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ABSTRACT

A study was made on the efficacy of prompting as a supervisory aid to preservice physical education teachers. Three student teachers were prompted in specific behaviors during teaching sessions with their students. Communication was by way of a wireless microphone and a FM receiver with mini-earphone. The students were prompted on: (1) use of positive behavior feedback; (2) use of positive skill feedback; (3) use of pupils' first names; and (4) use of gymnasium scans. The following conclusions were drawn from an analysis of videotaped sessions: (1) Periodic prompting resulted in limited increases in the use of positive skill feedback and pupils' first names by physical education student teachers; (2) Periodic prompting did not increase the use of positive behavior feedback and gymnasium scans; and (3) The impact of prompting as a primary supervisory intervention appears limited. A discussion of the findings includes graphs depicting the behaviors of each of the three subjects. (JD)

The Effects of Periodic Prompting on Selected Teaching Behaviors of Physical Education Student Teachers

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The effects of periodic prompting on selected teaching behaviors of physical education student teachers

Supervision research in education has produced few definitive answers about "how to do" good supervision. While McIntyre (1983) noted that findings on the interpersonal relationships within the student teaching triad are inconclusive, Mosher and Purpel (1972) concluded that ". . . there is virtually no research suggesting that supervision of teaching, however defined or undertaken, makes any difference." (p. 50).

However, over the past decade experimental teaching research in physical education has shown repeatedly that supervision can impact on what transpires in physical education classes taught by preservice teachers. (e.g. Getty, 1977; Siedentop, 1981; Vogel, 1976). The behavior analysis model of supervision, developed at Ohio State University, traditionally has used a "packaged" intervention, whereby student teachers were provided with any combination of verbal and graphic feedback, reinforcement, prompting, model lessons, among others. A question that has received limited attention is that of which component or which combination of components can have the strongest impact. It would seem important to determine that, in view of the task of teacher training programs, which is to teach traineee's to use certain teaching skills that are deemed to contribute to good teaching.

One of the intervention components has been the use of prompting. In using this strategy an outside observer points out to a teacher to use a specific behavior. It is the pairing of supplementary stimulus with an original environmental cue. Using this intervention, Nelson (1977) successfully increased the use of various teaching behaviors by inservice physical education teachers. Following is an overview of results of a similar study using preservice physical education teachers.

Procedures

Three physical education student teachers served as subjects for this study while teaching at a surburban middle school. When teaching, each subject wore a wireless microphone and a FM receiver with a mini-earphone. The investigator also used a wireless microphone which was tuned in to a frequency on the subject's receiver. This allowed for the prompting of the following teaching behaviors: a) the use of positive skill feedback; b) use of positive behavior feedback; c) use of pupils' first names; and d) use of scans. Each lesson was videotaped, thus producing a permanent record of events. Data were collected on the various class episodes, the temporal location of prompts that were provided, and the temporal location of the occurrence of any of the dependent variables.

The experimental design used to implement the independent variable was the multiple baseline design across behaviors (Hersen & Barlow,

1976). In this design the behaviors of interest are observed and measured across various sessions. Then with this baseline established the independent variable is applied to the various behaviors at different points in time. Experimental signifigance was determined through visual analysis of graphic data using criteria proposed by Parsonson & Baer (1979) which included a) stability of baselines; b) variability within-, and across experimental phases; c) trend within-, and across experimental phases; d) overlap of scores from baseline of treatment phases; and e) change of level from baseline to treatment.

Accuracy and stability of the data were determined by a comparison of the known "true" values, as represented by the videotapes, and the measured values as recorded by the investigator. Three videotapes were randomly selected for comparitive purposes. Three discrepancies were found between the true values and measured values, which included the omission of one instance of a positive skill feedback statement and a scan, and a 1 second difference between the true occurrence and measured occurrence of a positive skill feedback statement.

Results

Figure 1 shows the results for subject one. Periodic prompting was initiated simulcaneously for the variables use of positive skill feedback and use of positive behavior feedback. Changes in the use of the former occurred to the extent that with the exception of session 13 there was no overlap between baseline and treatment data.

All sessions where this subject was prompted to use this behavior produced rates higher than those found during baseline sessions. It should be noted that the treatment phase variability in the top tier is somewhat inflated. During sessions 6, 7, 9, and 16 there was no skill practice time available for students and as such no skill feedback occurred in these sessions. No appreciable changes occurred in the use of positive behavior feedback from baseline to treatment conditions. During baseline, supportive reactions to students' general class behavior was practically nonexistent. A slight upward trend occurred during initial treatment sessions. However, as treatment continued this behavior occurred at rates not significantly different from those found in the baseline sessions. The lack of change in the use of first names and gymnasium scans at the time that treatment was started on the use of positive skill feedback indicated that the increase in the use of this behavior was the result of periodic prompting.

Insert Figure 1 about here

The use of pupils' first names (tier three) was the next behavior prompted. Periodic prompting produced an increase in the use of this behavior. Following a decreasing baseline (i.e. countertherapeutic trend) this behavior occurred at rates that gradually increased during the treatment phase. During the treatment phase of this variable there was an increase of variability in the use of gymnasium scanning.

However, this change did not occur simultaneously with the commencement of treatment on the use of pupils' first names. Thus, there appeared to be a functional relationship between periodic prompting and the use of pupils' first names.

The rate of scanning during baseline sessions was consistently lower than those found in the first four treatment sessions (tier four). However, the final three treatment sessions produced considerable variability within the treatment phase data and overlap with baseline data. Prompting subject one to scan the different gymnasium areas more frequently did not produce a change in the rate of this behavior.

In figure 2 the results of subject 2 are shown. The prompting of positive behavior feedback (tier one) did not produce changes. This behavior was practically nonexistent during baseline, and remained at negligible levels during treatment sessions. The prompting of first name use (tier two) did produce a change from baseline to treatment condition. A downward trend during baseline was reversed after treatment had been started. Furthermore, initial variability of treatment phase data decreased substantially during the second half of this phase. Subsequently the initial overlap of baseline and treatment data also disappeared. These factors indicated a significant change in the subject's use of pupils' first names. The stability in scanning behavior (tier four) indicated that the change in use of pupils' first names was the result of it being prompted.

Insert figure 2 about here

No significant change occurred in the use of positive skill feedback by this subject. As indicated in the third tier there was substantial variability early on in the treatment phase and the downward trend that followed resulted in considerable overlap of baseline and treatment data.

Scanning behavior of this subject did not change from baseline to treatment conditions. Following a stable baseline, where this behavior occurred at negligible rates, the prompting of scans did not increase the occurrence of this behavior.

The results for subject three are shown in figure 3. The prompting of the use of positive behavior feedback (tier one) was started following a baseline where this behavior was almost nonexistent. Although rates were consistently higher during the treatment phase, the different was not appreciable. The use of pupils' first names (tier two) was prompted first during the sixth session. Following a baseline phase during which this behavior was also practically nonexistent, a limited treatment effect was established. Indicators of this were the gradual upward trend in treatment phase rates, and with that a gradual decrease in initial overlap of baseline and treatment data. A continuous stable rate of scans (tier four) indicated that the gradual increase in use of pupils' first names was the result of periodic prompting.

Insert figure 3 about here

The implementation of treatment on the use of positive skill feedback by this subject resulted in a significant change in the rate of this behavior. Indicators of this were the change in level from baseline to treatment conditions, and the lack of overlap between baseline and treatment data. The continued stability in the use of scans (fourth tier) indicated that the increased use of positive skill feedback was a result of the prompting of this behavior. The rate of scanning the gymnasium during skill practice episodes did not increase from baseline to treatment, as indicated by the lack of change in level from session 17 to 18, and the overlap of baseline treatment data.

Discussion

The results of this study were mixed, in that, experimentally significant changes occurred in the subjects' use of positive skill feedback and their use of pupils' first names which could be attributed to the prompting of these behaviors. However, prompting did not produce increased usage of positive behavior feedback or scans of the gymnasium. The established changes were of similar magnitude as those found by Nelson (1977). Compared to previous findings in the behavior analysis supervision model treatment effects were consistently smaller. This could be explained by the difference in the number of treatment components

included in the independent variable. As indicated earlier, previous studies in this area have used "packaged" treatments (Siedentop, 1981).

The lack of change in the subjects' use of positive behavior feedback is consistent with previous findings (e.g. Boehm, 1974; Hamilton, 1974; Nelson, 1977; Rife, 1973). Student teachers do not tend to react to appropriate student behaviors frequently, and merely prompting them to use such behaviors may not have a strong enough impact. Interviews held with each subject following their student teaching produced possible explanations for both the low rate during baseline conditions, and the lack of change from baseline to treatment phase in the use of gymnasium scans. First, in the eyes of subjects the presence of two team teachers in each class may have reduced the need to frequently scan other areas in the gymnasium. And second, two subjects indicated that being prompted to look elsewhere while attending to one (or a group of) students was just "hard to do", and at times, confusing. Although speculative, the simple wearing of the communication equipment may have had the opposite effect of what it was intended to achieve. That is, while it was used to increase the rate of scanning, it may have resulted in strengthening the focus of the subjects' attention to only their immediate surroundings.

Conclusion

Based on the analysis of the reported data, and within the limitations

of the study, the following conclusions were drawn:

1. Periodic prompting resulted in limited increases in the use of positive skill feedback and pupils' first names by physical education student teachers.

2. Periodic prompting did not increase the use of positive behavior feedback and gymnasium scans by physical education student teachers.

3. The impact of prompting as a primary intervention appears limited.

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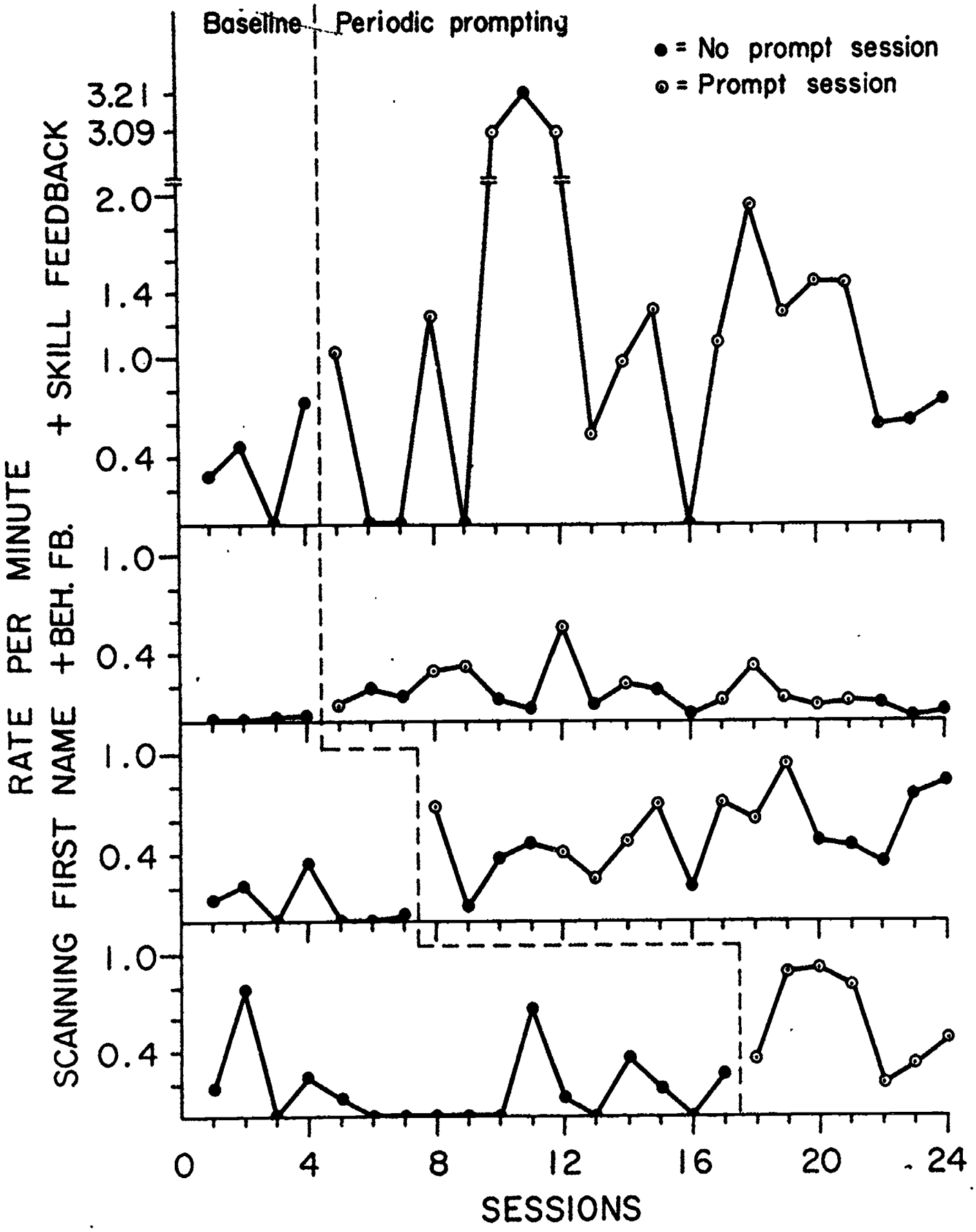

Figure 1. EFFECTS OF PERIODIC PROMPTING ACROSS BEHAVIORS FOR SUBJECT ONE.

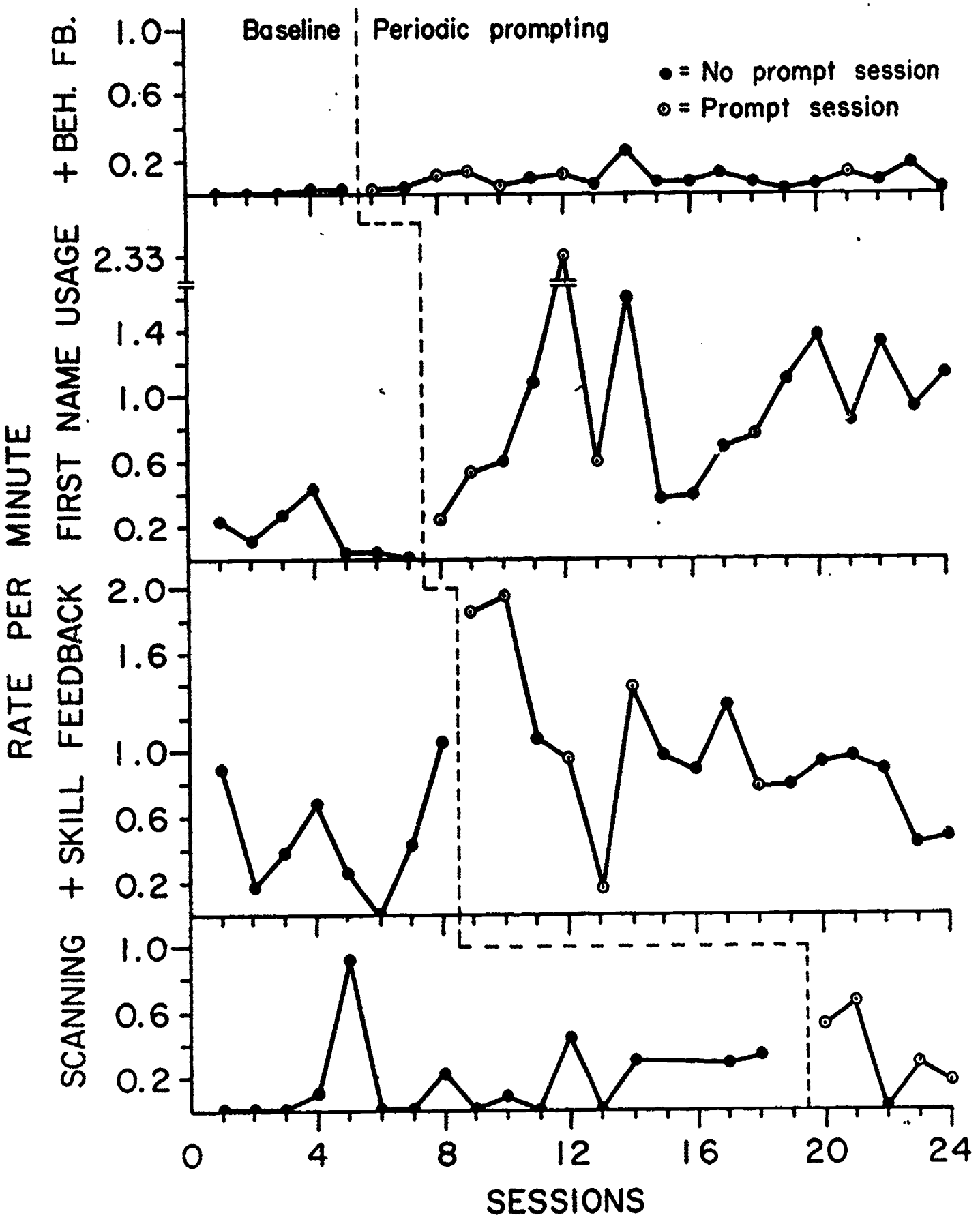

Figure 2. EFFECTS OF PERIODIC PROMPTING ACROSS BEHAVIORS FOR SUBJECT TWO.

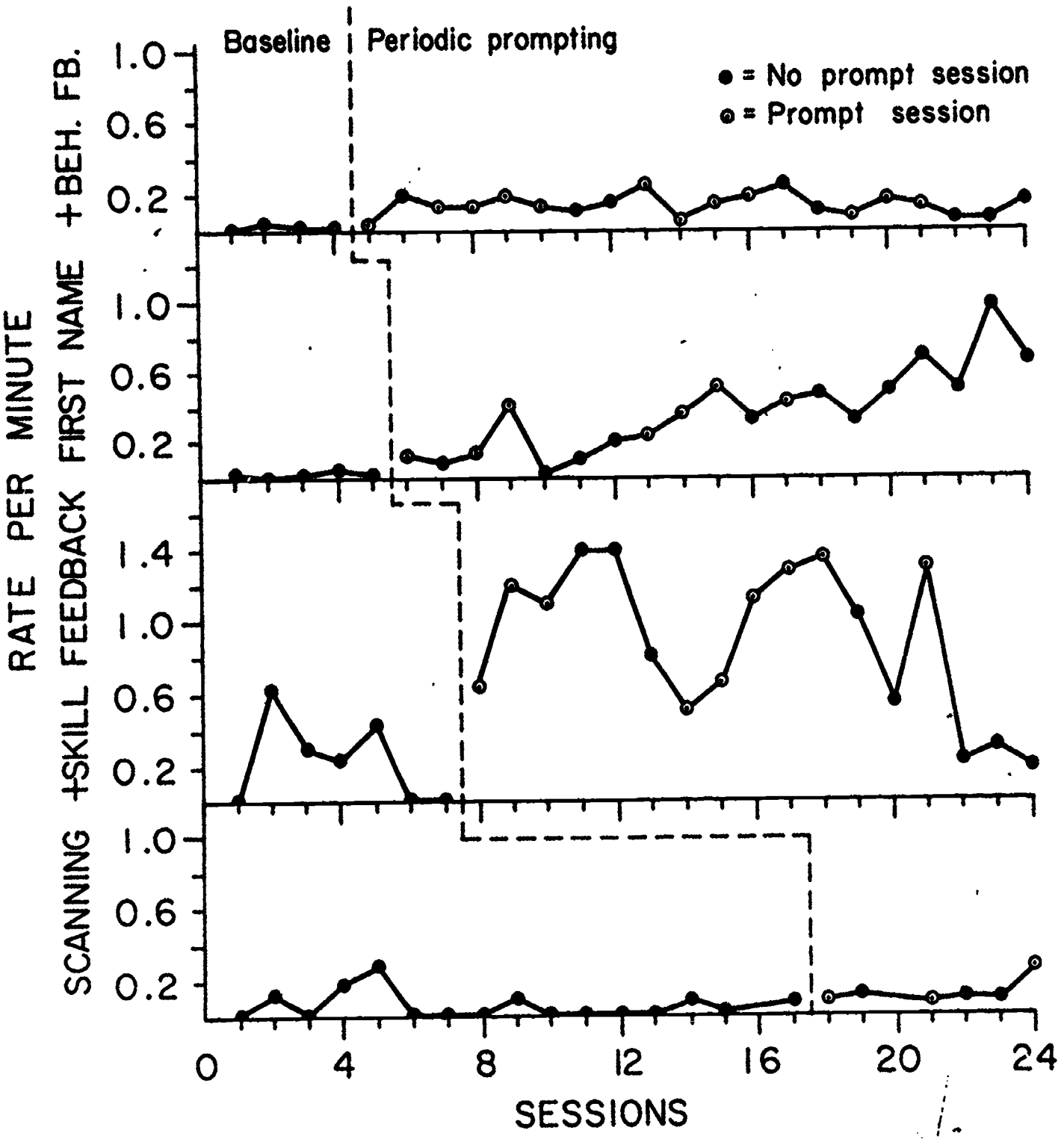

Figure 3. EFFECTS OF PERIODIC PROMPTING ACROSS BEHAVIORS FOR SUBJECT THREE.