

The Design of a Horticultural Therapy Model and a Practical Business Plan for a Horticulturist Interacting with a Healthcare Worker

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Abstract

The term “horticultural therapy” is relatively new in South Africa. It is accepted that horticulture plays an important role in human well-being, both physically and psychologically. This study investigated whether the integration of horticultural activities into the rehabilitation programme at a mental rehabilitation centre benefitted participants. The first objective of the study was to determine the response of different categories of patients to specific horticultural activities. The second objective was to evaluate the degree of effect of the different horticultural activities on each category of patient. The third objective was to identify factors for the design of a business plan for a horticulturist engaging in a horticultural therapy programme. The methodology applied in this study was adapted from previous similar studies and comprised patient observations and interviews. This included the Horticultural Therapy Pretest Questionnaire (HTPQ) and Activity Effectiveness Evaluation Form (AEE), along with observations of participant responses to various activities. The sample consisted of 12 patients, four from each of the following categories: forensics, intellectually challenged, and psychiatric. The ten designed activities were, in order from 1 to 10: container planting, vegetable gardening, seed sowing, weeding and mulching, planting of scented geranium cuttings, mixed herb planting, planting of strawberry plants, planting of flowering annuals, pricking-out and transplanting of seedlings and general garden maintenance tasks. Forensic patients excelled in all activities, while psychiatric and intellectually challenged patients had particular aptitude for planting activities. Improved interpersonal and social abilities of participants resulted from these activities. The activities thus had an impact on the patients in the areas of avocational/educational, interpersonal/social and responsibility/development. The study recognized concepts of utilizing gardening in a structured manner to benefit the well-being of patients. The study also identified key factors for the design of a business plan for a horticulturist to engage in a horticultural therapy programme. The business plan provides an outline to develop, market and implement a horticultural therapy service for a mental rehabilitation centre.

INTRODUCTION

In the Western Cape region of South Africa, hospitals are experiencing the need to provide basic healthcare with fewer resources. Lengths of stay of patients have been reduced, and the need to rapidly provide effective treatment has increased. The majority of residents of nursing homes and health care facilities spend their time in their rooms, doing little or nothing, inactive and immobile (Ice, 2002). How can local health care facilities then promote and support social interaction in a meaningful manner?

In an unpublished survey by October (1998), conducted in a questionnaire format, responses from twelve healthcare institutions in the Western Cape, South Africa were received. The objective of the survey was to ascertain whether horticultural activities could be introduced into a hospital/healthcare environment. The results of the survey showed that there was a need for horticultural therapy involving patients, healthcare

workers and plants. The present study was commenced with the notion of fulfilling the recommendations of the survey results i.e., to design horticultural activities to be tested in a pilot project for the development of a Horticultural Therapy Model, to be utilized by a horticulturist interacting with a health worker at a healthcare institution.

MATERIALS AND METHODS

The sample consisted of psychiatric, intellectually challenged and forensic participants. A psychiatric patient has a mental state (brain condition) that may have resulted from one of the following psychosis (conditions): use of drugs or alcohol, a bipolar disorder, also known as manic-depression, schizophrenia, and dementia. (Nopoulos et al., 2002) An intellectually challenged patient has a brain condition that is as a result of inadequate development of the mental capacity. This condition was previously classified as mental retardation, which is caused by any condition that impairs development of the brain before birth, during birth or in the childhood years (Adhikari, 2002). Forensic patients are individuals, who have been assigned by the court to a forensic psychologist or a psychiatric setting for psychological evaluation and treatment. Goldstein (2002) considers forensic psychology to be a field that involves the application of various psychological instruments in a clinical setting, to assess the individuals condition. This information is used to benefit the personal growth of the patient, and to help or educate the court, without regard to the potential benefits to the examinee (Goldstein, 1996).

Selection of participants (i.e., the sample) was done using the Horticultural Therapy Pretest Questionnaire (HTPQ) (Kamp, 1996) (Fig. 1). The content of the HTPQ was applied when prospective participants were interviewed to partake in the research. In order to identify and select participants, qualified clinicians and horticulturists conducted interviews with prospective participants, and on the basis of information recorded by means of the HTPQ and observations, participants were selected for the research process.

The content and results of the HTPQ relates to the content of the Activity Effectiveness Evaluation (AEE) (Fig. 2). Participants (sample) selected for the research process had to score 1 (not at all interested in gardening) or 2 (sometimes interested in gardening) on the HTPQ. Patients with a rating of 1 or 2 on the HTPQ were considered ideal candidates for the research.

The research activity would ascertain which activities were effective in terms of the AEE, and the assumption was that once participants had been engaged in the designed activities (Gesler, 1992, 1993) that participants would produce scores of 3 (most of the time interested in the activity) or 4 (the whole time interested in the activity) on the AEE. Scores of 1 and 2 on the AEE would indicate that participants had not benefited. In order to identify and select participants, qualified clinicians and horticulturists conducted interviews with prospective participants.

The Activity Effectiveness Evaluation (AEE) questionnaire (Fig. 2) was developed to measure the effects of the horticultural activities on participants (Simson and Straus, 1998). It is a strategic plan to address the presenting deficiency of patients as indicated on 1 and 2 scores of the HTPQ (Fig. 1). Evaluation was done on a factual account. The expected outcome of a task or activity to be included in the new programme is a score of 3 or 4 on the AEE form. The ten designed horticultural activities were, in order from 1 to 10: container planting, vegetable gardening, seed sowing, weeding and mulching, planting of scented geranium cuttings, mixed herb planting, planting of strawberry plants, planting of flowering annuals, pricking-out and transplanting of seedlings and general garden maintenance tasks.

RESULTS AND DISCUSSION

Table 1 and Figure 3 illustrate the various patient responses for each activity. Forensic (Fo) participants recorded a high level (70% and higher) of task accomplishment for activities 1 to 10. These activities provided an opportunity for interaction and resulted in social skills development. Intellectually challenged (Ic) participants recorded a high

level of task accomplishment for activities 1, 5, 6, 7, and 10 and again benefitted from the social interaction with other patients. Psychiatric (Ps) participants recorded a high level of task accomplishment for activities 5, 6, 7, and 8. Improved interpersonal and social abilities of participants resulted from these activities. The activities thus had an impact on the patients in the areas of avocational/educational, interpersonal/social and responsibility/development.

The research has shown that certain activities were too easy and resulted in boredom. Other activities were too complex and caused frustration. Based on the results and the overall outcome of the project, the following aspects may be used as a guide for the inclusion of activities in a future programme:

Forensic patients generally responded positively to all the activities. It is therefore recommended that general gardening activities and plant related materials are considered to be desirable for forensic patients. Gardening will serve to improve and maintain interest and motivation levels of these individuals. The results show that forensic patients prefer, or can cope with activities which are advanced and complex in their make up. The results indicate that it is advisable to choose participants who have had some previous connection with plants in the past. This connection contributes positively to the motivational levels of the participants. The results illustrate that activities 6, 7, and 10 can be recommended for intellectually challenged patients. These activities involved planting of mixed herbs into containers, participating in groups and engaging in the planting of strawberry plants, as well as partaking of general garden maintenance, which included transplanting of groundcovers into open areas. For these activities this patient group required no supervision. The positive response received for activities later in the programme, based on information obtained from interviews, indicates that intellectually challenged patients took much longer to cope with the adjustment to working with plants. Through feedback provided by participants and clinicians, working with unfamiliar facilitators and foreign materials directly affected the individual ability to complete certain tasks. It therefore becomes fundamental that prior to commencement of a session, the facilitators orientate all participants to the various materials, elements (people, tools, etc.) and procedures. A complete overview of the activity content must be presented to all concerned individuals. The results illustrate that activities 1, 5, 6, 7, and 8 are recommended for psychiatric patients. These activities involved planting of indigenous groundcover, planting of scented geranium cuttings, planting of mixed herb plants into containers, participating in groups to plant strawberry plants, and participating in groups to plant flowering plants. Psychiatric patients related better to activities that involved plants which were indigenous and had scented and herbal properties. The recommendations are based on the fact that these activities resulted in a sound working relationship between participants, clinicians, and horticulturist. The repetitive nature of the tasks accelerated the process of helping the patients develop conscious control of following instructions.

Essential Considerations for Future Programmes

The results of this study make it possible for the recommendation of criteria, environments, and elements that advance the therapeutic qualities of programmes and gardens. This includes the following aspects: establishing good communication with administrators and staff at the facility; receiving approval from clients and/or their families to conduct the research; ensuring the researcher secures long-term support and interest. The philosophies and goals of the client must be recognized. The availability of space and resources must be ascertained. Institutional rules that can affect the project must be taken into account. The nature of supplies and tools must be clearly explained to staff and administrators. Orientation training and discussion of objectives must be a requirement with all volunteers.

Appropriate Selection of Participants and Activities

The research study has shown that careful selection of activities and participants

formed a significant building block of the entire requirements of the programme. The activities for this research were very generic in their make up, and although patients were consulted, the activities were not designed to accurately/appropriately reflect the individual needs. With this in mind the question must be asked: “how accurately were the participant’s potential/abilities measured, and how accurately were activities identified to match the abilities and needs of the participants?”. To accurately measure the participant’s abilities, a needs assessment/analysis should have been conducted of each individual participant. For this research project an assessment was done for each group of patients.

Facility Considerations

The research process has revealed that certain generic factors/considerations pertaining to the facility and staff can be recommended, and cognizance must be taken of these factors. A formal application must be presented to the institution (hospital), requesting permission/approval for commencement of the programme. The horticulturist must ascertain what kind of support (financial, administrative, staff) the programme will receive from the management of the hospital. Horticulturists, together with clinicians, must identify/study an appropriate venue (either outdoors or indoors) and become familiarized with the logistics of the building. Safety considerations must be a primary concern. The venue must be able to comfortably accommodate the working group, and must be available for the entire duration of the programme.

It is paramount to ascertain staff availability/commitment for the entire duration of the programme, and whether hospital staff will be involved in the process of data gathering/collection.

Key Factors for Developing a Horticultural Therapy Service (HTS)

The results prove that by means of the pilot study an HTS could render itself as an effective community outreach service. The services must have a vision statement. A market analysis must be conducted, and consideration must be given to alternative therapies that may well compete with HTS. HTS must target recipients and settings which are both private and public. This can be achieved by advertisements.

CONCLUSIONS

The research has shown that plant related activities, when successfully integrated into a rehabilitation programme, will benefit participants. A previous connection with plants made a significant difference in participant’s motivation for completing the task. This was particularly true for forensic patients. The vast array of disabilities experienced by intellectually challenged patients, who lacked basic writing and communication skills, presented numerous problems and consequently resulted in a medium and low level of task accomplishment. For the psychiatric patients, the repetitive nature of certain horticultural tasks accelerated the process of helping the patient develop conscious control of following instructions, and subsequently their actions. It is significant to mention that although plant materials serve as a vehicle to connect the facilitator to their participants, it is also the facilitator who, with the correct approach, can promote growth and development within the participants.

The nature of the horticulture profession in South Africa is largely focused on commercial practices (retailing, landscaping, and wholesaling) rather than on the health benefits of horticulture. Documented evidence of health-related benefits of horticulture could prove to generate viable new opportunities for the profession.

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Tables

Table 1. Patient group response for each activity.

No	Type of activity		Score: (Average activity score per group per activity/total score) ×100	Level of task accomplishment by patient group
1.	A mix planting of indigenous groundcover in a container	Fo	88%	High
		Ic	50%	Medium
		Ps	71%	High
2.	Planting a mixture of rooted vegetable cuttings	Fo	85%	High
		Ic	44%	Low
		Ps	60%	Medium
3.	Sowing a mixture of vegetable seed	Fo	82%	High
		Ic	55%	Medium
		Ps	49%	Medium
4.	Weeding, mulching, removal of dead plants, planting of shrubs and groundcover	Fo	91%	High
		Ic	49%	Medium
		Ps	65%	Medium
5.	Planting of scented geranium cuttings to grow in a sunny position	Fo	91%	High
		Ic	67%	Medium
		Ps	81%	High
6.	Planting of mixed herb plants into a container	Fo	94%	High
		Ic	70%	High
		Ps	86%	High
7.	Participants form groups of three and engage in the planting of strawberry plants	Fo	79%	High
		Ic	73%	High
		Ps	84%	High
8.	Participants form groups of three and engage in the planting of flowering annuals	Fo	88%	High
		Ic	48%	Medium
		Ps	71%	High
9.	Participants prick out herb seedlings and transplant this into large containers	Fo	86%	High
		Ic	58%	Medium
		Ps	53%	Medium
10.	Participants partake in general garden maintenance, which included transplanting of groundcovers into garden area	Fo	82%	High

Figures

Horticultural Therapy Pretest Questionnaire				
Hospital staff name: _____				
Patient (client) name: _____				
Ward No.: _____				
Date: _____				
Patient group (circle the appropriate):				
Psychiatric	Intellectual	Forensic		
LEARNING POTENTIAL (Educational interest)				
Is the patient interested in gardening?	1	2	3	4
Has the patient incorporated gardening as part of his/her leisure activities in the past?	1	2	3	4
SOCIAL INTERACTION				
Does the patient talk with other members in the ward?	1	2	3	4
Does the patient talk with the therapist?	1	2	3	4
RESPONSIBILITY				
Does the patient care for their work environment i.e., Does the patient tidy up, and organize their area?	1	2	3	4

Key: (1) not at all, (2) sometimes, (3) most of the time, (4) the whole time.

Fig. 1. Horticultural therapy pretest questionnaire (HTPQ).

Activity Effectiveness Evaluation - Patient

Staff: _____

Activity: General garden maintenance, which included transplanting of groundcovers into the garden area.

Patient: _____

Patient deficiency: _____

Date: _____

AVOCATIONAL & EDUCATIONAL INTERESTS				
Selects own plant material for task	1	2	3	4
Fill pot accurately with soil	1	2	3	4
Place cuttings/plant in pot accurately	1	2	3	4
Water plants accurately	1	2	3	4
Complete horticultural tasks correctly	1	2	3	4
Work with gardening tools effectively	1	2	3	4
Ask questions about cultural practices of plants	1	2	3	4
Writes own name on plant label	1	2	3	4
Writes date on label	1	2	3	4
Writes plant name on label	1	2	3	4
Able to identify plant types	1	2	3	4
INTERPERSONAL/SOCIAL				
Did the patient talk with other members of the group?	1	2	3	4
Did the patient talk with the facilitators and therapist?	1	2	3	4
Did the patient share tools and space?	1	2	3	4
Did the patient share their experience with others?	1	2	3	4
Did the patient enjoy working in a group?	1	2	3	4
Did the plant type chosen stimulate conversational interests?	1	2	3	4
Did the plant activity beautify and create a more relaxing hospital environment?	1	2	3	4
RESPONSIBILITY				
Did the patient follow directions/sequences of tasks to the end?	1	2	3	4
Did the patient cooperate with others by cleaning up after activity?	1	2	3	4
Did the patient anticipate taking plants to room/ward?	1	2	3	4
Did the patient take the initiative to water and care for plants?	1	2	3	4

Key: (1) not at all, (2) sometimes, (3) most of the time, (4) the whole time.

Fig. 2. Activity effectiveness evaluation (AEE).

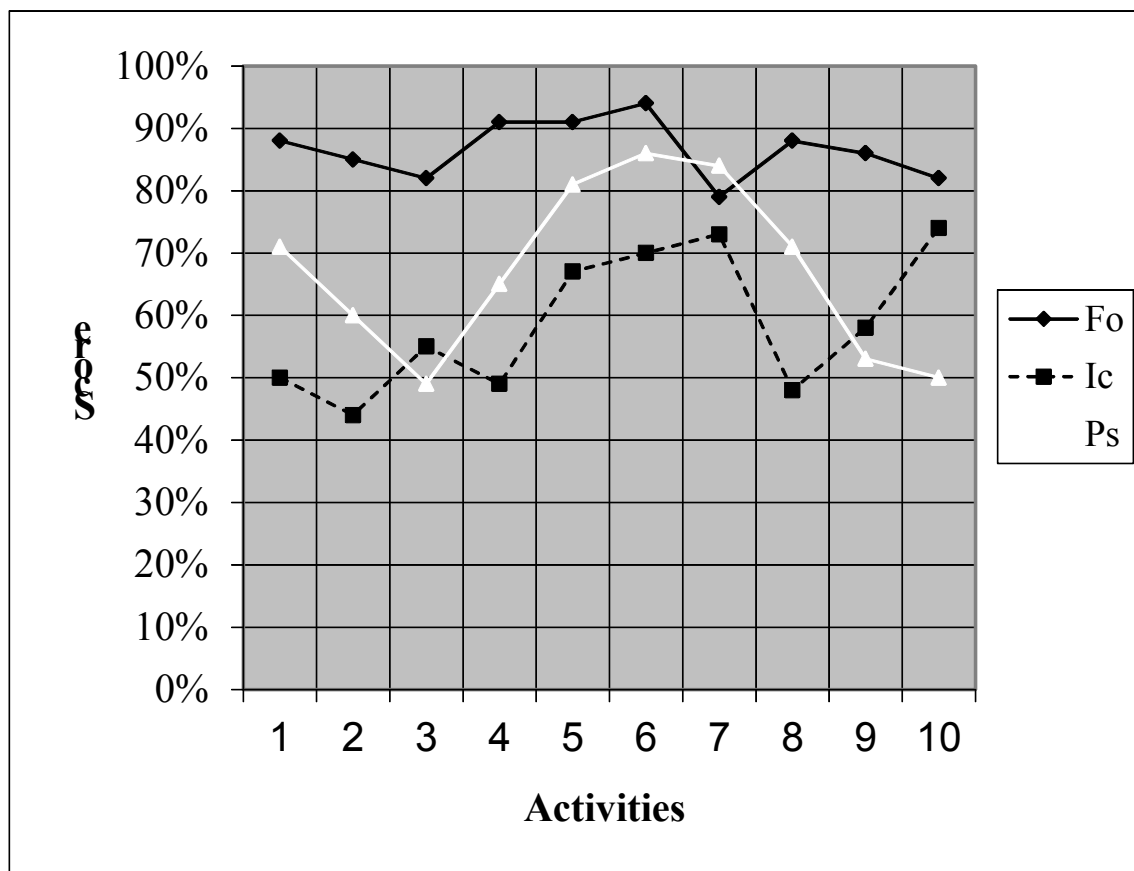


Fig. 3. Patient group response for each activity (the ten designed activities were, in order from 1 to 10: container planting, vegetable gardening, seed sowing, weeding and mulching, planting of scented geranium cuttings, mixed herb planting, planting of strawberry plants, planting of flowering annuals, pricking-out and transplanting of seedlings and general garden maintenance tasks).

