VOCATIONAL TRAINING IN A SHELTERED WORKSHOP: AN ANALYSIS OF TWO TRAINING SESSION SCHEDULES,

BY:

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VOCATIONAL TRAINING IN A SHELTERED WORKSHOP: AN ANALYSIS OF TWO TRAINING SESSION SCHEDULES

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ABSTRACT

A multi-element baseline design, replicated across three dyads of severely retarded subjects, was used to compare two methods of scheduling training sessions in a sheltered workshop. The training tasks were two, eight-step assembly tasks. Extended training sessions, which were approximately thirty minutes in duration, were compared with intermittent training sessions which were approximately ten minutes in duration. It was concluded that the intermittent training sessions were as effective as the extended sessions in teaching the training tasks. Further, the conduct of intermittent sessions was prefered because they permitted the trainer to concurrently manage the production contingencies for eleven workshop workers. One dyad of trainees failed to learn either training task despite approximately twenty hours of training. These subjects' performance on a discrimination learning test (the AVC) revealed that they did not possess the learning-to-learn skills mastered by those subjects who learned both training tasks. It was suggested that this test could be used in developing trainee selection procedures in sheltered workshops.

INTRODUCTION

In a review of behavior modification research in sheltered workshops for the mentally retarded, Martin & Pallotta-Cornick (1979) called for the development of a vocational skill training package that would provide workshop staff with effective guidelines for teaching clients to perform new work skills. The design of this training package will be determined, to a large extent, by the results of research that compares various components of training procedures such as the different chaining formats and reinforcement strategies used during skill training (eg. see Koop, Martin, Yu, and Suthons, 1980; Martin, Koop, Hanel, and Turner, In Press; Yu, Martin, Suthons, Koop, and Pallotta-Cornick, 1980). As more information is gained concerning the effectiveness and durability of the outcomes of specific component procedures, there is an increased need to begin to examine how a skill training package can be designed to be practical and easily adaptable by typical workshop staff. This is a vital element of the learning-based and outcome-oriented research strategy (eg. see Azrin, 1977) that promises to engender effective training packages.

The purpose of this study was to compare two strategies for directing the activities of workshop staff to the conduct of systematic and daily vocational skill training sessions. A secondary purpose was to modify traditional prompting, fading, and reinforcement procedures commonly used during training, to suit the human and physical resources typically found in sheltered workshop settings.

Observations during a pilot study, conducted in a sheltered workshop at the Manitoba School for the Retarded, revealed that very little of the staff's time was spent training clients to perform the work undertaken by the workshop. The conditions responsible for the absence of training at this, and possibly other workshops, included the presence of a special set of contractual contingencies impinging upon the daily behavior of workshop staff. Many sheltered

workshops obtain work contracts from other business on the basis of their ability to complete the work within a specified period of time and with an acceptable number of production errors (usually less than 5%). The extent to which these requirements are met determine the business viability and survival of the workshop. Therefore it is not surprising that more importance is credited to production supervision activities than to the conduct of training sessions. In order to meet production deadlines, there is a maximal demand for staff to engage in production supervision activities such as providing supplies, collecting completed work, prompting for increased production and managing the production contingencies for individual clients (eg. see Martin, Pallotta-Cornick, Johnstone, and Goyos, 1980). Production demands also result in workshop staff encouraging even those clients who can correctly perform only some steps of the work to engage in full production of that work. When staff are not directly supervising the clients' production, they are engaged in extensive visual and/or manual inspection of completed work in order to maintain an acceptable level of quality; to the extent that production errors are found, additional staff time is spent rectifying these errors. Therefore, in a workshop with a client/staff ratio of approximately 12 to 1, there is, by virtue of a set of contractual contingencies, a limited amount of time available for workshop staff to conduct daily skill training sessions.

Considering that the workshop included clients who were not completely trained to perform the contracted work, there were essentially two ways in which the workshop staffs' time could be directed to the conduct of training sessions. First, it was possible for staff to do some training while at the same time providing some production supervision (eg. an intermittent schedule of training sessions). Specifically, in a workshop with a client/staff ratio of approximately 12:1, it was considered desirable for one staff

(or trainer) to conduct daily training sessions for at least one client (trainee), while concurrently supervising the production of eleven other clients. In order for the trainer to engage in the production supervision activities, the duration of the training sessions that he/she conducted had to be brief (approximately 10 minutes), and seperated by intervals of approximately 15 minutes, during which time production supervision could occur.

An alternative, and more traditional, training session schedule consisted of assigning a trainer to conduct several training sessions per day, each of which would be approximately 30 minutes in duration and seperated by intervals of at least 15 minutes (eg. see Bellamy, Horner, and Inman, 1979). A possible advantage of this extended schedule of training sessions was that the trainee could engage in more massed practice of the training task than that afforded by the intermittent schedule. However, an inherent disadvantage of the extended schedule was that a greater amount of the trainer's time would be consumed in conducting sessions, and that during these times he/she would be unable to supervise the production of clients not receiving training. The conduct of training sessions on an extended schedule would therefore be done at the expense of increasing the production supervision workload of other workshop staff. Although an intermittent schedule of training sessions may be more practical in terms of permitting the trainer to maintain a desirable level of production supervision, the extended schedule may afford a faster rate of learning the training task. That is, the gains in training, in relation to the time spent conducting sessions, may be greater with the extended schedule of training sessions which permits more massed practice of the training task during each session.

In the process of developing the training session schedule alternatives, consideration was given to the nature of the work that trainees would be engaged

in during intersession intervals. Some researchers (eg. Bellamy et al., 1979) have implied that during these intervals the trainee must not be permitted to engage in the training task because of the possibility and consequence of emitting errors during this time. Specifically, if a trainee emits an error in completing the training task during an intersession interval, the opportunity to proceed through the chain of task responses may function as a conditioned reinforcer for the error response. In order to compliment the massed practice feature of the extended schedule, it was determined that during these intersession intervals, the trainee should engage in performing a task other than that being trained. Conversely, in order to be consistent with the potential time saving properties of the intermittent schedule and in an attempt to augment the number of opportunities to practice the training task it affords, it was determined that the trainee should be permitted to engage in the performance of the training task during the frequent intersession intervals.

Given the problem of implementing a training program at the Manitoba School workshops, the objective determination of the most effective and practical training session schedule was selected as the target for analysis. This study was primarily directed at comparing the rate of learning during intermittent training sessions to that observed during extended training sessions. Another aspect of this investigation was to determine if the intersession interval activity associated with the intermittent schedule would result in trainees emitting a greater number of error responses during intermittent training sessions than during extended training sessions.

An unexpected result occured during this study when two trainees failed to learn the training tasks. This result was subsequently accounted for by the identification of unique subject variables along the dimension of these trainees' discrimination repetoires. The assessment instrument employed for

this purpose was the AVC Scale (see Appendix A), developed by Kerr (1979). It has been found that an individual's performance on this test is predictive of his/her classroom learning behavior (Kerr et al., 1979). This study provides some preliminary evidence of the applicability of the AVC Scale in predicting trainee performance during vocational skill training sessions.

Method

Subjects, Setting, and Training Tasks

This study was conducted while providing vocational training to six severely retarded persons in a workshop at the Manitoba School, a provincial institution in Portage la Prairie, Manitoba (see Table 1). The first two dyads of trainees (A_1, B_1, and A_2, B_2) were selected from approximately 35 clients in the workshop. These clients were selected solely on the basis of their inability to perform the two training tasks. When A_2 and B_2 failed to learn the training tasks, it was apparent that a superior procedure was required to select additional trainees who possessed adequate, and requisite, learning skills. The third dyad of trainees were therefor subsequently selected with the additional criteria that they demonstrated combined auditory and visual discrimination skills during an administration of the AVC Scale. This third dyad of trainees consisted of two male clients, one of whom had recently begun attending the workshop (A_3) and a new client (B_3) who had never attended the workshop, but who had engaged in a pre-vocational program in a cottage setting. When training was completed with A_3 and B_3, the AVC Scale was then administered to the first two dyads of trainees (ie. A, and B, and A_2 and B_2).

Each trainee was exposed to a total task baseline procedure to document their inability to correctly complete the two training tasks. For each task, the trainee was seated at a table containing the training task parts. The trainer then provided the trainee with an example of a completed task and a request to assemble the parts in an identical manner.

Table 1

Description of Subjects*

Subject	Sex	Age	Stanford Binet I.Q.	Level of Retardation	Years of Institutionalization	Workshop Experience
A_1	F	32	38	Severe	25	3 years
B_1	M	47	30	Severe	34	3 years
A_2	M	23	30	Severe	3	2 years
B_2	M	50	20	Severe	34	3 years
A_3	M	21	36	Severe	11	Nil
B_3	M	48	30	Severe	8	2 months

* Based on Institutional records.

All training sessions occurred in an area of the workshop which consisted of two large tables with working stations for 12 clients (including the two trainees receiving training). The workshop was managed and engineered according to the Production Supervisory Strategy (PSS) (Martin et al., 1980). The PSS included the following components: a) environmental engineering to reduce distracting stimuli; b) situational inducement procedures to evoke production behaviors; c) and reinforcement systems to increase production and on task behaviors

The training for the first dyads of trainees was provided by an undergraduate student of behavior analysis and the author. The third dyad received training conducted by the author and a workshop staff member who had over 30 years experience at the institution but had no experience in conducting systematic training sessions. This staff person was provided with approximately 3 hours of instruction and role playing in the training procedures prior to his participation in the study.

The two training tasks employed throughout the study were selected from those tasks contracted by the workshop and the final selection was determined by the availability of task parts. Each training task consisted of eight assembly steps (see Appendix B). The Waterpack task consisted of the assembly of a cap with a spigot and the placement of an instruction label on a specified area of the cap. The Coffee Pack task consisted of the insertion of a napkin, a pack of sugar, a pack of coffee whitener, and a stir stick in a small plastic bag.

Preliminary Procedures

Before this study could take place, it was necessary to devise a standardized training format which would compliment the staff's knowledge of and experience in vocational training procedures. Vocational training packages (eg., Bellamy et al., 1979) presume the availability of a trainer who possesses a relatively sophisticated knowledge of prompting, fading, and reinforcement techniques. It is incumbent upon the trainer to determine the

kind and amount of assistance that is required for the client to emit a correct response, and to systematically fade the prompts while using a differential reinforcement system. From a practical point of view, the problem with these systems is that they require the trainer to maintain a continuous record of training data. These data include the kind of assistance provided, the correctness of the response emitted, and the number of contingent reinforcements. An additional problem is that these systems are removed from the considerable training ability of staff who have had extensive practical experience in the workshop.

Observations during a pilot study established that experienced staff used a continuous schedule of social approval provided contingently upon any correct response (independent of the reinforcement history of that response and the amount of assistance provided by the trainer). It was also observed that correct responses emitted with progressively less trainer assistance received a greater magnitude of social approval than those emitted with more assistance. This study therefore employed a standardized training format which did not require continuous data recording and which specified differential magnitudes of social approval for correct responses emitted with graduated (minimal to maximal) assitance provided by the trainer. The magnitudes of social approval were differentiated by the number of vocal responses contained in the trainer's verbal approval and by the presence and absence of physical contact with the trainer.

Another feature of behavioral training procedures is that they utilize special physical resources which minimize trainee distraction and maximize the trainer's control of attending behaviors (eg., a room separated from the workshop production setting). Since these resources were not available for this study, the trainees' assembly and on-task behavior were placed under the

functional control of the Production Supervisory Strategy (PSS) (see Martin et al., 1980), which was employed throughout the workshop. This strategy permitted the conduct of training sessions in the natural workshop setting.

Dependent Variables

The trainees' performance on each of the two training tasks was evaluated in terms of the percentage of trials per session that were correctly completed with no assistance from the trainer (eg., the proportion of perfect trials per session). A score of 100% represented all trials during a session being completed with no errors or trainer assistance. Conversely, a score of 0% indicated that trainer assistance was required to complete at least one step of each trial. The number of errors emitted by trainees during both extended and intermittent training sessions was determined by the recorded level of trainer assistance provided to correctly complete each training step contacted during the session (see next section).

A second dependent variable recorded during this study was the cumulative amount of time each trainer spent engaged in conducting each trainee's intermittent and extended training sessions. This time began when the trainer sat beside the trainee at the beginning of a session and terminated when the trainer left his seat at the end of the session.

Interobserver Reliabilities

Interobserver reliabilities (IORs) were conducted for the two dependent variables by independent observers present during over 20% of the training sessions. The percentage agreement for the occurrence and non-occurrence of correctly completed trials per session was calculated by dividing the number of agreements by the number of agreements plus disagreements, and multiplying by 100. The mean interobserver agreements for the number of perfectly completed trials throughout the three conditions of this study ranged from 96% to 100%, for an overall average of 99%.

Agreement on the total amount of training time per session was determined by dividing the smaller by the larger and multiplying by 100. The mean percentage agreement for the amount of trainer time consumed in conducting sessions was 100%.

During each IOR session conducted during training sessions, the observer recorded the appropriateness of the prompts and approval presented by the trainer for each step of each trial. That is, for each step contacted during a trial, the observers provided an independent assessment of the extent to which the trainer provided prompts and approval in a manner consistent with the prescribed training procedure (see next section). Agreement for occurrences and nonoccurrences of correctly presented prompts and approval was determined by dividing the number of agreements by the total number of agreements plus disagreements and multiplying by 100. The mean agreement score for both correctly presented prompts and approval per trial was 100%.

Experimental Design and Procedure

Each trainee's performance during intermittent and extended training sessions was compared in a multi-element design (Kazdin and Hartmann, 1978; Murphy, Doughty, and Nunes, 1979). This design permitted each trainee to learn one task during intermittent sessions and the other task during extended sessions. Each trainee was assigned a trainer who conducted all training sessions for that trainee. In addition, the assignment of training task to the two kinds of sessions was counterbalanced across the two subjects in each dyad. This latter procedure was designed to control for possible differences in the training tasks' inherent level of difficulty, especially when the training performance afforded separately by intermittent and extended sessions was summarized across all six trainees.

Each dyad of trainees was sequentially exposed to three conditions for each task. Criterion performance during training was followed by a generalization condition designed to transfer stimulus control of the newly acquired task to the general workshop area. This latter condition was followed by a two half-day follow-up of the trainees' performance on the training task in the general workshop area and in the absence of the trainer.

Condition A: Training. The training procedure employed during both intermittent and extended sessions is depicted in Figure 1. There were four levels of trainer assistance (or prompts) which could be presented in order to evoke a correct response for a particular step. A differential magnitude of social approval was assigned to each prompt level, and all social approval was provided contingent upon a correct response following the presentation of a prompt. The prompt levels were as follows:

Level 4 prompt: The trainer requested the overall assembly of training task and no assistance was provided for the completion of the step.

Level 4 social approval: Three or more words of praise (eg., "Boy, are you smart!") and physical contact between the trainer and the trainee (eg., a pat on the trainee's back) was provided.

Level 3 prompt: The trainer requested the trainee to attend to the training task by saying "Do it the right way, like this one," and concurrently providing the trainee with an example of a correctly completed step.

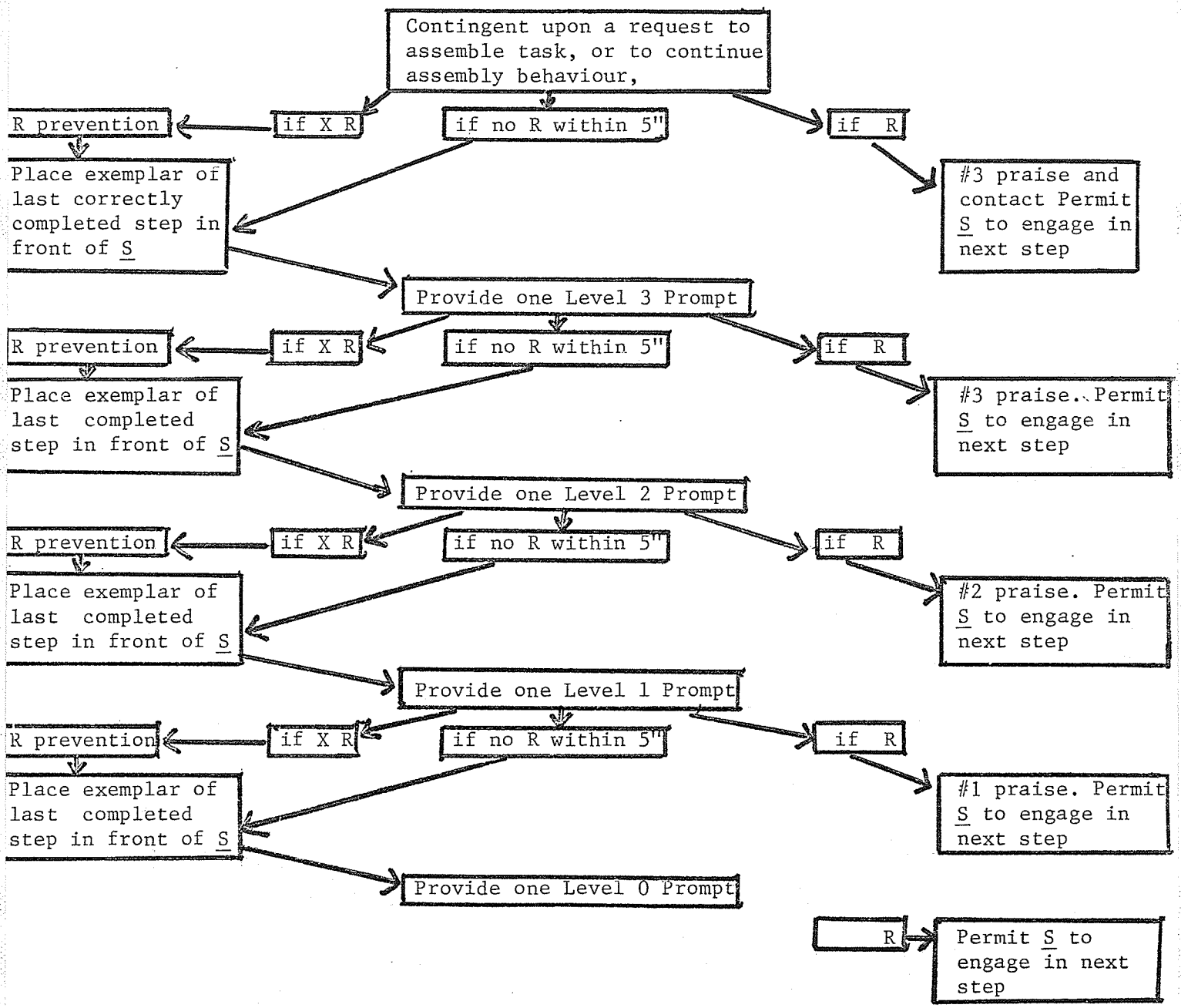

Figure 1. Training procedure followed during intermittent and extended training sessions.

Level 3 social approval: The trainer provided the trainee with three words of praise (eg., "Very well done.")

Level 2 prompt: The trainer provided one level 3 prompt, described each component of the step, provided instruction concerning their correct position of assembly, then requested the trainee to perform the step.

Level 2 social approval: The trainer provided the trainee with two words of praise (eg., "Good boy!").

Level 1 prompt: The trainer provided one level 3 and one level 2 prompt, demonstrated the correct assembly of the step, then requested the trainee to perform the step.

Level 1 social approval: The trainer provided the trainee with one word of praise (eg., "Fine".).

Level 0 prompt: The trainer provided one level 3, one level 2 and one level 1 prompt then provided the trainee with physical quidance in correctly completing the step.

A training trial began when the trainer issued a request for the trainee to engage in the overall assembly of the training task. Each step correctly completed with no additional trainer assistance was consequated with an instance of Level 4 social approval. When the trainee emitted an incorrect response, the trainer removed the incorrectly assembled parts and prevented the trainee from completing the rest of the task steps. An

example of the last correctly completed step was then placed in front of the trainee and a Level 3 prompt was provided by the trainer. Subsequently, a correct response was reinforced with Level 3 social approval, and an incorrect response evoked a repeated instance of response prevention and the presentation of a Level 2 prompt. In this manner, the trainer provided graduated assistance for each step, culminating in the provision of physical guidance (Level 0 prompt) and the request to continue task assembly behavior, thereby evoking the assembly of the next step. During a training session, completely assembled tasks were deposited in a regular production bin and contingent reinforcement for production behavior was maintained according to the PSS and was managed by that trainer engaged in the conduct of intermittent sessions.

For each dyad, one trainee received intermittent training in the Waterpack and extended training in the Coffee Pack task, while the other trainee received extended Waterpack and intermittent Coffee Pack training. Both trainees received training with a designated trainer, during randomly alternating morning and afternoon blocks of time (i.e., 2½ hour half day periods). The criterion for terminating training sessions, on each task, was the correct and unassisted assembly of all task steps for 15 consecutive trials.

Intermittent sessions. For each half-day period, a trainee received six intermittent sessions which were a maximum of 10 minutes in duration (see Figure 2). These were four 15-minute intersession intervals and one 30-minute interval which included a 15-minute coffee break engaged in by all workshop clients. During these intersession intervals, the trainee was permitted to engage in the production of the training task, and the trainer

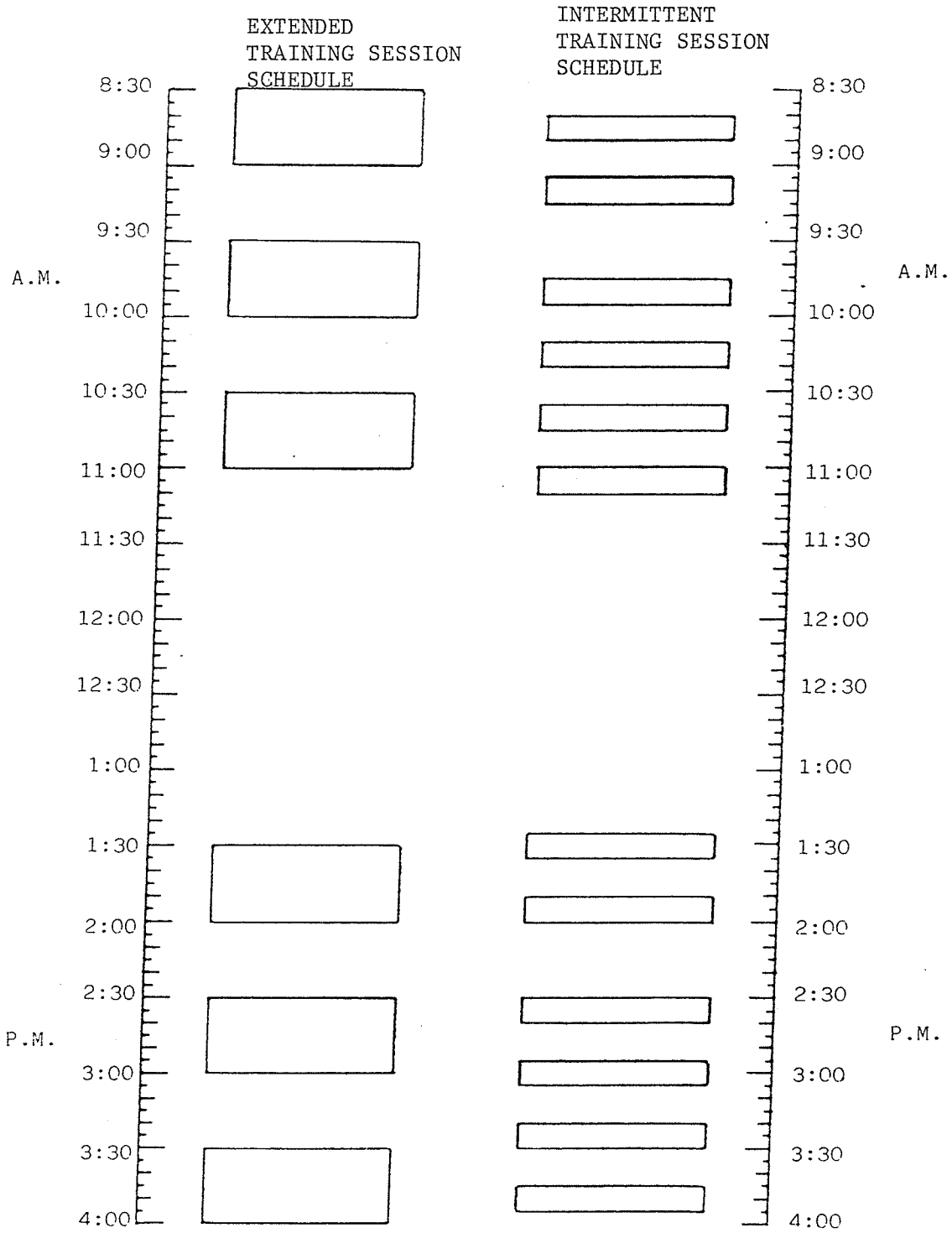

Figure 2. Intermittent and extended training session schedules

was occupied in the production supervision of 12 clients in the training area. At the beginning of each intermittent session, the trainer inspected the tasks assembled by the trainee during the previous intersession interval. The trainer then requested the correction of any incorrectly assembled steps and provided graduated assistance to evoke these corrections. These corrected task steps were never consequated with social approval, even if they occurred without trainer assistance. A maximum of three minutes of each intermittent session was consumed in evoking task-step correction.

Extended sessions. There were three 30-minute extended training sessions scheduled for each half-day period (see Figure 2). The trainee engaged in the production of a nontraining task during the two 30-minute intersession intervals. During these intervals the trainer was absent from the training area. The production contingencies directed at the trainees' assembly behavior during extended training sessions and accompanying intervals were maintained by the other trainer who was, at these times, engaged in conducting intermittent sessions with the other trainee.

Condition B: Generalization. Following the completion of training on a task, the trainee then engaged in the production of that task at the same table where training had occured. During this time, the trainer contacted the trainee every 15 minutes during the half day periods and provided him/her with Level 4 social approval for each correctly assembled task completed since the last trainer contact. For each incorrectly completed task, the trainer requested it's correction and provided the trainee with graduated assistance in order to effect this correction. These corrected responses were not consequated with social approval, regardless of the level of assistance that was provided.

After eight consecutive trainer contacts at the training table during which no incorrectly completed tasks were observed, the trainee was then placed at a workstation in the general workshop area. While in this area, the trainer contacted the trainee every 30 minutes during the half day periods. These contacts were otherwise procedurally identical to those provided at the training table. The trainee's production in this area was supervised by other workshop staff who were instructed not to provide the trainee with feedback concerning the correctness of his/her work. After eight consecutive trainer contacts in the general workshop area during which no incorrectly completed tasks were observed, the trainee did not receive further contacts with his/her trainer.

Condition C: Follow-up. Following the termination of trainer contacts in the generalization condition, the trainee maintained production of the training task in the general workshop area for two half day periods. During this time, the workshop staff supervised the trainnee's production and maintained a record of the number of correctly and incorrectly completed tasks.

Results

Figures 3 and 4 depict the training performance of Trainees A_1 and B_1 respectively. For both Trainees, criterion performance on the Coffee-Pack task was reached more quickly than on the Waterpack task. Their performance on the AVC Scale at the end of the study indicated that both trainees were able to make combined auditory-visual discriminations.

Trainees A_2 and B_2 failed to reach criterion on both training tasks. Neither Trainee correctly completed a single training trial on either task (ie., they required trainer assistance during each trial). An administration of the AVC Scale at the end of the study revealed that both Trainees were unable to engage in simple visual, match-to-sample, auditory, and combined auditory-visual discriminations.

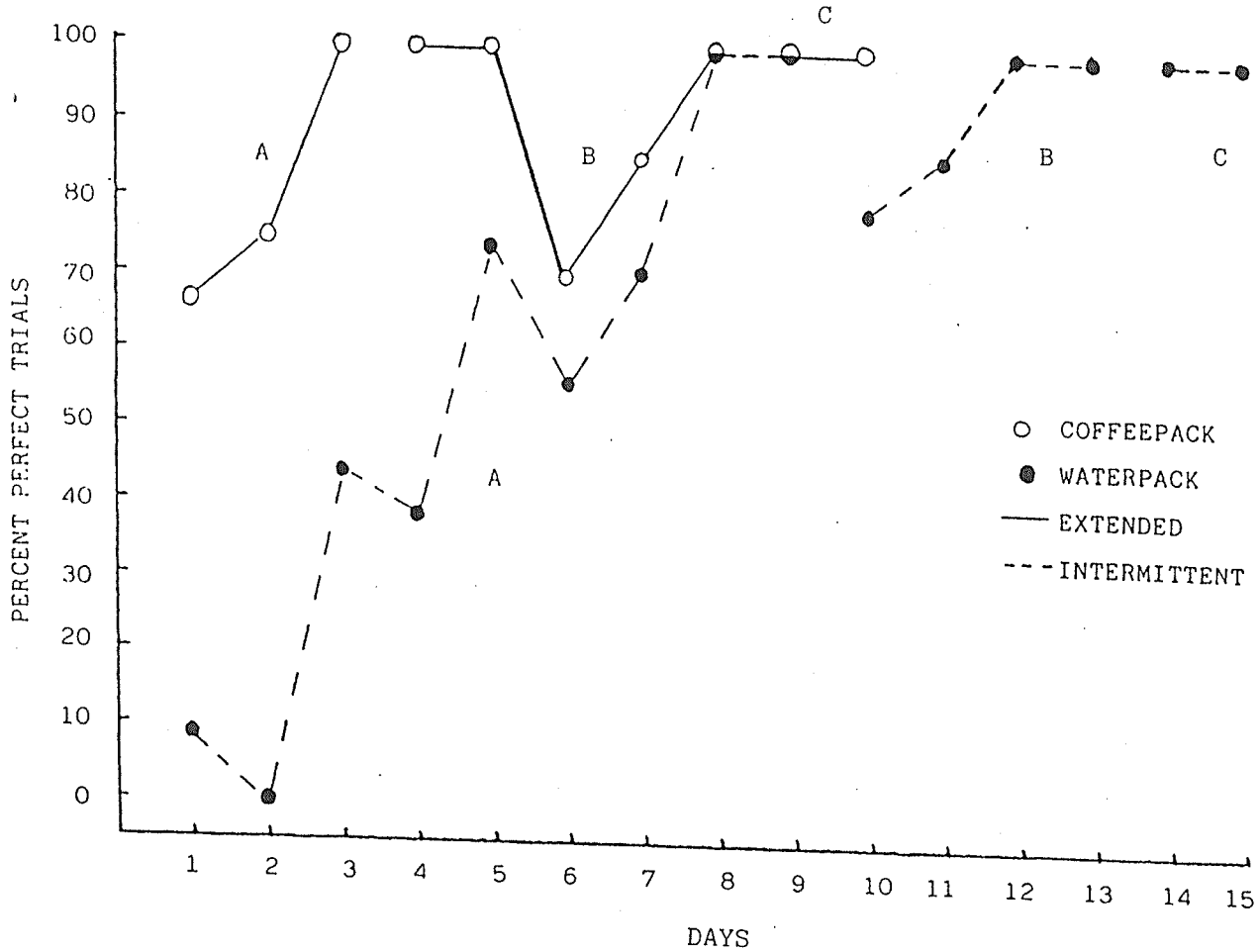

Figure 3. Subject A_1 percent perfect trials during extended coffeepack, and intermittent waterpack training sessions.

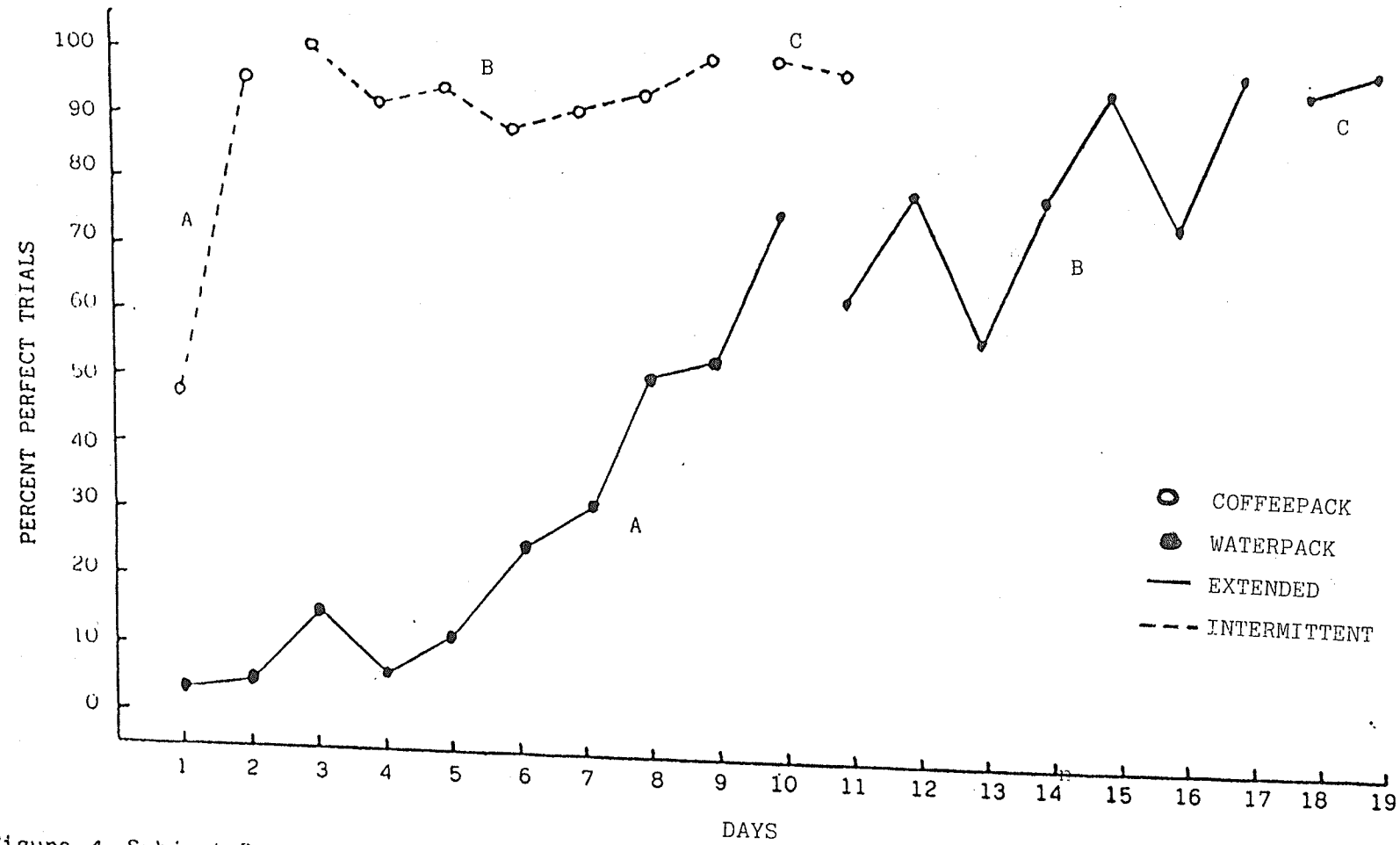

Figure 4. Subject B_1 percent perfect trials during intermittent coffeepack, and extended waterpack training sessions.

Figure 5 and 6 are records of the training performance of the third dyad of Trainees (A_3 and B_3 respectively) who were selected for training after completing the combined auditory-visual discrimination task of the AVC Scale. As seen in Figure 6, Trainee B_3 was the only trainee who acquired the Waterpack task more rapidly than the Coffee Pack task. The only other notable feature of these figures is the fact that Dyad 3 Trainees experienced fewer errors during the generalization condition than did Dyad 1 Trainees.

An analysis of the rates of learning afforded by intermittent and extended sessions was obscured by the fact that three out of four trainees reached criterion on the Coffee Pack task more rapidly, regardless of the schedule of the training sessions. The implication of this data is that the Coffee Pack task was inherently less difficult to learn than the Waterpack task and that a within-subject analysis of the effectiveness of the two schedules would be complicated.

Figure 7 depicts the total amount of trainer time consumed in conducting intermittent and extended sessions for those trainees that met the training criterion. With respect to the time spent training the Waterpack task, the intermittent sessions required 34% less trainer time than the extended sessions. In terms of the time involved in training the Coffee Pack task, the conduct of intermittent sessions required 28% less trainer time than that required by the extended training sessions.

Table 2 reveals the average number of errors per trial that each trainee emitted during intermittent and extended training sessions. Only two trainees (A_1, and A_2) emitted proportionately more errors during intermittent training sessions. With the exception of Trainee A_3, all trainees emitted proportionately fewer errors during the Coffee Pack training sessions.

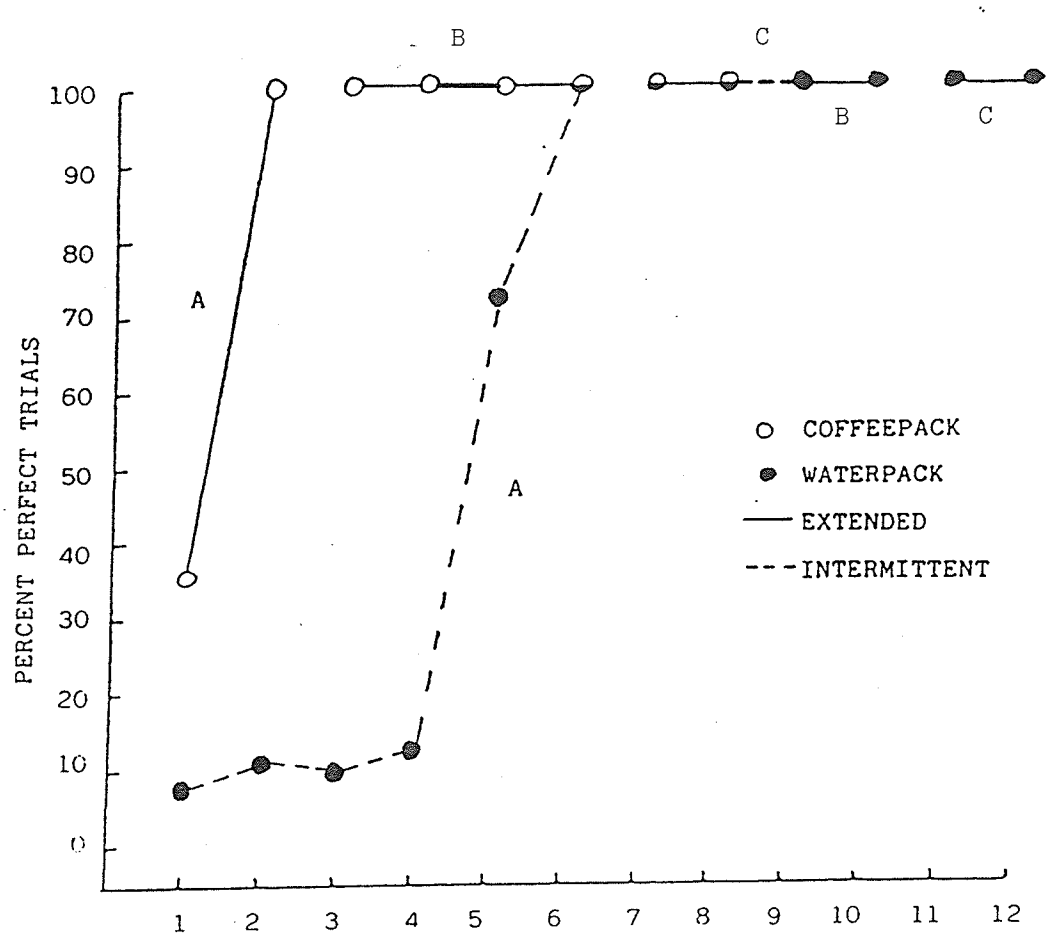

Figure 5. Subject A_3 percent perfect trials during extended coffeepack, and intermittent waterpack training sessions.

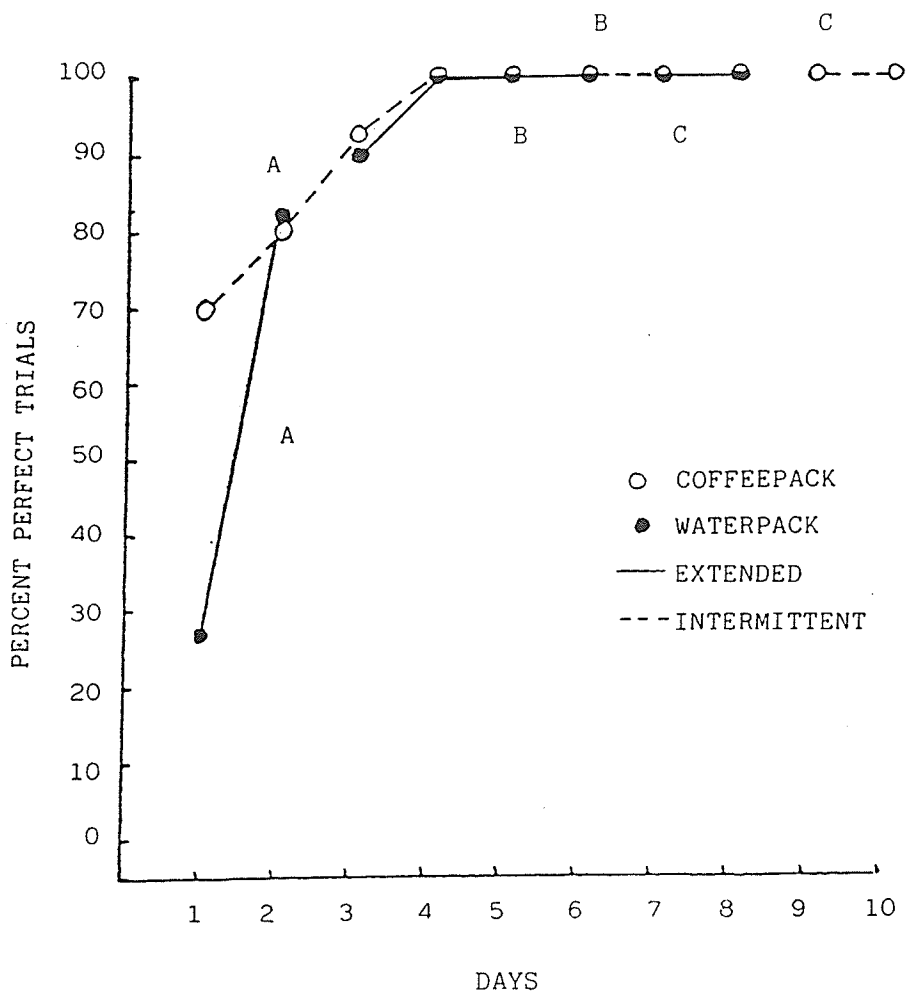

Figure 6. Subject B_3 percent perfect trials during intermittent coffeepack, and extended waterpack training sessions.

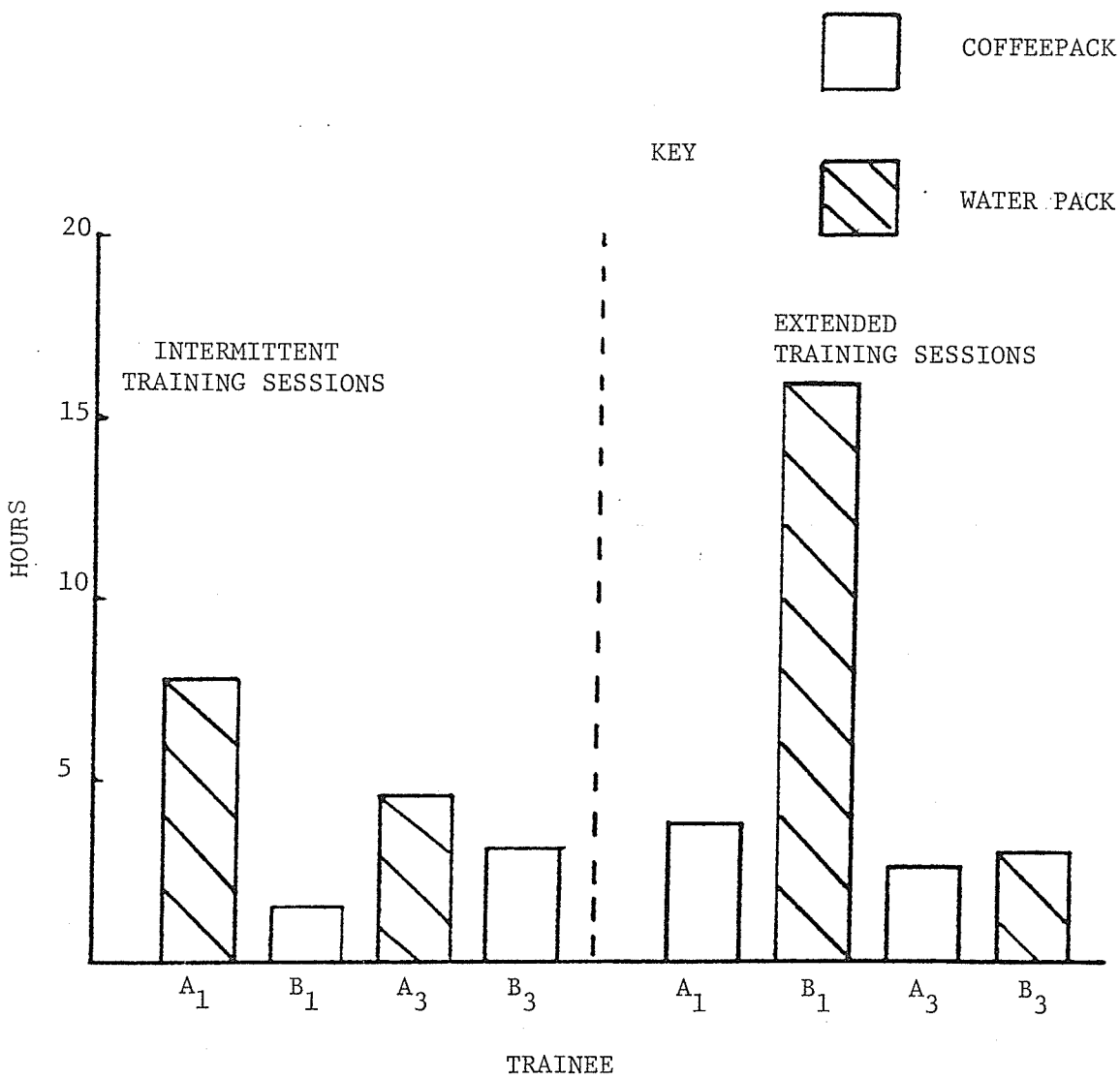

Figure 7. Total trainer time consumed in conducting intermittent and extended training sessions for the trainees who learned the training tasks.

Table 2

Number of trials and errors for each trainee during intermittent and extended training sessions

Subject	Task	Training Session Schedule	Number of Training Trials	Total Errors During Training	Average Number of Errors per Training Trial
A_1	coffeepack	extended	54	25	.46
	waterpack	intermittent	75	142	1.89
B_1	coffeepack	intermittent	37	20	.54
	waterpack	extended	268	735	2.74
A_{2*}	coffeepack	extended	226	813	3.60
	waterpack	intermittent	105	718	6.84
B_{2*}	coffeepack	intermittent	114	1,003	8.80
	waterpack	extended	177	1,625	9.18
A_3	coffeepack	extended	23	67	2.91
	waterpack	intermittent	59	165	2.80
B_3	coffeepack	intermittent	44	16	.36
	waterpack	extended	45	45	1.00

*Did not reach training criteria.

Discussion

Despite an attempt to equate the two training tasks in terms of their level of difficulty, the results of this study indicated that the Coffee Pack task was less difficult to learn than the Waterpack task. Three of the four trainees who completed training learned the Coffee Pack task more readily. Further, five of the six trainees involved in the study emitted proportionately less errors while learning to perform the Coffee Pack task. Consequently, the question of the relative learning rates afforded by intermittent and extended training sessions remains unanswered. Nevertheless, a visual analysis of the trainees' performances suggests that, overall, the intermittent training sessions were as effective as the extended sessions. It is not obvious that intermittent sessions afforded a higher rate of training errors.

The data concerning trainer time indicates that criterion training performance can be achieved with approximately one third less trainer time when conducting intermittent sessions rather than extended sessions. Additionally, the conduct of intermittent sessions permits the trainer to concurrently supervise the production of up to twelve other workers in the training area. For these reasons alone, sheltered workshops should be encouraged to employ an intermittent schedule of training sessions. Innovative use of this schedule could result in a significant increase in the amount of training afforded to workshop clients.

The use of the AVC Scale during this study warrants further comment. In addition to providing preliminary evidence of the scale's ability to predict vocational training success, this study highlights the need for workshops to develop systematic trainee selection procedures. Given that only a finite number of training opportunities can be provided in the workshop at any given time, a system is required to determine which clients

should have priority in training. Priorities cannot be determined, however, without reference to the nature of the task to be trained. Essentially, the systematic training of a particular task should be afforded to those clients who are best prepared for, and most likely to succeed in, the discriminations inherent in the task. For example, Dyad 2 was ill prepared for successful training in the Waterpack task. One of the steps of this task was to place an instruction label exactly in the middle of the cap. In addition to requiring the trainee to engage in fine visual discriminations, efficacious training of this step was proportional to the extent that the trainee's sticker-placing behavior came under the stimulus control of the trainer's verbal operants. As the AVC Scale revealed, neither A_2 nor B_2 was able to make even simple auditory-visual combined discriminations. The implication for the development of vocational training packages is the inclusion of a trainee selection procedure which prevents a trainee being exposed to certain failure because of his/her inadequate learning-to-learn skills.

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Appendix A

Learning-to-Learn Skills

Appraised by the AVC Scale

1. Imitation

2. Position Discrimination

3. Visual Discrimination

4. Match - to - Sample

5. Auditory Discrimination

6. Auditory - Visual Combined Discrimination

Appendix B

Task Analyses of the Waterpack and Coffee Pack Tasks

1. Waterpack Task Steps

   1. Place the gashet in the cap.
   2. Insert the gashet with the popsicle stick.
   3. Pick up a sticker and remove backing.
   4. Place the sticker on the cap.
   5. Rub the sticker on the cap.
   6. Place the fawcet in the cap.
   7. Screw the fawcet into the cap.
   8. Turn the fawcet handle upwards.

2. Coffee Pack Task Steps

   1. Fold a napkin in half.
   2. Fold the napkin over one third.
   3. Place a bag on the table with the opening facing away.
   4. Open the bag.
   5. Insert the napkin.
   6. Insert a coffemate package in front of the napkin.
   7. Insert a pack of sugar in front of the coffemate.
   8. Insert a stir stick between the coffemate and sugar.