

INCREASING THE EFFECTIVENESS OF HORTICULTURAL  
THERAPY ACTIVITIES IN A GERIATRIC SETTING

by

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## INTRODUCTION

Horticultural activities have been used as a means of therapy and rehabilitation for centuries. In the early 1800's, a number of hospitals in Spain were emphasizing the benefits of agricultural and horticultural activities to their mental patients. In this country, the C.F. Menninger Foundation (Topeka, Kansas) and Clinton Valley Center (Pontiac, Michigan) have successfully used various forms of horticultural activities as a part of patient therapy.

Horticultural therapy has been used in a number of different types of institutional settings. Some of these include psychiatric, geriatric, penal, and various rehabilitation centers for mentally and physically handicapped individuals. Today, institutions in the United States, Canada, and Europe use horticultural activities for therapeutic and/or rehabilitative purposes. Specific thrusts or goals will vary from institution to institution in accordance with the needs of the different patient populations. The primary goal of any program, however, is to improve the physical and mental health of the individuals.

Horticultural therapy results in a positive change brought about in an individual's life as a result of his relationship with a therapist while participating in a horticulture-related activity. This positive change is primarily a result of the interaction that this individual has with the therapist. The benefit is usually seen in an increase of either mental or physical health.

Horticultural therapy programs in geriatric settings are uniquely different from programs in other areas. Although there

is a fairly high incidence of mental disability among elderly institutionalized persons, a large percentage of the persons have few mental problems. The role of a therapist and the purpose of horticultural therapy in a geriatric setting is to maintain or prevent the loss of desirable qualities of each individual.

The purpose of this research was to provide specific activities and procedures to be carried out in geriatric homes. These activities are designed to bring about positive changes in the behavior and/or self-concepts of institutionalized geriatric residents. In this paper, some of the limitations, difficulties, and strengths of institutionalized elderly people are discussed. With these things in mind, activities will be presented with specific instructions to the therapist and volunteer to help them better meet the needs of the geriatric residents.

Activities were prepared, conducted, and geriatric responses are reported in Section II as instructional guidelines for professional horticultural therapists.

Section III includes general information regarding the activities presented. These tipsheets are usable by the general public or volunteer workers in a geriatric and/or other institution. The tipsheets will be submitted for publication to the Kansas State University Extension Division and the instructional guidelines to the National Council for Therapy and Rehabilitation through Horticultures' Newsletter.

## LITERATURE REVIEW

The use of horticulture as an activity therapy is not a new concept. It has been used for a number of years in psychiatric, geriatric, and penal institutions, as well as in rehabilitation centers for the mentally and physically handicapped (8,12,15). In 1798, Benjamin Rush reported that digging in the soil had a curative effect on the mentally ill (8). Daniel Trezevant (12), writing in the American Journal of Insanity in 1845, recommended that mental patients be kept busy at some farm or agricultural-related activity.

Clinton Valley Center (Pontiac State Hospital) has used various forms of horticultural activities as a part of their work therapy program since its founding in 1878. At first, this program, like that of many, was primarily for the maintenance of grounds and the production of food (7). The therapeutic value of such activities soon became apparent and the emphasis shifted to a more therapeutically-oriented program.

Veterans' Administration hospitals made use of gardening therapy in the treatment of disabled World War I soldiers. They used this type of therapy in rehabilitating and re-educating many veterans during this time (12). It was not until the 1940's that horticultural-related activities were referred to as "horticultural therapy", "horti-therapy", or "flori-therapy" (15). Although gardening activities had been used for years, in the late 50's Miss Rhea McCandless began a greenhouse activity group at the Menninger Foundation. As a result of the development of her program and her enthusiasm toward horticultural therapy, a national organization

was chartered in 1972 (2). In more recent years, horticultural therapy has gained accreditation through research and the development of new educational programs.

In the area of criminal rehabilitation, former Warden Ragen of the Statesville Penitentiary in Illinois (4) reported that he has been able to rehabilitate some of the toughest psychological criminals using horticultural therapy. With the mentally retarded, Hefley (8) observed that they developed and improved self-concepts, had a greater degree of social interaction, had an increased level of physical activity, and developed a deeper understanding of the interdependency between plants, man, and animals--all this through involvement in a horticultural therapy program. In the psychiatric setting, Barber (2) states that with the single project of forcing and growing bulbs he is able to use education, work, group interaction, relationships with the therapist, delayed gratification, and most importantly, the development of responsibility as therapeutic tools. Watson and Burlingame (15) stated that the success of any horticultural therapy program depends on a thorough understanding of the individuals involved in the particular program. After this understanding is obtained, then a program can be designed to meet the individuals' needs.

Rynerson (11) noted that the elderly in today's society have an increased degree of financial security due to the introduction of Social Security and old-age pension. Medicare has also increased the availability of medical services to meet the health needs of this group of people. In the last few years, federal and state

governments have made an effort to improve the living conditions in many geriatric homes across the nation. All of these factors have combined to improve living conditions, financial security, and medical assistance to elderly people. However, even with the improvement of other conditions, often times the higher level needs of the aged are neglected. These higher level needs are similar to those of other age groups--the need for attention, social recognition, and a role in society in which they can maintain dignity, a sense of self-worth, and self-satisfaction (13,14).

For most men, their work was a source of pride and provided them with a challenge and success for life. For women, their frame of reference is their job or home. In either case, when a person leaves his job or home, he loses a good portion of his social reference (9). Elderly people, like people of all ages, need to feel that their lives are worthwhile. Train (14) stated that substituting horticulture activities for work or job responsibilities should help maintain self-esteem and overall satisfaction with their lives in an institutional setting.

In 1973, five percent of the total aged population in the United States resided in some sort of institution or care facility (5). The U.S. census in 1970 (6) reported 28,686,286 citizens over the age of 60. Because of the improvement in medical technology, the life expectancy of people in the United States is now 71 years of age (5). Breaking this down, the life expectancy for men is 67 years and for women it is 74. The elderly age group is rapidly growing in number. It is predicted (5) that by the year 2000, 25% of the nation's

population will be made up of people 65 and older. As evidence of the rapid growth in this age group, 70% of these people have turned 65 since 1959 (5).

Along with the rapid increase in the number of elderly persons in this country, there has been a large increase in the number of care facilities available to geriatrics. Butler and Lewis (5) found that in 1971, there were 23,000 nursing homes--more than twice the number found in 1961. During this same 10-year period, the number of available bed spaces tripled. Of the 23,000 nursing care facilities, 90% of them were profit making while the other 10% were non-profit homes run by churches or other fraternal organizations.

Butler and Lewis (5) found that a total of \$2.5 billion was spent on nursing home care in the fiscal year 1969. Of this amount, the federal government paid \$1.8 billion through Medicare and Medicaid. From these statistics it is apparent that the number of elderly persons living in geriatric homes and the amount of money spent on their care will continue to increase.

Atchley (1) has reported that most of the fear that leads older people to reject the idea of moving to a nursing home is related to a perceived loss of independence, a perception that the nursing home represents formal proof that death is near, and a fear of rejection by their children. The results of a survey done by Peters and Kaiser (10) showed that elderly persons of age 65-69 were more likely to consider living in a nursing home than any older age group. They also found that those persons in good health were more likely to consider nursing home living than were elderly

persons in either fair or poor health.

In research conducted by Butler and Lewis (5), statistics were presented which characterized the "average" geriatric resident. The average age of a resident was 78 years, 67% of all residents were female, and 96% of the residents were white. The average length of stay was reported to be 1.1 years with 33% of all newly admitted residents dying within the first year. Atchley (1) felt there were many factors contributing to this high death rate--the unfamiliar surroundings, the shock of moving, and the effect of illness. His research also showed that many residents felt they had lost independence and control over their own lives. Not being able to determine when they would get up or go to sleep, what and when they would eat, who they associated with, or even what the temperature of the room would be all contributed to the feeling of being out of control. This loss of control leads to increased dependency and decreased self-motivation. Butler and Lewis (5) stated that most extended care facilities are not oriented toward the patient, but instead the organization revolves around instrumental tasks--making beds, giving medication, and bathing.

Ideally, an extended care facility would not only meet the physical needs of its residents, but also would meet their primary needs. As a person ages, the amount of energy they have decreases and the more self-oriented they become (6). This does not mean that the curiosity, creativeness, or intelligence must dwindle. Most elderly people remain productive and some actually become more creative than they have ever been. Butler and Lewis (5) state

that it is imperative for elderly people to continue to develop and change in a flexible manner if health and general well-being are to be maintained. Similarly, Train (14) found that the employment of activity therapy was necessary for the maintenance of the psychological and to some degree the physical well-being of institutionalized elderly persons. Geriatric residents not involved in therapeutic activities had a significant decrease in their level of life satisfaction during an eight-week test period. During the same period, those involved in a gardening activity maintained or showed a slight increase in their level of life satisfaction. Butler and Lewis (5) state that almost any activity which stimulates and encourages social participation is therapeutic. Arts, crafts, and other group activities are important because they offer human contact.

Old age is the period in life with the greatest number of profound crises (5). Atchley (1) has found that at least part of what appears to be the decline of intelligence of elderly persons is actually a change in the skills that are being emphasized by the culture. He also found that when these persons were given the Wechsler's Adult Intelligence test there was only a small correlation between I.Q. and old age (.04). His results showed that in many cases elderly persons actually had a higher score on the verbal parts of the test than their younger counterparts. It is also important to note that the elderly participants scored higher on the verbal part of the test than on the performance part. According to the above study, there seems to be some relationship between aging and the decline in both recent and remote memories. Atchley



(1) was quick to point out, however, that elderly persons can usually learn anything anyone else can, if given a bit more time. He also stated that individuals who continued exercising their minds tended to maintain both remote and recent memories. The most important factor in maintaining mental skills seems to be the presence of an environment which allows the mental faculties to be used regularly.

Some sensory loss seems to be common with the onset of aging. Butler and Lewis (5) stated that 30% of all people, men being affected more often than women, experience hearing loss. This loss of hearing is potentially the most problematic of all perceptual impairments. Loss of hearing can significantly reduce reality testing and may lead to a suspiciousness or even paranoia in some persons. In some respects, it limits socialization even more than loss of sight, since it reduces verbal communication. In the area of visual acuity, Butler and Lewis (5) report that about 80% of the elderly population have either a fair or adequate eye sight up to and slightly beyond the age of 90. Women are more subject to vision impairment than men. Loss of smell and taste also appear to be directly related with the increase of age. Butler and Lewis (5) report that approximately 30% of the elderly over age 80 have difficulty identifying common substances by smell. Since 67% of all taste sensations are directly dependent upon the ability to smell, taste is also affected.

Taking these facts about institutionalized elderly people, a horticultural therapist can better understand and relate to the

residents with whom he is working. Further, he can develop activities to meet the specific needs of the geriatric residents. The therapist should be aware that, especially with new residents, meaningful interactions can favorably increase self-esteem (1). He should also realize a great number of the residents will establish self-concepts by the way others respond to them (14). Cottrell also states that there is a general decline in all strong emotion expressed by elderly persons. This information would be important in enabling the therapist to understand the response of his participants to a particular activity.

Butler and Lewis (5) suggested that mental health personnel could more effectively help geriatric residents by respecting and listening to what they have to say. Watson and Burlingame (15) stated that the benefit a resident would derive from a horticultural therapy activity depended largely upon the warmth of character and the positive attitude of the therapist. They stress the importance of an inspirational program when working with people who no longer feel they are important to anyone. In working with the elderly, it is important for a therapist to be aware of a geriatric's limitations. Cottrell (6) states that with most residents who have experienced partial hearing loss, conversation in a lower tone of voice and with increased volume is easier for the individuals to understand than a higher pitched voice. Atchley (1) suggests always speaking to hard of hearing persons by facing them directly. This would enable them to use lip reading as an aid in ascertaining what is being said. When referring to the aged, Atchley (1) says the best title to use

is "elderly persons"--as opposed to "geriatric residents" or "old folks." He also stresses the importance of addressing the elderly persons as Mr. or Mrs. This is especially important for young persons. Finally, Atchley (1) feels that affection from an older person should be accepted graciously and warmly returned when it is appropriate.

When preparing activities, the therapist should keep in mind that elderly persons can see the colors yellow, orange, and red better than the darker colors violet, blue, and green (1). It seems expedient to repeat that elderly persons can usually learn anything anyone else can learn, if given the time (1). The therapist should gain two important insights from this statement. First, elderly residents should not be underestimated; and second, elderly residents will require more time to accomplish certain activities. Lastly, the therapist needs to be mindful of the specific resident population he will be working with, but the average institutionalized elderly persons, as described by Butler and Lewis (5), will be of help in developing activities.

In summary, there are very few elderly persons who are just alike in either ability or temperament. The horticultural therapist must find out what the individual needs are before he can expect to have an effective treatment program.

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## FOREWORD

The activities in the following sections were performed at both College Hill Skilled Nursing Center, 2423 Kimball Avenue, and Parkview Manor, 11th and Osage. The total number of ambulatory residents at College Hill and Parkview were 63 and 45, respectively. The average number of residents attending activities in either home was 15. These facilities are located in Manhattan, Kansas which has a population of 40,000. Approximately 7.9% of this population is 65 or older.

The projects selected were representative of groups of activities that can be used with geriatric residents. Growing herb gardens comes from a group of delayed gratification, long-term projects such as dish gardens, terrariums, and propagation tubes. The hanging basket activity fits into a similar group but differs in that it can be completed in one period. The seed and dried plant collages represent the group of arts and craft, short-term projects like pine cone wreaths or floral arrangements.

Data cited in the following activities are based upon observations of participants' responses during the activity. From these findings, the literature review, and an interview with the occupational therapist at College Hill, the following activities were developed.

The last section, activities presented in leaflet form, can be useful to the therapist. Projects such as these can be arranged in catalog form to help the residents select activities they wish to do. The leaflets can also be passed out to the families of residents

or to the general public to gain their support as volunteers in conducting the activities. A final suggestion for the use of the leaflets is to inform volunteers of the proper way of conducting the activity.

## GROWING HERB GARDENS Project 1

Herb gardening is recommended for geriatrics who require long-term, delayed gratification activities. Herb seeds are easily planted in small, flat containers filled with soil. Germination is fairly rapid and seedlings will be ready within several weeks for transplanting into a window box or outdoor garden. Harvesting herbs and making scent jars from their dried leaves can be done later.

Planting seeds, working with soil, transplanting, harvesting, and watering encourage geriatric residents to utilize fingers, hands, and upper body muscles which improve manual dexterity.

Herb gardening can be developed into a community project by transplanting some of each individual's seedlings into a common window box or garden. Socialization should be encouraged in this activity by involving residents in the joint task of growing herbs. This will help each participant identify with the group. Group identification and interaction will aid the elderly persons in developing meaningful relationships.

### Pre-activity Preparation:

A number of pre-activity preparations must be done by the horticultural therapist if the activity is to proceed smoothly. For 15 participants, the following materials are suggested for this activity:

1. 15 small containers or pots
2. 15 pieces of No. 20 green florist wire
3. 1 role of clear cellophane wrap
4. 15 medium size rubber bands
5. 1½ gallons loose soil



6. 1 gallon vermiculite or sand
  7. 6-8 packages of different herb seeds--basil, oregano, sage, thyme, spearmint, peppermint, sweet marjoram, rosemary
  8. 2 medium size window boxes--8"x6"x15" or 6-8 8" clay pots
  9. 10 newspapers
  10. 15 small jars (baby food size)
  11. 2-3 colors of glitter and yarn
  12. 1 role of 1/4-inch masking tape
  13. 1 can of spray paint
- Estimated cost--\$11.00

Optional materials:

1. 7 seed catalogs
2. 3-4 books of herb usage
3. 4-5 cans of herb spices
4. not recommended--dill, chives, fennel

If some of the residents are interested in reading, the therapist could supply seed catalogs or reading material on herbs and encourage discussion later. Another motivational idea is to provide a few samples of herbs so the residents can smell and see what they will be growing. The best motivator, however, is an enthusiastic therapist. The level of commitment and participation of geriatrics will be higher if they look up information about or if they have had previous experience with herbs. Many of the residents who participated have done gardening before and so readily adapt to this activity.

In performing the activity, it has been observed that because of its delayed gratification some re-motivation of individuals was required. This was particularly true when there was loss of seedlings prior to transplanting. If after the project has reached its final stage the residents are still enthusiastic, the group could start an herb garden outdoors in spring or summer.

### Conducting the Activity:

A central activity therapy room with adequate lighting and tables allowing 4-6 residents to work in groups is recommended. The lack of such a facility, however, will not eliminate the possibility of having an effective program. After the residents are seated, they should be given name tags in order to help learn each others' names and aid in resident-staff interaction. Elderly people respond better when they are referred to as Mr. or Mrs. rather than being called by their first name.

The next step is to pass out the containers and germination media. Either sand or vermiculite would be recommended for seed germination because of their disease-free nature. The media should be passed out in non-breakable, easily handled containers. This project proceeds smoothest when no more than three to four persons have to share any one material. Most elderly persons share materials and work together well. If an individual is not liked or is unwilling, they should not be forced to share with others.

With this activity, from the first step to the last, the residents should be strongly encouraged to complete their own projects. If too much help is provided by the therapist, it will be hard for the individual to identify with the activity as their project. This has been observed when a resident starts to walk away from the work area after completion of the activity and leaves the project behind. When confronted about not taking the project, a typical response would be, "Oh, that's not mine. You made it."

The germination media should be firmed down in the container to

about  $\frac{1}{2}$  inch from the top. Next, pass out the seeds selected by the residents. The smelling of the herbs and the information presented will help each resident decide which herbs he or she wants to grow personally. Seeds should not be passed out in the trade packs since some residents may pour the entire packet into one container, thus over-planting and wasting seed. Place approximately the number of seeds needed in small containers in front of each person so they can plant them one at a time. The residents can either plant their seeds in straight rows or in the shape of a design. After all the seeds have been planted, cover them with approximately  $\frac{1}{4}$  inch of media. The media should be kept moist until the seeds begin to sprout. A plastic or cellophane canopy placed over the container will maintain this moist condition.

Pass one piece of florist wire that has been cut in half to each person. Instruct the residents to bend both pieces of wire into a half circle and then place them in the soil. The wire pieces should be placed perpendicular to each other in order to support the cellophane. The cellophane piece should be cut large enough to cover the wire and edge of the container approximately one inch. Suggest that one resident hold the cellophane while another places a rubber band over the cellophane at the top of the container. The cellophane cover should be removed shortly after the seedlings begin to sprout. The therapist should be sure this is done and that the residents water the new seedlings every other day. Activities that require teamwork or sharing usually increase socialization within the group.

Have each geriatric place a two-inch piece of masking tape on the side of their project. Then have them write their name, date, and the types of seeds planted on the masking tape for identification. Labeling aids in identifying projects and helps give recognition.

Three to four weeks later when the seedlings are up, they are ready to be transplanted. Maintenance and care of seedlings can be a big problem. If all the plants are in one room, a sign-up sheet can be posted assigning different residents to water the seedlings every other day.

If the residents keep their plants in their individual rooms, the therapist can check on each resident and remind them of what needs to be done. This way, it provides the therapist an opportunity to socialize with the residents outside the activity.

When the window boxes or pots are prepared, the residents should place  $3/4$  inch of gravel in the bottom for drainage. Then fill the box to within  $1/2$  inch from the top with soil, being sure to firm it down. The soil needed for the window boxes or pots should contain equal parts of peat, aggregate, and soil. The seedlings should be removed from the media by their leaves, being careful not to damage the stems. Geriatrics may have difficulty in handling small seedlings. Place seedlings about 1 inch deep, refirm the soil around the roots, space approximately 1 inch apart and then water thoroughly. Label where all herbs were planted and whose seedlings they were. After the herbs have been transplanted, it will take an additional four to eight weeks before harvest. Participants should be encouraged to water their plants. This will

keep the interest of each participant and help them see the growing progress of their plants. For high functioning members of the group, plant identification can be used to build up interest. If the less capable participants lose interest, the activity for them can be terminated.

The final part of this activity is optional, but it is one way of providing rewards for those who have participated during the other parts of the activity. Scent jars are decorated by painting the jar lids and gluing glitter or colored yarn on the container. The herbs should be harvested just before they flower if maximum scent is to be maintained and air dried on a shelf away from the sun. When they are completely dry, the various herbs can be blended together and placed in the jars. The scent jars will help freshen the residents' rooms.

The final stage can be altered to include a party where foods, salad dressings, and drinks containing the fresh herbs are served. This would provide the participants an opportunity to treat other residents to something they grew.

#### Evaluations and Suggestions for Improvement:

The activity should be discussed upon completion by the therapist and staff for future improvement.

Based on interviewing geriatric activity therapists, 80-85% of all geriatric residents function adequately enough to participate if the staff-resident ratio is 1:5. The manic, highly disorganized resident is the most difficult to work with therapeutically. If the

therapist has one or more of this type of resident, additional staff will be required to adequately conduct the project. If volunteers are available, the staff-resident ratio could be lowered to 1:2 and then most geriatric residents could be adequately handled. The value of this activity would be questionable for the disorganized resident without increased staffing.

Many of the physical limitations associated with aging make the planting of small seeds and working with similar materials difficult. Those residents who, as a result of a stroke or arthritis, have limited use of their hands will require more assistance during the activity than the more able participants. The planting of small seeds can be simplified for these individuals by using seed tapes or seeds that have been coated and, therefore, are larger.

Those persons in the activity who have trouble seeing the seeds can be aided by making a magnifying glass available for their use. This activity would lend itself to blind residents, providing adequate staff is available. It has been observed that for some blind residents the variety of textures, the challenge of getting something to grow, and the assorted herb fragrances all add up to a pleasurable and gratifying experience.

## HANGING BASKETS Project 2

Living plants and flowers in the room of an institutionalized geriatric resident can add color, life, and a touch of hominess. A hanging basket would provide the resident with a somewhat unusual way of growing foliage or flowering plants. Although this initial activity may take only 45 minutes, each resident will have a plant that requires the resident's care and maintenance in order to survive. The hanging baskets can also serve as conversation pieces and a source of pride.

### Pre-activity Preparation:

Thoroughly plan an activity considering each elderly participant's abilities and limitations. The project should challenge each resident's physical and mental abilities so that participation will be of value. A high degree of difficulty, however, may cause some residents to be reluctant to participate.

For 15 persons, the following list of materials is needed:

1. 15 cone-shaped plastic containers
  2. 24 yards of burlap twine
  3. 60 wooden beads
  4. 2½ gallons of light weight soil or media
  5. 5 boxes of crayons or water-fast markers
  6. 45 rooted Swedish ivy plants
  7. 10 newspapers
  8. 1 pint flat white paint
  9. paper punch
- Estimated cost--\$16.50

### Optional materials:

1. acrylic paint
2. sequins
3. material for covering containers
4. colored yarn for covering containers

5. plants for shaded areas: artillery plant,  
fuchsia, grape ivy, pothos
6. plants for sunny areas: petunia, English ivy,  
ivy geranium, wax begonia

The therapist should construct a hanging basket prior to the activity to learn the degree of skill required. The sample project can also be used as a demonstration model for those residents lacking creative abilities.

#### Conducting the Activity:

The containers, twine, and wooden beads are handed out along with the pieces of twine which are cut into three foot lengths and unwound so that each strand is used separately. Tie the strings through holes punched in the plastic container or tie the strings under the lip of the clay pot. Tying knots, threading beads, decorating, and handling soil are sometimes difficult for the residents who have limited use of their hands. When working with such individuals, offer only as much assistance as is necessary. Most physically disabled residents are able to complete the project and identify themselves with it.

Using four strands, wooden beads can be arranged on the twine by tying a knot just below the desired bead position. The strands of twine can themselves be tied together to make a design with macrame knots if desired. As soon as the residents finish their twine tying, they may wish to decorate the containers.

Crayons or color fast markers work well on most types of containers. Acrylic paint might be applied prior to decorating pots. During the decorating process, the therapist has an opportunity



to evaluate each resident's abilities. These evaluations will help the therapist design future activities.

One or more rooted cuttings should be transplanted into the containers filled with light weight soil or media. Water thoroughly after transplanting.

Most hanging basket plants should remain healthy indefinitely if reasonable care is provided. The therapist should be sure to help each resident remember to care for their plants. Plants that are hung in a sunny, breezy area may require water every day while plants that are kept indoors in low light may only need to be watered once a week. One final note, the height of the hanging basket will have to be low for wheelchair geriatrics.

#### Evaluations and Suggestions for Improvement:

After completing the activity, the therapist should evaluate and revise it to better meet the residents' needs in the future. The difficulty level of this activity can be varied according to the abilities of each resident. For those who are low functioning, the container can merely be planted with cuttings and used as a pot plant. Those who are high functioning can spend time decorating the twine and container. To increase the interest of residents, flowering plants could be used, but only if adequate light is available.

For those residents who are hard of hearing, face to face communication is necessary. Speaking slowly, distinctly, and in a lower voice pitch will improve communication.

Select warm colors such as red (petunia), yellow (cascade

mum), and orange (tunburgia) for visually impaired persons as they are easier to see than solid green foliage plants. Variegated foliage containing yellow pigment (pothos) are easier to see than solid green (heartleaf philodendron).

Geriatric residents can maintain their manual dexterity by growing plants. Pinching, propagating, removing old flowers or leaves, and other cultural practices are constantly needed.

The self-esteem of a geriatric resident can be maintained by accomplishing a worthwhile task. Many residents take great pride in their plants. They glow about how well their plants look and often extend an invitation to come and view their pride and joy. Upon entering their rooms, it is apparent that time and care has gone into tending the plants. One elderly gentleman who attends all the activities has a poinsettia that he has kept alive for three years. To have him tell of the care he gives that plant relates how much pride he has in it.

Another attribute of this activity is that of stimulating creativity and imagination. This part of the activity gives the therapist an opportunity to recognize the type of job each geriatric has done. Other members of the group may help encourage a resident who perhaps has low self-esteem or just lacks confidence.

Horticultural therapy activities for geriatrics are therapy oriented, but growing healthy plants is also beneficial. By providing these people with something they have made to grow in their own room, it will add a touch of personalization to the room atmosphere. This, it is hoped, will help them develop a sense of belonging.

MAKING SEED AND DRIED PLANT COLLAGES  
Project 3

This arts and craft type activity involves arranging seeds, dried flowers, or other plant materials on wooden plaques. The purpose of this activity for the institutionalized elderly is to stimulate creativity, manual dexterity, and to help maintain physical and mental health.

During the course of the activity each participant may receive compliments from other participants as well as from the therapist. In addition, it is hoped that each one will feel accomplishment upon completion of the project. The combination of the compliments and the success of accomplishment will help maintain self-esteem of most residents.

This activity requires that low cost materials be shared among members of the group. Sharing stimulates socialization, allowing the elderly persons to develop meaningful relations which will, in turn, increase their sense of belonging within the group.

The completed activity provides each participant with a wall plaque that can be used to personalize his room, helping to develop a home-like atmosphere and a sense of belonging in the institution.

Pre-activity Preparation:

The preparation for this activity consists primarily of collecting and organizing materials. Many of the seeds that are used to create the collage can be collected or gathered in nature. Pumpkin seeds, for example, can be cleaned and dried after a pumpkin carving activity. Corn, wheat, and milo can be collected from fields

while on nature hikes. The therapist should have a large variety of different sizes and colors of seeds from which to choose. Flowers and grasses can also be gathered and pressed in magazines or dried in a drying agent like silica gel. The dried flowers can be used whole if they are small or, if not, they can be pulled apart and only the petals used.

The list of materials shown below is needed for 15 participants.

1. 15 small scraps of wood (each approximately 5"x7")
  2. 6-8 different types of seeds (corn, wheat, milo, pumpkin, onion, sunflower, dry beans, melon, popcorn)
  3. 1 can of water soluble, quick-dry wood stain
  4. 15 pop-tops from beverage cans
  5. 15 small tacks and a tack hammer
  6. 7-10 small bottles of white glue
  7. 3 sponge applicator brushes (for stain)
  8. 10 newspapers
  9. 4 sheets of 100-grade sandpaper
  10. 15 pieces of cloth or rags
  11. pencils
  12. small plastic cups
  13. 6 plastic containers (8oz.)
- Estimated cost--\$9.00

Optional materials:

1. 3-4 different types of small dried or pressed flowers
2. 3-4 different types of dried grasses or seed heads
3. 2-3 colors of small aquarium rock
4. 2 sq. ft. of sheet moss
5. 3 different colors of glitter
6. 1 can of spray shellac

Geriatrics should construct their own collages unless physically unable. Residents having the use of only one hand were able to perform this activity with minimal help. The best way to determine the capabilities of a resident was to offer encouragement or suggestions first, before giving any actual assistance. When it becomes apparent which residents need help, the therapist should

assist them without actually doing the project. One resident, because of her extremely broken speech and apparent limited ability, had received considerable help in the past. In this activity the only help she received was in the form of suggestions and support. After she finished arranging initials with seeds on a plaque, she was asked what the letters were. The only word that was understandable as she spoke was "you". As she traced over the letters it became apparent that she had written "KSU". Obviously, she had awareness of who was conducting the activity and that she had abilities that had been overlooked. Many residents, especially those who are in wheelchairs, become so dependent on staff to do things for them that they lose sight of the abilities they do have. Although her speech was broken and she was in a wheelchair, she still had an active mind and creative abilities. Since rewards received from activity therapy may be the only ones available to geriatric residents, activities play a very important part in their lives.

If there is less than one staff for every four or five participants, the benefits that the severely handicapped resident can gain from this activity will be minimal. The value can be increased by having a volunteer work with each individual. Another possible solution to the lack of staff would be to conduct the activity twice so that time would be available to spend with each resident.

#### Conducting the Activity:

After the residents are seated, their name tags passed out, and

the newspapers spread over the area, the activity can be started. In conducting this activity, it was helpful to have either pictures, drawings, or samples of possible ways to do the collage. This aided the residents in deciding what they wanted to make and how they could use the seeds.

Pass out a piece of wood and  $\frac{1}{4}$  of a sheet of sandpaper to each resident. Instruct them to sand the front side and the edges of the piece of wood. After a few have finished this part of the activity, attach a pop-top to the back of each piece of wood. This is so the plaques can be hung on the wall when completed.

The next step is to pass out the stain. Place a small amount of stain in the plastic cups. Avoid cups which resemble medicine containers. Activities conducted in dining rooms can also confuse some elderly. Incidents where residents actually eat or drink materials placed before them can occur. There should be one container for every two or three persons. After each person has wiped off the sawdust, a light coat of stain can be applied to the front and edges of the wood. It has been observed that a few of the participants will get stain on their hands when handling the board. Damp rags should be handy so that the stain can be removed quickly. Water soluble stains will avoid discoloring the hands of the residents. The stain on the wood will dry within five minutes. After most of the stain is dry, pass out the pieces of cloth so that each person can rub off the excess stain. Now the plaque is ready to be decorated.

One of the easiest ways to pass out the seeds or dried materials

is to put bowls or small shallow containers of various materials between every two to three persons so they can share with each other. From interviews with geriatric activity therapists, providing materials which must be shared increased the amount of socialization between residents. In the case of residents who are unliked by others or selfish, it is best to provide separate materials for them. Also, for participants who are very limited in their movement and are unable to reach, the materials will have to be placed directly in front of them.

For those who are slow starters, show them some of the completed projects or suggest they design initials, stars, or stick people with different colored seeds. A more challenging project would be to design a nature scene using small seeds. When a series of small seeds are used, cover the desired part of the board with a thin coat of white glue and then sprinkle the seeds over that area. The sheet moss can be used to give the impression of grass, or seeds can be arranged to outline a hill or valley. After all the seeds are glued, tip the board to be sure all the loose seeds fall off on the table. If both the seeds and the plaque appear to be dull, it was discovered that a light coat of shellac would add contrast to the project. If the project is sprayed with shellac, it should not be handled for 24 hours.

#### Evaluations and Suggestions for Improvements:

Because of its short-term nature, this activity is designed to provide immediate gratification. The activity can be completed by

almost any resident but yet be involved enough to challenge the highest functioning participant.

Unless affected by stroke or mental problems, age should not hinder creative ability of geriatric residents. Most of the participants who were able to walk around to each table and observed the other projects. The interaction that followed the activity gave strong indication that the residents were pleased with what they had done. They showed each other and the staff their projects and made comments such as, "Look what I made. Don't you think I did a good job?" or "Come and see what a good job (so and so) did." The excitement shown by the residents was indicative of their pride in completing a worthwhile project.

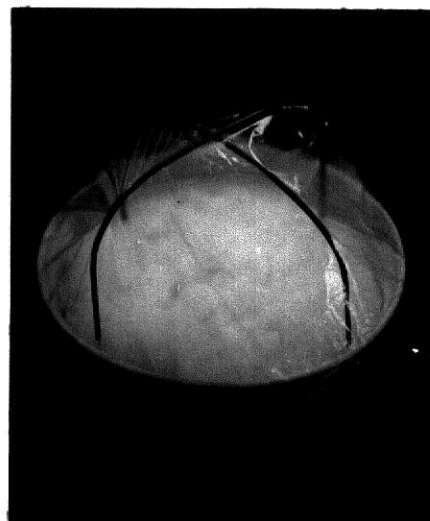
It is important to remember when conducting any activity with institutionalized geriatric residents that their needs and wants should always take precedence over the mechanics of the activity. If residents want to participate in an activity but feel uncomfortable doing so, the therapist should encourage and reassure them. The therapeutic value of the staff-resident interaction is limited to the individual's willingness to be helped and the therapist's willingness to help. It is also the responsibility of the therapist to challenge and stimulate each resident to become involved. If participants are not enjoying the activity, they will probably be reluctant to return for another one. The rewards of this particular activity are primarily of a short-term nature because of the duration of the activity. The therapist can, however, draw on



the confidence gained from it to help motivate and encourage the residents for future projects.

## GROWING HERBS

Most herbs can be easily started by germinating seeds and then transplanting seedlings. Drying and storing of harvested herb leaves can be done to preserve their fragrant, spicy aroma. Dried herbs can be used as spices in cooking, in making salad dressing, or in preparing various hot teas or punch. This tipsheet describes the growing and drying of herbs. It will also illustrate how to make a scent jar using the dried herb leaves.



Seedling germination chamber

### MATERIALS NEEDED

- 8 oz. plastic, clay, etc. container
- 1 piece of No. 20 florist wire
- 1 piece of 9"x9" clear cellophane
- medium size rubber band
- 1 gallon sterilized soil
- germinating media (sand or vermiculite)
- herb seeds--basil, oregano, sage, thyme, spearmint, peppermint, sweet marjoram, rosemary
- window box--8"x6"x14" or 3 6-inch clay pots
- newspaper
- ½-inch masking tape
- small jars (baby food size)
- colored glitter and/or yarn
- spray paint

### OPTIONAL MATERIALS

- book of herb recipes
- book on the history of herb usage

### GERMINATING SEEDS

Fill all but the top half-inch of the container with sand or vermiculite, being sure to firm it down. Best results are obtained using a sterile media. Lightly cover the seeds with additional media, leaving approximately ¼ inch of space at the top of the container to retain water.

### CONSTRUCTING THE GERMINATING TENT

In order for the seeds to germinate properly, the media should remain uniformly moist. This level of moisture can best be maintained by constructing a miniature tent made of cellophane to cover the container. First moisten the media thoroughly by

adding a small amount of water at a time. Then, take the piece of florist wire and cut it into two equal sections. Bend each section into the shape of a half circle and stick the ends into the media. The wires should start at the edge of the container and run perpendicular to each other, thus forming the support for the cover. Place the piece of cellophane over the cover and down around the side of the container. Then stretch out a rubber band and pass it over the container, letting it come snug around the top of the tub. This will hold the cellophane in place and seal the moisture inside. The final step is to label the container. Take a 2-inch piece of masking tape, stick it on the side of the tub, and write the date and type of seeds planted.

#### TRANSPLANTING THE SEEDLINGS

Two to three weeks later, when the seeds have germinated, carefully remove the cellophane cover. From this time until the actual transplanting takes place, the seedlings will need to be watered when the surface of the media appears dry.

Herbs grow best in a brightly lighted area and in soil that is well drained. To help insure proper drainage in either the clay pots or window box, place  $\frac{3}{4}$  inch of gravel in the bottom of them before adding the soil. The soil itself should be made up of one part peat, one part aggregate, and one part soil. Fill the pots or window box with soil to within  $\frac{1}{2}$  inch of the top and then firm the soil. Space the seedlings 1 inch apart in any desired arrangement. The seedlings are carefully pricked from the germination media and handled by the leaves so as not to damage the stems.



Completed scent jar

After the seedlings are transplanted, thoroughly water and label each section of the window box or clay pot.

#### HARVESTING AND DRYING

The herbs should be harvested just before they flower, if maximum scent is to be obtained. After the cuttings are taken, the leaves should be separated from the stems and laid out to dry. The drying can be done by spreading the leaves in a thin layer on a newspaper in a well ventilated room. The leaves should be covered with another single sheet of paper to keep the dust off. After the leaves are completely dry, they can be stored in the scent jars. They can be blended with other herbs or kept separately, depending on their future use. The scent jars can easily be decorated by painting the lid and glueing colored yarn and/or glitter onto the glass. The scent jar can be used to freshen a room or as a deodorizer.

## HANGING BASKETS

Hanging baskets have rapidly increased in popularity over the last few years. They can be made out of anything from an expensive ceramic container to an old shoe, as long as it will hold soil and provide proper drainage. There are many different plants which can be used in hanging baskets. The primary consideration in selecting a plant is the amount of light it requires and how much light is available. This tipsheet will give the step by step procedure for making an attractive, inexpensive hanging basket.



Swedish ivy in a hanging basket

### MATERIALS NEEDED

- 24 oz. plastic container (cottage cheese)
- burlap twine
- wooden beads
- 1 qt. of light weight soil
- ½ pint aggregate or clay shards
- 1 box of colors or pen markers
- rooted cuttings
- newspapers
- 1 pint flat white paint
- paper punch

### OPTIONAL MATERIALS

- acrylic paint
- sequins
- material for covering the container
- colored twine for decorating the container

### DECORATING THE CONTAINER

Cover the entire outer surface of the container with flat white paint to hide any existing labels. After the paint has completely dried, the container can be decorated in any number of ways. The simplest way to do the decorating is to use crayons or pen markers. Make a design such as a star, flower, or sun burst and repeat it around the container as space allows. Another decorating idea is to make a diamond or checkerboard pattern and cover the container in this fashion. To be a little more creative, make the design with acrylic paint and after it dries glue sequins on for accent.

### ATTACHING THE TWINE

When the container is decorated and the surface area dry, make four holes around the lip of the container with the paper punch. These holes should be directly across from each other and equally spaced around the top of the container. The twine can then be attached. Run one end of the twine through a hole, then bring both ends together above the container so they are equal. A simple knot tied at the lip of the carton will hold it sufficiently. The twine can be decorated, also, by arranging the colored wooden beads on it or by using macrame knots to bring the strands together.

### PLANTING THE CONTAINER

The bottom of the container should be covered with an aggregate like sand, aggregate, or pieces of broken pot (shard) to a depth of  $\frac{3}{4}$  inch. This will provide a water reservoir in the bottom of the container. Then the pot can be filled half way with a soil mix of 1 part peat, 1 part soil, and 1 part aggregate. Then 3-4 rooted plants should be placed in the container and equally spaced around the outside.



Container, twine and materials

A small amount of soil should be placed on top and around each root mass and then firmed in well. The final soil line should be about  $\frac{1}{2}$  inch from the top of the container. Then be sure to water the new plants well.

### WATERING AND CARE PRACTICES

The plants grown in hanging baskets will require watering more often than other plants grown in the same area. If the hanging basket is placed in a brightly lighted, breezy area, it may require daily watering. On the other hand, if it is hung inside where it receives only minimal light, watering once a week may be sufficient. The newly planted hanging basket can be fertilized with a complete fertilizer after the first month. Thereafter, the plants can be fertilized on a monthly basis during the rapid growing season.

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#### PLANTS FOR THE SUN

Asparagus Fern  
English Ivy  
Ivy Geranium  
Morning Glory  
Petunia  
Verbena

#### PLANTS FOR THE SHADE

Artillery Plant  
Christmas Cactus  
Grape Ivy  
Philodendron  
Pothos  
Swedish Ivy

## SEED AND DRIED PLANT COLLAGES

Seeds, pressed flowers, and other dried materials can be arranged on a wooden background to make a wide variety of interesting collages. The seeds can be used in masses to form blocks of color, or they can be used to outline various animals or other objects. This tipsheet will present some ideas for making different types of decoupages as well as giving instructions on how to make them.

MATERIALS NEEDED

small scraps of wood  
(approximately 5"x7")  
seeds--corn, sunflower, wheat,  
beans  
small can of wood stain  
pop-tops from beverage cans  
tacks and tack hammer  
small bottle of white glue  
sponge applicator brush  
(for stain)  
newspapers  
1 sheet of 100-grade sandpaper  
cloth rags  
small plastic container  
pencil

OPTIONAL MATERIALS

small dried or pressed flowers  
dried grasses or seed heads  
small aquarium rock  
sheet moss  
glitter  
spray shellac



Completed wall plaque

PREPARING THE WOOD

The first step is to take the 100-grade sandpaper and divide it into fourths. Then sand down all rough edges and the front surface of the board to be used. Small scraps of lumber suitable for the background can be obtained from most lumber yards for little or no charge. A thin slice of well dried tree limb will also work for a background. After the piece of lumber has sanded smooth, tack a pop-top on the back of it so it can be hung on the wall when completed.



The next step is to wipe all the sanding dust off the board to prepare it for staining. Pour a small amount of stain into the plastic container to avoid spilling the can and so the sponge applicator can be used. The stain can then be applied with a light, even coat over the front surface and edges of the board. After the board has set for five to ten minutes and most of the stain is dry, the excess stain should be rubbed off with an old cloth.

### CREATING DESIGNS

The next step is to create a design by arranging different types of seeds and/or dried materials on the plaque. Some suggestions for a design are stars, sun bursts, nature scene, flowers, or initials. If the design is to be very intricate, it would be best to lightly draw the design on the background before attempting to make it. Once a design has been decided on, place a thin coat of glue over the area where a single color or type of seed is to be used. Then slightly sprinkle those seeds over the area and arrange them as desired.

Of all the designs suggested, the nature scene is probably the most complicated. It can involve a number of different objects which allows the use of a wide variety of seed types. Many of the seeds and dried materials used in this project can be collected from nature. Suggestions for seeds to be used are:

|                   |                |
|-------------------|----------------|
| Yellow Corn       | Wild Grass     |
| Indian Corn       | Curly Dock     |
| Pumpkin or Squash | Sea Oats       |
| Milo              | Sunflower      |
| Maple or Oak      | Wild Dandelion |
| Wheat             | Beans          |
| Apple             | Melon          |



Wood, seed and other items

### FINISHING

On some backgrounds, a glossy finish will increase the contrast between the seeds and wood. This glossy finish can be accomplished by either spraying or painting a light coat of shellac over the seeds and wood. Another finishing procedure would be to touch-up a few of the plain colored seeds with a light coat of paint. This can be done if a specific color of seed is not available, but care should be taken so as not to make the collage look artificial.

INCREASING THE EFFECTIVENESS OF HORTICULTURAL  
THERAPY ACTIVITIES IN A GERIATRIC SETTING

by

Randy L. Crandall

B.S., Kansas State University, 1974

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AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of

requirements for the degree

MASTER OF SCIENCE

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KANSAS STATE UNIVERSITY

Manhattan, Kansas

1975



Some of the mental and physical characteristics of institutionalized geriatric residents are discussed in this thesis. Based on these characteristics, horticultural therapy activities were developed and evaluated at two geriatric homes with approximately 15 residents participating in each.

All residents who participated had some degree of physical functioning--manipulation of fingers, hands, and upper body muscles. There was an average of 20% men and 80% women at each activity with 50% of all participants being non-ambulatory.

The activities were designed to improve or maintain physical abilities, social interaction, self-esteem, and mental functioning of institutionalized elderly. There are detailed procedures presented that are to be followed by therapists and/or volunteers as they perform the activities in geriatric settings.

The seed collage and hanging basket activities provided geriatrics with an opportunity to express their creativity. The herb garden activity stimulated sensory perception (smell and taste) as well as learning skills. Increased socialization occurred enabling the residents to maintain mental functioning and to develop relationships.

General information concerning aging and the elderly serve to help educate any reader as to the complex problems involving geriatric residents.

The final section presents the general public with projects which utilize plants and natural materials to be constructed for enjoyment.