

ACQUISITION OF LIFE SKILLS IN A SIMULATED TOWN FOR STUDENTS WITH DISABILITIES

**Sharon Field, Lori Blumenstein-Bott, Nancy Sinelli,
Shira Solomon, and Shlomo Sawilowsky**

Abstract

This study examines (a) the self-reported perception of students with disabilities about learning in a simulated environment as compared with school and home, and (b) the extent to which these students acquired and/or improved life skills as measured by observation of behaviors in repeated visits to a life skills training program. The study was conducted at Friendship Circles' LifeTown facility, which contains a library, drug store, salon, movie theatre, medical office, bank, craft store, pet shop, and various kiosks (e.g., ice cream), sidewalks, streetlights, and a park. The core skills taught was budgeting, communication, employment, following directions, money management, problem solving, safety, socialization, and time management to mirror the students IEP goals. Results showed students' perceptions were favorable toward learning in the simulated environment, and observed behaviors representing life skills were statistically significantly higher after repeated learning sessions.

Acquisition of Life Skills in a Simulated Town for Students with Disabilities

A substantial body of literature indicates that life skills instruction is a necessary and critical element of an appropriate education for students with disabilities (e.g., Clark, Field, Patton, Brolin & Sitlington, 1994). Life skills instruction is seen as particularly important in meeting the requirements for transition-focused education (Kohler & Field, 2003) and is viewed as a more intense need for students near the termination point of their formal schooling (Cronin, Wheeler & Lemoine, 2006).

According to Cronin et al. (2005), it is important to give students an opportunity to be introduced to and practice life skills before encountering them in natural environments. Simulated environments have often been used to acquire skills, providing an opportunity to practice in realistic settings with less potential risk if the behavior is not performed appropriately. Simulated environments should not be used to replace community-based instruction or practice in natural environments.

Key Issues in Life Skills Instruction

The purpose of life skills instruction is to prepare students to meet the demands of adult life and community living. Life skills instruction has been defined as specific competencies to include knowledge, skills, and the application of life skills of local and cultural relevance needed to perform everyday activities across a variety of settings (Cronin, Patton & Wood, 2005). A major issue faced by educators in providing community life skills instruction for students with disabilities is the lack of opportunities for a focus in life skills instruction in the general education setting. The Individuals with Disabilities Education Act (IDEA, 2004, as amended) requires students with disabilities to be served in the least restrictive environment, which has been operationally defined as where they will have the greatest contact with peers who are not disabled.

IDEA also required that the individualized education programs of all students with disabilities contain statements regarding a) how the student's disability affects involvement with and progress in

the general curriculum and b) measurable goals and program modifications to assure involvement and progress in the general curriculum.

The access to the general education provisions have had many positive benefits for students with disabilities and have provided them with benefits that have typically only been available to their peers without disabilities. For example, a qualitative study reported by Arndt, Konrad, & Test, 2006 indicated that students with disabilities now have the capability in making coursework choices, which is something that general education students have typically had available to them. Sabbatino and Macrine (2007) summarized the key characteristics in programs spawned by the IDEA legislation, which include socialization skill building, provision of mentors, methods for engaging parents, and curricula relating academics to life experiences.

Although there have been many benefits associated with the general education access provisions of the IDEA legislation, it has also presented many challenges, especially since the enactment of the No Child Left Behind legislation. General education curriculum and assessments have focused on rigorous academic content, making it difficult to provide a sustained focus on life skills instruction in general education settings. Thus, special educators are often faced with a dilemma. In order to meet the transition mandates of IDEA, life skills instruction needs to be provided. However, IDEA also requires that students with disabilities have access to the general curriculum and the general curriculum typically does not include life skills instruction.

There are many ways that the general curriculum can be modified to meet specific life skills education needs of individual students (Field, Leroy & Rivera, 1994). Unfortunately, educators often find that, due to the wide discrepancy between the curriculum taught in the general education setting and functional skills instruction, the modifications that need to be made to provide high quality life skills instruction in the general education setting are too extensive to make such adaptations in instruction a reasonable option .

Community-based instruction (CBI), an educational method in which a student is taught to perform skills in the community environment, is often suggested as an alternative to the general education setting for life skills instruction. CBI is the acquisition of life-skill knowledge, performance of life skills, and the appropriate application of knowledge and skills in the community (Cronin, Patton & Wood, 2005). CBI provides students with disabilities the opportunity to interact with persons who do not have disabilities. It also provides them with the opportunity to acquire skills in the settings where they will be used. Therefore, there are typically fewer difficulties with generalization of skills to natural settings when life skills instruction is provided using a community based instruction approach.

Nevertheless, there are challenges associated with using CBI to teach life skills. Some students, especially those with significant educational needs, may need more support for initial skills acquisition than is feasible in typical community settings. A controlled environment can be more easily manipulated, allowing more systematic and intensive instruction during the early stages of instruction. In addition, a wider range of behavior can typically be accepted in simulated environments.

Another challenge associated with using CBI is cost. Community-based instruction can be very expensive due to transportation costs and the low teacher-student ratio required for quality instruction. In a time of restricted public education budgets, these costs can be a significant barrier. This is another reason supporting the potential use of simulated environments as a lower cost alternative.

The Use of Simulated Learning Environments in Disabilities Education

The notion of a simulated learning environment is not new; it is a methodology that is particularly useful for contexts where the consequences of learning failures are immediately dire. Thus, it is not surprising to find simulated learning environments proliferating in high stakes classrooms such as surgery (e.g., Dev, Montgomery, Senger, Heinrichs, Srivastava, & Waldron, 2002), flight simulation, etc. Unfortunately, in K-12 contexts, simulations are typically restricted to computer based applications (e.g., Stefanutti & Albert, 2003), self-contained classrooms, or contrived locations within the academic setting.

Providing life skills instruction for students with disabilities in simulated environments has been previously criticized because a) it segregates these students from those without disabilities, and b) it is assumed that students may face difficulty in generalizing skills learned in the simulated environments to real settings. Nevertheless, simulated environments do provide advantages. Concentrated, focused instruction can be provided in simulated settings with minimal risk to students if they have difficulty performing skills correctly. This is especially important during the skill acquisition phase. Also, simulated environments provide educators with the unique opportunity to more closely monitor individuals as they independently progress through a controlled lesson.

The benefits associated with simulated environments make such instruction an option worthy of consideration for life skills instruction during the initial skill acquisition phase. Of course, it remains essential that, regardless of the option used to teach life skills, students must have the opportunity to demonstrate skill competency in the natural setting for such instruction to be considered complete (Brolin & Loyd, 2004; Cronin et al., 2005 & Kaye, 2004 as cited by Cronin, 2006).

Friendship Circle

The Friendship Circle, a non-profit organization developed to serve individuals with special needs, created Lifetown, an indoor facility that spans over 5,000 square feet. It contains a library, drug store, salon, movie theatre, medical office, bank, craft store, pet shop, and various kiosks (such as ice cream), sidewalks, streetlights, and a park. The founding branch of LifeTown has over 800 volunteers supporting its programs for students with disabilities and their families. One of its primary programs is the Lessons for Life curriculum. The core skills in each lesson are budgeting, communication, employment, following directions, money management, problem solving, safety, socialization, and time management to mirror the students IEP goals. Schools from the surrounding area send students to LifeTown for life skills preparation.

School teachers select learning modules from a twenty two lesson curriculum. They are provided with resources to address specific learning needs. Preparatory work is completed within the classroom prior to the students' scheduled learning day in LifeTown. Functional life skill modules feature real money, problem solving, socialization, time management, conflict resolution, and communication. The job skills modules take the students from career exploration, interviewing, and employment while at Lifetown (e.g., stock clerk, cashier, or maintenance at the drug store). The curriculum also provided employment counseling for students who were unable to secure a position.

Students progress at their own pace for two hours, which is the typical duration for participation at Lifetown. In every lesson students make a deposit and withdrawal from the bank, locate and conduct business at various locations in LifeTown, and complete worksheets to document

their activities. In order to assure student accountability, students may maintain a collection of their receipts and complete an expense record. A matrix containing the life skills for each learning module, excluding employment's separate curriculum, in Table 1.

Table 1. LifeTown Learning Module Life Skills Matrix.

Learning Module	Life Skill							
	Budget	Communication	Following Directions	Money	Problem Solving	Safety	Socialization	Time
Introduction	√		√	√	√	√	√	
Keeping Track	√			√				
Which Way?			√		√	√		
Watch Out!		√	√		√	√		
On Time				√	√	√		√
Healthy Living		√	√		√		√	
Listening To Your Body		√	√		√		√	
Caring	√	√			√		√	
Making & Changing Plans	√		√	√	√		√	
Money Matters	√	√		√	√	√		
Secret Friend	√	√	√	√			√	
Mystery Friend Meet & Greet		√		√	√		√	
Taste of Etiquette		√		√			√	
Community Learning Resources & Exercising Your Rights		√					√	√
Day for Parents & Child		√				√	√	
Friends For a Day	√	√			√		√	
Creating a Spending Plan	√			√	√			

In its first year in 2005, 700 students from 30 Detroit, Michigan area schools participated in the LifeTown program. The number of students served increased to 1,500 students from 63 schools in the second year of operation, and 1,800 students from 79 schools the third year. It is projected 2,025 students from 89 schools will participate in the LifeTown learning experience in the 2008-09 academic year.

The students' ages range from 6 to 25. The highest utilization of LifeTown is by high school students (46%), followed by elementary students (24%), middle school students (19%), and post secondary students (11%). Forty percent of the students have a primary diagnosis on the autism spectrum, forty percent are cognitively impaired, 8% are hearing impaired/deaf, 7% have a learning disability, 3% are emotionally impaired, and 2% are visually impaired. Typically, schools bring their students to LifeTown about five times per year to maximize the benefit of the hands-on learning environment. Students focus on the lessons for a two hour period while at LifeTown.

Purpose of the Study

Instruction in simulated environments, provided as a coordinated set of services in combination with the general curriculum and the community, may be a resource that increases the effectiveness and efficiency with which to prepare students with disabilities for successful transition to the community. The purpose of this study was twofold. The first part was to determine students' perceptions about learning in a simulated environment, as compared with school and home. The second was to determine if intensive life skills instruction provided in a high quality simulated environment effectively helped students to a) acquire essential life skills and b) retain or improve on those skills in subsequent experiences in the same simulated setting.

Informed Consent

Informed consent was obtained through each school's Human Investigation Committee and the Friendship Circle Executive Board's subcommittee on Human Subjects. Post hoc analyses were conducted via exempt status determined by the Wayne State University HIC.

Research Questions

Research Question 1: What are student perceptions of their comparative learning ability at LifeTown?

The research hypothesis of this part of the study was to determine the perception of students in learning in a simulated environment, as compared with school and home. A self-report feedback instrument was administered at the conclusion of the learning experience. Approximately 10% chose to complete the survey on site. The remaining 90% completed the surveys when they returned to their schools, and their teachers forwarded them to Lifetown.

The survey contained 31 questions. Cronbach alpha, a measure of internal consistency, for the self-report scale was .84, based on responses from N=775 respondents. Among the items on the survey, students were asked to rank how easy it is to learn new things at three locations: (a) in school, (b) at home, (c) at LifeTown. The rating scale was 2 = A lot!, 1 = Some, and 0 = Not at all! Visual cues were provided in the form of 2 = smiley face, 1 = straight (line) face, and 0 = frown face. The results are depicted in Table 2. Due to listwise deletion of missing values, N differs as noted in the table.

Table 2. Rankings on how easy it is to learn new things by location (0=low, 2=high).

<u>Location</u>	<u>N</u>	<u>Mean</u>	<u>Standard Deviation</u>
LifeTown	641	1.7	.57
School	669	1.6	.60
Home	627	1.5	.65

Cohen’s *d*, a measure of effect size, between Lifetown vs. Home was .33, between Lifetown vs. School was .17, and between School vs. Home was .16. (According to Cohen’s 1988 rule of thumb a magnitude of .5 is considered a medium and .2 is small.)

The responses were broken down by gender, with the descriptive statistics depicted in Table 3. A series of three t-tests were conducted, with nominal alpha set to $\alpha = 0.05$ (Bonferroni-corrected to $\frac{.05}{3} = .017$) on ranking of location by gender. There were no statistically significant differences based on gender for home or school, but at LifeTown, females reported it was easier to learn new things than did males (Welsh-Aspin $t = 2.46$, Satterithwaite $df = 548.2$, $p = 0.014$).

Table 3. Breakdown of rankings based on gender and location.

<u>Location</u>	<u>Gender</u>	<u>N</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>Std. Error Mean</u>
LifeTown	Female	230	1.77	.498	.033
	Male	403	1.66	.597	.030
School	Female	238	1.66	.594	.039
	Male	421	1.61	.602	.029
Home	Female	220	1.51	.665	.045
	Male	398	1.50	.646	.032

The primary question of this part of the study is if students’ self-report indicate their experiences at LifeTown provide an easier venue for learning new things as compared with the traditional sites, which are the school and the home. A repeated measures analysis was conducted. Mauchly’s test of sphericity was not significant, $W = .991$, approximate Chi-square = 5.337, $df = 2$, $p = .07$. The test of within-subjects effects was 10.871, $df = 2$, $F = 18.12$, $p = .000$. Therefore, it has been demonstrated that students perceived that LifeTown presented a comparably easier venue for learning as compared with school and home for these students.

Research Question 2: Do students acquire and/or retain life skills with repeated visits to LifeTown?

Two schools were randomly chosen for its students to participate in a behavioral observation audit of 11 LifeTown venues/activities: Bank, Drug Store, Ice Cream Kiosk, Library, Medical Office, Movie Theatre, Pet Store, Popcorn at the movies, Salon, Traffic Rules/Safety, and Workshop. A behavioral observation audit form was constructed for each venue. (The audit forms are available from the authors. An example is presented in the appendix.) Two trained volunteers were assigned to each venue to conduct the audits. In order to minimize observer fatigue, one audited the first half of the visit and the other audited the second half. The auditor was instructed to make a tick mark on the form when a student was observed displaying an appropriate competency for that venue. A pilot study showed inter-rater reliability of the audit forms was close to 1.0.

Because the exact time the two schools visited LifeTown varied, the number of students from each school differed, and the number of students per school varied per visit, a standard unit of behavior was computed. It was the number of tick marks made by the auditor “per student per hour per competency per venue.” For example, a competency at the Medical Office venue was returning promptly for the appointment time. The total number of tick marks indicative of this behavior was divided by the number of students, prorated or made proportional to one hour, for that venue.

In the figure below, this standard unit of behavior per school is depicted for the two schools’ first and the second visit, broken down by venue at LifeTown. To facilitate ease of interpretation, the figure is separated into two parts, with about half of the venues placed per part. The venues are arranged according to the maximum value, and thus the two parts are scaled differently.

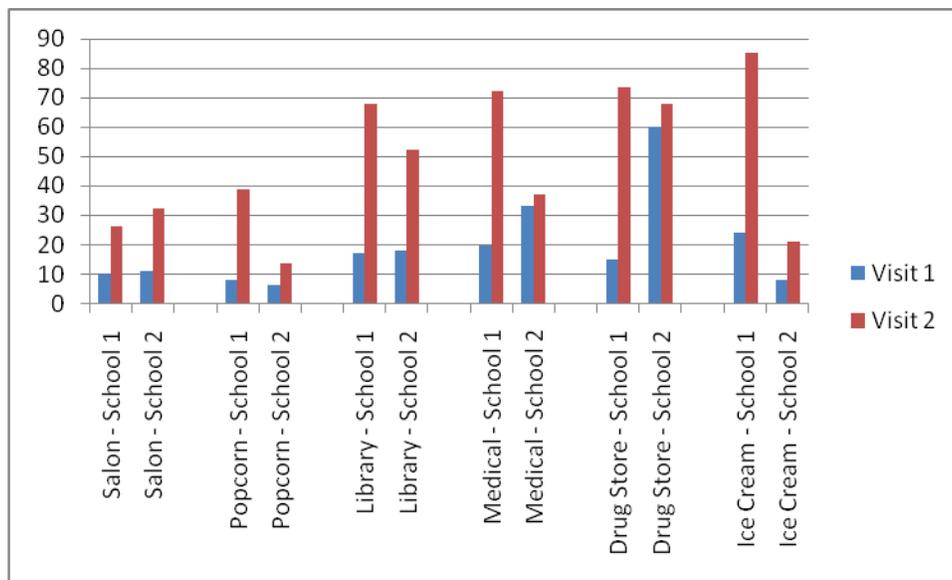


Figure 1a. Life Skill Behavioral Observation Units by Visit for Two Schools at LifeTown

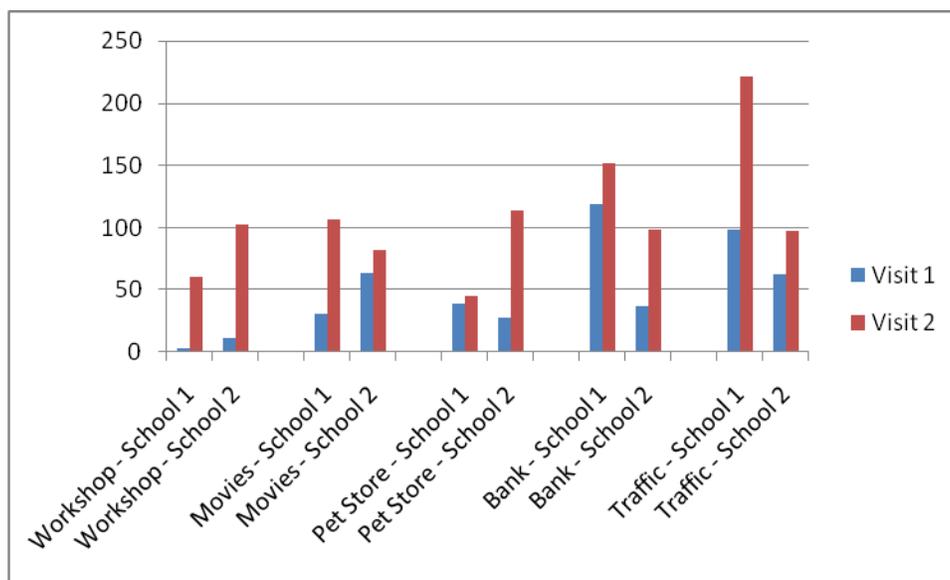


Figure 1b. Continuation of Life Skill Behavioral Observation Units by Visit for Two Schools at LifeTown

In every case, the students at both schools dramatically increased the desired behaviors on their second visit. School A's grand mean response across all eleven venues was 34.89 ($\sigma = 38.10$) on the first visit, and increased 247.4% to 86.32 ($\sigma = 56.58$) at the second visit. The Wilcoxon Signed Ranks test ($Z = -2.93$, $p < .01$) indicates this is a statistically significant increase. School B's grand mean response across all eleven venues was 30.79 ($\sigma = 22.67$) on the first visit, and increased 211.6% to 65.14 ($\sigma = 35.79$) for the second visit. The Wilcoxon Signed Ranks test was also significant ($Z = -2.93$, $p = .01$). The effect size for both analyses is $r = .88$ (mean positive ranks for both schools = 11), which according to Cohen (1988) is a large treatment effect.

Because the two schools were not matched in terms of disability types and frequencies, a comparison between them with an Analysis of Covariance on the 2nd visit scores, using the first visit as the Covariate, must be interpreted with caution. The Covariate was indeed significant ($F = 24.79$, $df = 1, 19$, $p = .00$) indicating baseline inequality between the two schools. However, after adjusting for the covariate, the two group's increase in grand mean response across all eleven venues was the same ($F = 1.46$, $df = 1, 19$, $p = .24$). This means the large magnitude of increase in performance demonstrated by both schools on the repeated visit was similar.

Conclusion

The focus of learning in LifeTown is targeted toward acquisition and improvement of life skills. The ability to provide an individualized learning approach enhances both the students' perception of the ease in learning and the development of these life and job competencies. The simulated environment provided a safe place for students to develop at their pace. Educators embraced this opportunity to take the classroom learning. The work done within the environment strives to provide both positive and natural consequences to student behaviors.

Consider a real example pertaining to a student who was anxious of dark places. This student had extreme difficulty presenting appropriate behavior in movie theatres in the community setting. Extreme vocalizations during the show could not be tolerated. In the LifeTown theatre, however, the

child became desensitized to the theatre setting, and adapted to the simulated environment. Were it not for this success the parents would never have known the child was no longer at risk of a public tantrum. The family was no longer afraid to attend the local theatre with their child.

There is abundant anecdotal evidence that students who have participated in LifeTown's life skills instruction have generalized skills they learned at LifeTown to community settings. For example, parents have reported that their sons or daughters are more comfortable in visiting physicians and dentists, and show an increase interest in personal hygiene. During CBIs, teachers reported that students' awareness of traffic and safety has greatly improved.

In the unsolicited words of a special education teacher:

I have to tell you, that my students who are now leaving had a terrific experience these past few years at LifeTown. They 'graduated' from LifeTown and went into the real towns [local businesses, professional offices, entertainment venues, and city sites]. They were successful trips because of our experiences at LifeTown. Students also learned social skills which they were able to transfer to the real world. They acquired the core of independence and self-confidence, which enabled them to be community participants in appropriate ways.

The next step, of course, is to augment anecdotal evidence with behavioral documentation of the generalization of life skills in natural settings.

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Appendix

Medical Office Auditor's Report

Date: _____ **School:** _____

Directions: Observe a student who walks into the Medical office. As inconspicuously as possible, place a hash mark (after every fourth, cross the fifth like this: ++++).

1. The student made an appointment with the receptionist.

2. The student presented her/his medical card.

3. The student complete office paperwork and presented it to the receptionist.

4. The student put the appointment card in a wallet or pocket.

5. The student returned on time for the appointment

6. The student takes her/his belongings when leaving the office.
