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# IDENTIFIACATION OF SPECIFIC RESEARCH-BASED INSTRUCTION METHODS TO TEACH PRE-LITERATE ESOL STUDENTS

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#### Abstract

Much of the literacy research provides evidence regarding the instructional practices and methodology used when teaching native English speakers or mainstream English as a Second Language (ESL) classes. However, it has now become imperative to identify effective instructional practices that can be used with adult English literacy learners (AELLs). AELLs originate from backgrounds where literacy has been unavailable, denied or recently codified. Therefore, a descriptive study was conducted to identify instructional practices and tools used to teach adult English literacy learners in Florida. Surveys and a focus group were utilized to capture these practices. A small sample of 17 literacy instructors responded to the survey on literacy instruction, and five literacy instructors attended a focus group discussion meeting to elaborate on the survey answers. The results indicated that the instructors are utilizing the following research-based instructional practices and tools when teaching AELLs: language experience approach, use of the native language during instruction, active learning, and Environmental Print.

#### 1 Introduction

In 2008, over one million adults were enrolled in federally funded adult education programs ESL classes (National Center for Education Statistics, 2010). As stated by Burt & Peyton (2003), many adults who participate in educational programs have differing educational and literacy experiences. Many students have backgrounds where literacy is not widespread in their communities nor is it deemed necessary for survival.

The background and stages of every student must be taken into account in order to offer an optimal learning environment that will enable the learner to become literate. Before literacy can be taught in a second language, the role that literacy played in the first language must be explored. According to Huntley (cited in Burt & Peyton, 2003), several stages or categories of literacy can be defined in the context of the first language (L1).

Schöneberger, van de Craats and Kurvers LESLLA Proceedings 2010 Recognizing the stages of literacy can help teachers to develop and use successful instructional practices. The stages discussed by Burt & Peyton (2003) are: pre-literate, non-literate and semiliterate. The preliterate learner originates from a way of life that does not revolve around literacy. The stage is characterized by language in the process of codification. More specifically, the written code is being developed and has not yet been standardized for wide spread use. The non-literate learner has resided in an environment where literacy was available, but literacy instruction had been denied, many times due to socioeconomic status. Warfare and destitution can also lead to limited schooling and the corresponding difficulties with reading and writing in the native language. Those learners who often have a lower socioeconomic status and some level (1-6 years) of education are considered semiliterate learners. Some type of contact with literacy has occurred in their home language but only at a minimal level. This article will only focus on the pre-literate learner.

#### 2 Instructional practices

Whether an AELL is considered preliterate, nonliterate, or semiliterate, it is important for teachers to have a varying number of approaches, methods, and techniques that can best meet the specific needs of their literacy students. The terms instructional practices and took have been selected and will be used throughout this article to encapsulate the approaches, methods, and techniques of teachers. Below are research based instructional practices and tools used when teaching AELLs. Four were selected for inclusion in the study.

#### 2.1 Language Experience Approach

Holt (1995) stated that the language experience approach (LEA) can be successfully used to instruct low-level literacy learners. The lesson would commence with a class discussion on a shared experience, such as a field trip. The learners provide sentences and the teacher writes the sentences on the board. The instructor proceeds to read the sentences clearly, pointing to each word as it is pronounced and confirming that what is written is what the student stated, however simple the sentences are. After the story is finished, the instructor recites it aloud with the students being encouraged to join in the reading if possible. According to LEA, various activities can evolve from the reading. For the pre-literate learner, they can copy the narrative and underline the portions of the story that can be read or circle certain words that have a selected sound. This will assist them with simple word recognition. Pre-literate learners, who have learned to hold a pen or pencil and have been taught letter formation, are able to copy letters with some success, although many are unable to pronounce the letters or decode the words they are copying.

#### 2.2 Native language

The LEA did not mention the role of the native language in literacy instruction. A study by Burtoff in New York City compared techniques and results of two groups of adult Haitian Creole speakers with one group receiving English-only (L2) literacy

instruction and the other receiving home-language (L1) literacy instruction while learning English (as cited in Roberts, 1994). Both groups received the same number of instructional hours. The results of the study showed that the learners who received L1 instruction demonstrated stronger literacy skills than those who received instruction in L2.

Wrigley (2005) noted that the use of the native language is helpful because the learners' brains are always trying to create verbal responses, understand print, and interpret what the teacher is asking while at the same time handling a new language and culture. Many learners who struggle with literacy have not attended any type of formal schooling since they were children; therefore, becoming accustomed to new tasks is an additional adjustment. The learning process can be enhanced through explanations in L1 and once the instructions are clear, the assignment can become even more feasible. For example, asking students to open their books to a certain page, underline, or circle are academic activities. Pre-literate learners with little to no classroom experience may not understand these instruction if stated in the L2. The instructor may demonstrate the actions of opening a book, underlining a word, or circling a letter; however, if these actions are demonstrated and explained in the native language the learners will begin to understand that certain instructions pertain to classroom related activities. Although obvious to those accustomed to formal education settings, pre-literate learners must be taught classroom instructions and expected reactions to those instructions.

#### 2.3 Active learning

Research states that it is important to have the adult learner play an active role in selecting topics, language, and materials. "Active learning is generally defined as any instructional method that engages students in the learning process. The core elements of active learning are student activity and engagement in the learning process" (Prince, 2004).

In a pre-literate classroom, engaging students in the learning process may include requiring students to bring outside experiences into the classroom (Wrigley, 2005). Some examples observed by Wrigley were field trips where learners were encouraged to use English, or having students bring in fliers, catalogues, soup labels, and basically anything that reflected the literacy that they encountered on a regular basis. Class lessons should evolve from the experiences and languages of the adult learner (Holt, 1995) and the learners' wisdom and experiences should be shared with the other learners and viewed as a resource. This technique differs from LEA insofar that the learners are simply sharing items or words learned from their environment at different points in time. LEA on the other hand, mainly focuses on shared experiences occurring at the same time for the purpose of writing down this experience as a class activity.

#### 2.4 Four keys for successful instructors

According to Freeman, Freeman & Mercuri (2001), there are four research-based keys that should be applied to older, limited formal-schooling learners with literacy needs. The first key is to *involve students in a challenging, theme-based curriculum* to increase

academic concepts. This can be achieved by utilizing the previous experiences of the students and by valuing their language and cultural backgrounds when assessing them. Hamayan & Pfleger (1987) believes that literacy can develop easily in the classroom by providing meaningful environmental print, establishing lessons that motivate literacy and create meaning, establishing a non-threatening environment, combining instruction about forms and structures in meaningful activities, and incorporating literacy instruction with scholastic content. The second key is to utilize the students' experiences, cultures and languages. The third is to arrange collaborative projects and scaffold instruction to strengthen students' academic English aptitude. The final key is to generate confident students who appreciate school and appreciate themselves as learners.

#### 2.5 Environmental print-instructional tool

Hudelson (as cited in Roberts, 1994) believes that in a literate environment, literacy can develop in the learner. Instructors can inform students about road signs, advertising, print media, and descriptions in their surroundings. In turn, the students can bring examples of print they come across on a daily basis (Condelli & Wrigley, 2006; Kurvers, van Hout, & Vallen, 2006; Pérez & Tortes-Guzman, 2002; van de Craats, Kurvers, & Young Scholten, 2006). Meanings, sounds, and graphic symbols should be instructed concurrently because learners often are conscious of the fact that graphic symbols can demonstrate verbal meaning. If the instructor can begin by being aware of what the learners already understand, then instruction can commence in a positive manner. Wrigley (2005) strongly stresses that literacy learners have valuable skills that the instructor can utilize to build the curriculum. Adult learners navigate in an environment that is filled with both spoken English and print resources. That combination leads to a list of sight words that the learners begin to depend on, thereby expanding their background knowledge and life experiences to assist in their literacy acquisition process.

#### 2.6 Role of metacognition

Metacognition basically means knowing about knowing and being able to choose different strategies to learn something. Both practitioners and researchers who work in the field of ESL literacy stress the relationship between a learner's ability to utilize metacognitive approaches and his or her confidence in learning. Angst, et al. (2002) state that literacy learners need to know how to examine their own learning and should be encouraged to think about how they learn. Additionally, the instructor can work towards identifying which instructional practices the learner has already obtained and work with him or her in order to transfer the skills for classroom use.

#### 3 Research method and design

AELL teachers struggle to address the needs of learners who lack literacy in their native languages and need technical assistance to effectively organize instruction to meet the educational and linguistic needs of pre-literate adult ESOL students. The purpose of this study was to determine which of the proven researched-based

instructional practices and tools of AELL teachers are currently being used and to identify additional instructional practices employed by teachers.

#### 3.1 Research questions and design

- Are instructors of AELLs currently using four of the research-based instructional practices?
- What additional instructional practices are instructors using when teaching AELLs?

A descriptive research design was employed to explore the research questions. The descriptive research design is used to 'provide an accurate description or picture of the status or characteristics of a situation or phenomenon' (Johnson & Christensen, 2000: 302).

#### 3.2 Methods of data collection and instruments used

Surveys and a focus group were utilized to capture the instructional practices being used to teach pre-literate AELLs. Surveys recorded teachers' self-reported instructional practices in their classrooms. A focus group was established to further elaborate on the answers included in the instructor surveys. It also allowed teachers to exchange ideas and information on best instructional practices.

#### 3.2.1 Instructor surveys

The design and method of the research project developed from research studies that have identified specific instructional practices that are considered successful in AELL classrooms. These methods were then incorporated into surveys. The administrators of the literacy programs distributed the surveys to the adult ESOL teachers participating in the study. They also collected and returned them to the researchers. Among the topics included were: the Language Experience Approach (LEA) evidences of literacy, oral repetition, visual discrimination of letters and words, auditory discrimination of sounds and the use of the learners' native language in the classroom.

#### 3.2.2 Focus groups

After the instructor surveys were returned, a focus group discussion was organized. Ten pre-literacy adult ESOL teachers were invited but five chose to participate: two from Miami-Dade County, and one each from Duval, St. Lucie, and Orange Counties. Sampling-The researchers drew a geographically stratified sample of adult ESOL literacy programs throughout Florida to ensure representation from areas with diverse populations and to keep within financial resources. Random sampling was also used to disseminate the Instructor Methodology Surveys to the AELL instructors throughout Florida. The focus group discussion questions were generated directly from the group and the responses obtained from the teacher surveys. The information obtained was recorded and documented for further analysis and future research. Some questions included:

#### Strategies

- What are the most successful strategies you have implemented in your classroom?
- Are manipulatives used in your classroom, such as pennies, bingo chips, clay etc.?
- Do students bring in any evidences of literacy to your class, such as medication bottles, bills, doctors' appointment slips, etc.?
- What do you think is the role of the native language in the classroom?
- What are the challenges you most often see in your classroom? What challenges do you face?

#### Methodologies

- Do you teach the visual/auditory discrimination of letters and words during your lessons? Such as explaining /p/ and/b/
- Do you use the Language Experience Approach (LEA) in your classroom?

#### 4 Survey results

Instructional practice surveys were disseminated to literacy instructors throughout Florida. Seventeen instructors responded to the survey. Although a small sample, the responses provided insight into the instructional practices they are currently utilizing. The table below demonstrates the percentage of instructors who reported using the research-based instructional practices included in the survey when teaching AELLs (Identified). The instructors' responses indicating not using the practices were recorded in Not identified category. Note: Information was not collected on how the strategies were implemented and how effective they were. This preliminary research was conducted to first identify the practices being used. Future papers will address the effectives of these practices. The following is the compilation of survey results.

Table 1: Research-based instructional practices survey results (N=17)

Instructional Practices/tools	Identified	Not identified
Language experience approach	82.35%	17.65%
Native language	88.23%	11.77%
Active learning (field trips)	19.04%	80.96%
Manipulatives	30.95%	69.05%
Discussions	30.95%	69.05%
Environmental print (tool)	82.23%	17.77%

Language experience approach - The Language experience approach (LEA) was utilized by 82.35% of the instructors but 17.65% stated that they do not use LEA.

Native language- When the instructors were asked whether they utilized the students' home language to explain concepts 88.23% said "yes" and 11.77% said "no." Active Role of learners -The principal activities that were used in the classroom were student discussions (30.95%), manipulatives (30.95%), and field trips such as going shopping or to the bank remained at (19.04%).

Environmental print - When the instructors were asked if their students brought in evidence of literacy from the outside to the classroom, 82.23% of the instructors said "yes" while 17.77% said, "no."

#### 5 Additional practices reported on surveys

Oral repetition -The instructors were asked if oral repetition was utilized in the classroom and 100% stated "yes." The majority of instructors (52.95%) use oral repetition in all of their classes where 47.05% use it in most of their classes. Visual and Auditory Discrimination of Letters-All of the instructors (100%) stated that they use visual discrimination to teach the sounds of letters. While 94.11% use auditory discrimination,-5.89% did not. Listening, Speaking, Reading and Writing -The instructors stated that they devote 25% of their time to listening skills, 20% to speaking skills, 25-30% to reading skills and 25% to writing skills.

#### 6 Individual Practices Reported by the Instructors

#### Use of phonics

- "The most effective teaching method is the phonological one which consists in helping students to recognize short and long vowels; spell words with real sound letter, read make sentences, etc..."
- Hooked on phonics phonics strategy programs

#### Reading strategies

- Cloze activities
- Story-telling and translation into student languages
- A review at the end of each topic

#### Visual activities

- Visuals ("They can see the pictures.")
- "I write almost everything I say on the board. The students can see the words as they listen and attempt to repeat the sounds."
- Organizational charts that focus on words or topics (students listen and check off information)

#### Body language techniques

- "Reading" and using body language to reduce anxiety
- Total Physical Response

#### Acquiring basic information

- Use basic information through modeling and questioning
- Identifying important information (name, social security, etc.)
- Lessons focus on acquiring and using basic information

#### Electronic devices

- Listening to tapes
- Use of video, music, graphics, (such as the news cartoons), audio

#### Positive learning environment

- "I have the students interact with each other almost every class. We try to incorporate the lesson of the day into conversations."

- Group or cooperative learning
- Partnering strategies
- "The most effective teaching is to motivate and transmit confidence to the students by questions and answers."
- Create an atmosphere of learning

#### 6.1 Analysis and discussion

The purpose of this study was to determine if instructors were using four researchbased instructional practices when teaching AELLs. Additionally, it sought to identify other instructional practices and tools teachers used.

The language experience approach (LEA) was utilized by 82.35% of the instructors but 17.65% stated that they do not use LEA, as they were unfamiliar with the approach. Survey results showed that the majority of instructors used LEA in the classroom. These results stress the use of meaning in the classroom and allow the students to learn from a shared experience. During the focus group discussions, one instructor explained not using the approach because she reserved it for children. The use of a shared experience, such as field trips, can be more easily accomplished in the primary and elementary grades making it easier for instructors to use LEA. As for the adults, instructors must be more creative organizing a shared experience, as field trips are often difficult to organize for adult learners with limited time and funds. Once a shared experience has been established, children and adults can truly benefit from this approach because both groups are able to observe the connection between the spoken and written word. According to Taylor (cited in Holt, 1995), the LEA can be used with low-level pre-literate learners to encourage listening and to observe the manner in which speech/language is related to print.

#### 6.2 Native language

When asked whether they utilized the students' native language to explain concepts, 88.23% said "yes" and 11.77% said "no." According to the surveys, the instructors are indeed using the native language to instruct their students when homogeneous linguistic groups are present. However, during the focus group session, there were differences in opinions about the use of the native language in the classroom. Several instructors avoided using the native language in the classroom and separated learners who spoke the same language in order to promote only speaking in English. Others used the native language as a tool and paired like-language learners together in order to encourage student participation, or they used the native language in the lessons to explain concepts. According to the instructors, both strategies were successful. The instructors who use the native language in the classroom believe it to be quite advantageous. They were able to explain certain concepts to the students until total understanding of the concept was achieved.

Wrigley (2005) states that despite a class not being a native literacy class, a bilingual instructor can utilize the native language to give instructions or short translations in which positive results can occur. A review of school guidelines in the native language can introduce a nonthreatening environment and help prevent student absences. This is especially important with literacy learners who might not have had prior schooling

or might not understand how school procedures work. Concurrent acquisition of the native language can have satisfactory effects on the progression of English literacy among pre-literate, nonliterate and semiliterate adult learners (Burt & Peyton, 2003). Research indicates that the use of the learner's native language can greatly assist in the comprehension of classroom concepts or lower anxiety levels in the classroom.

#### 6.3 Active learning

The principal activities that were used in the classroom were student discussions (30.95%), manipulatives (30.95%), and cultural experiences such as going shopping or to the bank (19.04%). The results show that the majority of instructors are utilizing manipulatives and the learners' cultural experiences during instruction. In the focus groups, one instructor stated that trays of sand are used in the classroom for the learners to write and feel the letters and words they are creating. They also used flash cards, alphabet sets, bingo games, and Cuisenaire rods to assist with word order in sentences to add dimension to instruction. From the survey results it was apparent that events such as field trips were used only by a small number of instructors. They reported not having enough funds or time to take the learners on trips or events. Liability issues also contributed to the exclusion of trips in the curriculum.

The activities that the instructors focused on were student centered and, depending on the manipulatives, quite meaningful as past literacy research has stressed. When using manipulatives and realia in the classroom it is important that they are authentic, but hand-made materials from the instructors are also effective. Instructors are also encouraged to create their own manipulatives that are meaningful to the students' lives and reflect their experiences (Angst et al., 2000).

## 6.4 Environmental print

When the instructors were asked if their students brought in evidence of literacy (any item with written word found in the students' homes or environment) encountered on a daily basis to the classroom, 82.23% of the instructors reported "yes" and 17.77% responded "no." The instructors provided examples of literacy that the students have brought to the classroom, which included: insurance forms, school papers for their children, unemployment letters, medication bottles, and electric bills. When asked if they requested their students to bring in evidence of literacy as an assignment, 23.52% of the instructors said "yes" and 76.48% said "no." Of those who said yes, they requested that the students bring clothing labels, ethnic drinks, family pictures, and restaurant receipts. Of those who reported in the negative, they reported simply not thinking about incorporating these items in their lesson, but chose to remain focus on the curriculum and lesson of the day.

Research has stressed the importance of bringing meaning into the classroom, especially when trying to reach the adult ESOL literacy learner. According to the survey results, the learners are voluntarily bringing evidences of literacy into the classroom which is a clear sign that meaning must be integrated into the classroom lessons. However, the results also indicated that the instructors are not requesting their students to bring in examples of literacy. The instructors welcomed the opportunity to explain or to read any items brought in by the students but this was done on an

individual basis. It is recommended that learners share anything that represents the literacy that they come across frequently (Wrigley, 2005).

#### 7 Additional instructional practices

Oral repetition - The instructors were asked if oral repetition was utilized in the classroom and 100% stated "yes." The majority of instructors (52.94%) use oral repetition in all of their classes where 47.05% use it in most of their classes. However, Wrigley (2005) has cautioned against repetitive and tedious instruction because if used excessively it can impede the learning process. There should be a balance between the repetitions of course material and the introduction of new concepts.

Visual discrimination - All of the instructors (100%) stated that they use visual discrimination to teach the sounds of letters. While 94.11% use auditory discrimination, 5.89% did not. The survey results concur with research that demonstrates that a balance between the use of visual and auditory discrimination has a positive effect on learners' acquisition. Holt (1995) recommends that the visual recognition of letters and words, auditory discrimination of sounds and words, phonics, written conventions, and sight words merged with whole language approaches creates a successful research based strategy.

Listening, speaking, reading, and writing Skills - The instructors stated that they devote 25% of their time to listening skills, 20% to speaking skills, 25-30% to reading skills and 25% to writing skills. Although teaching techniques combine the skills, instructors still discussed them separately. For example, when the focus of the lesson was on a listening skill activity, the instructors only focused on that activity to enable the learners to fully concentrate on the listening skill being taught. The same was stated for speaking, reading, and writing. When instructing literacy learners, class activities should develop along a continuum from less challenging to more challenging, while still teaching all four skills simultaneously.

#### 8 Conclusion and recommendations

#### 8.1 Conclusions

Adult English-language literacy learners (AELLs) bring their diverse and inspiring backgrounds to the literacy classroom, which must not be ignored by the instructor. However, this is not to say that instruction is easy and straightforward. Each learner is distinct and requires instruction that differs from mainstream ESL classes. The theoretical and research basis for AELLs emphasizes how utilizing the individual background and experiences of the students in classroom lessons can enhance learning and that teachers can develop teaching methods and materials to help these learners become literate. Awareness of the learner's pre-literate background establishes essential information for the instructor to develop appropriate instructional methods. However, regardless of the background, the literacy research conducted demonstrates that effective literacy instruction incorporates the lives of the literacy learners and capitalizes on what the learners can bring to the classroom. Instructors can also help

with instructional practices that utilize experimentation, theorization, construction of meaning, and, most importantly, the creation of confidence in the student reader and writer.

#### 8.2 Recommendations

Many literacy instructors are former ESOL instructors who are utilizing their old ESOL methods and are not aware that they are not effective when teaching preliterate, non-literate or semi-literate learners. Recently instructors have been voicing their concerns and say they truly want to be on the "same page" when instructing literacy learners. Training that specifically meets the needs of teachers of pre-literate learners is highly recommended. The teachers also stressed the importance of being able to provide input and have a voice in the development of literacy curricula.

Further research in this area should be dedicated to the development of training along with the creation of a manual that focuses on the needs of pre-literate learners. The AELL classes should utilize reading books that use simple, decodable, high frequency, and environmental sight words (stop, push, pull, etc.) that would help learners progress most effectively.

#### References

- Angst, K., Beer, B., Johansson, L., Martin, S, Rebeck, W., & Sibilleau, N. (2002). Canadian language benchmarks 2000: ESL for literacy learners. Winnipeg, Canada: Centre for Canadian Language Benchmarks and the Government of Manitoba
- Burt, M., & Peyton, J. (2003). Reading and adult English language learners: The role of the first language. Retrieved October 9, 2005, from the Center for Adult English Language Acquisition Web site:

http://www.cal.org/caela/esl\_resources/digests/reading.html

- Condelli, L., & Wrigley, H. S. (2006). Instruction, language and literacy: What works study for adult ESL literacy students. Proceedings of the Inaugural Symposium. Utrecht: LOT Occasional Series 6, 111-133.
- Freeman, Y. S., Freeman, D., & Mercuri, S. (2001). Keys to success for bilingual students with limited formal schooling. *Bilingual Research Journal*, 25 (1/2), 203-213.
- Hamayan, E., & Pfleger, M. (1987). Developing literacy in English as a second language: Guidelines for teachers of young children from non-literate backgrounds. Teacher Resource Guide. Washington, DC: Center for Applied Linguistics.
- Holt, G. (1995). Teaching low-level adult ESL learners. Washington, DC: National Clearinghouse for ESL Literacy Education. (ERIC Document Reproduction Service No. ED 379965).
- Johnson, B., & Christensen, L. (2000). Educational research. City, MA: A Pearson Education Company.
- Kurvers, J., van Hout, R., & Vallen, T. (2006). Discovering language: Metalinguistic awareness of adult illiterates. Proceedings of the Inaugural Symposium. Utrecht: LOT Occasional Series 6, 69-88.

32

- National Center for ESL Education Statistics (2010).
  - http://nces.ed.gov/programs/digest/d10/tables/dt10\_433.asp
- Pérez, B., & Torres-Guzmán, M. E. (2002). Learning in two worlds: An integrated Spanish / English biliteracy approach (3rd ed.). New York, NY: Allyn & Bacon.
- Prince, M. (2004). Does active learning work? A review of the research. Journal of Engineering Education, 93(3), 223-231.
- Rigg, P. (1991). Whole language in TESOL. TESOL Quarterly, 25(3), 521-542.
- Roberts, C. (1994). Transferring literacy skills from L1 to L2: From theory to practice. The Journal of Educational Issues of Language Minority Students, 13, 209-221.
- van de Craats, I., Kurvers, J., & Young-Scholten, M. (2006). Research on low-educated second language and literacy acquisition. Proceedings of the Inaugural Symposium. Utrecht: LOT Occasional Series 6.
- Wrigley, H. (2005). A conversation with FOB...what works for adult ESL students.
  - Retrieved October 10, 2005, from the National Center for the Study of Adult learning and Literacy Web site: http://www.ncsall.net/index.php?id=189