2009

# Activity Engagement for Persons with Dementia

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Volume 24 Number 4 Fall 2009

age in action

Activities in geriatrics and gerontology education and research
Virginia Center on Aging
and
Virginia Department for the Aging

## Case Study

# Activity Engagement for Persons with Dementia

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### Educational Objectives

1. Describe a successful approach to activity engagement for persons with dementia.
2. Review three cognitive interventions useful for activity engagement for persons with dementia.
3. Discuss applications of this approach using university students in home visits.

### Background: Activity Engagement

Alzheimer's disease (AD) and other dementias progressively rob persons of orientation to person, place, and time. They lose their sense of relationship to people and things around them. A key question is whether persons with dementia can be engaged in meaningful activity when that activity is structured by visitors from the community.

"Engagement in activity" is defined as any positive and relevant motor or verbal behavior exhibited by the participant in response to the structure of the activity. For example, participants may engage by painting, singing or dancing, or by listening and looking on during steps in completing the activity (Judge et al., 2000).

Often, others must structure activity, as many with dementia, even in early-stage, exhibit problem behaviors such as apathy, agitation, anxiety, and/or irritability when presented with activities beyond their level of function. Families caring for their loved ones at home may need assistance from outside volunteers to structure activity. Past service projects on these matters have shown that students enrolled in local colleges and universities can provide families with assistance by appropriately structuring activity for persons with dementia.

In one such study, students at the University of Arizona completed 10 one-hour weekly sessions of volunteer home or other community activity with persons experiencing cognitive decline (Arkin, 1996).

At the project's completion, there were apparent positive changes in the number of on-topic statements produced in discourse by seven of the 11 persons with early-stage dementia, and all involved (patients, students, and family members) reported benefits from the partnership.

### The Academic Community Engagement (ACE) Project

The University of Virginia's Curry School of Education, in partnership with the Alzheimer's Association Central and Western Virginia Chapter, has implemented an activity engagement project using students from the university's Academic Community Engagement (ACE) Office of the Vice Provost of Academic Programs. In this ACE project, university students worked to engage persons with dementia in meaningful activities, setting up and guiding their activities.

The ACE grant created an opportunity for faculty in the Program of Communication Disorders to connect to public life through community service and also enabled the local Alzheimer's Association to

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enhance programs by drawing on faculty expertise. The faculty members integrated community service and community-based research components into an existing graduate level course in Communication Disorders. Graduate students in the Program of Communication Disorders enrolled in the ACE course to earn academic course credit and teamed with undergraduate students across the university who volunteered or enrolled in a research laboratory in Psychology or Education. They worked in the community over the academic semester to engage participants with dementia in meaningful activity. As part of the project, the authors guided students in community service actions through classroom lectures, direct supervision, and clinical case presentations.

The ACE intervention project draws upon fundamental principles of the profession of therapeutic recreation and those of cognitive rehabilitation (speech-language pathology). The intervention is considered strength-based and is organized around three areas: 1) relatively preserved procedural memory ability in persons with dementia; 2) use of environmental modifications to enhance function in persons with dementia (i.e., therapeutic recreational principles are used to examine personal interests prior to setting up activities that are meaningful to the participant); and 3) implementation of errorless learning strategies to limit frustration in activity completion. A brief review of the literature provides rationale for combining these three approaches into an engagement plan for persons with dementia.

*Procedural memory*. Generally, in early- and middle-stage Alzheimer's disease, activities that rely on procedural memory (also called implicit memory) are less affected than activities that rely on explicit memory (Bourgeois, 1991). For example, persons with dementia have more difficulty recalling past experiences (explicit memory) relative to recalling the steps in an activity (procedural memory).

Procedural memory tasks are based on ingrained, familiar sequences of movement, ranging from playing the piano and dancing, to washing hands and brushing teeth. At least for well-practiced routines, procedural memories relate to remembering the "how to" and may translate to the initiation and completion of meaningful activities around the home. This is important because persons with dementia may engage in procedural activities when environmental signals are in place; for instance, a family member sets out a laundry basket in a central location and prompts a loved one to fold clothing or sets up a "coffee center" in the kitchen and prompts making the morning coffee.

*Environmental modification*. Additionally, the research literature indicates that environmental modifications that enhance stimulus conditions may be useful for persons experiencing cognitive decline. Researchers report that persons with dementia require structure and order in their environment and that approaches to modify the environment are useful if the person's current level of function and personal interests are considered. One such modification is the use of external memory aids, or personalized picture and word books (Bourgeois, 1990, 1992, 2003). Still other environmental modifications may be selected to highlight or organize activity; for example, written labels, written schedules and procedures, a visible calendar, bright colors, a watch or clock with alarm, organized home spaces or inviting activity centers (Brookshire, 2007).

Another help is to use aesthetically pleasing materials taken from everyday environments to encourage participants' interest and engagement in activities (Orsulic-Jeras, Judge, & Camp, 2000). In dementia care, activities are often structured using a Montessori-based method (Judge, Camp, & Orsulic-Jeras, 2000). The method makes use of materials from the natural environment, and activities are adapted to match each participant's ability. Specifically, activities are broken down in smaller steps and each step is carefully supported to ensure success throughout the process.

*Errorless learning*. Environmental modifications become more central to the intervention plan as the person with dementia is governed less and less by internal reasoning and judgment and more by the external environment. As cognition declines, participants often require guidance or training to engage in activity.

One such training approach, known as errorless learning, capitalizes on procedural memory ability and serves to reduce interference created by the repetition of error response (Baddeley & Wilson, 1994). In other words, making errors interferes with correctly completing the task, for the erro-

neous step may be as likely remembered as the correct step. The basic principle of errorless learning is that every training opportunity ends with a correct response. For instance, when engaging a participant in activity, errors are eliminated or kept to a minimum at each step. This may be best achieved by asking questions with no right or wrong answers, providing choices, using written or visual cues, asking yes/no questions, and using content words and gestures to move the activity forward. A student volunteer may be trained to prompt, "Would you like to make a sandwich or go for a walk?" If the person with dementia answers "a sandwich," the student follows with "Let's go into the kitchen," while simultaneously pointing to the activity set up in an inviting space in the home. "Shall we open the peanut butter?" The student continues to guide the participant while taking great care to eliminate "I don't know" or other error responses. The aim is to reduce frustration and set the participant up for success to engage in activity.

**Two Case Studies: ACE Project Participants**

We feature two of the participants enrolled in the ACE project to illustrate activity engagement with individuals having different levels of dementia.

**Case Study #1**

Ms. M is a 66-year-old female, classified with mild cognitive impairment at the time of her enrollment in ACE. She had been diagnosed with early stage AD several months past, and was prescribed both Aricept and Namenda medications. She lives alone in a modest supported-living apartment and drives a car independently between her home and familiar locations, such as the grocery store and church. When interviewed by ACE student volunteers, Ms. M and her daughter both reported that she was creative, but was not initiating activities at home, such as art and free writing, both of which she had previously enjoyed. Using the *Leisure Interest Survey*, and with input from Ms. M, students set up three activity centers in her home: 1) art supplies with colored pencils, markers, and sketch paper; 2) a photo album with pre-selected pictures of grandsons, as well as a black marker for labeling; and 3) a journal with a brightly-colored cover and pen for writing. The students mounted a visual schedule and a calendar on the wall to assist her memory for day-to-day activities and when the students would visit.

Students visited Ms. M twice a week for one hour over eight weeks to engage her in personally meaningful activity. They emphasized procedural memory for practiced activities and guided her through the completion of activities each visit. Students used strategies, such as verbal cues and gestures, to limit Ms. M's error responses. They reset activities in Ms. M's home at the completion of each visit in order to encourage her engagement in activities between visits.

Following the initial activity set-up, Ms. M independently completed the targeted activities on a regular basis between student visits (as seen in new artwork and dated journal entries) and readily engaged in activity during visits with only minimal signs of agitation, anxiety or apathy. Her daughter reported having increased confidence in engaging her mother in activity. All participants (client, daughter, and students) reported that they benefitted from activity programming.

**Case Study #2**

Mr. S is 78-year-old male who was classified with moderate cognitive impairment at the time of ACE enrollment. Diagnosed with AD about five years ago, he is prescribed both Namenda and Razadyne. He spends his days at home with his wife, his primary caregiver. She has been attending a caregiver's support group for the past four years. Her biggest complaint was that her husband was "not interested in doing anything anymore. He just sits in the chair." Through the use of the *Leisure Interest Survey*, the students discovered that basketball had always been a great passion of his. Now, however, due to his physical limitations, he cannot enjoy a live game. In the past, he also played cards with friends and spent time collecting and shooting marbles.

With input from Mr. S and his wife, the project's students set up three activity centers in the participant's home: 1) marbles; 2) nerf basketball; and 3) playing cards. Game rules were relaxed and activities were adapted, based on Mr. S's physical and cognitive strengths and weaknesses. The students placed a visual schedule and calendar by Mr. S's easy chair outlining activity suggestions and upcoming student visits.

Students visited Mr. S twice a week for one hour over eight weeks in order to engage him in meaningful activity. Students emphasized procedural memory for practiced activities and guided Mr. S through activity completion each visit. Students used strategies, such as verbal cues, gestures, and hand-over-hand guidance with his permission, to limit Mr. S's error responses. They re-set activities in Mr. S's home at the completion of each visit to encourage activity engagement between visits.

Following initial set-up, Mr. S rarely completed the targeted activities on a regular basis between student visits, according to his wife. He engaged in activity during student visits with only minimal signs of agitation, disinterest, or fatigue. Mrs. S said that she had greater confidence in engaging her husband in activity, but still relied on the students to carry out the programming. All participants (client, wife, and students) reported that they benefitted from activity programming.

**Conclusion**

This engagement intervention is strength-based, drawing upon established practice guidelines in the fields of Therapeutic Recreation and Speech-Language Pathology (cognitive rehabilitation). We consider the intervention to be beneficial because participants with mild and moderate cognitive impairment engaged in personally meaningful activity, and the students reported a positive service learning experience. The present University-Alzheimer's Association experience may generalize to other reciprocal and mutually beneficial community partnerships. For example, communities of faith may partner with local hospice volunteer services and community youth organizations may team with state agencies to promote volunteer action in dementia care. As we move to advance dementia care, we should not overlook the enormous potential of collaborative community partnerships and networks of support.

**Study Questions**

1. What are some ways in which caregivers can modify the home environment prior to activity engagement in dementia care?
2. In order to limit errors and frustration, what strategies may prove useful to guide participants during activity engagement?
3. What are the basic principles of this university-chapter partnership and how might they be used with other community-based agencies to improve dementia care?

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## From the Director, Virginia Center on Aging

Edward F. Ansello, Ph.D.

***Awaken the Sleeping Giant***

Eric Hoffer, the working class philosopher, wrote in *Reflections on the Human Condition* that "the hardest arithmetic to master is that which enables us to count our blessings."

In the face of the current economic straits, the tendency is to think gloom, doom, and cuts. Indeed, cut as a noun and as a verb is all around us. But let's ask ourselves if there is a way to make more of what we have in place while we work to recover. Is there an untapped resource that can be activated, opened up, and released? If so, what is it and what is the key?

To my mind, the answer is: older Virginians. They (we) are the untapped resource. Recognition and reinforcement are the keys in unlocking the wealth. Only I'm not talking about financial wealth. Let me explain. Years ago in my previous position our office was working with a senior center on the rural Eastern Shore of Maryland that was struggling to get older adults to its on-site programs. They agonized over their lack of a bus. When they redefined their problem from lack of a "bus" to lack of "transportation," numerous opportunities opened up, including systematic car pooling and jitney taxis. Energized by the subsequent, creatively produced attendance of their older adults, the center even arranged some use of idle school buses in the middle of the school day. The point is that the resources were there all along but couldn't be seen because of the traditional focus on buses. So it is, to some degree, with the current budget shortfall.

Historically, we in the broadly defined Aging Network of service providers, administrators, educators, and researchers have seen older adults as the end not the means, to mix mathematics and philosophy. We have rationalized our programs, understandably, on the needs of the older adults we have served. Carroll Estes called this *The Aging Enterprise* in her celebrated book of the same title some 30 years ago, noting that an entire system has developed around ameliorating the problems of elders in need. While the work to address needs among older adults (e.g., isolation, exploitation) continues and must continue, the process may be made more effective by recognizing and reinforcing other older adults who are not in need, those who have talents and skills they might bring to the problems. Indeed, some who receive services also have significant gifts that they are sharing or could. In other words, let's think about older Virginians as providers and as means, not only as recipients and as ends.

This resource is wide and deep. Older adults in the composite have accumulated amazingly different sets of skills, connections, spheres of influence, finances, facts, and knowledge, to name just a few differentiating characteristics. Admittedly, in this digital age, we must confess the impermanence or brief shelf-life of "knowledge." Even so,