders made modest gains in metacognitive strategy use (d = 0.23). In contrast, other learners (i.e., those not in the outstanding leaders group) improved slightly in information processing (d = 0.23) only and tended not to make gains from 2014 to 2015 in other measured areas.

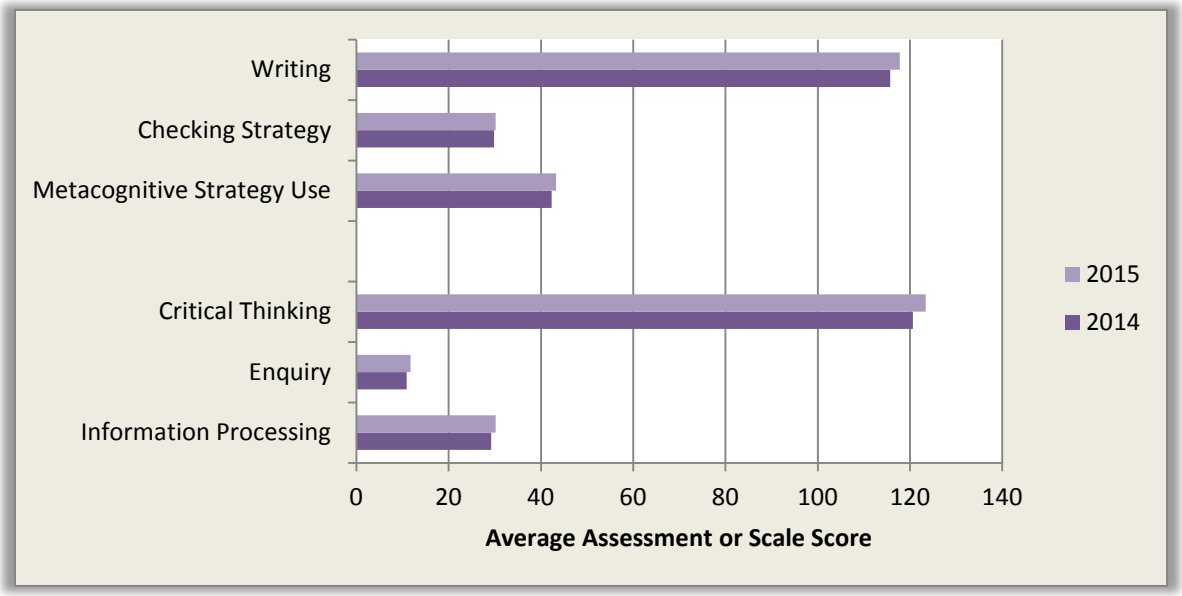

Figure 4. Outstanding leaders' growth in assessment scores

Attendance of outstanding leaders increased from the second half of 2014 through the first half of 2015, which represents when their leadership projects took place (see Figure 5). As noted earlier, overall attendance tended to decrease. Outstanding leaders appear to have spent more time in the program than their peers, particularly in the first half of 2015.

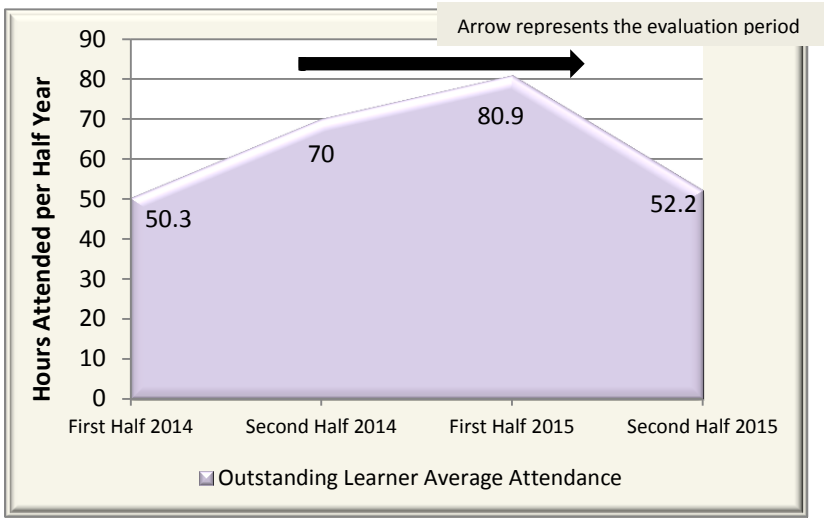

Figure 5. Attendance growth for outstanding leaders, 2014 to 2015

Adult Learners as Peer Mentors

In the final year of ALLIES, adult learners across both conditions who mentored other adult learners were predominantly ELLs (73.0%) and were employed (58.7%). About half considered themselves a leader currently (49.5%) and were near the end of the program or had already completed (48.9%). They had high leadership ratings (7.1 out of 10) and aspired most often to a better job (29.4%).

Adult Learner Leadership Ratings and Program Knowledge

Two important ratings related to leadership varied by condition in the final year. **Participating working adults, who were employed or self-employed, had slightly higher leadership self-ratings (7.4) than working adults in control settings (6.8, d = 0.30).** The interaction of education attainment and knowledge of program decision makers was the second to vary by condition. Participating adult learners with knowledge of decision makers tended to have completed 10th grade (average 10.4), an only slightly higher education level than control adult learners with that knowledge (9.6, d = 0.31). Control adult learners who knew the program decision maker in turn had nearly three grade levels higher education than their peers who did not know the decision maker (average grade of 7.0, d = 0.71).

Conclusions

The ALLIES evaluation has yielded many useful findings about the relationships of leadership and participating adult learner perceptions, assessments, and experiences – compared with those of control adult learners or of staff. While these relationships cannot be considered causal, they provide important

evidence to explain the effects of leadership training and project participation for adult learners at intermediate or higher levels. These effects are compelling and hold promise for future studies of leadership.

What are some of the differences? Participating adult learners have higher leadership ratings than control learners, placing the former in positions to continue leadership efforts outside the program if they choose. This finding is promising, especially since nearly all learner leaders aspire to continue as future leaders. Learner leaders also gained insights into the infrastructure and capacity of adult education programs while making moderate growth since the first year in knowledge of who is authorized to make program decisions, as well as even stronger growth in knowing who implements changes. This knowledge is important as learners consider ways in which the program needs to change and which staff can facilitate – or impede – changes. From the program's perspective, having learner leaders who know how to get things done in the program boosts the credibility of learner-led improvement or advocacy efforts within the community and with potential funders.

Additionally adult learner leaders experienced moderate increases in perceptions of learning services, and slight increases in perceptions of the benefits of leadership and of diversity. These findings indicate that they made gains in understanding and appreciating what the program could offer, which positions them for advocacy efforts on behalf of the program. Compared with control learners, they were in fact slightly more involved in their programs. This increased level of involvement appears to have benefitted them as learners, encouraging them toward further education and perhaps even inspiring their progress through the program, since most were close to finishing the program or had already completed. Their top two aspirations after the program were taking HSE tests and going to college or university. Programs could continue to measure and evaluate learning services, learner involvement, and benefits of leadership as part of continuous improvement efforts, again with an eye toward how growth in these areas appeals to prospective funders and raises the value and desirability of the program in the community.

Another key finding was that adult learner leaders had slightly higher scale scores in reasoning and information processing. They are therefore more apt to think of consequences before taking action, gather information and ideas from others when working on a task, and identify and consider options. They can more readily organize their ideas, compare them, and determine if their information is correct. They have more of a tendency to think through, find supporting information for, and give reasons for their opinions. They are also more aware that some questions have no right or wrong answers and can tell the best way of handling problems. All of these approaches are valued in leaders in the workplace and in communities (Black, Balatti , & Falk, 2006; Jurmo, 2010; Toso, et al., 2009). Employers and community groups who come to realize the program encourages growth in critical thinking may be more prone to refer future adults to its learning services.

With time, adult learner leaders also found their voice. Overall, in keeping with their program roles, staff tended to lead discussions, meetings, and classroom activities and to be dominant in staff-learner interactions. For adult learner leaders, however, these interactions shifted substantially as they gained leadership skills. Compared with staff-led interactions, adult learner leaders experienced

significant growth from first to final year in leading interactions. In the final year they led interactions much more often than their peers in control programs. Leaders finding their voice – and making themselves heard – can empower adult learners (Toso & Grinder, under review), in the program and potentially in other aspects of their lives. Learner voices can be very powerful instruments for program advocacy as learners share their experiences and aspirations with the community and potential funders.

As would be expected, staff and adult learner leaders perceived learner leadership and involvement somewhat differently. Overall staff in the final year had greater comfort with adult learner leadership and even more positive perceptions of leadership benefits, of diversity, and of learning services in the program than did adult learners. Adult learners across both conditions, on the other hand, had higher ratings for learner collaboration and post-program involvement in the final year than staff did. They saw themselves as much more inclined to volunteer to help out in the program or to lead an activity after completing the program than staff thought they would do. Staff could consider these findings on collaboration and post-program involvement as staff and learners investigate ways in which to keep completing adult learners involved in a leadership capacity. Staff needs to acknowledge and reflect on any reasons for underestimating learner willingness to remain involved. A frank discussion of how and under what circumstances learner leaders could continue to collaborate and stay involved promises to enlighten both staff and learners and heighten mutual respect.

Finally, 60 participating adult learners were designated as outstanding leaders. Most know who was authorized to make decisions in the program and who implemented changes in the center. Almost all want to continue as leaders in the future. Outstanding leaders experienced slight gains in their ratings of program services, of the advantages of diversity, and of the personality attributes of leadership. They saw increases in approaches to critical thinking and writing from baseline to final year, namely in information processing, enquiry, and metacognitive strategy use. During the evaluation period their attendance increased as well. For this subgroup effects appear even more noticeable; qualitative inquiries will yield even more information on their experiences and growth.

Recommendations to VALUEUSA

1. At a qualitative level, determine what insight adult learner leaders gained into their programs. This investigation could consider, for example, how knowing about program decision makers and change makers affected their learning experiences and capacity to lead. Include staff reflections on adult learner leaders gaining this knowledge where relevant.
2. Examine qualitatively what adult learner leaders, in comparison with control learners, learned and how they applied that learning while enrolled in the program and after exiting. For instance, determine time to completion and review how leaders who already completed the program applied learning versus those who considered themselves halfway through the program. This examination also needs to address how they used what they gained to advocate for the program or to support themselves and peer learners through the learning process. Further examine what staff noticed about adult learner leader advocacy and mentoring during projects.
3. Another qualitative investigation needed is how program involvement has benefitted adult learner leaders and their programs. Examine the ways in which adult learner leaders were

involved and compare those ways with program and learner outcomes. Add any relevant staff insights on benefits and outcomes, such as how working with adult learner leaders has modified their approaches to learning or their teaching practices, into the investigation.

4. Explore more fully the relationship of approaches to reasoning and information processing, as described in the conclusions above, with what adult learner leaders contributed to the leadership project and in respect to any connections with their future aspirations.
5. The findings on leader voice suggest an impact on learners in the program and elsewhere. Investigate qualitatively the role of voice in interactions of leaders and staff and in what ways leaders found their voice at work, at home, or in the community. Also include in this investigation the perspectives of staff on leader voice and staff responses to voice.
6. To the extent possible, glean and interpret insights of staff and adult learner leaders on the marked differences they each see in learner collaboration and post-program involvement. What did staff and learners learn from the leadership project that sheds light on how staff underestimates the intent of adult learners to contribute by volunteering or leading activities? How do staff and adult learners each perceive applications of learner leadership skills at work and in the community?
7. Analyze the reflections, contributions, and attendance results of the 60 outstanding leaders qualitatively. Determine what they contributed to their respective projects and the benefits to themselves, the program, and their workplace/family/community as available. Further examine the relationship of what they learned during the project with their growth in personality attributes associated with leadership.

References

Boekaerts, M., & Rozendaal, J. (2007). New insights into the self-regulation of writing skills in secondary vocational education. *Zeitschrift für Psychologie / Journal of Psychology, 215*(3), 164–173.

Black, S., Balatti, J., & Falk, I. (2006). Social capital outcomes: The new focus for adult literacy and numeracy courses. *Australian Journal of Adult Learning, 46*(3), 317-336.

Bolívar, J., & Chrispeels, J. (2011). Enhancing parent leadership through building social and intellectual capital. *American Educational Research Journal, 48*(1), 4-38. doi: 10.3102/0002831210366466

Daniels, M., & Gillespie, M. (2005). *Survey of civic learning opportunities for out-of-school youth in the adult education system* (CIRCLE Working Paper 34). University of Maryland, Center for information and Research on Civic Learning and Engagement. Retrieved from: http://files.eric.ed.gov/fulltext/ED491128.pdf.

Greene, D. (2007) Gatekeepers: The role of adult education practitioners and programs in social control. *Journal for Critical Education Policy Studies, 5*(2), 411-437.

Jurmo, P. (1989). The case for participatory literacy education. In A. Fingeret & P. Jurmo (Eds.), *Participatory Literacy Education* (pp. 17-28). San Francisco, CA: Jossey-Bass.

Jurmo, P. (2010). Productive and participatory: Basic education for high performing and actively engaged workers. *New Directions for Adult and Continuing Education, Winter 2010* (128), 45-57.

Olivos, E. M. (2012). Authentic engagement with bicultural parents and communities: The role of school leaders. In S. Auerbach (Ed.), *School leadership for authentic family and community partnerships: Research perspectives for transforming practice* (pp. 98-114). Hoboken, NJ: Routledge.

Mincemoyer, C., Perkins, D., & Munyua, C. (2001). *Critical Thinking* [Assessment]. University Park, PA: Pennsylvania State University. Retrieved from: http://www.humanserviceresearch.com/youthlifeskillsevaluation/.

Partnership for 21st Century Skills. (2008). *21st century skills, education & competitiveness: A resource and policy guide.* Tucson, AZ.

Patterson, M.B. (2016). *"A big and excellent opportunity for my future": Adult Learner Leadership in Education Services (ALLIES) evaluation year 1 findings.* Media, PA: VALUEUSA. Retrieved from: http://valueusa.org/projects/.

Toso, B. W. & Grinder, E. (revised and resubmitted). Engaging parents in meaningful roles: The benefits of parent leadership activities for family, school, and community. *Educational Policy*.

Toso, B. W., & Gungor, R. (2012). Parent engagement and parent leadership. In B. Wasik (Ed.), *Handbook of family literacy* (2nd ed., pp. 223-236). New York, NY: Taylor & Francis.

Toso, B.W., Prins, E., Drayton, B., Gnanadass, E., & Gungor, R. (2009). Finding voice: Shared decision making and student leadership in a family literacy program. *Adult Basic Education and Literacy Journal, 3* (3), 151-160.

U.S. Department of Education, Office of Career, Technical, and Adult Education. (2015, February). *Making skills everyone's business: A call to transform adult learning in the United States*. Washington, D.C.: Author.

U.S. Department of Education, Office of Career, Technical, and Adult Education, (n.d.). Employability Skills Framework. 2015, from http://cte.ed.gov/employabilityskills/index.php/framework/

Appendix A

Table A1

Final Year ALLIES Descriptive Statistics, Overall and by Condition (with weights)

				% or Mean (*SD*)			
Variable	**Overall N**	**Mini-mum**	**Maxi-mum**	**All**	**Participating**	**Control**	***R*, Eta, or Odds Ratio**
Gender - female	133	--	--	75.9	74.7	73.4	NS
Age Group – under 39 years	133	--	--	41.4	69.1	43.0	3.0
Employment Status[a]	119	1	4				***0.26
Employed				47.1	49.4	46.1	
Self-employed				7.6	5.6	7.9	
Unemployed and looking for work				36.1	41.4	27.5	
Out of workforce				9.2	3.7	18.4	
Language Status – English language learner[b]	131	--	--	74.8	59.0	78.7	***2.6
Years in Adult Education	133	0	13	2.3 (1.8)	2.1 (1.9)	2.3 (1.3)	NS
Accommodations for Disability[c]	109	--	--	14.7	15.6	17.9	NS
Currently a Leader	130	--	--	40.0	47.6	30.1	**2.1
Used to Be a Leader	128	--	--	45.3	49.4	38.2	NS
Wants to Be a Leader	131	--	--	84.0	86.4	80.9	NS
Leadership Self-Rating	131	1	10	6.6 (2.2)	7.0 (2.0)	6.4 (2.3)	*
Initial Aspiration	130	1	5				***0.34
Keep current job				20.0	8.7	30.8	
Get better job				23.8	23.3	26.4	
Take HSE test				23.8	30.8	11.0	
Go to college or university				25.4	31.4	23.1	
Not sure				6.9	5.8	8.8	
Progress in Center	133	1	4				***-0.40
Just started				11.3	4.0	19.4	
Halfway through				48.9	41.6	61.3	
Near the end / finished				39.9	54.3	19.4	
Perceived Sources of Program Funding	133	1	6				--[d]
Local government				16.1	25.3	33.7	
State government				14.2	23.9	26.3	
Federal government				10.1	21.7	22.2	
Private funding				31.2	70.8	27.0	
Other funding				1.8	4.0	1.6	
Don’t Know				24.3	22.1	60.5	

				% or Mean (SD)			
Variable	**Overall N**	**Minimum**	**Maximum**	**All**	**Participating**	**Control**	***R*, Eta, or Odds Ratio**
Knowledge of Decision Maker	131	1	3				***0.35
Knows name and title				42.0	55.0	22.3	
Knows name only				19.8	19.5	19.1	
Doesn't know				36.2	25.4	58.5	
Knowledge of Change Maker	119	1	3				***0.48
Knows name and title				30.3	45.8	2.0	
Knows name only				22.7	23.5	19.5	
Doesn't know				47.1	30.7	77.9	

Notes. Participating and control analyses are weighted by age group and language status. [a] Thirteen adult learners marked "prefer not to answer" about employment. [b] Two adult learners marked "prefer not to answer" about language status. [c] Twenty-one adult learners marked "prefer not to answer" about disabilities status. [d] Multiple response categories without statistics. * p < .05, ** p < .01, *** p < .001, NS not significant.

Table A2

Final Year ALLIES Learner Survey Responses by Condition (with weights)

	Mean (*SD*)			
Variable	**Participating**	**Control**	***P*-value**	**Cohen's *d***
Perception of Center	13.0 (1.5)	13.0 (3.0)	NS	NS
Perception of Center Learning Services	23.3 (4.6)	19.5 (6.7)	***	0.66
Perception of Teacher Support	13.6 (1.7)	13.4 (1.6)	NS	NS
Comfort with Adult Learner Leadership	12.5 (1.9)	12.4 (1.4)	NS	NS
Benefits of Adult Learner Leadership	16.9 (2.7)	16.1 (3.1)	*	0.28
Perception of Being Organized	12.6 (1.6)	12.4 (1.3)	NS	NS
Collaboration in Leadership	21.0 (2.8)	20.5 (2.1)	NS	NS
Perception of Diversity	17.1 (2.2)	16.0 (1.7)	***	0.56
Perception of Involvement	17.5 (2.1)	17.0 (1.5)	*	0.27
Determination to Persist	13.6 (1.6)	13.2 (1.3)	NS	NS
Interest in Giving Back	16.8 (3.1)	16.3 (2.1)	NS	NS
Post-program Involvement	12.5 (1.8)	12.4 (1.6)	NS	NS
Personality Attributes for Leadership	33.1 (3.4)	32.8 (3.2)	NS	NS

Notes. Participating and control analyses are weighted by age group and language status. * $p < .05$***, $p < .001$, NS not significant

Table A3

Final Year ALLIES Critical Thinking and Writing Assessment and Scale Scores by Condition (with weights)

		Mean (*SD*)			
Score	**Range**	**Participating**	**Control**	***P*-value**	**Cohen's *d***
Critical Thinking Assessment Total	31-155	120.4 (15.9)	117.6 (19.8)	NS	NS
Reasoning Scale	6-30	24.5 (3.2)	23.2 (4.4)	< .05	0.34
Information Processing Scale	7-35	29.4 (4.2)	26.9 (6.2)	< .001	0.47
Decision Making Scale	5-25	21.4 (3.7)	20.7 (2.7)	NS	NS
Problem Solving Scale	5-25	20.3 (3.2)	20.0 (3.1)	NS	NS
Enquiry Scale	3-15	11.4 (2.4)	11.0 (3.1)	NS	NS
Analysis Scale	5-25	13.7 (4.2)	15.9 (4.8)	< .001	-0.49
Writing Assessment Total	31-155	116.0 (11.8)	120.5 (15.4)	< .05	-0.33
Metacognitive Strategy Scale	12-60	42.9 (3.9)	45.5 (6.6)	< .01	-1.55
Writing Capacity Scale	5-25	15.7 (3.0)	16.5 (4.5)	NS	NS
Context Belief Scale	7-35	28.3 (4.8)	28.7 (3.8)	NS	NS
Checking Strategy Scale	7-35	29.9 (4.2)	29.8 (3.6)	NS	NS

Notes. Participating and control analyses are weighted by age group and language status. NS not significant

Table A4

2014 to 2015 Growth in ALLIES Adult Learner Status by Condition (with weights)

	2014 Means (*SD*)		**2015 Means (*SD*)**			
Variable	**Participating**	**Control**	**Participating**	**Control**	***P*-value**	**Odds Ratio, Nagelkerke R^2**
Employed	0.5	0.5	0.6	0.5	NS	NS
Currently a Leader	1.6 (0.5)	1.8 (0.4)	1.5 (0.5)	1.7 (0.5)	NS	NS
Used to Be a Leader	1.7 (0.5)	1.7 (0.4)	1.5 (0.5)	1.6 (0.5)	NS	NS
Wants to Be a Leader	1.1 (0.3)	1.2 (0.4)	1.1 (0.3)	1.2 (0.4)	NS	NS
Leadership Self-Rating	7.2 (2.0)	6.6 (2.2)	7.0 (2.0)	6.4 (2.3)	NS	NS
Initial Aspiration						
Keep current job	--	--	--	--	--	--
Get better job	0.3 (0.5)	0.3 (0.4)	0.2 (0.4)	0.3 (0.4)	NS	NS
Take HSE test	0.3 (0.5)	0.3 (0.4)	0.3 (0.5)	0.1 (0.3)	< .001	6.3, 0.40
Go to college or university	0.3 (0.5)	0.2 (0.4)	0.3 (0.5)	0.2 (0.4)	NS	NS
Not sure	--	--	--	--	--	--
Progress in Center						
Just started	--	--	--	--	--	--
Halfway through	0.4 (0.5)	0.6 (0.5)	0.4 (0.5)	0.6 (0.5)	NS	NS
Near the end / finished	0.2 (0.4)	0.2 (0.4)	0.5 (0.5)	0.2 (0.4)	< .01	3.5, 0.16
Knowledge of Decision Maker	0.0 (0.2)	0.1 (0.2)	0.6 (0.5)	0.2 (0.4)	< .05	3.6, 0.13
Knowledge of Change Maker	0.0 (0.2)	0.0 (0.1)	0.5 (0.5)	0.0 (0.1)	< .001	32.3, 0.35

Notes. Participating and control analyses are weighted by age group and language status. – insufficient cases for analysis. NS not significant.

Table A5

Final Year ALLIES Learner and Staff Survey Responses

	Mean (*SD*)		
Variable	**Adult Learner**	**Staff**	**Cohen's *d***
Perception of Center Learning Services	21.5 (6.0)	24.5 (3.5)	0.61
Comfort with Adult Learner Leadership	12.4 (2.9)	13.1 (1.5)	0.45
Benefits of Adult Learner Leadership	16.5 (2.9)	18.6 (1.9)	0.85
Collaboration in Leadership	20.7 (2.7)	17.7 (2.3)	1.20
Perception of Diversity	16.7 (2.0)	18.3 (1.9)	0.82
Post-program Involvement	12.4 (1.7)	11.1 (2.3)	0.61

Appendix B

Methods

Data Sources

ALLIES final year data were collected from 133 adult learners and 31 staff in 18 programs (also see the Attrition Review in Appendix C). Multiple types of data were collected in the final year. Data included adult learner surveys, adult learner assessments, staff surveys, observation protocol notes, and program documentation. Paper surveys asked adult learners about their experiences with the program and with leadership. All but two survey items employed restricted response and multiple choice, and most items were on a 5-point Likert agreement scale. Two items for participating adult learners only were short answer items: what the learners gained from the leadership project and what they contributed to it. The final year adult learner survey did not ask about referral sources, gender, English language status, age group, or education attainment; otherwise adult learner surveys from both years were identical. Scale composites had good baseline reliability (coefficient was 0.74) and acceptable final year reliability (0.67). The 2014 to 2015 parallel reliability scale coefficient was 0.76, indicating good reliability for the survey across years.

Adult learner assessments were the same forms of critical thinking (Mincemoyer, Perkins, & Munyua, 2001) and writing assessments (Boekaerts & Rozendaal, 2007) as were employed in the baseline year. The baseline reliability coefficients for assessments were 0.89 for critical thinking and 0.72 for writing. Final year reliability coefficients were high, 0.91 for critical thinking and 0.87 for writing. The 2014 to 2015 parallel reliability scale coefficients were 0.79 for critical thinking and 0.78 for writing, indicating good reliability.

The online staff survey was structured similarly to the baseline year, with the exceptions of asking fewer demographic questions and an additional question asking participating staff to name and rate the leadership skills (on a scale from 1 to 10) of outstanding adult learners in their program. The response rate for staff surveys was 67.4% (31 out of 46 staff responding). Observation protocols were identical in both years; as in the baseline year, evaluators noted every 5-10 minutes whether staff or adult learners led interactions primarily during observations. Program documentation for the final year included adult learner reading test scores, monthly adult learner attendance, project descriptions (participating programs only), and aggregated program enrollment, attendance, demographic, outcomes, and staffing information.

Design

The ALLIES evaluation was designed as a concurrent mixed methods experimental study. Both quantitative and qualitative data, as described above, were collected concurrently in a pre / post design. The present report focuses on quantitative data collected during the final year visit and on growth from the baseline year as measured through quantitative instruments, documentation, and observations. Programs within a state were randomly assigned to either participating or control condition, and they

selected adult learners. Evaluators requested they select adult learners with intermediate or higher skills, typically 10-15 adults in participating programs and 15-25 in control programs.

Following random assignment of programs, evaluators visited each program site once for a single day to collect baseline data, before leadership training (if applicable), and then again in a single day approximately 10 months later to collect final data (visits ranged from 8.3 to 12.4 months apart). Evaluators were present with all adult learners to administer surveys and assessments and answer questions about items. Programs selected interpreters where needed to assist learners in understanding survey and assessment questions, which were written in English, so that ELLs could more comfortably use these instruments. No intervention occurred between visits in control programs. Participating programs received an eight-hour leadership training from VALUEUSA, with follow-up mentoring calls on request. Planned monthly mentoring calls did not occur because of VALUEUSA time constraints, but participating programs were encouraged to call whenever questions about their projects arose.

Ten of 13 participating programs implemented a student-led leadership project following the VALUEUSA training; three programs in Colorado, Kansas, and Texas were unable to do so, according to their respective administrators. Two control and one participating programs did not participate in final year site visits. On the basis of 54% adult learner attrition from baseline to the final year, evaluators concluded the evaluation design was actually quasi-experimental, meaning that causality could not be inferred without further procedures to account for selection bias due to normally-occurring adult learner attrition (see Appendix C). Therefore, statistical weights to adjust for differences in attrition by age group and language status were applied in all adult learner analyses of survey and assessment data in this report.

Evaluation Questions

The following evaluation questions were developed for this report:

1. How did final year demographic characteristics, survey composite scores, and critical thinking and writing assessment scores for adult learners differ by condition (participating vs. control learners)?
2. Controlling for baseline levels, age and language status, what growth occurred in adult learner status, survey composite scores, and critical thinking and writing assessment scores by condition?
3. Controlling for prior year attendance, age and language status, what growth occurred in adult learner attendance by condition?
4. What growth occurred in learner-initiated interactions with staff and peers by condition?
5. To what extent do staff perceptions of adult learners in survey composite scores agree with adult learner perceptions?
6. What are the characteristics of adult learners who mentor peers (with controls)?
7. How do final year leadership ratings differ by employment status and condition (with controls)?
8. How does adult learner knowledge of program decision makers and change makers differ by education attainment and condition (with controls)?

9. Under which circumstances do adult learners tend toward greater post-program involvement (with controls)?
10. Among participating adult learners designated as strong leaders by staff or self-rating, did survey composite scores and critical thinking and writing assessment scores differ significantly from baseline to final years? How did their attendance change during the period of study?

Analyses

Final year descriptive analyses included means comparisons by condition, with Cohen's *d* reported to estimate the effect of mean differences. Differences with $d = 0.20$ to 0.49 were considered slight, 0.50 to 0.79 moderate, and 0.80 and above strong. Cross-tabulated percentage were compared using X^2, and odds ratio(*OR*) or eta was reported to estimate the strength of the difference. Correlations of survey composites, with *r* estimating the strength of the correlation. Differences of eta or $r = 0.10$ to 0.24 were considered slight, 0.25 to 0.39 moderate, and 0.40 and above strong. Growth in perceptions, as measured in survey composite scores, and in assessments, as measured in scale scores, from baseline year to final year was estimated through sequential multiple regression, controlling first for demographic characteristics and then for baseline year scores to predict final year performance. Adjusted r^2 was reported to measure the strength of the association, with 0.01 to 0.05 considered slight, 0.06 to 0.14 moderate, and 0.15 and above strong. When outcome variables were dichotomous, the analysis employed sequential logistic regression and Nagelkerke psudo- r^2 was reported instead.

Appendix C. Attrition Review

Attrition Analysis

The final-year ALLIES analyses began with a review of adult learner attrition from the evaluation. Attrition analysis was needed to confirm whether baseline and final-year data from participating and control adult learners, whose programs were initially randomized within states (Patterson, 2016), would allow for causal inference without selection bias. Adult learner attrition from adult education programs in the USA is traditionally high, with as many as three-fourths stopping out from programs (Quigley & Uhland, 2000). More than half of recent U.S. adult basic and secondary learners (50.6%) separated before completing a level in a single year, according to 2014-15 National Reporting System statistics (author calculations). Since adults are generally not required to attend adult education programs, are frequently mobile, and have many other demands on their time, learners tend to move away, stop out, or complete their educational goals and move on. Evaluators therefore expected substantial loss of participation from the baseline year to the final year of ALLIES.

The Institute of Education Sciences (IES) offers materials for assessing the effects of attrition and missing data in randomized control trials (RCTs) through its What Works Clearinghouse (WWC) materials (WWC, 2013 and 2014). According to WWC procedures, where programs are randomized and attrition is high, evaluators need to determine baseline equivalency between participating and control learners (WWC, 2014), as well as final-year equivalency (WWC, 2013). It is thus important to measure and report on overall attrition (i.e., the total number of adult learners who left the evaluation) and differential attrition (i.e., the number of participating adult learners and control adult learners who left the evaluation) from baseline to final year.

Differences in continuous characteristics are expected to be no greater than 0.25 standard deviations. Continuous characteristics in ALLIES include learner birth year, years in adult education, and critical thinking and writing assessment scores. Dichotomous characteristics are gender and English language status. Where differences in continuous characteristics are less than 0.25 but greater than 0.05 standard deviations, statistical adjustments using the baseline characteristics are made. Effect size for statistically significant differences in continuous variables is measured via Hedge's *g*, which is similar to Cohen's *d* yet includes a correction for small sample sizes (WWC, 2014). For dichotomous variables, the range of the odds ratio was calculated as effect size.

IES also recommended methods for dealing with missing data in RCTs (Puma, Olsen, Bell, & Price, 2009). A first procedure was to consider whether missing data were missing at random or not. Second, evaluators determined that given the high proportion of missing data (i.e., > 40%), imputation was not a viable solution. Following recommendations from Puma, et al. (2009), if data from post-assessments or surveys are missing, case deletion is a viable option and is not expected to introduce high bias. The extent of missing data is presented below by variable, along with potential reasons the data are missing, to the extent known. Differences in major baseline characteristics were also identified for both participating and control adult learners in the first-year report (Patterson, 2016). Finally,

differences in baseline characteristics of adult learners were compared for those who were retained and those who were not retained to the final year.

Attrition Findings

Overall, 18 of 21 programs were retained from baseline to final year of ALLIES, for a retention rate of 85.7% and an attrition rate of 14.3%, as displayed in Table 1. Retained programs comprised 12 of 13 participating programs and 6 of 8 control programs; three programs discontinued in the final year. All three programs experienced administrative challenges (e.g., staff turnover or failure to recruit adult learners) that led to the program discontinuing with the evaluation. If these three programs are included in the retention counts, the attrition rate was 56.5% (i.e., 100% - 43.5%); if the three programs are excluded, the attrition rate was 46.2% (i.e., 100% - 53.8%; see Table 1). Differences in learner attrition by condition are not statistically significant.

Table C1. Program and Learner Retention in ALLIES Evaluation by Condition

Condition		**Participating**	**Control**	**Total**
Programs	Baseline Year (N)	13	8	**21**
	Both Years (N)	12	6	**18**
Program Attrition Rate (%)				**14.3**
Learners	Remaining Baseline Year (N)	145	102	**247**
	All Baseline Year (N)	178	128	**306**
	Both Years (N)	80	53	**133**
Remaining Learner Retention Rate (%)		55.2	51.9	**53.8**
All Learner Retention Rate (%)		44.9	41.4	**43.5**

Notes: Remaining baseline year learner counts and retention rate exclude counts from 3 programs with no adult learners in the final year because of program administrative challenges.

Comparisons of baseline characteristics by condition indicate four significant differences in 22 comparisons (see Table 2). Control learners were an average 8 years older and more frequently English language learners than participating learners at baseline, although the majority was ELLs in both groups. Control learners also tended to perceive even more teacher support than participating learners, although both groups exceeded 90%. Participant learners rated themselves one point higher (7 out of 10) than did control learners (6 out of 10). All other characteristics and assessment pre-scores did not differ significantly at baseline.

Table C2. Means and Rates of Baseline Characteristics by Condition

Characteristic	Partici-pating (N)	Control (N)	Participating Learner Mean (SD)	Control Learner Mean (SD)	P-Value	Effect Size (Hedge's g or odds range)
Learner age group	173	122	60.7% under 39 years, 39.3% 39 years and over	34.4% under 39 years, 65.6% 39 years and over	< .001	1.8 to 4.8
Years in adult education	178	118	1.7 (2.3)	1.7 (1.6)	NS	NS
Critical Thinking Assessment pre-score	175	127	119.4 (13.0)	122.1 (13.5)	NS	NS
Writing Assessment pre-score	171	99*	113.9 (12.2)	116.0 (14.9)	NS	NS
Attendance (2013-14)**	52	35	105.5 (86.8)	135.3 (89.6)	NS	NS
Gender	178	128	72.5% female	64.8% female	NS	NS
English language status	177	126	61.0% ELL	75.4% ELL	< .01	1.2 to 3.2
Perception of the Center	178	128	12.7 (1.9)	13.1 (2.2)	NS	NS
Program Learning Services Perception	177	128	22.6 (4.6)	21.4 (5.8)	NS	NS
Progress in Center	178	126	36.0% just started, 45.5% halfway	23.8% just started, 57.1% halfway	NS	NS
Teacher Support Perception	178	128	13.0 (1.8)	13.7 (1.8)	<.001	0.40
Leadership Self-Rating	164	98	7.2 (2.1)	6.5 (2.2)	< .05	0.33
Comfort with Leadership	178	124	12.0 (2.0)	12.1 (1.9)	NS	NS
Perception of Benefits of Leadership	178	128	16.7 (2.4)	16.7 (2.5)	NS	NS
Perception of Organization Skills	178	126	12.3 (1.7)	12.5 (1.9)	NS	NS
Collaboration Perception	178	128	20.5 (2.9)	20.7 (3.4)	NS	NS
Diversity Perception	178	128	16.5 (2.0)	16.7 (2.7)	NS	NS
Involvement Perception	178	128	17.4 (2.0)	17.1 (2.6)	NS	NS
Determination	178	128	13.2 (1.6)	13.3 (1.8)	NS	NS
Giving Back	178	128	16.8 (2.3)	16.8 (2.5)	NS	NS
Post-program Involvement	178	128	12.1 (2.3)	12.3 (2.0)	NS	NS
Self-Described Personality	178	128	32.1 (3.8)	31.3 (5.1)	NS	NS

Notes: NS indicates lack of statistical significance. *A substantial number of adult learners from a control program were not literate in any language so could not complete writing assessments. ELL designates English language learners. **Several programs did not collect attendance data.

When baseline characteristics are compared by whether learners were retained in both years of the evaluation, retained learners tended to be older and more frequently English language learners than learners whose data were missing in the final year (see Table 3). Those who left had slightly less

awareness of the center and were slightly less comfortable with adult learner leadership than those who remained. Those who remained were slightly more interested in giving back than those who left. Fifteen other survey variables and both assessment pre-scores did not differ significantly at baseline.

Table C3. Means and Rates of Baseline Characteristics by Final Year Retention Status

Characteristic	**Retained (N)**	**Missing (N)**	**Retained Learner Mean (SD)**	**Missing Learner Mean (SD)**	**P-Value**	**Effect Size (Hedge's g or odds range)**
Learner age group	119	176	40.3% under 39 years, 59.7% 39 years and over	56.2% under 39 years, 43.8% 39 years and over	< .01	1.2 to 3.1
Years in adult education	116	170	1.9 (2.0)	1.6 (2.0)	NS	NS
Critical Thinking Assessment pre-score	119	183	120.6 (14.4)	120.5 (13.1)	NS	NS
Writing Assessment pre-score	107	163	115.7 (14.2)	114.0 (12.6)	NS	NS
Attendance (2013-14)**	45	42	114.7 (86.5)	120.4 (91.8)	NS	NS
Gender	119	187	74.8% female	65.8% female	NS	NS
English language status	117	186	76.1% ELL	61.3% ELL	< .01	1.2 to 3.4
Perception of the Center	119	187	13.3 (1.8)	12.6 (2.1)	< .01	0.35
Program Learning Services Perception	119	186	21.4 (5.8)	22.5 (4.7)	NS	NS
Progress in Center	119	185	31.9% just started, 53.8% halfway	30.3% just started, 48.1% halfway	NS	NS
Teacher Support Perception	119	187	13.5 (1.8)	13.1 (1.8)	NS	NS
Leadership Self-Rating	103	159	6.7 (2.3)	7.1 (2.0)	NS	NS
Comfort with Leadership	118	184	12.4 (1.9)	11.9 (1.9)	< .05	0.36
Perception of Benefits of Leadership	119	187	17.0 (2.3)	16.5 (2.5)	NS	NS
Perception of Organization Skills	119	185	12.5 (1.8)	12.3 (1.8)	NS	NS
Collaboration Perception	119	187	20.7 (3.4)	20.5 (2.9)	NS	NS
Diversity Perception	119	187	16.8 (2.3)	16.5 (2.3)	NS	NS
Involvement Perception	119	187	17.6 (2.5)	17.1 (2.1)	NS	NS
Determination	119	187	13.4 (1.7)	13.2 (1.7)	NS	NS
Giving Back	119	187	17.2 (2.5)	16.6 (2.3)	< .05	0.25
Post-Program Involvement	119	187	12.4 (2.2)	12.0 (2.1)	NS	NS
Self-Described Personality	119	187	32.1 (3.9)	31.5 (4.7)	NS	NS

Notes: NS indicates lack of statistical significance. ELL designates English language learners. **Several programs did not collect attendance data.

In summary, attrition analyses indicate that ALLIES attrition, while low at the program level, is high at the adult learner level, with approximately half of adult learners leaving from baseline to final year. This learner level of attrition is standard, given adult learner mobility and time demands as well as the voluntary nature of participation in adult education programs. Evaluators agreed that following up with adult learners individually rather than relying on center staff might have benefitted data collection. Differences in attrition occur by age and English language status at a rate beyond the stringent threshold determined by WWC. These patterns of attrition do not appear to be associated at all with assessments in critical thinking or writing, most of the major measures of the ALLIES evaluation, or with educational experience.

For these reasons, evaluators believe that high learner-level attrition indicates potential selection bias for purposes of making causal inferences to the adult education population without further procedures to account for bias (e.g., propensity matching). Still, participating and control adult learner performance may certainly be compared quasi-experimentally in descriptive or predictive analyses with controls for age and language status. Controls for other variables with significant differences at baseline will also be considered in models where their inclusion is logically appropriate.

References

Patterson, M.B. (2016). *"A big and excellent opportunity for my future": Adult Learner Leadership in Education Services (ALLIES) evaluation, Year 1 survey, assessment, observation, and program information findings*. Media, PA: VALUEUSA. Retrieved from http://valueusa.org/projects/

Puma, M. J., Olsen, R. B., Bell, S. H., & Price, C. (2009). *What to do when data are missing in group randomized controlled trials (NCEE 2009-0049)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/pdf/20090049.pdf

Quigley, B.A., & Uhland, R.L. (2000). Retaining adult learners in the first three critical weeks: A quasi-experimental model for use in ABE programs. *Adult Basic Education, 10* (2), 55-68.

What Works Clearinghouse. (2014). *WWC procedures and standards handbook version 3.0*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_procedures_v3_0_standards_handbook.pdf

What Works Clearinghouse. (2013). *Assessing attrition bias*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/pdf/reference_resources/wwc_attrition_v2.1.pdf