

Choice vs. Preference: The Effects of Choice and No Choice of Preferred and Non Preferred Spelling Tasks on the Academic Behavior of Students with Disabilities

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The effects of choice and no choice of preferred and non preferred instructional activities on the academic behavior of 3 students with disabilities were investigated. Participant preferences for spelling tasks were assessed and an ABCDEF design was used to examine choice and preference within 6 experimental conditions: a) choice of preferred tasks, b) choice of non preferred tasks, c) no choice of preferred tasks, d) no choice of non preferred tasks, e) no choice of preferred tasks (yoked-control), and f) no choice of non preferred tasks (yoked-control). Results indicate that all 3 participants had higher levels of task engagement when working with preferred tasks, regardless of a choice or no choice format. The findings from this investigation contribute to the growing body of research that focuses on developing interventions that are responsive to individual student preferences.

KEY WORDS: choice; preference; task engagement; spelling.

For students with disabilities who display behaviors incompatible with academic requirements in their classrooms, behavior management procedures focusing on the manipulation of consequences are frequently employed. Such interventions may be problematic at times as the consequence takes place *after* the occurrence of an undesirable or inappropriate behavior. As a result, some researchers have sought more proactive approaches that attempt to prevent the

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occurrence of problematic behaviors. Recent research and practice concerning the use of proactive educational strategies for these individuals have focused on altering or manipulating instructional variables that may be associated with challenging behavior. Functional relationships between the occurrence and nonoccurrence of problematic behavior and various curricular variables have been indicated (Dunlap et al., 1993; Dunlap & Kern, 1993), and modifications of relevant curricular variables have demonstrated substantial improvements in students' behavior (e.g., improved task performance, decreased problematic behaviors) (Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991; Dunlap et al., 1994; Foster-Johnson, Ferro, & Dunlap, 1994; Kern et al., 1994; Mithaug & Mar, 1980; Parsons, Reid, Reynolds, & Bumgarner, 1990).

The curricular variable of choice of task has become particularly salient. As practitioners are developing interventions and programming that are more reflective of an individual's preferences (Meyer & Evans, 1989), a growing body of literature has not only demonstrated the effectiveness of making choices (Dunlap et al., 1994; Dyer, 1987; Dyer, Dunlap, & Winterling, 1990) but has examined issues related to personal control and dignity (Bannerman, Sheldon, Sherman, & Harchik, 1990; Guess, Benson, & Siegel-Causey, 1985; Shevin & Klein, 1984). The effects of choice making have significant positive implications for educating students with disabilities in general education and special education classrooms, and for providing teachers with practical methods to enhance classroom performance. Teachers may be able to improve performance or increase productivity simply by allowing students to choose their activities. However, the benefits associated with choice have raised questions about the factors actually responsible for noted behavioral changes. As an individual presumably chooses a preferred outcome, is the act of choosing, or the consequences of obtaining the preferred outcome responsible for desired behavior change? Furthermore, does one's opportunity to make choices result in a greater benefit than when another individual provides preferred activities (Dunlap et al., 1994)? In addition to the noted benefits of choice, research suggests that providing preferred activities results in improved behavior as well (Foster-Johnson, Ferro, & Dunlap, 1994; Koegel, Dyer, & Bell, 1987).

The research findings regarding choice and preference of tasks are mixed. The results of other investigations have suggested that an interaction between the variables of choice and preference may influence responding (Bambara et al., 1994; Parsons et al., 1990). Previous studies examining choice and preference were limited in that responding for choice and no choice conditions were not examined separately for high and low preference tasks and preference had not been held constant for choice and no choice conditions. The purpose of this research was to examine the relationship between choice and no choice (assignment) of preferred and non preferred instructional tasks on the academic behavior of students with disabilities. This research extends the existing literature in

this area by demonstrating the effects of choice on task engagement with preferred and non preferred tasks, when preference is held constant across choice and no choice conditions. Much of the literature in this area has been limited to the work performance of students with disabilities. Little data in this area reflects the content of a classroom routine (Dunlap et al., 1994), thus this investigation manipulated the variables of choice and preference within the context of regularly scheduled independent seat work where students completed spelling assignments.

METHOD

Participants and Setting

Three boys attending a local public middle school of about 250 students served as participants in the study. These students were placed in one of two self-contained cross categorical classroom serving students labeled as emotionally impaired (EI), learning disabled (LD), and mentally impaired (MI) for the entire school day. Each participant was described by the teacher as easily distracted and frequently off task with academic work. These reports were verified through independent observation before the students were included in the investigation. All experimental sessions took place during regularly scheduled periods of independent seat work while the students worked on their spelling. Each of their Individualized Education Programs (IEP) designated on-task behavior and spelling performance as goals or instructional targets.

Eldon was 12 years and 10 months at the beginning of the study, and had been labeled as learning disabled. While working on academic tasks, Eldon was frequently distracted by events going on around him. Though compliant, his distraction often prevented him from completing his work. Keith, 12 years, 6 months, had also been labeled as learning disabled. He was also frequently distracted by others and his surroundings, and often did not complete his work. Keith would also often passively refuse to initiate or complete his work. The third participant, Jeremy, was 13 years, 4 months, developmentally delayed, and labeled as mentally impaired. Jeremy was frequently off task when completing independent seat work, easily distracted, and often required one-to-one attention from the teacher to engage him.

All sessions were conducted in the same special education classroom with 9 students, a certified teacher, and a paraprofessional present. During the preference assessment phase of the investigation, participants were evaluated individually at a corner table in the classroom. During experimental sessions, the participants sat at their respective seats. All experimental sessions took place during regularly scheduled periods for independent seat work.

Table I. Spelling Tasks Selected for Preference Assessment

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1. "5 times each": Write your spelling words 5 times each.
 2. "20 times each": Write your spelling words 20 times each.
 3. "Alphabetical order": Put all of your spelling words in alphabetical order 3 times.
 4. "Dictionary": Look up the page numbers in the dictionary for all of your spelling words.
 5. "Make a sentence": Make a sentence for each of your spelling words.
 6. "'Adding' letters": "Add" up the letters of your spelling words.
 7. "Magazines": Cut out pictures from magazines and write 3 sentences for each using your spelling words.
 8. "Stairs": (example: s, st, sta, stai, stair, stairs)
 9. "Tracing": Trace over the vowels in your spelling words with colored pens.
 10. "Pasta": Write your spelling words with pasta.
 11. "Painting": Paint your spelling words.
 12. "Decorate": Decorate your spelling words.
 13. "Sentences": Make one sentence for each letter of your spelling words.
 14. "5W1H": Answer who, what, when, where, why, and how about each of your spelling words.
 15. "Letter": Write a letter using all of your spelling words.
 16. "Spiral": Spiral each letter of your spelling words.
 17. "4-column": Fold your paper in 4 columns, write the word 2 times, write it the 3rd time without looking. If it's correct, you don't have to write it the 4th time.
 18. "Hole Punch": Punch out your spelling words using the paper punch.
 19. "Chart Clues": Write clues about each of your spelling words so others can guess it.
 20. "2-line rhyme": Write a 2 line rhyme for each of your spelling words.
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Tasks and Materials

The classroom teacher had a variety of spelling activities arranged for the students to complete spelling during independent seat work. Twenty of the most commonly used spelling tasks in the classroom were selected for preference assessment. These tasks are listed in Table I. Tasks were chosen because they were the most frequently used and most familiar to the participants. Each participant's spelling words changed on a weekly basis and were obtained from words incorrectly spelled in each of their journal entries. Any spelling words not mastered (i.e., correctly spelled on each week's spelling test) during one week were included as spelling words during the subsequent week or until mastered. Throughout the investigation, Eldon and Keith worked on 12 spelling words per week and Jeremy worked on 10 spelling words per week. All materials necessary to complete any spelling task were readily available in the classroom.

Preference Assessment

The participants' preference for the 20 familiar spelling tasks was assessed within the classroom, but the participants were isolated from their peers during these sessions to avoid potential influence by classmates. Participants were presented with two task options at a time and asked which task they would prefer to do. Task options were presented in pairs, and each task option was presented

with every other task option twice until all possible combinations of tasks were presented (a total of 380 pairings). To control for the tendency of any participant to choose a task option solely on the basis of its position, the placement of tasks (e.g., left or right) was equally distributed throughout all pairings.

During each preference assessment trial, participants were presented with two 5×7 note cards with the names of the spelling tasks and their directions printed on them (e.g., "Alphabetical Order: Put your spelling words in alphabetical order 3 times.") Participants were then asked "Which would you rather do?," and each of the two note cards were read to the participants. Students indicated their preference through verbal statements or by pointing to the desired card. The preference assessment was conducted over a 5 day period of approximately 40 min each session. After the preference assessment was completed, the number of times each task option was chosen was calculated. Task options were ranked from most frequently chosen to least frequently chosen. The 5 most and 5 least chosen task options were designated respectively as preferred and non preferred, and chosen for inclusion in the investigation.

Behavioral Definitions, Measurement, and Interobserver Agreement

Task engagement was defined as working on task options in accordance with instructions, looking at materials during assignments, looking at the teacher during verbal instruction, manipulating materials related to assignment completion, and asking the teacher questions directly related to the assignment. The investigation was conducted during regularly scheduled independent seat work periods of 30 min. Data were collected separately for each student via a 10-s partial interval recording system. Prior to initiating any data collection, the observers practiced observing and recording task engagement with students not involved in the study until interobserver agreement was at least 95% for three consecutive sessions.

A second independent observer collected interobserver agreement data on an average of 30% (range, 29% to 31%) of all experimental sessions. Interobserver agreement sessions were distributed across all experimental sessions. Interobserver agreement was calculated on the occurrence and nonoccurrence of task engagement on an interval-by-interval basis. The percentage of agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100%. Occurrence agreement for Eldon ranged from 97% to 100% ($M = 99\%$), and nonoccurrence agreement ranged from 66% to 100% ($M = 92\%$). For Keith, occurrence agreement ranged from 96% to 100% ($M = 99\%$) and for nonoccurrence agreement ranged from 89% to 100% ($M = 98\%$). Occurrence agreement for Jeremy ranged from 96% to 100% ($M = 99\%$) and for nonoccurrence agreement ranged from 81% to 100% ($M = 95\%$).

Procedure

Experimental sessions were conducted 4 days per week. These periods lasted for 30 min and students were expected to complete their assigned work during this time. After assigned work was completed, all students presented their work to the teacher or the paraprofessional who reviewed the work for accuracy and completion. Any incorrect or incomplete work was pointed out to the student, who then returned to his or her seat to correct or complete the work. Once corrected or completed, students submitted their work to the teacher. The classroom teacher's policy was that any work not completed during the 30 min allotted was later completed during the students' free period time. This policy was in effect during all experimental sessions. Data were collected only during the regularly scheduled 30 min periods, and stopped at the end of these periods or when the participants submitted their assignment.

Experimental Design and Conditions

This study evaluated the effects of the six experimental conditions (ABCDEF) on each participant's on-task behavior. The six of these conditions were as follows: a) choice of preferred tasks, b) choice of non preferred tasks, c) no choice of preferred tasks, d) no choice of non preferred tasks, e) no choice of preferred tasks (yoked-control), f) no choice of non preferred tasks (yoked-control).

Choice Conditions

In the two choice conditions, participants were provided with five note cards depicting either their preferred or non preferred task options. The teacher placed the five note cards on the participant's desk and stated "Here are your spelling choices for today." She read all 5 choices while pointing to their respective cards and then asked, "Which one would you like to choose for today?" After the participant made a selection, the teacher stated "Begin working." Data collection began at this point.

No Choice Conditions

In the two no choice conditions, a task option was chosen for each participant by randomly selecting either a preferred or non preferred task option. During these conditions, the teacher placed the note card on the participants desk, stated "I'd like you to work on this today for your spelling," and then read the assigned task to the participant. Data collection began after the teacher stated "Begin working."

No Choice (Yoked Control) Conditions

The procedure for this condition was similar to the no choice conditions except that participants were provided with the same tasks and in the same order they chose during the previous choice of preferred or choice of non preferred condition (Dunlap et al., 1994). In effect, their previous choices of preferred or choices of non preferred tasks were provided in a no choice format.

RESULTS**Preference Assessment**

Table II displays each participant's designated preferred and non preferred spelling task options. Also presented in parentheses is the percentage of times each of these task options was selected out of the 380 pairings. Preferred and non preferred spelling tasks varied for each participant. All 3 participants, however, chose "Stairs" and "Spiral" as preferred task options and "Chart Clues" and "Magazines" as non preferred task options.

Task Engagement*Eldon*

Figure 1 displays the percentage of 10 s intervals with task engagement for Eldon. The first condition, choice of non preferred tasks, resulted in Eldon's percentage of engagement ranging from 82% to 90% (mean, 86.3%), with a slightly

Table II. Participant Choices of Preferred and Non Preferred Spelling Task Options

Participant	Preferred (%)	Non Preferred (%)
Eldon	"Stairs" (10)	"Chart Clues" (2.4)
	"Painting" (8.7)	"Adding letters" (2.1)
	"Spiral" (8.4)	"20 times each" (2.1)
	"Pasta" (7.6)	"4-Column" (1.8)
	"5 times each" (7.6)	"Magazines" (.5)
Keith	"Stairs" (9.7)	"Sentences" (2.6)
	"Tracing" (8.9)	"5W1H" (2.1)
	"Hole Punch" (7.6)	"Chart Clues" (1.5)
	"5 times each" (7.6)	"Magazines" (1.3)
	"Spiral" (7.3)	"4-Column" (.2)
Jeremy	"Stairs" (9.4)	"Letter" (3.1)
	"4-Column" (8.6)	"Chart Clues" (2.3)
	"5 times each" (7.8)	"Magazines" (2.1)
	"Spiral" (7.6)	"Dictionary" (1.1)
	"Decorate" (7.1)	"5W1H" (0)

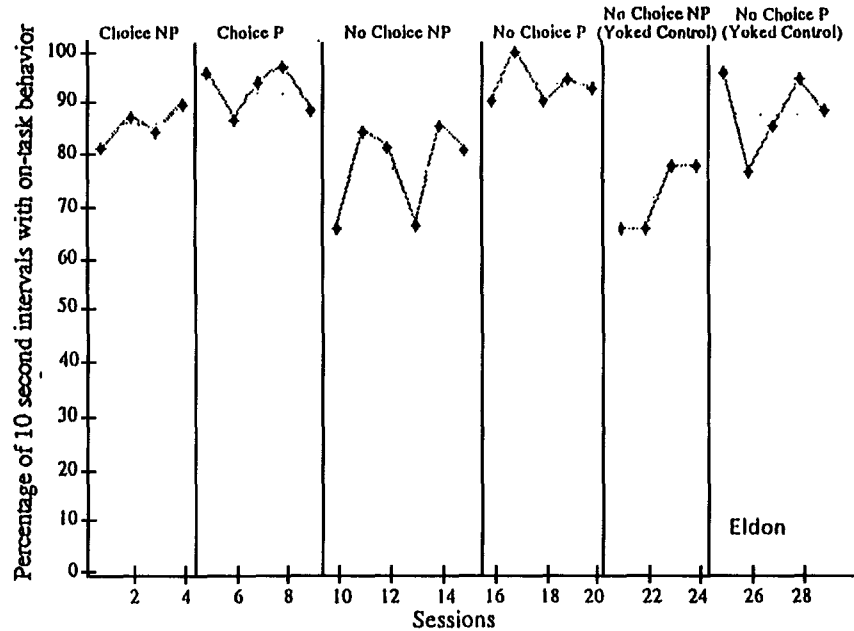


Fig. 1. Percentage of 10 s intervals with task engagement for Eldon.

accelerating trend. Initiation of the choice of preferred task condition resulted in slightly higher task engagement, ranging from 87% to 97% (mean, 92.6%). A noticeable drop in task engagement with variability resulted from the initiation of the no choice of non preferred tasks condition, with the percentage of 10 s intervals with task engagement in this condition ranging from 66% to 85% (mean, 77.8%). With the initiation of the no choice of preferred condition, another noticeable change occurred, with an increase in task engagement ranging from 91% to 100% (mean, 94%). The no choice of non preferred tasks (yoked control) condition resulted in another decrease in task engagement, ranging from 66% to 78% (mean, 72%). In the final condition, no choice of preferred (yoked control), a slightly increased and upward trend in task engagement is noted, with a range of 77% to 96% (mean, 88.6%).

Keith

Figure 2 displays the percentage of 10 s intervals with task engagement for Keith. The first condition, choice of preferred task options, initially had steady performance, but dropped substantially at the fourth session, only to climb to 100% of 10 s intervals with engagement by the last session. Percentage of task

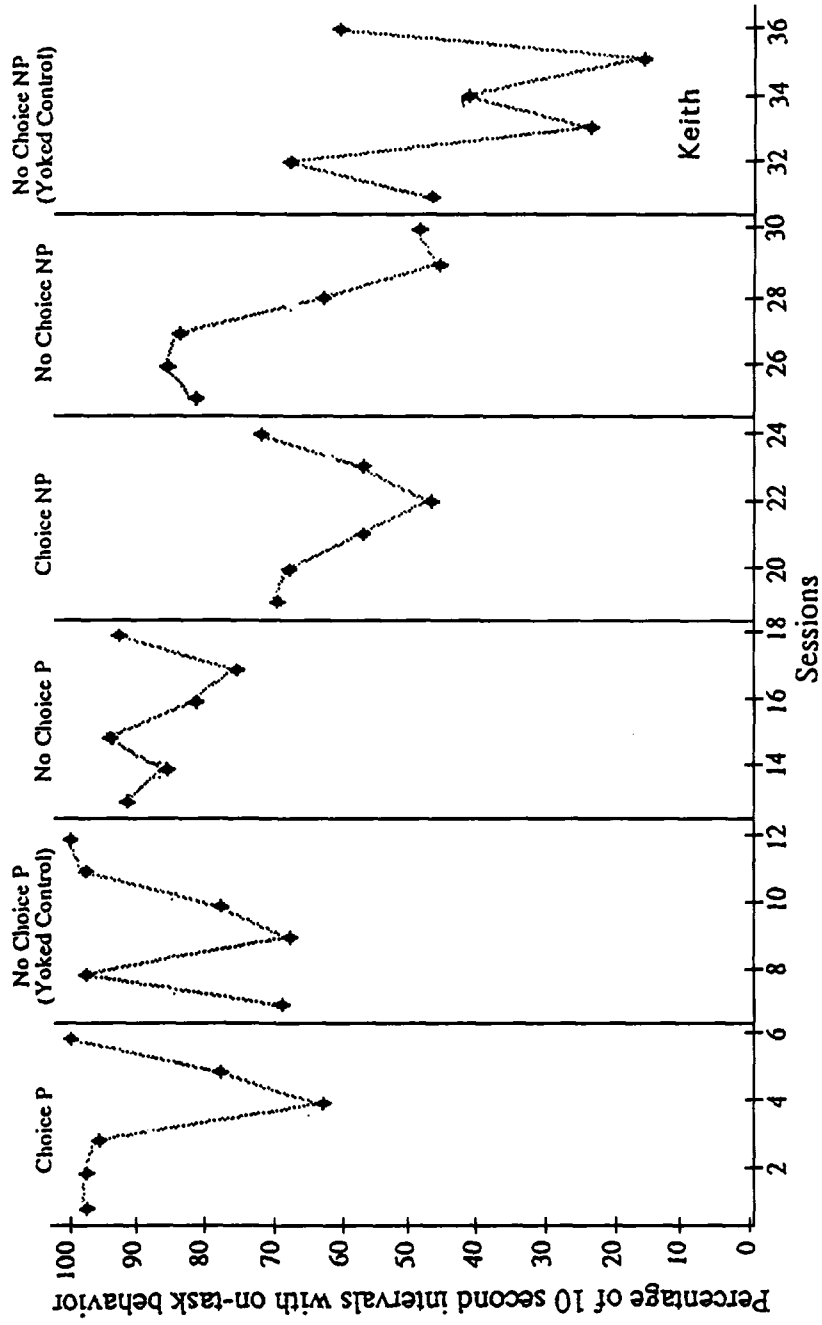


Fig. 2. Percentage of 10 s intervals with task engagement for Keith.

engagement in this condition ranged from 63% to 100% with a mean of 88.8%. Keith's second condition, no choice of preferred task options (yoked control) displays similar variability to the first condition, with task engagement ranging from 68% to 100% (mean, 85.2%). Responding in the third condition, no choice of preferred task options, ranged, from 76% to 94% (mean, 87.2%) with a slightly decreasing trend. A noticeable and substantial drop in performance is apparent in the choice of non preferred task options condition, where the percentage of 10 s intervals with task engagement ranged from 47% to 72% with a mean of 61.8%. The no choice of non preferred condition began with a slight increase in task engagement, but substantially decreased by the end of the condition, with a range of 46% to 86% (mean, 68.3%). The final condition, no choice of non preferred task options (yoked control) displays consistently low and variable levels of task engagement with a decreasing trend in performance. In this condition, the percentage of 10s intervals with task engagement ranged from 16% to 68% with a mean of 43%.

Jeremy

Figure 3 displays the percentage of 10 s intervals with task engagement for Jeremy. The first condition, no choice of preferred task options, resulted in a consistent level of peak engagement, ranging from 87% to 100% (mean, 94%). A substantial drop in performance is noted with the initiation of the second condition, no choice of non preferred task options. Task engagement ranged from 67% to 81% of 10 s intervals (mean, 75%). An upward trend in performance is noted in the third condition, choice of preferred task options, with the percentage of task engagement during 10 s intervals ranging from 65% to 98% (mean, 84.1%). Lower and variable levels of task engagement are noted in the choice of non preferred task options condition, with performance ranging from 46% to 79% of 10 s intervals (mean, 70%). Lower levels of task engagement are also noted in the no choice of non preferred (yoked control) conditions. The data reflect an increasing trend in performance, ranging from 49% to 82% of 10 s intervals (mean, 64.7%). Performance during the final condition shows an increase from the previous condition, though with a slightly decreasing trend. Task engagement in this condition ranged from 83% to 100% of 10 s intervals, with a mean of 92%.

DISCUSSION

The results of this investigation indicate that the variable of preference was a greater factor than choice in improved task engagement. Eldon's, Keith's, and Jeremy's task engagement was highest during all three conditions involving preferred tasks, whether presented in a choice or no choice format. Furthermore, offering a choice of preferred activities offered no substantial benefits over assigning

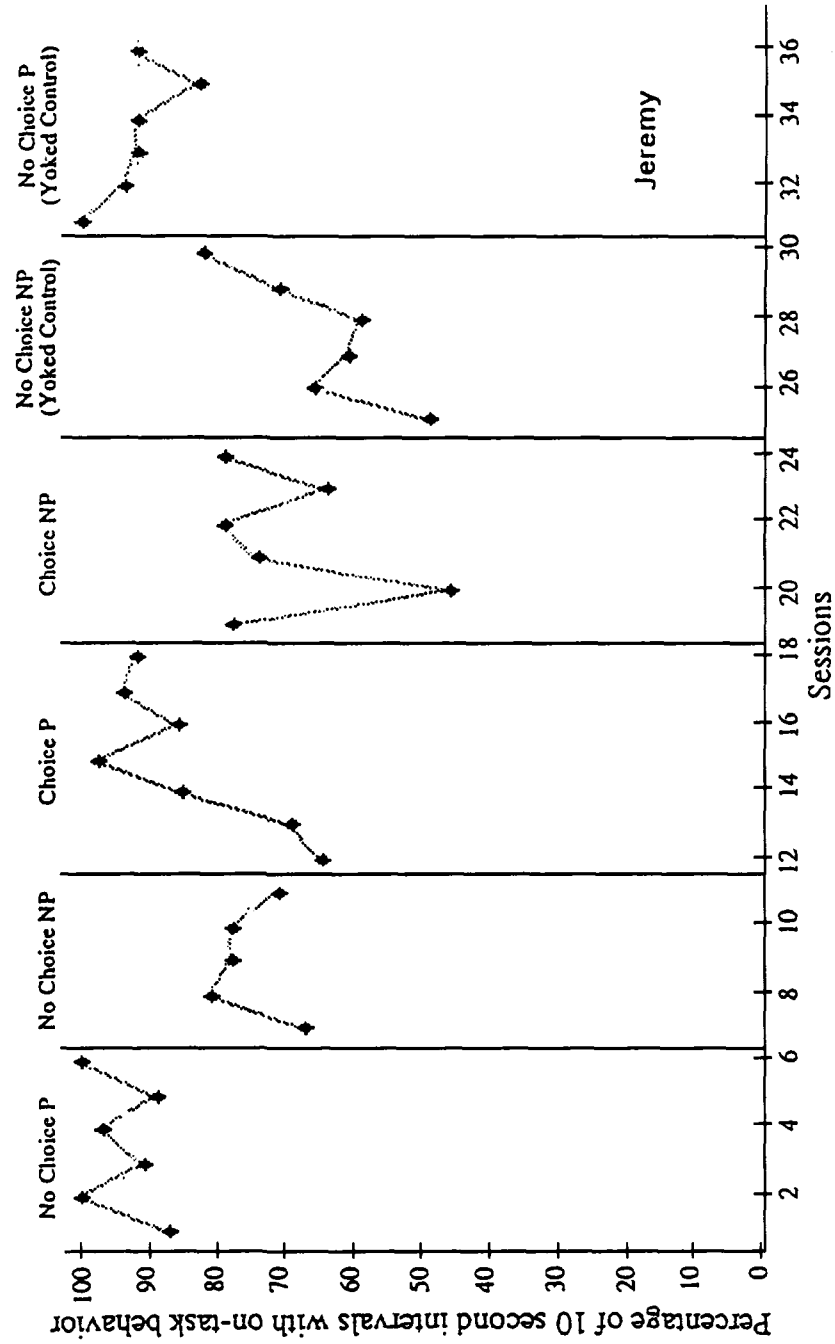


Fig. 3. Percentage of 10 s intervals with task engagement for Jeremy.

participants preferred activities, even when these tasks were previously chosen by the participants (yoked-control condition). The results of this investigation, however, should be interpreted with caution. The effects observed were not replicated within subjects, thus the effects of the independent variable cannot be conclusively demonstrated and sequence effects may have influenced the results observed for the participants. The data, however, are preliminary to further needed research in this area to specify the conditions under which choice and preference influence task performance.

Previous research has demonstrated that providing participants with a choice of tasks increased task engagement with academic tasks (Dunlap et al., 1994) and vocational tasks (Parsons et al., 1990). For the participants in this investigation, especially Eldon and Keith, differences in responding between the choice of non preferred and no choice of non preferred (yoked-control) conditions are observed. In fact, for all participants, the lowest occurrence of task engagement is noted in the no choice of non preferred tasks (yoked-control) condition. This difference suggests that choice making continues to be a relevant factor in successful academic performance as the participants completed the same tasks in these two conditions, but in the no choice of non preferred (yoked-control) condition, task engagement was much lower. In contrast to these investigations, however, Cole, Davenport, Bambara, & Ager (1997) indicate that choice making failed to produce any substantial improvements in work performance for the students in their investigation. Bambara, Ager, & Koger (1994) indicate that task preference may be an important determinant in the effectiveness of choice making. Task preference has also been shown to be an important variable in improving behavior (Cooper et al., 1992) and task engagement (Parsons et al., 1990). In sum, the existing research on task preference and choice making is mixed, thus limiting the external validity of these findings and the implication of integrating choice and preference into educational and vocational programming.

The findings from this investigation are significant for several reasons. First, though the results of existing research are varied, the results of this investigation provide further evidence to support preference as a variable to improve task engagement. Second, this investigation is one of only a few studies to systematically examine the relationship between choice, no choice, preference and non preference on academic behavior. Third, two of the participants in this investigation were labeled with learning disabilities. Current research has focused on students with severe disabilities, developmental disabilities, and emotional/behavioral disorders. Varied effects of choice and preference may be seen in students with different disabilities, thus the need to continue investigations in this area with a variety of populations and ability levels. Fourth, this research was conducted within the context of the participants' natural educational environment during an ongoing classroom routine. This factor is significant in demonstrating to classroom teachers the ease and practicality of individualizing preferences for students. Fifth, this

investigation was implemented by the regular teacher and followed procedures naturally expected for all students in that classroom. Finally, this investigation used activities and tasks that the participants were expected to complete. No activities were contrived for the purposes of this investigation as all spelling tasks were ones that all students in the classroom completed. This research is consistent with the movement in special education to design and individualize curricular interventions. Though existing research indicates that providing choices may result in favorable performance outcomes for students with disabilities, providing an individual with the opportunity to choose does not necessarily reflect an individualized intervention. Individualized intervention is reflected in activities that meet the needs, interests, preferences, and abilities of students. By providing preferred activities to students, this emphasis in the field is addressed.

One explanation for the results obtained may likely be that it was simply more reinforcing for the participants to work on preferred activities. The effectiveness of these tasks as reinforcing ones may, however, be due to several factors (e.g., the inherent nature of completing the task, the relative ease or difficulty of completing the task, the amount of time necessary to complete the task, etc.). Undoubtedly, however, the factors that make these tasks reinforcing do so because the participants *preferred* these factors. Choice as a significant factor in improved task performance may simply be indicating that choice making provides an individual with access to more preferred stimuli. This factor may explain why lower task engagement was observed within choice of non preferred conditions. What benefit does choice making provide an individual when all of the tasks provided are non preferred?

All participants were able to identify and report specific preferences for the 20 spelling tasks presented to them. Though no post intervention measures of preference were conducted due to time constraints, verbal statements during intervention appear to validate the participants choices of preferred and non preferred tasks. For example, when presented with items identified as preferred and asked to make a choice, participants would make statements such as "I like all of these," or when presented with a non preferred task would state for example, "Why do you keep giving me things that I don't like to do?" The identification of preferences in this study are consistent with research that demonstrates that students with disabilities can accurately indicate their preferences (Green et al., 1988; Parsons & Reid, 1990). These results also have implications for using preference assessment in the classroom. Preference assessment may be too time consuming for practical use, and teacher selections of preference may not be as accurate as a systematic preference assessment (Dyer, 1987; Green et al., 1988; Parsons et al., 1990). Yet even informal measures (e.g., short individual surveys, class wide voting) may provide teachers with valuable preference data that can be used to individualize instruction and maximize student performance. As previously stated, students' preferences were not assessed after the investigation was completed. Undoubtedly, preferences for tasks are relative to the options available. It is also not unreasonable

to assume that participant preferences could have changed during the course of the investigation. These very factors emphasize the need for ongoing preference assessment with a variety of options. Though ongoing assessment may be too time consuming and laborious, educators may just be able to continually offer choices of known (anecdotally) preferred tasks. Choice making itself may just be a method of indicating preference (Dunlap et al., 1994).

One variable not examined in this investigation was task performance (e.g., task completion and accuracy). One could assume that increased task engagement (e.g., working harder and longer) would result in improved performance. Future research is needed to determine the role of choice and preference in accuracy and task completion. Future investigations should also focus on a replication of these findings under different conditions and with students with different disabilities. The possibility of changing preferences should also be examined. Other contributing variables and the possible interrelationship between choice and preference should also be explored. The results of this investigation, in conjunction with existing research, provide evidence to suggest that choice and preference are variables that have implications for educating students with disabilities. Future research should examine the conditions under which choice and preference enhance the academic behavior of students with disabilities. More specifically, future investigations should investigate the specific student characteristics that are responsive to choice and preference.

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