

The Effect of Focused Writing Instruction on Writing Skills in Adult Literacy: A Descriptive
Meta-analysis

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Abstract

This descriptive meta-analysis analyzed the effect of a focused writing instruction in adult basic education programs. Findings are from quantitative and qualitative intervention studies focusing on spelling (n=8), use of technology (n=13), journaling (n=17) and revision (n=7). Invented spelling is one of the most effective ways of teaching and improving writing in adult learners; regular dialogue journaling with thorough guidance from the teachers is recommended when journaling with adults; revision is best with a word processor but only for upper level students coupled with peer feedback and teacher's guidance, and technology works best in best when goals for using computers are clear—this might shift the dynamics of the classroom. This meta-analysis also provides recommendations for best practice in teaching writing to adult learners.

Keywords: writing, adult literacy, descriptive meta-analysis

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The Effect of Focused Writing Instruction on Writing Skills in Adult Literacy: A Descriptive Meta-analysis

Learning to read and write are fundamental skills that shape learning and communication in everyday life. The processes involved in learning to read and write may seem inconspicuous once one is literate but there are underlying processes, assumptions and practices that are foundational and critical in developing both skills. Reading and writing abilities are acquired, nurtured and refined through acts of those who provide appropriate instructional context and support (Morrow, Gambrell & Presley, 2003). The separation of reading and writing instruction is a topic of great concern among educators at all levels of education, especially in adult literacy. Maria Montessori's philosophy of teaching is "write first, read later" and some practitioners believe in this teaching philosophy (Adams, 1990). It makes logical sense for one to be able to write first and read later hence the slow introduction of writing in early grade classrooms. Writing is also considered as the principal vehicle for developing word analysis skills hence writing skills cannot necessary be separated from reading (Adams, 1990). Fitzgerald and Shanahan (2000) posit that reading and writing rely on analogous mental processes and isomorphic knowledge hence it is critical to take into consideration cognitive processes that are critical for the development of both reading and writing skills. But, can we effectively teach writing to adults? What skills should teachers in adult basic education (ABE) focus on when teaching writing?

Writing and Socio-Cultural Context

In teaching writing in ABE, it is essential to situate writing as a cognitive process in socio-cultural dimensions (Gillespie, 2001). Vygotsky's social-cultural model is fundamental in this analysis and provides insights that shape a strong writing curriculum in adult literacy.

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Hansman (2001) develops the socio-cultural model through the notion of communities of practice—these are self-organized and selected groups of people who share a common sense of purpose and a desire to learn and know what each other knows. Hansman stresses that the power of communities of practice lies in the power to organize themselves, set their own agendas, and establish their own leadership. Adult literacy classrooms are communities of practices; unless a sense of community is developed within the program or classroom, developing strong writers will be a challenge for the teachers in adult education. Principles of mentoring, working together, asking questions, ownership and contribution are present in a community of practice and these principles are transferrable and critical in writing and reading processes too. Gillespie's publication on implications on writing for adult learners cites other factors to consider in writing instruction for adults but stresses that understanding the sociocultural dimensions is key and this dimension should be seen not as peripheral but as central to the understanding of composition (Gillespie, 2001).

Adults as Learners

Adult learners are unique and they bring a wealth of experiences and knowledge into the classroom. An awareness of these unique characteristics and their implications is critical in making recommendations for effective writing practices. Through an ethnographic study of behaviors among adult learners in the classroom, Schwertman and Cory (1989) identify the main differences between emergent learners, college students and adult learners. The unique characteristics of adult learners from this study include the history of their learning processes, other demands in their lives, psychological history with self-esteem, socio-cultural background and less risk-taking behaviors in writing. Adults differ from children and many times the intellectual audacity of adults rarely seems to match that needed and demonstrated by children

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(Smith, 1982). Smith points at the loss of childlike enthusiasm in adults which aids in the creativity that makes learning fun and sometimes easier. These unique characteristics of adults should always be considered when working in the classroom with adult learners: age, history of learning experiences (disabilities), psychological history (trauma, self-esteem, and abuse), risk-taking attitudes, relevance of writing in their everyday lives and other demands on their lives as parents, members of the workforce and citizens. These factors might interfere with learning progress and some traumatic experiences might surface through autobiographical writing thus the need to take a holistic view of the students' experiences.

Why Writing?

While reading is equally important, the power of writing is undeniable. The ability to own one's words is indispensable as both an intrinsic and instrumental value. In ABE, basic writing classroom is a site where students begin to recognize these competing positions and interest about identity, language and difference; classrooms have become places where students could give voice to suppressed stories and they could examine their struggles (Gillespie, 2001). Researchers note that when people talk about writing, they imbued it with power. Furthermore, the importance of writing skills in adult learners is also shaped by the demands of writing in the workplace. Mikulecky (1998) shows that significant percentages of workers were found to write regularly as part of their job hence there is a need for ABE programs to respond to the needs of the students and prepare individuals for workplace writing, not just for individual writing but for writing tasks in teams (Gillespie, 2001). English Speakers of Other Languages (ESOL) comprise half of all learners in ABE programs (Gillespie, 2001). Most of these learners require oral and written communication skills for daily survival and for transitioning to high school or college thus investing in writing will serve the ESOL population with skills needed to live and adjust to

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life in the United States; this adds another layer when considering the importance of writing skills in adult learners. Writing skills are important to adult learners for employment, further education, participation as citizens, and personal fulfillment (MacArthur and Lembo, 2009)

The act of writing can often help the writer to discover ideas that would not have been discovered without the experience of the writing process (Gillespie, 2001).

This Meta-analysis

Graham and Hebert (2010) offer a thorough analysis of how writing is a foundation for reading but the meta-analysis is based on experimental and quasi-experimental evidence from the K-12 age groups. Despite the K-12 focus, the meta-analysis provides concrete evidence on particular writing skills that are transferrable to reading. For example, summary writing can improve comprehension in learners; transforming a mental summary of text into writing requires additional thought about the essence of the material, and the permanence of writing creates an external record of this synopsis that can be readily critiqued and reworked. As a result, summary seems likely to improve comprehension of the material being summarized (Graham and Hebert, 2010).

According to Graham and Hebert, writing was found to have a strong and consistent impact on improving students' reading fluency. In three of the studies examining the impact of writing instruction on reading fluency, spelling skills were taught. Spelling has a positive impact on students' word reading skills. Making the connection between reading and writing, the process of creating text prompts students to be more thoughtful and engaged when reading text produced by other (Graham and Hebert 2010). Therefore, increasing how much students write is crucial in developing reading skills. It is important to note the specific ways in which writing is taught and the elements or components that are emphasized for writing to have a significant

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impact on both reading and writing skills. One of the recommendations from this analysis is to look at specific elements of writing that will have a positive impact on both reading and writing for adults i.e. looking closely at the effectiveness of different interventions. Therefore, this meta-analysis focuses on four components of writing: spelling, use of technology, journaling and revision and adult learners by analyzing the effect of interventions focused on these aspects in adult literacy.

Method

Sources of Studies

The studies included in this study were focused on the four components outlined: spelling, use of technology, journaling and revision. Articles were gathered from the following databases: PsychINFO, Education Research Complete, Academic Search Planner, ERIC and other articles were found from citation chasing.

Inclusion Criteria

Three factors were considered in selecting studies for this meta-analysis: 1) studies with interventions focusing on aspects of the four components, 2) studies conducted with adult populations i.e. 18 years and above, 3) studies with pre and posttest measures. An inclusion criteria was applied to ensure the quality and similarity of the included studies (Field and Gillett, 2010). The field of adult literacy suffers from a paucity of thorough and methodologically sound studies especially studies with interventions. Therefore, three levels of inclusion were applied to accommodate the different study designs that may not necessarily have control groups but provide insights on teaching writing to adults. The first level included studies with proper control groups with pre and posttest measure done with adults; secondly, studies with pre and post rest

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measures but done with children (interventions included are relevant to adult learners) and finally studies done with adults and provide qualitative or recommendations for practice—these studies have no pre and posttest measures.

Calculation of Effect Size

Outcomes from studies were coded as an effect size. An effect size is an important tool in reporting and interpreting effectiveness (Coe, 2002). Effect size also shows the magnitude of growth before and after the intervention hence showing whether the intervention was effective or not. Cohen's *d* was calculated using relevant statistical data in the studies and a pooled standard deviation as used in calculating effect size. Neither fixed nor random-effects method was used in this meta-analysis due to the thinness of the data points.

Results

A total of 45 studies were collected for this meta-analysis: spelling, $n=8$; use of technology, $n=13$, journaling, $n=17$ and revision, $n=7$. Results for each component show the effect sizes of the different interventions and a summary of the common themes and other findings from the qualitative and recommendation based studies. The results also show the relationship between design of study and magnitude of effect.

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Spelling

Intervention	Effect size
Answering questions about text in writing vs. reading (Langer and Applebee, 1987)	.06
Using phonological and orthographic awareness vs. invented spelling (Ouellette and Senechal, 2008)	.41
Word Study Approach with adult poor spellers (Massengill, 2008)	.48
Adult spelling strategies (Holmes and Malone, 2004)	.60
Spelling words in writing versus reading same words (Conrad, 2008)	.62
Word Study Approach with low-literate adults (Massengill and Berg 2008)	1.13
Computer technology with young struggling readers and spellers (Fasting and Lyster, 2005)	1.7

Interventions on spelling focused on invented spelling, spelling strategies such as letter rehearsal, over-pronunciation, comparison and Word Study approach. Computers were also used with struggling spellers and readers. In the study with the smallest effect size of 0.06, researchers measured the amount of writing done by students; exercises included completing short-answer study questions, taking notes and writing essays but the amount of writing done was very little. In another intervention, the invented spelling group scored much higher than the phonological and orthographic awareness group in an intervention with kindergarten despite the medium effect size of 0.48. The researchers found that invented spelling coupled with feedback encourages an analytical approach and facilitates the integration of phonological and orthographic knowledge, hence facilitating the acquisition of reading (Ouellette and Senechal, 2008). Even though invented spelling has been mostly used in emergent literacy, is also very applicable to adult literacy. However, the differences in the nature of invented spelling between children and adults should be considered when using this strategy in ABE classrooms. In Schwertman and Corey's ethnographic study on writing behaviors and practices for adult students, invented spelling was

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the most striking similarity between children and adults' language acquisition. Commonalities include: reversal of letters in the more beginning stages of writing, sub-vocalizing of words while writing, spelling words with consonants first like 'dg' for "dog" and later on in the developmental process filling in missing vowels and the reversal of letters which are easily confused such as 'd' and 'b' or 'd' and 'p'. On the other hand, adults were more self-conscious than children about the ways in which they are judged by the outside world based on their spelling, grammar and the appearance of their writing hence the less willing to experiment with spelling, take risks or make mistakes (Schwertman and Corey, 1989).

In the Word Study Approach with poor spellers, adult learners were asked to sort words according to pattern by connecting sound, picture and alphabet (Massengill, 2008). This intervention increased awareness in phonics and heightened the sense of self-efficacy. As noted in the table above, the similar intervention in two different studies had different effect sizes. The first intervention with a 0.48 effect size was conducted over a "short period of time" (Massengill, 2008) while the one with 1.13 was conducted over 16 weeks. The length of time given for an intervention also impacts the magnitude of change and growth in participants. From the comparison of these two studies, it is clear that methodologically strong studies differ in effect size with weaker studies. The Word Study approach was quite effective only when the study was methodologically strong. Spelling words instead of reading the same words was also effective with an effect size of 0.62. Children were better able to spell words they had practiced reading and to read words they had practiced spelling; transfer from spelling to reading was greater than transfer from reading to spelling (Conrad, 2008). The impact of the intervention on using technology shows that the MultiFunk software has potential to enhance word reading rate and comprehension; it also supports spelling in making orthographic limits (Fasting and Lyster,

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2005). For spelling strategies over-pronunciation and comparison were effective; rehearsal of letters was a highly successful strategy and worked for weak and better spellers in the study by Holmes and Malone (2004).

Technology

Intervention	Effect size
Student generated summaries using computers (Tsai, 1995)	.28
Use of MultiFunk software on spelling (Fasting and Lyster, 2005)	1.7

Some of the themes emerging from the studies focus on the development of a sense of ownership and responsibility in learners through using computers, enhanced collaboration and shift in classroom dynamics. The MultiFunk software had a large effect on spelling in struggling spellers and the software enhanced the word reading rate and comprehension of the learners (Fasting and Lyster, 2005). In the county jail study, the mean gains on vocabulary are 1.2(treatment) vs. -0.266(control); spelling: -0.666(treatment) vs. -0.7333(control); reading: 1.13(treatment) vs. 406(control) (Diem and Fairweather, 1979). In this study, the use of computers did not yield positive results in spelling but in vocabulary, therefore, the effectiveness of computers in aiding writing should be seriously questioned. For literacy level 1, it is crucial to teach spelling without technology before students move to vocabulary building exercises using computers. While in the Bidwell Pre-Computer Literacy Program the average growth rate was 0.3 grade level, participants in Grade level 2-4 faired much higher with growth rate 0.7 to 2.8; it should be noted that the group that had a combination of computers and traditional instruction had a growth rate of 0.6 to 5.0 (Njie and Cramer, 1988). A combination of technology and traditional instruction therefore works best when computers are used effectively.

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Journaling

Intervention	Effect size
Writing summary vs. reading (Jennings, 1991)	.34
Personal response to stories vs. additional reading instruction (Adams-Boating, 2001)	1.07

Writing about a text produced a larger effect in the two studies above. For the 0.34 effect size, over a 3-4 month period, students wrote about the text more than reading and re-reading (Jennings, 1991). The large effect for personal response to stories indicated improved comprehension and quality of journals in second graders (Adams-Boating, 2001). This is evidence of the power of autobiographical writing even in younger children. The studies collected explore dialogue, reader response, learning and situational journals. These different types of journals reinforce different aspects of writing. The dialogue journal is one of the most common and highly recommended type of journal in ABE classrooms. Having used this journal in the classroom with adults, benefits include flexibility, privacy and improved student-teacher interaction through writing and expressing ideas on paper. According to Bardine (1995), this journal is considered to be non-threatening because the student is engaging in a conversation with the teacher. The other crucial piece is that the teacher can model spelling, punctuation and sentence construction in the correspondence with the student. In addition, dialogue journal is allows the teacher to work on writing throughout the course of the day and/or semester without having to plan for writing time. The spontaneity of the dialogue journal allows for students to find journaling as an important way to express any ideas in writing thus developing their notion of writing as a channel for freely expressing their thoughts and having a conversation. The teacher can decide on a day to respond and return to encourage consistency in writing, perhaps two times a week or more. Peyton (2000) advises that it is also important to set a minimum

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length of writing (e.g. three sentences) that students must write for a start. Also, students need to be informed that this is a continuing, private, written conversation and they may write on any topic and the teacher will write back regularly without correcting errors (Peyton, 2000).

Furthermore, journal partners can also be useful in dialogue journals but they do not have to be teachers. They can be tutors and they act as good conversationalist and interesting writers who can ask questions, introduce topics and wrote about oneself. Reader response journals reinforce writing by allowing students to write their response instead of presenting in orally. This journal also combines writing and reading skills (Bardine, 1995).

From the qualitative and recommendation based studies in journaling, other common themes in narrative writing with English Speakers of Other Languages (ESOL) include exploring goals and identity, self-analysis and reflection while adjusting to life in the United States. Other common themes are writing as tool for social change and empowerment, using writing to connect with the real world experience, using word processors and computers to journal.

Revision

Studies focusing on revision were mostly qualitative and/or case study based; some had quantitative data but the data was insufficient to calculate effect size. For strategy instruction focusing on planning and evaluation, the adult learners' mean gains in quality of essay and organization from baseline to posttest for the three students were 2.7, 1.9, and 1.7 on a 7-point scale. Students learned self-evaluation and the quality of essays improved (MacArthur and Lembo, 2009). One study used the Focused Question Card during the brainstorming stage of writing (Sandmann, 2008). Common practices in revision include peer feedback, peer review, use of word processors, using web-critiquing system and working in small groups. The study using web-based essay critiquing system had no statistically significant data and no effect size

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could be calculated from the data provided but had positive results in revision practices on argumentative essays. The intervention was found to be effective in helping students enrich their essays with more ideas; it was not helpful with spelling development (Lee, Wong, Cheung and Lee, 2009). Significant improvement was also linked to peer feedback, however, the ESOL students' comments in the same study showed a clear preference for teacher's feedback, recognition of its quality and an awareness of its quality (Hu and Lam, 2010). Even though peer feedback is an important aspect of student to student interaction, teacher guidance is always preferred when students are insecure especially when they are not comfortable sharing each other's work. Also important to note is that papers produced with word processors were not rated as higher in quality than those written with paper and pencil (Joram, Woodruff, Bryson and Lindsay, 1992). Word processors should be prescribed to above average students and the teacher's role is indispensable in using computers for revision purposes.

Best Practices in Teaching Writing

Teaching spelling: Invented spelling is an effective way of teaching spelling to adults if enough flexibility is allowed for adults to build confidence and get comfortable with making spelling errors the first couple of times. In another study evaluating spelling errors by children and adults, Greenberg, Ehri and Perin (2002) report that in the spelling exercise, none of the children left a word unspelt; adults were less apt to attempt to construct spellings that they did not know. Also, many adults left many words blank on the test whereas not one child left a word unspelt (Greenberg et al, 2002). Despite the developmental differences between children, this is evidence of the low risk and avoidance of making mistakes and fear of embarrassment that many adults experience in learning. Therefore, invented spelling is crucial as a strategy for encouraging adult learners to take risks, learn to spell by making mistakes through the process.

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Strategies for teaching spelling:

1. Using picture-word exercises allows students to come up with the word for object or place and write the spelling. Once they come up with the spelling, encourage students to use the same spellings in a sentence. Sentence generation is key in targeting invented spelling. Let students write out the spelling, provide support to get ideas on paper before you can correct spelling.
2. Focus on particular letter combinations such as words that end with the suffix *-tion*. Allow students to generate as many spellings as possible and take the spelling to the sentence level. Invented spelling with adults has to precede a few steps, for example a list of spellings. Once the learners gain more confidence and a sense of accomplishment, slowly introduce the sentence construction where they will hopefully be willing to invent more spellings in a sentence.

As Smith (1982) points out, the loss of childlike enthusiasm in adults which aids in the creativity hinders progress in invented spelling. However, if teaching spelling is taken in steps and when teachers are willing to enthuse students with more fun type of word activities before spelling, students are more likely to respond positively to attempting to write new words, use a dictionary or spell words they have heard and used before but never write them in ink.

Dialogue Journals: As many researchers and practitioners recommend, this type of journal is the most effective with adult learners. This journal is advantageous because of the unobtrusive but interactive way of teaching important aspects of writing such as spelling, punctuation, sentence construction and responding to questions.

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Strategies for dialogue journals:

1. Designate a particular notebook/journal for this specific purpose. This element of organization shapes the weight of the journal and learners will take it more seriously.
2. Set a minimum number of entries per week. This is another advantage of using the dialogue journal—it allows flexibility but there is need to set a minimum number of entries per week, for example twice or thrice a week depending on the structure of the class/program. The teacher should also set a day to respond and return journals, and students should also return the next entry after a day or two. Setting a rhythm is important in cultivating the culture of writing with the students.
3. Peyton (2000) also suggests journal partners for dialogue journals. Partners do not have to be teachers but can be classroom aides or tutors. This is another way of utilizing tutors effectively if teachers have regular tutors working with the students. Another great idea would be partnering students in different classes as partners i.e. students who are more proficient in their writing to work with the basic levels. This step will be productive later in the process when students gain confidence in using journals.
4. Using real world links and connections beyond the classroom in writing exercises is recommended (Grief, Meyer & Burgess, 2007). This aid creativity and learners are able to bring their whole selves into the classroom and will gain confidence in everyday writing tasks if connections are emphasized.
5. Flexibility with the journal also enables the students to get comfortable with writing. Bardine (1995) suggest getting students' input on topics of interest, repeating assignments that work and also experimenting with assignments. Teachers need to find the balance between routine and flexibility when using dialogue journals.

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Use of Computers: Evidence from interventions with computers shows the usefulness of word processors on vocabulary building. However, word processors have a negative impact on spelling development, especially in the basic literacy level. The introduction of computers in ABE classrooms for revision or writing purposes should be assessed according to students' needs and goals. Using computers with adults is also crucial due to increased use and reliance on technology in today's world. Berger (2005) adds that students feel a sense of empowerment through using computers because they were able to take ownership of their learning.

Strategies for using computers effectively:

1. Assess students' literacy level before recommending to use computers for higher level functions such as composing and revision.
2. Use computer programs or software with specific learning goals. Young and Irwin (1988) suggest a highly effective word study exercise that can aid spelling and vocabulary using computers. Teachers can set up a database with new words from class exercises and discussions to create a word bank; students can search for words as a spelling activity. The activity can include definition of the word, word used in a sentence, synonyms and antonyms. The student needs to spell the word correctly first and the exercise will enable the students to try spelling the word as many times as possible till they get the correct spelling—this works like a computerized version of invented spelling because it allows making errors and correcting the spelling errors. The word bank also shows the number of times a word has been retrieved i.e. the times a word has been spelled correctly hence tracing progress.

Writing Portfolio: A writing portfolio is recommended as a means to document learners' progress in writing. Writing folders are particularly useful for revealing patterns in writing

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development over time and across different kinds of writing activities (Gillespie, 2001). Portfolio can be used for all aspects of writing, especially in journaling.

Conclusion

This descriptive meta-analysis is strong evidence for the importance of focusing on writing skills in ABE instruction. A focused writing curriculum will serve students' needs while also developing skills that enhance reading; hence focusing on writing does not disregard reading skills. Invented spelling is a highly recommended but teachers should take into consideration the needs of the learner and the classroom dynamic in fostering an environment that encourages risk taking and learning from errors. Journaling is also key and dialogue journal serves other aspects of writing such as spelling, punctuation, sentence construction and builds confidence in writing. The impact of introduction in ABE classrooms should be considered before teachers consider this move. Computers are useful when they are aligned with learning goals and also when used purposefully for spelling development and composition with upper level students. Further research should focus on interventions in writing in adult literacy. ABE programs will benefit immensely from studies that measure the impact of some of the strategies recommended in this meta-analysis.

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APPENDIX: STUDIES SUPPORTING RECOMMENDATIONS FOR TEACHING WRITING

Spelling

Study	Intervention	Effect size
Adult spelling strategies (Holmes and Malone, 2004)	Study with adult English speakers (university students) who are good readers but differ in spelling ability.	0.60
Effects of a Word Study Intervention on Spelling Accuracy Among Low-Literate Adults (Massengill and Berg 2008)	Study focused on the impact of the Word Study Approach on the spelling ability of adults with limited literacy proficiency in 10 (5 in each group).	1.13
From reading to spelling and spelling to reading: Transfer goes both ways (Conrad 2008)	Students practiced spelling words in writing versus reading the same words—2 nd graders.	0.62
Langer, J. A., and Applebee, A. N. (1987). <i>How writing shapes thinking: A study of teaching and learning</i> . NCTE Research Report No. 22.	Students read answered questions about text in writing versus reading and studying the text	0.06
Mission accomplished...it's learnable how: Voices of mature challenged spellers using a Word Study Approach (Massengill, 2008)	Word Study approach on 9 adult poor spellers--short term intervention. Participants' knowledge of word features increased as did their confidence and self-esteem.	0.48
Pathways to Literacy: A Study of Invented Spelling and Its Role in Learning to Read (Ouellette and Senechal, 2008)	4 week intervention on 3 groups of kindergarten children, with 2 comparison groups using phonological and orthographic awareness vs. invented spelling.	0.41
The effects of computer technology in development of literacy in young struggling readers and spellers (Fasting and Lyster,2005)	Effects of MultiFunk, a computer program on reading and spelling proficiency of struggling readers. 52 below average readers and spellers in grades 5, 6, 7 over 8 weeks.	1.7
Spelling in adults: The role of reading skills and experience (Burt and Fury 2000)	Study done with 100 university students looking at how decoding accuracy in reading and reading experience are primary determinants of spelling proficiency.	

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Technology

Study	Intervention	Statistics /Effect size
An Evaluation of the Effectiveness of a Computer Assisted Instructional Program in Basic Literacy Skills in a County Jail (Diem and Fairweather, 1979)	Evaluation of impact on vocabulary, reading, arithmetic computation and arithmetic problem solving during the first year. Results are for the 8 week instructional period.	Mean gains (tenths of grade level) Vocabulary (1.2 and -0.266) Reading (1.13 and 4.6) Spelling (-0.66 and 0.733)
Bidwell Pre-Computer Literacy Program: An Evaluation of IBM's Principle of the Alphabet Literacy System(PALS) (Njie and Cramer, 1988)	Interactive instructional program done with adolescents and adults on writing and reading skills using Principle of the Alphabet Literacy System(PALS)	Average growth rate was 0.3 of a grade level
Tsai, B. R. (1995). <i>Effects of student generated summaries, instructor provided summaries, and frequency of summarization during computer-based instruction</i> . Unpublished dissertation, Uni. of Minnesota.	Students were taught steps for summarizing text in writing versus reading and studying text.	0.28
The effects of computer technology in development of literacy in young struggling readers and spellers (Fasting and Lyster,2005)	Effects of MultiFunk, a computer program on reading and spelling proficiency of struggling readers. 52 below average readers and spellers in grades 5, 6, 7 over 8 weeks.	1.7
Adults' Uses of Computer Technology: Associations with Literacy Tasks (Smith and Smith, 2010)	National study looking at the adults' use of computer technology in their everyday life	0.87 (effect for the various computer-related literacy)
The Effectiveness of Computer-Based Adult Education: A Meta-Analysis (Kulik and Kulik, 1986)	Comprehensive meta-analysis	Recommendations for practice
Integrating Computers into Adult Literacy Programs (Young and Irwin, 1988)		Recommendations for Practice
Computer-based Instruction: What 200 Evaluations Say (Kulik and Kulik, 1987)	Results of fur separate statistical analyses of findings on CBI. This includes elementary, secondary and high school including 24 adult education settings.	Recommendations for Practice and Research

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Effectiveness of computer-based adult education; a meta-analysis (Kulik, Kulik and Shwalb, 1986)		Recommendations for Practice
Journal Writing in Adult ESL: Improving Practice through Reflective Writing (Orem, 2001)	Using a computer software for journal writing	Recommendations for practice
Perceived Consequences of Adopting the Internet into Adult Literacy and Basic Education Classrooms (Berger, 2005)	Study on teachers' perceptions and response to using computers in the classroom—desirable and undesirable consequences.	Recommendations for Practice
Using Computers in Adult Literacy Instruction (Askov and Clark, 1991)		Recommendations for Practice
Web-based essay critiquing system and EFL's students writing: a qualitative and quantitative investigation (Lee, Wong, Cheung and Lee, 2009)		Qualitative and Recommendations for Practice

Journaling

Study	Intervention	Category
Adult English Learners Constructing and Sharing their Stories and Experiences: The Cultural Linguistic Autobiography Project (Park, 2011)	The CLA project worked with adults in reconstructing their history and identities through writing.	ESOL
Structure and Freedom: Achieving a Balanced Writing Curriculum (Casey and Hemenway, 2001)	Longitudinal study on structure and freedom in writing curriculum	Recommendations for Practice
Writing Across the Curriculum (Gorrell, 1987)	Demystifying writing through free writing exercises	Recommendations for Practice
Journaling in Adult ESL Literacy Programs (Larrotta, 2009)	The essence of keeping a dialogue journal with adult ESL students to promote literacy development and community building.	ESOL/Type of Journal
Journal Writing and Adult Learning (Kerka, 1996)	Types of journals, basic ideas about the importance of journaling for adults	Type of Journal

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Journal Writing for Improved Learning and Classroom Relationships in Public Schools: Applications for Adults: Disadvantaged Adults (Flores-Isom, 2007)	The importance of journal writing for disadvantaged adults and how that enhances the learning experience	Recommendations for Practice
Dialogue Journal: Interactive Way to Develop Language and Literacy (Peyton, 1993)	In-depth discussion of the dialog journal and how it can be used effectively for developing competency in literacy	Type of Journal
A Community Within the Classroom: Dialogue Journal of Adult ESL Learners (Kim, 2005)	More of dialogue journal in an ESL classroom and the impact on community building in the classroom.	ESOL/ Type of Journal
Using Writing Journals in the Adult Literacy Classroom. Teacher to Teacher (Bardine, 1995)	Types of journals and how they can be used with adult learners in the classroom.	Type of Journal
Teaching Writing to Adult Learners: Using Job Related Material (Silver, 1982)		Recommendations for practice
A Comparison of Summary and Journal Writing as Components of an Interactive Comprehension Model (Jennings, 1991)	5 th graders were taught to organize information from text and then write a summary from it versus BAU reading instruction	Effect size= 0.34
Second graders' use of journal writing and the effects on comprehension. (unpublished master's thesis, Adams-Boating, 2001)	Students wrote a personal response to stories versus additional reading instruction.	Effect size= 1.07
Journal Writing in Adult ESL: Improving Practice through Reflective Writing (Orem, 2001)		ESOL/Type of Journal
Journal Writing: An Effective, Heuristic Method for Literacy Acquisition (Palmer, Cozean, Olson-Dinges)	Case study	Recommendations for practice
Effective Teaching and Learning: Writing (Grief, Meyer and Burgess,	Study was to analyze the teaching of writing and its impact on learners' competence and confidence in writing and how they use it in their daily lives.	Recommendations for practice

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Writing Together: Building Community Through Learner Stories in Adult ESL (Wood, 2011)		ESOL
Writing with Power, Sharing their Immigrant Stories: Adult ESOL Students Find their Voices Through Writing (Stewart, 2010)		ESOL

Revision

“Now, what does that mean, ‘first draft?’”: responding to text in an adult literacy class (Bodwell, 2004)		Qualitative case study
Examining the Intangible Process: Lotus ScreenCam as an Aid to Investigating Student Writing (Glendinning and Howard, 2001)		Qualitative case study
Extra Spelling Instruction: Promoting Better Spelling, Writing and Reading Performance Right from the Start (Graham, Harris and Fink-Chorzempa, 2003)	Done with young children—relationship with invented spelling	
Nurturing thoughtful revision using the Focused Question Card strategy (Sandmann, 2008)		Recommendations for Practice
Issues of cultural appropriateness and pedagogical efficacy: exploring peer review in a second language writing class (Hu and Lam, 2010)	20 ESOL students who are native Chinese speakers over 12 weeks for 6 hrs. a week.	Qualitative and quantitative
Strategy instruction in writing for adult literacy learners (MacArthur and Lembo, 2009)		Quantitative and Recommendations for Practice
Web-based essay critiquing system and EFL’s students writing: a qualitative and quantitative investigation (Lee, Wong, Cheung and Lee, 2009)		Quantitative and Recommendations for Practice