CRITICALLY APPRAISED PAPER (CAP)

FOCUSED QUESTION
Is community-based living skills training more effective than classroom-based training alone for improving functional shopping and telephone abilities for children with moderate intellectual disabilities?


CLINICAL BOTTOM LINE:
This study attempts to provide occupational therapy practitioners with some evidence regarding the use of community living skills training for improving functional abilities of children with moderate learning disabilities. This study lacked several details about intervention methods and therefore does not provide enough information to replicate intervention techniques in the future. This study also used a task analysis measure, which, according to the authors, was not sensitive enough to detect levels of functional ability on the basis of the study’s intended purpose. Therefore, this study may not have yielded reliable results. Consequently, this study offers no specific guidance to occupational therapy practitioners regarding intervention protocol or program development.

On the basis of the results from this study, setting foundations in community living skills may have positive outcomes for those with intellectual disabilities moving into adolescence and adulthood. Despite its limitations, this study is useful in facilitating future occupational therapy research to explore the practicality of classroom-based training vs. community-based training. Occupational therapy practitioners may want to consider researching programs in school settings to remain both cost effective and efficient in achieving community living skills goals with clients. More research is necessary to determine the effectiveness of community-based and classroom-based training in improving the functional independence of children with learning disabilities.

RESEARCH OBJECTIVE(S)
List study objectives.
- To determine if community living skills training increases functional ability in a shopping task.
- To determine if community living skills training increases functional ability in a telephone task.
- To determine if community-based training is more effective than classroom-based intervention in a shopping task.

**DESIGN TYPE AND LEVEL OF EVIDENCE:**
Randomized control trial (RCT): Level I

**Limitations (appropriateness of study design):**
Was the study design type appropriate for the knowledge level about this topic? Circle yes or no, and if no, explain.

YES / NO

Previous studies have highlighted the use of community living skills training programs for adults who have intellectual disabilities. However, there is limited research on the effectiveness of community living skills training for children and adolescents who have intellectual disabilities. Therefore, an RCT may not be the most appropriate choice for early research on this topic because other research has not validated the use of this training with this population. Making a comparison between intervention groups without prior knowledge regarding the validity of the training for this particular population thus represents an inappropriate study design given existing knowledge.

**SAMPLE SELECTION**
How were subjects selected to participate? Please describe.

All students in years 6 and 7 at a school for children with moderate intellectual disabilities were invited to participate in the study; the participants were ages 9 to 11 years. A school administrator randomly assigned the 40 participants in the study to each of the treatment and control groups.

**Inclusion Criteria**

NR

**Exclusion Criteria**

NR

**SAMPLE CHARACTERISTICS**

$N = 40$

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<tbody>
<tr>
<td>% Dropouts</td>
<td>0%</td>
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<tr>
<td>#/ (%) Male</td>
<td>30/ 75%</td>
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<tr>
<td>#/ (%) Female</td>
<td>10/ 25%</td>
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Ethnicity | Caucasian
---|---
Disease/disability diagnosis | Autism (n = 8) or not otherwise specified moderate intellectual disabilities (n = 32).

Check appropriate group:

<table>
<thead>
<tr>
<th>Group</th>
<th>20–50/study group</th>
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<td>&lt;20/study group</td>
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<td>51–100/study group</td>
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<td>101–149/study group</td>
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<td>150–200/study group</td>
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**INTERVENTION(S) AND CONTROL GROUPS**

*Add groups if necessary*

**Group 1**

**Brief Description**

Intervention group 1: Participants in this treatment group received classroom-based and community-based training. Classroom-based training included instruction, demonstration, role play, group exercises, games, and discussion about functional skills. This group practiced their skills during two additional visits to a local shop in the community. N=12

**Setting**

Classroom and a local shop in the community

**Who Delivered?**

Chief investigator of the study. Qualifications NR

**Frequency?**

Twice weekly for 30 minutes per session and two visits to a local shop in the community

**Duration?**

Eight weeks

**Group 2**

**Brief Description**

Intervention Group 2: Participants in this treatment group received classroom-based training only. Classroom-based training techniques included instruction, demonstration, role play, group exercises, games and discussion about functional skills. N=12

**Setting**

Classroom

**Who Delivered?**

Chief investigator of the study. Qualifications NR

**Frequency?**

Twice weekly for 30 minutes per session

**Duration?**

Eight weeks

**Group 3**

**Brief Description**

Control Group: Participants in the control group did not receive training. They were engaged in normal classroom activities during treatment sessions. N=16.

**Setting**

Classroom

**Who Delivered?**

N/A

**Frequency?**

N/A
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<th>Duration?</th>
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**Intervention Biases:** *Circle yes or no and explain, if needed.*

<table>
<thead>
<tr>
<th>Contamination</th>
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<td><strong>YES</strong>/<strong>NO</strong></td>
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<th>Co-intervention</th>
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<td><strong>YES</strong>/<strong>NO</strong></td>
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<th>Timing</th>
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<th>Site</th>
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<td><strong>YES</strong>/<strong>NO</strong></td>
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**Use of different therapists to provide intervention**

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**MEASURES AND OUTCOMES**

Complete for each relevant measure when answering the evidence-based question:

Name of measure, what outcome was measured, whether the measure is reliable and valid (as reported in article – yes/no/NR [not reported]), and how frequently the measure was used.

- **Task Analysis; number of steps completed independently in specified community-related tasks before prompting was needed; reliability and validity NR; scored twice (once prior to intervention and once post-intervention).**

**Measurement Biases**

Were the evaluators blind to treatment status? *Circle yes or no, and if no, explain.*

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Recall or memory bias. *Circle yes or no, and if yes, explain.*

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Others (list and explain):
RESULTS
List results of outcomes relevant to answering the focused question
Include statistical significance where appropriate (p<0.05)
Include effect size if reported

In the telephone task, training was found to be ineffective in improving functional ability when making a phone call. Scores in the pre-treatment and post-treatment assessments for both tasks were recorded, providing a total of four separate scores per participant. Differences between the pretreatment and post-treatment scores were calculated to determine the outcomes of the intervention. There was a highly statistically significant difference \((p = 0.007)\) between the intervention and control groups in post-treatment assessments in the shopping task. There was no significant difference between the two intervention groups for the shopping task post-intervention \((p = 0.767)\). There was no statistically significant difference between the intervention and control groups in the telephone task following the intervention \((p = 0.433)\). Effect size calculations indicated that there was a large effect size in the shopping task \((0.178)\) and in the telephone task \((0.636)\). When the two treatment groups were compared in the shopping task, effect size was found to be small \((0.004)\).

Was this study adequately powered (large enough to show a difference)? Circle yes or no, and if no, explain.

YES / NO

The sample sizes were small across study groups, which may have affected the statistical differences among the groups.

Were appropriate analytic methods used? Circle yes or no, and if no, explain.

YES / NO

Were statistics appropriately reported (in written or table format)? Circle yes or no, and if no, explain.

YES / NO

CONCLUSIONS
State the authors’ conclusions that are applicable to answering the evidence-based question.

The findings suggested that classroom-based training alone was as effective as classroom-based training supplemented by community-based skills training for improving the functional ability of children with moderate intellectual disabilities in a shopping task. The findings also showed that intervention did not yield statistically significant functional improvements in a telephone task for children with moderate intellectual disabilities. These findings have implications for the cost-effectiveness of intervention. Classroom-based skill training was particularly beneficial in improving shopping skills, but telephone skills showed limited improvement, which may have been a result of the abstract nature of the skills needed to place phone calls. The authors
suggested that further investigation of community-based skills training is needed, and they encouraged future studies with larger sample sizes to develop more conclusive results. In addition to these findings, the authors suggested that task analysis may not be an appropriate or sensitive outcome measure, making it difficult to determine the reliability of the results. This study supports previous findings that community-based skills training can be an effective method for improving the functional ability of people with intellectual disabilities, but it shows that community-based training is no more effective than classroom-based training. The study also shows the relevance of extending community skills training to younger populations ranging from ages 9 to 11 years.

This work is based on the evidence-based literature review completed by Kelsey Cook, OTS, and Rebecca M. Aldrich, PhD, OTR/L, Faculty Advisor, Saint Louis University.


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