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The Effect of a Toilet Training Seminar on Classroom Staff's Knowledge of Evidence-Based Toileting Practices

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The Effect of a Toilet Training Seminar on Classroom Staff’s Knowledge of Evidence-Based Toileting Practices

Madeline R Ritter

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Abstract

Toileting is a critical life skill that may present challenges to individuals with an intellectual or developmental disability (IDD). Extensive research on toilet training has been conducted in clinical, residential, and home settings; however, limited research has been conducted on toilet training in educational settings. Educational settings present unique challenges that other settings may not, which makes research on toilet training in these settings critical (Cagliani et al., 2021). Additionally, research on toileting in educational settings have not evaluated classroom staff’s acceptance of evidence-based toileting strategies. The current study used a pre posttest design to examine the effect of a toilet training seminar on classroom staff’s knowledge and social acceptability of evidence-based toileting strategies. The toilet training seminar included a treatment package consisting of instruction, video models, and rehearsal opportunities. On average, staff rated the seminar and the toileting strategies positively and a significant statistical difference was found between the pre and posttest conditions, demonstrating that the toileting seminar was an effective tool to increase classroom staff’s comprehension and knowledge of evidence-based toileting strategies. Further research is needed to evaluate the maintenance of classroom staff’s knowledge and the generalization of classroom staff’s knowledge to implementation in the classroom.
**Introduction**

Toileting is an important life skill which may present significant challenges for individuals with intellectual and developmental disabilities (IDDs). Individuals who are toilet trained have increased autonomy, social acceptability, and gain access to less restrictive environments (McManus et al., 2003). In a study assessing the toileting skills of typically developing children, all participants ($n = 267$) achieved continence by the age of four without the use of additional supports (Schum et al., 2002). In contrast, individuals with an IDD tend to have toileting issues into adulthood (Matson et al., 2011) and take longer to become toilet trained (Dalrymple & Ruble, 1992). Continued or prolonged incontinence can lead to a diminished quality of life, limiting an individual’s ability to become involved in the community. In addition, incontinence can lead to poor physical hygiene, physical discomfort, low self-confidence, and social stigma (Cicero & Pfadt, 2002). Thus, it is important for children with an IDD and other disabilities have access to effective, evidence-based toileting strategies through early intervention in educational settings. Fortunately, there are several well-established toilet training strategies that may be used in classrooms by classroom staff.

Several common toileting components have been widely used in a variety of settings and cited in current literature: (a) scheduled sits, (b) fluid loading (c) contingent reinforcement, (d) positive practice and (e) graduated guidance (Kroeger & Sorensen-Burnworth, 2009). An additional toileting strategy used in current toilet training methods includes self-initiation. During a scheduled sit, an individual is sat on the toilet at predetermined intervals and required to sit for a specific amount of time or until urination occurs. Scheduled sits help to increase the number of opportunities an individual may successfully urinate in the toilet. Fluid loading requires an individual to consume an increased amount of liquids and, when used in conjunction
with scheduled sits, can also increase the number of successful urinations. Contingent reinforcement occurs when reinforcement is delivered for a specific behavior, such as urination in the toilet. As a result, contingent reinforcement can increase the future frequency of successful urinations in the toilet. An individual engages in self-initiation when they independently ask for the toilet, which can be programmed for during toilet training by prompting the individual to request the toilet prior to each scheduled sit. Graduated guidance occurs when an individual is prompted through the necessary steps to toileting, such as pulling down pants, flushing the toilet, or washing hands. In graduated guidance, prompts are systematically faded as independence emerges. Graduated guidance gradually teaches an individual the behaviors associated with toileting in a least restrictive environment. Lastly, positive practice requires the individual to engage in a series of adaptive behaviors with the aim of decreasing future accidents. Positive practice can lead to a quicker acquisition of toileting skills by replacing maladaptive behaviors with adaptive ones. Each of these toileting components have been assessed in clinical settings, schools, and homes, with individuals of varying age and disability, with different combinations of treatment components, and with largely successful results (Kroeger & Sorensen-Burnworth, 2009).

Children who need additional support with toilet training may receive this support in many different settings, including school. Educational settings often act as an area for eligible students to receive necessary services, like early intervention or special education. These services aim to help students increase their independence, fully participate in school, and become economically self-sufficient (IDEA, U.S. Department of Education, 2004). In 2019, 86% of 5-year-olds in the United States were enrolled in school (Enrollment Rates of Young Children, 2021). Considering the large amount of kindergarten aged-students enrolled in school,
educational settings can provide students access to early intervention and evidence-based toilet training. Students who enter formal education and are incontinent may face several negative consequences including decreased time spent on academic instruction, inability to move forward with same-aged peers, and decreased access to inclusive opportunities (Cagliani et al., 2021; Bever, 2016; Cicero & Pfadt, 2002). Prioritizing school-based toilet training strategies may help to foster academic success, independence, and inclusivity.

One way that successful toileting within school-based settings can be achieved is by allowing classroom staff to facilitate toilet training with students. Classroom staff have an ethical responsibility to use evidence-based instructional methods with students (IDEA, U.S. Department of Education, 2004). The Individuals with Disabilities Education Act (IDEA) mandates that classroom staff facilitate teaching skills beyond a strictly academic scope, which is applicable to toileting. In addition, IDEA also states that all students with disabilities must have access to evidence-based services rooted in early intervention. Current literature points to the pivotal role that classroom staff or other early care providers could play in toilet training children with an IDD, arguing that toileting could be included as a goal in a student’s Individualized Education Program (IEP) (Cagliani et al., 2021). Despite the emphasis placed on early, evidence-based intervention in schools, effective toileting strategies are not being used on a widespread scale in educational settings (Cicero & Pfadt, 2002). This may be due to the unique challenges presented in school-based settings, such as rigid instructional schedules, higher student to teacher ratios, and an emphasis on academic instruction (Cagliani et al., 2021). In addition, evidence-based toileting practices may be underused due to classroom staff’s perceived acceptability of effective interventions. The social acceptability of an intervention plays a pivotal role in its implementation in a classroom, with many different factors influencing classroom
staff’s opinions (Witt, 1986). Some of these factors include acceptability, effectiveness, and feasibility of the intervention. Other factors include theoretical orientation, attitudes towards inclusion, teacher efficacy, and experience working with students with an IDD (Rheams & Bain, 2005). While preliminary studies have been conducted on toileting in school-based settings, further research needs to be conducted to fully address the challenges presented in an educational setting.

Research on effective toileting strategies in school-based settings is limited but has been addressed by several recent studies. Using the components of effective toileting, Leblanc et al., (2005) created an intensive toilet training procedure for three school-aged children. The intervention was successful in both clinical and residential settings, and generalization occurred to an educational setting. The article presents preliminary research on the effects of toilet training in a school-based setting, demonstrating initial success.

In 2012, Cocchiola et al. employed several evidence-based toileting strategies with five kindergarten students in a special education classroom. The components that were used included scheduled sits, graduated guidance, fluid offering, and contingent reinforcement. To limit clinical oversight, classroom paraprofessionals were trained on the toileting procedure. Each student reached mastery criteria; however, they required a longer amount of time to become toilet trained in comparison to studies conducted in clinical settings. The current study concluded that paraprofessionals could implement the toilet training with fidelity, suggesting that evidence-based toileting strategies are feasible for classroom staff to use during the school day.

Finally, Cagliani et al., (2021) implemented toilet training with four elementary school students in a special education classroom and used similar strategies as described in Cocchiola et al., (2012). In contrast to Cocchiola et al., (2012), the current researchers did not remove clinical
oversight in their study and included self-initiations as a treatment component. Each participant reached mastery criteria; however, one participant only required diaper removal to achieve continence. Preliminary success was found with self-initiation of toileting trips.

Both Cocchiola et al., (2012) and Cagliani et al., (2021) empirically assessed the use of effective toileting components in a school-based setting. However, only one study empirically removed clinical oversight and only one study assessed the use of self-initiations. Neither study included social acceptability of the toileting strategies by classroom staff as a treatment component. Due to the challenges presented with toileting in educational settings, limited research on toileting in school-based settings, and the gaps in the current literature, further research on toileting in school-based settings is crucial.

The current study aimed to address gaps in the literature related to toilet training in a school-based setting by training classroom staff to implement toilet training procedures and assessing the social acceptability of evidence-based toileting strategies. The research question for this study is twofold:

1. What are the effects of a comprehensive toilet training seminar on classroom staff’s knowledge of evidence-based toileting strategies?
2. What are the effects of a comprehensive toilet training seminar on classroom staff’s acceptability of toileting strategies?

Method

Participants and Setting

Thirty-one early childhood classroom teachers and support staff (e.g., paraprofessionals, speech-language pathologists, occupational therapists) participated in the 3-hr toilet training seminar. Three participants did not attend the full seminar; thus, they were not included in the
final analysis, leaving 28 remaining participants. Participants included paraprofessionals (n = 9), classroom teachers (n = 8), occupational therapists (n = 3), speech language pathologists (n = 3), teacher consultants (n = 2), resource room teacher (n = 1), social worker (n = 1), Early Childhood Special Education (ECSE) coordinator (n = 1), parent (n = 1), ancillary staff (n = 1), and other (n = 1). Most of the participants (n = 42) worked in ECSE, Headstart, or Great Start Readiness Program (GSRP) classrooms throughout a local school district. Thirteen participants work in multiple settings. Participants provided their number of years of experience by selecting one of several prepopulated ranges (e.g., <1, 1–3, 3–5). Forty-eight percent indicated 10 or more years of experience and 3% indicated between 1- and 3-years’ experience. Other demographic information collected included a description of the current toileting strategies used with students, experience with Applied Behavior Analysis (ABA), the level of comfort implementing toilet training strategies, the extent to which current toileting strategies have been successful, and the severity of student problem behavior. See Table 1 for participant details.

The toilet training seminar took place in a conference room located in the school district. The conference room came equipped with a projector and other technology necessary to share the PowerPoint presentation. The lead presenter has credentials as a Board Certified Behavior Analyst (BCBA) and as a Licensed Behavior Analyst (LBA). Two other support staff consisted of an undergraduate student and a faculty member at Western Michigan University (WMU).
Table 1

Participant Demographics

<table>
<thead>
<tr>
<th>Factor</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Position</td>
<td>9</td>
<td>29</td>
</tr>
<tr>
<td>Paraprofessional/Aide</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Classroom Teacher</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Speech Language Pathologist</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Teacher Consultant</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Social Worker</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>ECSE Coordinator</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Parent</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Ancillary Staff</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Years of Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 – 1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>1 – 3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>3 – 5</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>5 – 10</td>
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<td>48</td>
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<td>10+</td>
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<td></td>
</tr>
<tr>
<td>Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECSE</td>
<td>23</td>
<td>45</td>
</tr>
<tr>
<td>Headstart</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>GSRP</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>18</td>
</tr>
</tbody>
</table>

Materials

A PowerPoint presentation was used to share information on evidence-based toilet training strategies. For data collection, a pre and posttest questionnaire (Appendix A; Appendix
B), social acceptability survey (Appendix C), and treatment integrity checklist (Appendix D) were used. Both the pre and posttest questionnaires contained open-ended questions to assess participant knowledge of effective toileting strategies. The pretest questionnaire also included multiple choice, Likert-scale, and open-ended questions to gather information about participant demographics. In addition to the PowerPoint presentation, participants engaged in a role play opportunity to practice conducting a preference assessment, using an array of classroom materials provided at the beginning of training (e.g., a motivational poster, granola bars, a stress ball, erasers, highlighters, a pop tube toy, and a succulent shaped tea candle). Participants were provided access to all training materials via a shared Google Drive folder. The statistical package Minitab and Microsoft Excel were used for data analysis and data visualization purposes.

**Procedures**

The effects of a toilet training workshop were evaluated using a pre-posttest group design (Jhangiani et al., 2019) to assess participant knowledge of evidence-based toileting strategies.

**Pretest**

Upon arrival, participants were provided with a paper packet which included both the pretest and the posttest. After brief introduction of the purpose of the seminar, participants were given 10 minutes and instructed to complete all parts of the pre-test. Workshop facilitators walked about the room continuously to monitor participants but did not provide answers to any content related questions. After completion of the pre-test, the assessment was collected, and training began.

**PowerPoint Training**

The PowerPoint presentation targeted evidence-based toileting strategies and real-life examples of their applications. A video model demonstration of Multiple Stimulus Without
Replacement (MSWO) preference assessment (Deleon & Iwata, 1996) was played and the seminar facilitators discussed the importance of identifying effective reinforcers through a preference assessment. Participants were then given an opportunity to practice conducting an MSWO preference assessment with others using the provided materials. The seminar facilitators were available to answer questions and provide feedback to participants during the role play opportunity. A brief discussion on the importance of targeting toileting skills in educational settings and the prerequisite skills that children should have before beginning toilet training (i.e., bladder control, physical readiness, and instructional readiness (Azrin & Foxx, 1974)) was also included. After a brief intermission, components of effective toilet training were reviewed. Five of the components were identified from the literature review conducted by Kroeger et al., (2009) (e.g., scheduled sits/elimination schedule, fluid loading, contingent reinforcement, positive practice, graduated guidance). A sixth component of communication training was included due to its relevance in school settings. For each component of toilet training, a brief definition and example was provided along with its strengths and limitations. To provide an example of evidence-based toileting strategies used in practice, the seminar facilitators discussed Cocchiola et al., (2012), including an overview of the introduction, a description component of each component in practice, a summary of the results, and the advantages and limitations of the study. It was planned to also highlight the research conducted by Cagliani et al., (2021) in a similar fashion, but this component of the training was eliminated due to time. Next, the relationship between data collection and decision making, with a brief overview of trend, variability, and error analysis was discussed. Participants were taught how to analyze data and make decisions based on data. Lastly, the PowerPoint presentation concluded with a discussion on troubleshooting and modifications, which included common scenarios where troubleshooting
may need to take place. Modifications that can be made to a toileting intervention, such as adjusting the sit schedule and manipulating motivation, were discussed.

**Posttest**

At the end of the PowerPoint presentation, participants were asked to complete the posttest, which was identical to the knowledge-based questions included on the pretest. Participants had access to the PowerPoint materials via Google Drive throughout the seminar, thus rote memorization of the materials was not required. Additionally, participants were not corrected if they took notes on the posttest during the training. Seminar instructors walked about the room continuously to monitor participants but did not provide answers to any content related questions. Posttest questionnaires were collected as the participants completed them. Participants were dismissed from the seminar after they finished the post-test questionnaire.

**Measures of Social Acceptability**

Social acceptability of the toilet training seminar was assessed at the end of the seminar during completion of the post-test. The Treatment Acceptability Rating Form-Revised (TARF-R) (Reimers et al., 1991) was used as a template for the social acceptability survey, which included 12 Likert-type questions (Appendix C). Question twelve on the survey was used as demographic information rather than a marker of social acceptability. The question aimed to assess the severity of student problem behavior and did not provide an accurate representation of the validity of the toilet training seminar.

**Treatment Integrity**

Treatment integrity data was collected via a checklist, which was developed by the first author (Appendix D). Data on treatment integrity was collected throughout the entire seminar by two of the researchers. Treatment integrity was calculated by dividing the number of correctly
implemented steps over the total number of steps and multiplied by 100. The treatment integrity score for the study was 96%.

**Interobserver Agreement (IOA)**

*Treatment Integrity*

A secondary observer collected data on treatment integrity throughout the toilet training workshop. The IOA score for treatment integrity was calculated by dividing the number of agreements over the total number of trials and multiplied by 100. The IOA score for treatment integrity was 100%.

*Pre/Posttest*

Thirty-three percent of the pre and posttests were scored by an independent scorer, who was naïve to the seminar (i.e., did not attend) and had no other involvement with the current project. An answer key for each question was developed based on the material included in the PowerPoint presentation, which were used to score the open-ended knowledge-based questions. The secondary scorer followed instructions detailing the process of scoring the data. The instructions included information such as which tests were to be scored, where to find relevant materials, and how to use the answer key to score data. The IOA score was scored on a question-by-question basis and calculated by dividing the number of agreements over the total number of trials and multiplied by 100. For the pretest, IOA was 87%. For the posttest, IOA was 96%. For the treatment integrity checklist, IOA was 100%.

**Results**

Figure 1 displays data for the pre and post-test scores. Participants’ scores were averaged for pre and posttests. A dependent paired t-test was conducted to compare classroom staff knowledge of effective toileting strategies before and after a toilet training seminar. There was a
significant difference in knowledge levels before ($M = 3.00, SD = 1.71$) and after ($M = 9.82, SD = 4.43$) the toileting workshop; $t(27) = 8.41, p < .001, \alpha = .05$.

**Figure 1**

*Average Score for Pre- and Post-Test Conditions*

![Graph showing average scores for pre-test and post-test conditions.]

Table 2 displays data for scores on the social acceptability survey. The scores for each item on the social acceptability survey were averaged and the range was calculated. The social acceptability scores of the study were rated highly ($M = 3.99$; range, 1 - 5). The item with the lowest score was question 6 (e.g., “How reasonable do you find the time requirements to be to implement these toileting strategies”) ($M = 2.29$; range, 1 - 4). The item with the highest score was question 3 (e.g., “How willing are you to use the toileting strategies as described?”) ($M = 4.70$).
THE EFFECT OF A TOILET TRAINING SEMINAR

Table 2

*TARF-R Item Descriptive Statistics*

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How clear is your understanding of effective toileting strategies after the seminar?</td>
<td>4.66</td>
<td>.61</td>
</tr>
<tr>
<td>2. How acceptable do you find the toileting strategies discussed today to be regarding your classroom?</td>
<td>4.52</td>
<td>.78</td>
</tr>
<tr>
<td>3. How willing are you to use the toileting strategies as described?</td>
<td>4.70</td>
<td>.60</td>
</tr>
<tr>
<td>4. To what extent do you think there are disadvantages in the toileting strategies discussed today? *</td>
<td>3.52</td>
<td>1.18</td>
</tr>
<tr>
<td>5. How likely are the toileting strategies to make permanent improvements in your student’s toileting skills?</td>
<td>4.52</td>
<td>.63</td>
</tr>
<tr>
<td>6. How reasonable do you find the time requirements to be to implement these toileting strategies? *</td>
<td>2.29</td>
<td>.76</td>
</tr>
<tr>
<td>7. How confident are you that the toileting strategies discussed today will be effective in increasing toileting success with your students?</td>
<td>4.48</td>
<td>.57</td>
</tr>
<tr>
<td>8. How disruptive will it be to implement the toileting strategies in your classroom? *</td>
<td>3.10</td>
<td>1.17</td>
</tr>
<tr>
<td>9. How much did you like the training today?</td>
<td>4.57</td>
<td>.63</td>
</tr>
<tr>
<td>10. How willing would others in your classroom be to use this strategy?</td>
<td>3.86</td>
<td>.93</td>
</tr>
<tr>
<td>11. How much discomfort do you think your students will experience because of these strategies? *</td>
<td>3.96</td>
<td>.79</td>
</tr>
<tr>
<td>12. How willing are you to change your classroom routine to use the discussed toileting strategies?</td>
<td>4.20</td>
<td>.91</td>
</tr>
</tbody>
</table>

*Note.* an * indicates that the item is reverse-coded.
Discussion

Continence is a critical skill for young learners; however, toilet training may present challenges for individuals with IDD. Extensive research on toileting has been conducted in clinical and in-home settings with limited research conducted in educational settings. Educational settings present unique challenges that are less common or absent in clinical, residential, and home settings. For example, educational settings often have higher student to teacher ratios, less flexible schedules, and must place focus in other areas like academic instruction (Cagliani et al., 2021). Because of these challenges, there is a clear need for research on toileting in educational settings. Previous research has evaluated the impact of teacher implemented toilet training in classroom settings with limited clinical oversight (Cocchiola et al., 2012) and another study used evidence-based toileting strategies to train elementary students (Cagliani et al., 2021). Both studies led to continence with all students; however, several limitations were noted. For example, neither study collected data on the social acceptability of the intervention; an important consideration when working in school settings. In addition, only one study (Cocchiola et al., 2012) removed clinical oversight and only one study included self-initiations as a treatment component (Cagliani et al., 2021). To address some of these limitations, the current study assessed the effect of a toileting seminar on classroom staff comprehension, knowledge, and social acceptability of effective toileting strategies.

In the current study, a pre posttest format was used to assess participant knowledge of evidence-based toileting strategies before and after the toileting seminar. Overall, the participants’ scores on the knowledge assessment increased from the pretest to the posttest, as measured by a dependent samples t-test which found a significant, positive statistical difference. While increasing knowledge on effective toilet training strategies is a necessary first step, this
study did not assess the impact of the training on the implementation of toileting interventions in the classroom. Data on accurate implementation in the classroom is needed to understand the extent to which teacher knowledge of the toileting strategies generalizes to a different setting and to different behaviors. The current study also did not assess maintenance of the participants’ knowledge of effective toileting strategies post seminar. Increased knowledge of toileting strategies may not lead to a change in behavior, and without data on maintenance or generalization the impact of the training in the classroom are unknown. In addition, without data on maintenance, the long-term effects of the toileting workshop on teacher comprehension and knowledge are unknown. It should be noted that another limitation of the current study is that the knowledge assessment used to evaluate participant comprehension and understanding was created by the seminar instructors without validation from outside experts. Further use of the knowledge assessment should include validation of the knowledge assessment through statistical evaluation to ensure that the assessment is reliable and valid. While the current study addresses important gaps in the literature, it is preliminary. Future practitioners may consider using the seminar model and collect data on teachers’ implementation of the strategies in their classroom to evaluate the utility of the seminar.

The secondary purpose of the study was to evaluate the effect of a toilet training seminar on classroom staff’s acceptance of effective toileting strategies and the toileting seminar. Understanding the acceptability of effective toileting strategies is important to understand the extent to which toileting strategies may generalize or maintain (Horner et al., 2005). In addition, a variety of factors may influence teachers’ willingness to implement evidence-based practices in their classroom. To fully understand the extent to which an intervention is effective, it is crucial to consider the intervention’s perceived usability and social acceptability (Witt, 1986). In the
current study, participants rated the toileting strategies and the training seminar positively, indicating that participants are willing to use the strategies in their own classrooms. Participants indicated that the seminar was helpful, they felt the toileting strategies will improve their students’ abilities, and that the discussed toileting strategies were practical and feasible. To evaluate social acceptability, researchers used a modified version of the TARF-R (1991). Four questions on the TARF-R form were reverse coded (i.e., questions 4, 6, 8, and 12) and may have influenced participant responding. For example, question 6 on the TARF-R was reverse coded and had the lowest average score ($M = 2.29$). The question stated, “How reasonable do you find the time requirements to be to implement these strategies?” Future practitioners and researchers may consider revising reverse coded questions on the TARF-R to ensure that participants respond to questions accurately and representatively. In addition, future practitioners should continue to evaluate the social acceptability of evidence-based toileting interventions, especially when they are conducted in school-based settings, where resources, such as time, are limited.

Another limitation of the study was time constraints. To enhance participant knowledge and understanding, two real-world examples, video models, and rehearsal opportunities in the seminar were originally programmed for the seminar. However, time constraints limited the scope of the training and led to the elimination of an additional real-world example (i.e., Cagliani et al., 2021). Due to the nature of the professional development seminar, the length of the training was predetermined, and the instructors did not have the authority to adjust it. Future directions for trainings should be vigilant of meeting time requirements while still addressing the learning objectives. Moreover, future researchers may consider using a Behavioral Skills Training (BST) method of instruction, including modeling and practice opportunities with feedback, to further enhance participant understanding of evidence-based practices.
As a result of the toileting workshop, classroom staff’s knowledge of effective toileting strategies increased. In addition, classroom staff rated the toileting seminar and toileting strategies positively. Using a toileting seminar is one effective method to increase classroom staff’s knowledge and comprehension of effective toileting strategies. A toileting seminar is a socially acceptable method to train classroom staff. However, additional applications are needed to assess the generalization of effective toilet training strategies to classroom contexts and the maintenance of knowledge over time.
References


Appendix A

Pretest Knowledge Assessment

Effective Toilet Training Survey

Demographics

1. What is your role?
   1. Paraprofessional/Aide
   2. Classroom teacher
   3. Other ________

2. How many years experience do you have working in schools?
   a. 0-1
   b. 1-3
   c. 3-5
   d. 5-10
   e. 10+

3. What specific program do you work in?
   a. ECSE
   b. Headstart
   c. GSRP
   d. Other____

Briefly describe the current toileting strategies used with your students.
1. What is your level of experience with implementing applied behavior analytic (ABA) strategies?

<table>
<thead>
<tr>
<th>______</th>
<th>______</th>
<th>______</th>
<th>______</th>
<th>______</th>
</tr>
</thead>
<tbody>
<tr>
<td>No experience</td>
<td>Neutral</td>
<td>Very experienced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. What is your level of comfort with implementing toilet training in your classroom?

<table>
<thead>
<tr>
<th>______</th>
<th>______</th>
<th>______</th>
<th>______</th>
<th>______</th>
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<tbody>
<tr>
<td>Not comfortable</td>
<td>Neutral</td>
<td>Very comfortable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. To what extent do you feel that your current toileting strategies are successful?

<table>
<thead>
<tr>
<th>______</th>
<th>______</th>
<th>______</th>
<th>______</th>
<th>______</th>
</tr>
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<tbody>
<tr>
<td>Not successful</td>
<td>Neutral</td>
<td>Very successful</td>
<td></td>
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<tr>
<td>at all</td>
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</tbody>
</table>
Knowledge Based Questions—Short Answer

1. Describe how you would identify rewards/reinforcers to use with students during toilet training?

2. Why is it important to identify rewards/reinforcers before toilet training?

3. List the components of effective toilet training.
4. Describe how you would implement effective toilet training with a student in your classroom.

5. List the necessary prerequisite skills your student would need prior to implementing toilet training.
Appendix B

Posttest Knowledge Assessment

Effective Toilet Training Survey

Knowledge Based Questions—Short Answer

1. Describe how you would identify rewards/reinforcers to use with students during toilet training?

2. Why is it important to identify rewards/reinforcers before toilet training?

3. List the components of effective toilet training.
4. Describe how you would implement effective toilet training with a student in your classroom.

5. List the necessary prerequisite skills your student would need prior to implementing toilet training.
Appendix C

Social Acceptability Survey

Treatment Acceptability Rating Form - Revised (TARF-R)

Please complete the items listed below. The items should be completed by placing a check mark on the line under the question that best indicates how you feel about the treatment recommendations.

1. How clear is your understanding of effective toileting strategies after the seminar?
   - Not at all clear
   - Neutral
   - Very clear

2. How acceptable do you find the toileting strategies discussed today to be regarding your classroom?
   - Not at all acceptable
   - Neutral
   - Very acceptable

3. How willing are you to use the toileting strategies as described?
   - Not at all willing
   - Neutral
   - Very willing

4. To what extent do you think there are disadvantages in the toileting strategies discussed today?
   - Little to no disadvantages
   - Neutral
   - Many disadvantages

5. How likely are the toileting strategies to make permanent improvements in your students toileting skills?
   - Unlikely
   - Neutral
   - Very likely

6. How reasonable do you find the time requirements to be to implement these toileting strategies?
   - Little time needed
   - Neutral
   - Much time needed
7. How confident are you that the toileting strategies discussed today will be effective in increasing toileting success with your students?

Not at all _______ Neutral _______ Very confident _______

8. How disruptive will it be to implement the toileting strategies in your classroom?

Not disruptive _______ Neutral _______ Very disruptive _______

9. How much did you like the training today?

Not at all _______ Neutral _______ Very much _______

10. How willing would others in your classroom be to use this strategy?

Not at all _______ Neutral _______ Very willing _______

11. How much discomfort do you think your students will experience because of these strategies?

None at all _______ Neutral _______ Very much _______

12. How severe are your student’s challenging behaviors surrounding toileting?

Not at all severe _______ Neutral _______ Very severe _______

13. How willing are you to change your classroom routine to use the discussed toileting strategies?

Not at all willing _______ Neutral _______ Very willing _______
### Appendix D

#### Treatment Integrity Checklist

**Treatment Integrity Checklist for Seminar Training**

<table>
<thead>
<tr>
<th>Steps</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Did the researcher hand out the pre-test to all participants?</td>
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<tr>
<td>Did the researcher allow ample time for all participants to complete the pre-test?</td>
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<tr>
<td>Did the researcher review the training objectives with participants?</td>
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<tr>
<td>Did the researcher discuss the importance of early intervention with participants?</td>
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<tr>
<td>Did the researcher review all three pre-requisite skills for toilet training with participants?</td>
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<td>Did the researcher review the importance of preference assessments with participants?</td>
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<td>Did the researcher review the steps to conducting a preference assessment with participants?</td>
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<td>Did the researcher play the video model for participants?</td>
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<tr>
<td>Did the researcher give all of the necessary materials to participants to successfully complete the preference assessment role play?</td>
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<td>Did the researcher allow ample time for all participants to complete the preference assessment role play opportunity?</td>
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<td>Did the researcher discuss all of the necessary materials for toilet training?</td>
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<td>Did the researcher discuss the components of scheduled sits with participants?</td>
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<td>Did the researcher discuss the components of fluid loading with participants?</td>
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<td>Did the researcher discuss the components of contingent reinforcement with participants?</td>
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<td>Did the researcher discuss the components of positive practice with participants?</td>
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<td>Did the researcher discuss the components of graduated guidance with participants?</td>
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<td>Did the researcher discuss the components of self-invitations with participants?</td>
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<tr>
<td>Did the researcher discuss the Cocchiola et al., (2012) article in entirety, including the introduction, methods, and results and discussion?</td>
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<tr>
<td>Did the researcher discuss the Cagliani et al., (2021) article in entirety, including the introduction, methods, and results and discussion?</td>
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<tr>
<td>Did the researcher discuss data collection and decision making procedures with participants?</td>
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<td>Did the researcher discuss modifications and troubleshooting with participants?</td>
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<tr>
<td>Did the researcher hand out the post-test to all participants?</td>
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<tr>
<td>Was the social validity survey handed out to all participants?</td>
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<tr>
<td>Was ample time allowed for all participants to complete the social validity survey?</td>
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