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A Procedural Analysis of Correspondence Training Techniques

Freddy A. Paniagua
University of Texas Medical Branch

A variety of names have been given to procedures used in correspondence training, some more descriptive than others. In this article I argue that a terminology more accurately describing actual procedures, rather than the conceptual function that those procedures are assumed to serve, would benefit the area of correspondence training. I identify two documented procedures during the reinforcement of verbalization phase and five procedures during the reinforcement of correspondence phase and suggest that those procedures can be classified, or grouped into nonoverlapping categories, by specifying the critical dimensions of those procedures belonging to a single category. I suggest that the names of such nonoverlapping categories should clearly specify the dimensions on which the classification is based in order to facilitate experimental comparison of procedures, and to be able to recognize when a new procedure (as opposed to a variant of one already in existence) is developed. Future research involving comparative analysis across and within procedures is discussed within the framework of the proposed classification.

Key words: correspondence training, verbal behavior, intermediate behavior, nonverbal behavior

A relationship between what a person says he/she will do and what he/she then does, or between what he/she does and later says that he/she has done is termed *correspondence between verbal and nonverbal behavior* (Israel, 1978; Karlan & Rusch, 1982). In basic and applied research, establishing verbal-nonverbal relationships has led to a technology of behavior change known as *correspondence training* (Israel, 1978; Paniagua, 1989; Paniagua & Baer, 1988). The effects of this technology in establishing, decreasing, maintaining, and/or extinguishing behavior have been documented in both basic research (Israel & O'Leary, 1973; Paniagua & Baer, 1982; Risley & Hart, 1968) and clinical research studies (Paniagua, Pumariega, & Black, 1988; Whitman, Scibak, Butler, Richter, & Johnson, 1982).

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Correspondence training typically involves three phases: baseline, reinforcement of verbalizations, and reinforcement of verbal-nonverbal relationships. In baseline, occurrences of the target nonverbal behavior (e.g., playing with toy X) are recorded to ascertain the frequency of this behavior prior to intervention. Sometimes the subjects' statements about past behavior (i.e., reports about what the subject did in the past) or about future behavior (i.e., reports about what the subject will do in the future) are recorded. That is, during baseline, procedures may or may not be implemented to evoke verbal statements regarding past or future behavior (e.g., Keogh, Burgio, Whitman, & Johnson, 1983; Risley & Hart, 1968).

The second and third phases have been called "reinforcement of content" and "reinforcement of correspondence," respectively (Risley & Hart, 1968). During the reinforcement of content phase, the reinforcer is delivered contingently upon verbal statements of a certain form and without respect to any correspondence between these statements and nonverbal behavior of the subject. For example, in the study by Risley and Hart (1968) children's reports about past behavior (e.g., "I built with blocks") were followed by edible reinforcers whether or not such reports corresponded with the reported

(nonverbal) behavior (e.g., building with blocks). During the reinforcement of correspondence phase, the reinforcer is contingent upon the emission of verbal-nonverbal correspondence (i.e., the reinforcer is not delivered unless the verbal behavior corresponds to nonverbal behavior of the subject).

The terminology introduced by Risley and Hart (1968) was adopted and used in subsequent correspondence training studies (e.g., Baer, Detrich, & Weninger, 1988; Baer, Williams, Osnes, & Stokes, 1984; Israel & O'Leary, 1973; Williams & Stokes, 1982). However, a procedural analysis of correspondence training techniques used in these studies reveals that there are procedural differences among them during both the reinforcement of content phase and the reinforcement of correspondence phase.

The present analysis identifies two documented procedures during the reinforcement of verbalizations or "reinforcement of content" phase and labels these procedures in terms of the specific experimental manipulation employed. I then identify five procedures used during the "reinforcement of correspondence" phase and label these procedures in terms of the specific experimental manipulation used. That is, instead of using terms that do not specify exactly what is done (e.g., reinforcement of content or reinforcement of correspondence) I specify the particular procedures used and then name them in terms of the specific experimental manipulation programmed during either the reinforcement of verbalizations phase or the reinforcement of correspondence phase.

REINFORCEMENT OF VERBALIZATIONS

In correspondence training studies, procedures involving reinforcement of specified verbal responses without regard to the occurrence of corresponding nonverbal behavior have been given many different names including, for example, "Content" (Israel & O'Leary, 1973), "Verbal Training" (Israel & Brown, 1977), "Reinforcement of Reporting" (Ribeiro, 1989), "Reinforcement of Verbalization" (Baer et al., 1988), and "Verbal Control" (Deacon & Konarski, 1987). No matter the name selected, however, in the correspondence training literature, two distinct procedures, each with variations, for reinforcement of verbalizations can be identified: *Immediate Reinforcement of Report* and *Delayed Reinforcement of Report.*

Immediate Reinforcement of Report

In this procedure, the reinforcer immediately follows either a report of *past behavior* (e.g., "I painted") or a report of *future behavior* (e.g., "I'll paint"). In the first variant of this procedure, the report follows the nonverbal behavior in a do-report sequence (e.g., Risley & Hart, 1968); in the second variant, the report precedes the nonverbal behavior in a report-do sequence[1] (e.g., Paniagua & Baer,

[1] Traditionally, doing-x-then-saying-x and saying-x-then-doing-x have been called a do-say or do-report and a say-do or promise-do sequence, respectively (see Israel, 1973, 1978; Israel & O'Leary, 1973; Paniagua & Baer, 1982). In the do-say sequence, saying is *reporting* about past (nonverbal) behavior. Thus, the use of the do-report label would represent a better terminology in the correspondence training literature. However, the use of the term "promise" in the promise-do sequence seems problematic given the variables that control its use in the verbal community. In general, a "promise" implies "a commitment" to another individual and, as a result, social contingencies that related to keeping that promise would be "reinforced" and those related to not keeping the promise would be "punished." Thus, if an individual (e.g., the experimental subject in correspondence training studies) makes a promise to another individual (e.g., the experimenter), it implies that the "promisee" will be inconvenienced if the "promiser" does not behave as stated, and that the correspondence between the promise and the future behavior will be reinforced and/or that the lack of correspondence will be punished. However, a "report of future" behavior does not imply similar social consequences. For example, in the specific case of the correspondence training studies when a child is instructed to report what he or she plans to do in the target (experimental) room, the report is not always followed by the actual occurrence of the target behavior (particularly during procedures involving reinforcement of verbalizations). In these studies, however, subjects are not punished when they demonstrate a lack of verbal-nonverbal correspondence; they are simply instructed to repeat the same report (of future be-

1982). In both cases, the reinforcer is delivered contingently upon the report *regardless of the occurrence or nonoccurrence* of the target nonverbal behavior. Calling this procedure *immediate reinforcement of report* would clarify the critical dimensions of the procedure and allow it to be distinguished clearly from others.

For example, in the study by Risley and Hart (1968), the subject was observed playing with a series of activities (e.g., block playing, painting). At the end of this play period the subject was questioned about past (play) behavior (e.g., "What did you do that was good today?"). The subject's report (e.g., "I painted") was reinforced with snacks and social praise regardless of the actual occurrence or nonoccurrence of the target (nonverbal) behavior (e.g., painting). In this study, the immediate reinforcement of report procedure was used in a do-report format. Other examples in the application of this format (immediate reinforcement of report) can be found in Israel (1973), Israel and O'Leary (1973), Rogers-Warren and Baer (1976), Rogers-Warren, Warren, and Baer (1977).

The study by Paniagua and Baer (1982) illustrated the immediate reinforcement of report procedure in a report-do sequence. In this study, children were asked, "What are you going to play with in your special play room?" and the child's report of future behavior (e.g., "I'll play with blocks") was immediately followed by the reinforcer and the experimenter's comment, "You said that you'll play with blocks in your special play room, so I'll give you this toy. The toy is already yours." Other examples of the application of the immediate reinforcement of report in a report-do sequence can be found in Baer et al. (1988), Baer et al. (1984), Guevremont, Osnes, and Stokes (1986a, 1986b), Osnes, Guevremont, and Stokes (1986), Paniagua and Baer (1985), Paniagua et al. (1982), and Williams and Stokes (1982).

It should be emphasized that in the present procedure the reinforcer is always delivered, providing the subject makes a verbalization of past behavior (first variant of the procedure) or a report of future behavior (second variant). For example, the subject behaves nonverbally (e.g., paints) and later reports his/her behavior as "I played with blocks." Reinforcement follows the verbal behavior "I played with blocks" even though there is no correspondence between the report of the behavior and the earlier behavior. Similarly, if the subject behaves nonverbally (e.g., paints) and later reports his/her behavior as "I painted," reinforcement follows the verbalization (e.g., "I painted"). Thus, in this procedure the reinforcer is delivered regardless of the occurrence or nonoccurrence of the target (nonverbal) behavior. However, if the subject behaves nonverbally (e.g., paints) but does not respond verbally to questions about what he or she did, reinforcement is withheld (see Figure 1). It also should be noted that in the present procedures (and other procedures involving the reinforcement of verbalizations) prompts (e.g., "Say that

havior) and to show the verbal-nonverbal correspondence to receive the reinforcer. In these studies, it would be seen as quite reasonable that the behavior of the child may be under the control of other variables in that room, given the fact that in such studies a common strategy is the scheduling of nontarget activities in addition to the target (experimenter's selected) activity (e.g., Baer et al., 1984; Paniagua & Baer, 1982). Thus, punishing the subject when he or she does not participate in the experimenter's preselected activity would be seen as inappropriate in such studies.

In fact, in those procedures involving the intermediate behaviors the child's "promise" may not be fulfilled because those intermediate behaviors are not available to the child (e.g., the absence of paint pots in the classroom would not facilitate "painting," Paniagua, Stella, Holt, Baer, & Etzel, 1982). The main point is that a "promise" seems to imply social contingencies arising from potential inconvenience to the "promisee," social contingencies that are not implied by a "report of future behavior." In several correspondence training studies (e.g., Baer, Osnes, & Stokes, 1983; Baer et al., 1984; Paniagua & Baer, 1982), the term "promise" has been used when describing verbalizations that are followed by the target (nonverbal) behavior in a say-do sequence. In terms of the present analysis, the "saying" in the say-do sequence is a report to engage in a certain activity in the future; it is not a commitment (a promise, in the sense described above). Thus, a more descriptive label would be report-do, in which a report of future behavior is not a commitment, but an *intention* to behave in a certain way.

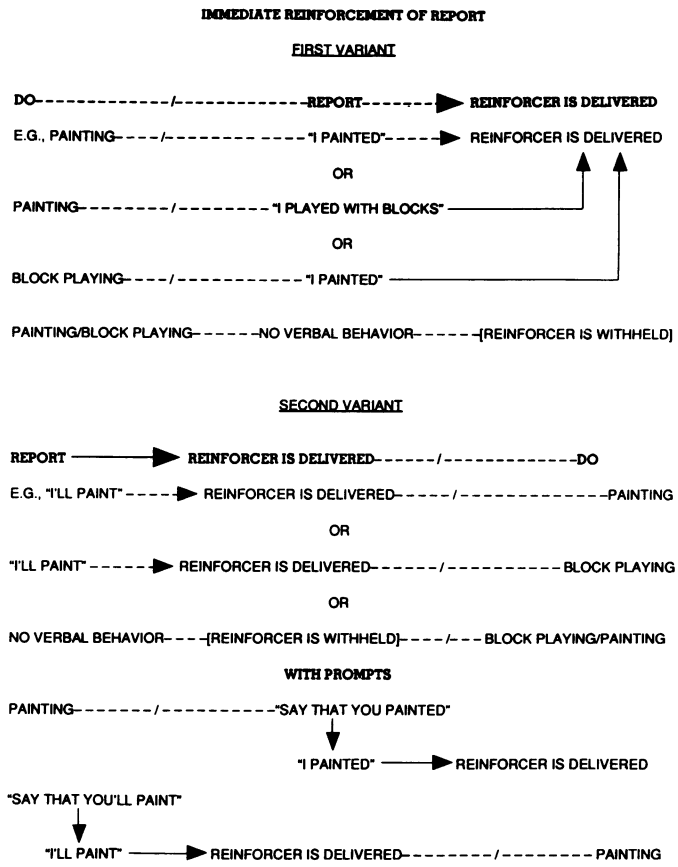

Figure 1. The immediate reinforcement of report procedure, in which the reinforcer is delivered regardless (/) of the occurrence or nonoccurrence of the reported behavior (Do) or withheld in the absence of the report. Prompts might be used to establish the desired verbal behavior.

you painted" or "Say that you'll paint") are often used if the subject does not spontaneously report his/her past or future (target) behavior. These prompts are usually introduced during earlier sessions in the reinforcement of verbalizations phase to quickly establish the verbal (experimenter's selected) behavior required during the verbal-nonverbal correspondence training phase (e.g., Baer et al., 1988; Risley & Hart, 1968; Williams & Stokes, 1982). Figure 1 schematized the present procedures.

Delayed Reinforcement of Report

This procedure is a variant of the immediate reinforcement of report procedure involving a report-do behavioral sequence. In the present procedure the reinforcer is delivered after a period during which a report could be fulfilled. In this case, the delivery of the reinforcer is delayed. For example, in the study by Baer et al. (1984) children's reports of future behavior (e.g., "I'm going to play with the blocks") were reinforced *after* a play period, regardless of whether the child had actually engaged in the target nonverbal behavior. Other applications of this procedure can be found in Baer et al. (1983), Israel and Brown (1977), and Karoly and Dirks (1977). In this procedure the reinforcer also follows any verbalization (including the target, experimenter's selected, report) and it is withheld if the subject does not respond verbally to questions about what he or she will do. Prompts are also sometimes used to establish the target verbal behav-

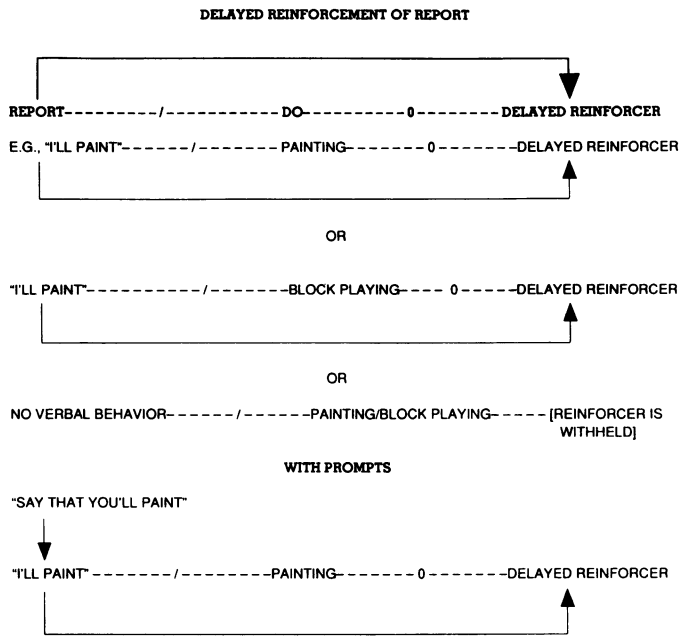

Figure 2. The delayed of reinforcement of report procedure, in which the reinforcer does not follow (0) the target nonverbal behavior (Do) but an early report regardless (/) of the occurrence or nonoccurrence of the nonverbal behavior. The reinforcer is withheld in the absence of the report, and prompts might be used to establish the desired verbal behavior.

ior required during the verbal-nonverbal correspondence training phase (e.g., Israel & Brown, 1977). This procedure is schematized in Figure 2.

It should be noted that procedures involving reinforcement contingent on target verbalizations alone are not always programmed prior to the introduction of the reinforcement of verbal-nonverbal correspondence phase. As noted by Israel and Brown (1977), the reinforcement of verbalizations phase is not "a necessary precursor to correspondence training" (p. 337). Examples of the exclusion of the reinforcement of verbalizations phase can be found in Paniagua (1985), Paniagua and Baer (1982), Paniagua et al. (1988), and Whitman et al. (1982). In other cases, the reinforcement of verbalizations phase is not a precursor to correspondence training but it is programmed after the completion of the reinforcement of verbal-nonverbal correspondence phase (e.g., Guevremont et al., 1986b; Israel & Brown, 1977; Osnes et al., 1986; Osnes, Guevremont, & Stokes, 1987). As noted earlier, the typical procedural sequence in the correspondence training literature involves a baseline phase which is followed by two reinforcement phases: reinforcement of verbalizations alone and reinforcement of verbal-nonverbal relationships.

REINFORCEMENT OF VERBAL-NONVERBAL RELATIONSHIPS

At least thirteen different names have been reported in the correspondence training literature to label the procedures during the reinforcement of correspondence phase including, for example, "Correspondence" (Israel & O'Leary, 1973), "Reinforcement of Correspondence" (Baer et al., 1988; Baer et al., 1983; Baer et al., 1984; Karoly & Dirks, 1977; Paniagua, 1985; Ribeiro, 1989; Risley & Hart, 1968): "Reinforcement of Reports" (Paniagua & Baer, 1982); "Correspondence Training" (Guevremont et al., 1986a, 1986b; Israel & Brown, 1977; Keogh et al., 1983; Osnes et al., 1987; Williams & Stokes, 1982; Whitman et al., 1982); "Setting-up the Reinforcer" (Pa-

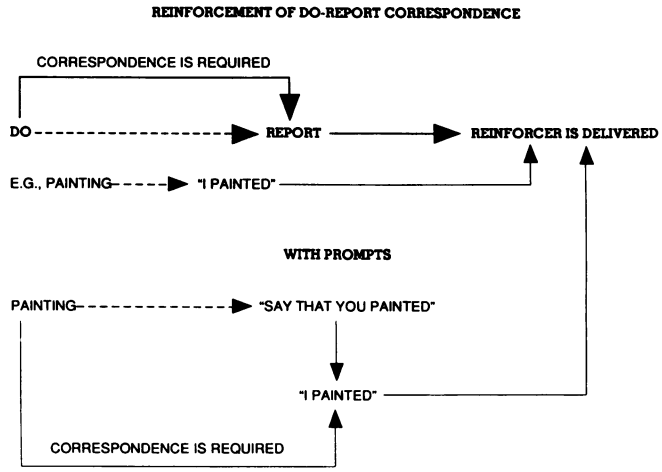

Figure 3. The reinforcement of do-report correspondence procedure, in which the reinforcer is delivered contingently upon a correspondence between a report about past behavior and its corresponding nonverbal behavior (Do). Prompts might be used to establish the desired verbal behavior.

niagua, 1987), and "Treatment Phase" (Deacon & Konarski, 1987).

Although the same label was used to identify the "reinforcement of correspondence" phase in studies by Baer et al. (1984) and Risley and Hart (1968), for example, the procedures employed in these studies during this phase were not similar. Israel and O'Leary (1973) also used the same term (i.e., "Correspondence") to label what appears to represent two different correspondence training procedures. In other cases, different names have been used for the same procedure. Risley and Hart (1968) termed their intervention "Reinforcement of Correspondence" and Paniagua and Baer (1982) named their procedure "Reinforcement of Reports." Five procedures involving the reinforcement of verbal-nonverbal relationships can be identified: (1) *Reinforcement of Do-Report Correspondence,* (2) *Reinforcement of Report-Do Correspondence,* (3) *Reinforcement Set-up upon Report,* (4) *Immediate Reinforcement of Intermediate Behavior,* and (5) *Reinforcement Set-up upon Intermediate Behavior.*

Reinforcement of Do-Report Correspondence

In this procedure, the reinforcer is delivered contingently upon a correspondence between doing (in the past) and reporting about doing in a do-report sequence. For example, in the study by Risley and Hart (1968) children were initially observed participating in a number of activities (e.g., painting, playing with blocks, etc.) and later they were questioned about their participation in such activities (e.g., "What did you do that was good today?"). If the child's report corresponded with the child's participation in the target activity (i.e., do-report correspondence), the child's report was verbally confirmed (e.g., "You really did paint") and food was delivered. Other examples in the application of this procedure in basic and applied research can be found in Israel (1973), Israel and O'Leary (1973), Paniagua (1985, 1987), Paniagua and Baer (1982, 1985), Paniagua et al. (1988), Ribeiro (1989), Rogers-Warren and Baer (1976), and Rogers-Warren et al. (1977).

It should be noted that in the present procedure (and other reinforcement of verbal-nonverbal correspondence training procedures) prompts are rarely necessary in those cases when the reinforcement of verbalizations phase is programmed before the introduction of the reinforcement of verbal-nonverbal correspondence training phase (e.g., Israel & Brown, 1977; Risley & Hart, 1968). In the present (and subsequent) proce-

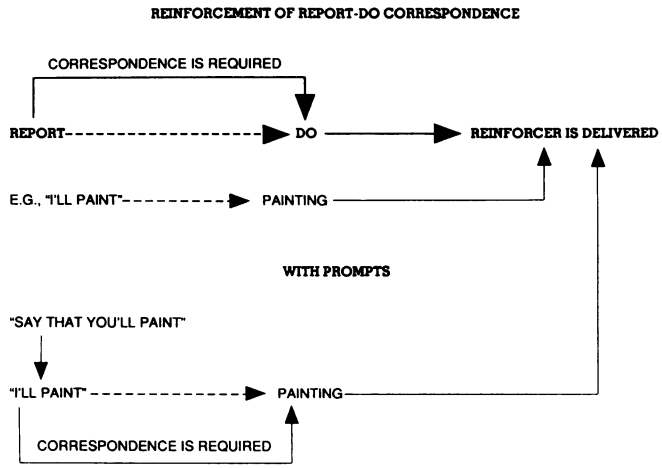

Figure 4. The reinforcement of report-do correspondence procedure, in which the reinforcer is delivered contingently upon a correspondence between a report about future behavior and its corresponding nonverbal behavior (Do). Prompts might be used to establish the desired verbal behavior.

dures prompts are sometimes used when the phase of reinforcement of verbalizations alone is not programmed (e.g., Paniagua & Baer, 1982) or in those cases when this phase follows the reinforcement of verbal-nonverbal correspondence training phase (e.g., Osnes et al., 1986). When prompts are used during the reinforcement of verbal-nonverbal relationships, they are usually introduced during earlier sessions to quickly establish the target verbal-nonverbal correspondence and to prevent withholding the reinforcer during the reinforcement of correspondence phase. For example, in the study by Paniagua and Baer (1982) children who did not name the target activity during the first two sessions of reinforcement of do-report correspondence training were prompted, "did you play with blocks in your special play room?" No prompts were given in succeeding sessions of this phase. A description of the present correspondence training procedure is noted in Figure 3.

In Figure 3, a do-report (e.g., painting followed by "I painted") correspondence is required for the delivery of the reinforcer. The figure also shows procedures involving prompts to emphasize those cases when the phase of reinforcement of verbalizations alone is either excluded from the experimental design or is introduced after the completion of the verbal-nonverbal correspondence phase.

Reinforcement of Report-Do Correspondence

In this procedure, the reinforcer is delivered contingently upon the correspondence between a report of future behavior and its future fulfillment in a report-do sequence. For example, in the study by Paniagua et al. (1988), the child's reports about the inhibition of future hyperactivity (e.g., overactivity) were initially obtained and, immediately after a brief period during which the target behavior was observed, a tangible reinforcer (a toy) was delivered contingently upon correspondence between the report and the behavior previously reported (i.e., a report about sitting quietly and the actual behavior of sitting quietly). Other applications of this procedure can be found in Baer et al. (1988), Baer et al. (1983), Baer et al. (1984), Deacon and Konarski (1987), Guevremont et al. (1986a, 1986b), Keogh et al. (1983), Osnes et al. (1986, 1987), Paniagua et al. (1988), Whitman et al. (1982), and Williams and Stokes (1982). A description of the present procedure is noted in Figure 4.

In Figure 4, a report about future be-

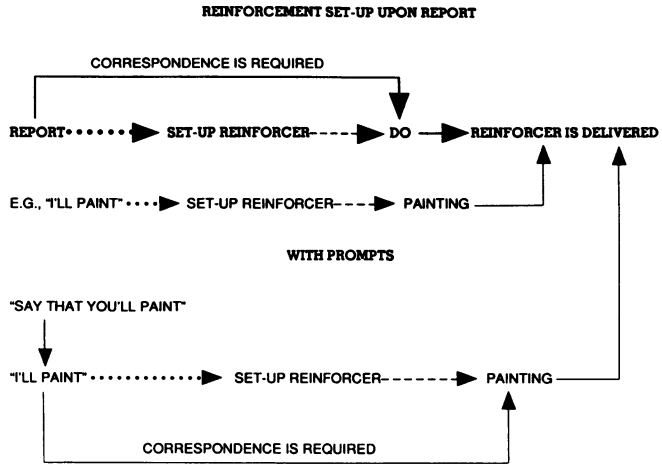

Figure 5. The reinforcement set-up upon report procedure, in which the reinforcer is initially presented (set-up) immediately after a report about future behavior and delivered contingently upon the occurrence of both verbal and nonverbal behavior (Do). Prompts might be used to establish the desired verbal behavior.

havior (e.g., "I'll paint") precedes the corresponding (nonverbal) behavior (do) and the reinforcer is delivered contingently upon the report-do correspondence. Prompts might also be used to establish the target verbal behavior in the verbal-nonverbal chain.

Reinforcement Set-Up Upon Report

This procedure is similar to the reinforcement of report-do procedure, with one important exception: the reinforcer is shown to the child after the report (the set up condition) and later delivered contingently upon behavior corresponding to the report (the reinforcement of report-do correspondence condition). For example, in the study by Israel and O'Leary (1973) children received a cup with their snacks for the day contingently upon reporting to participate in the target activity (e.g., "I'm going to play with puzzles"). This was the "setting-up" condition in this study. Children who made the appropriate report and then engaged in the (nonverbal) target behavior during a brief observation period were told, "Yes, you really did play with puzzles, didn't you?" and were allowed to consume the snacks. This constituted the reinforcement of the verbal-nonverbal correspondence condition in the present procedure. Children who made the appropriate report but did not actually play with a puzzle were told, "You didn't really play with puzzles, did you?" and were not allowed to eat the snacks. Other applications of this procedure can be found in Israel (1973), Karoly and Dirks (1977), Paniagua (1987), Paniagua and Baer (1982, 1985), and Paniagua et al. (1988). A symbolic description of this procedure is noted in Figure 5.

In Figure 5, the subject makes a report about future behavior (e.g., "I'll paint") which is followed by the setting-up (presentation) of the reinforcer. The delivery of the reinforcer occurs only after the manifestation of the report-do correspondence. If the subject does not emit the target verbal behavior, prompts might be used (e.g., "Say that you'll paint").

Immediate Reinforcement of Intermediate Behavior

In this procedure, a correspondence between a report of future behavior and corresponding intermediate behaviors is emphasized. Intermediate behaviors are those behaviors which occur between a report of future behavior and its future fulfillment in a report–intermediate behavior–do sequence (e.g., Paniagua, 1978; Paniagua & Baer, 1982; Paniagua et al.,

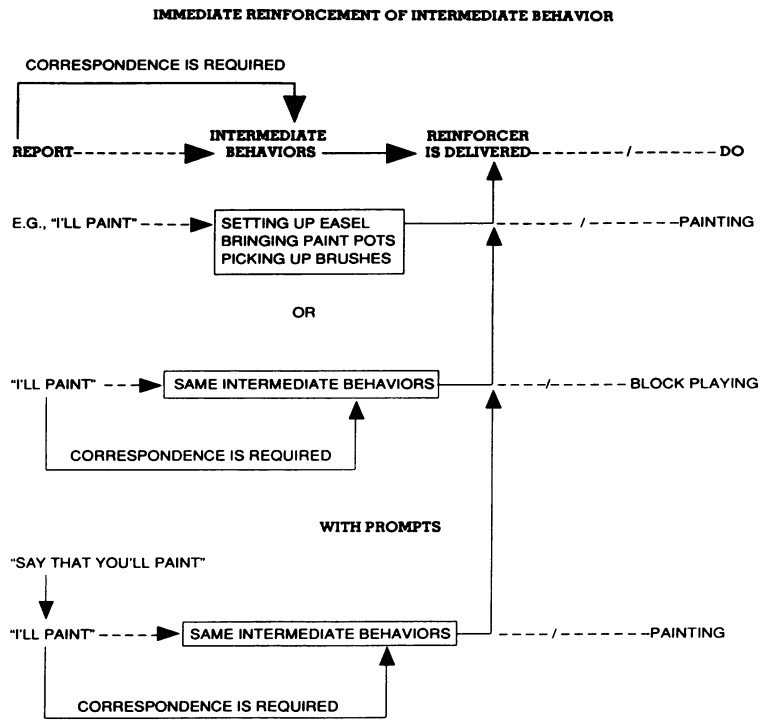

Figure 6. The immediate reinforcement of intermediate behavior procedure, in which the reinforcer is delivered contingently upon the intermediate behavior regardless (/) of the occurrence or nonoccurrence of the target nonverbal (Do) behavior. The correspondence that is reinforced is the report-intermediate behavior relationship. Prompts might be used to establish the desired verbal behavior.

1982). In this procedure, the reinforcer is delivered immediately after each intermediate behavior *regardless of the occurrence or nonoccurrence* of the target (nonverbal) behavior. However, the reinforcer is not delivered unless the subject makes a report of future behavior. For this reason, the correspondence that is reinforced in this procedure is the report–intermediate behavior relationship. For example, in the study by Paniagua et al. (1982) children's reports about future painting (e.g., "I'll paint") were followed by a series of intermediate behaviors (e.g., setting up paper on an easel). Each intermediate behavior was immediately reinforced, regardless of the occurrence or nonoccurrence of the target (painting) behavior. In this study, at the end of the chain of intermediate behaviors (i.e., picking up brushes) children were observed for a brief period to record their actual performance on the target (painting) behavior. This procedure can be named "immediate reinforcement of intermediate behaviors" and it can be described in terms of the report–intermediate behavior–do format as noted in Figure 6.

In Figure 6, a report about future behavior (e.g., "I'll paint") is followed by a series of intermediate behaviors (e.g., setting up easel). The reinforcer is delivered contingently upon the correspondence between that report and its corresponding intermediate behaviors. Prompts might be programmed to establish the target verbal behavior in the verbal–intermediate behavior chain.

Reinforcement Set-up Upon Intermediate Behavior

Reinforcement set up upon intermediate behaviors is similar to reinforcement set-up upon reports. In this procedure, a token is given to the child after each intermediate behavior. Immediate-

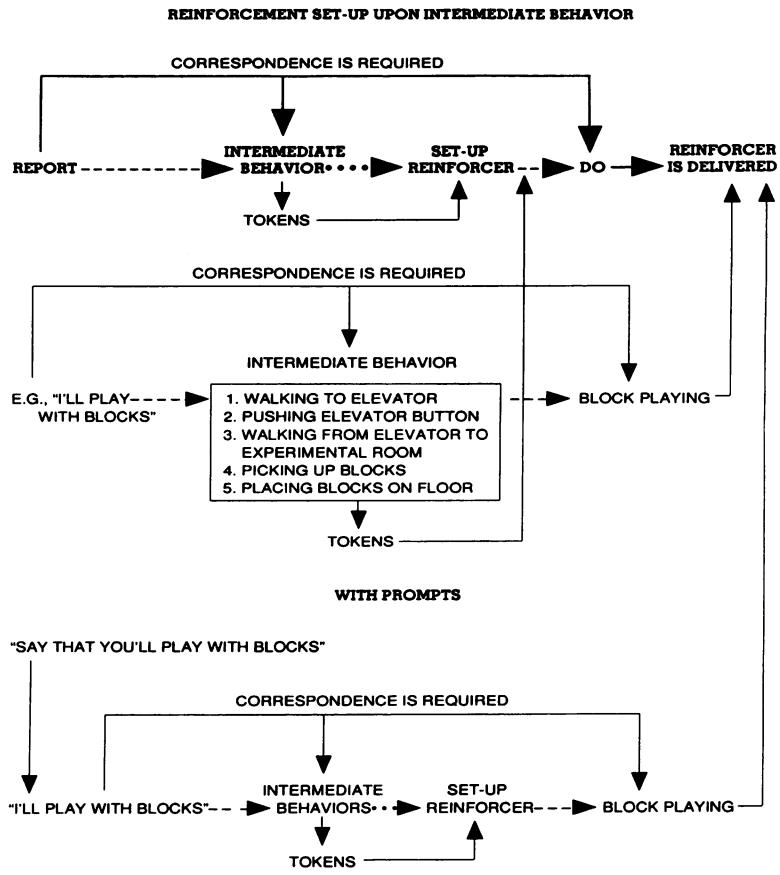

Figure 7. The reinforcement set-up upon intermediate behavior procedure, in which tokens are given contingently upon intermediate behaviors and changed for a tangible reinforcer after the emission of a set of intermediate behaviors. This (tangible) reinforcer is shown to the subject (the set-up condition) and later delivered contingently upon the occurrence of a report-intermediate behavior-nonverbal behavior relationship. Prompts might be used to establish the desired verbal behavior.

ly after the emission of the last intermediate behavior, tokens are changed by a tangible reinforcer which is shown to the child (the setting-up condition) and later delivered contingently upon the occurrence of the nonverbal behavior corresponding to an earlier report about future behavior. In this procedure, a correspondence between reporting and the target (nonverbal) behavior is required for the delivery of the reinforcer, but the reinforcer is placed in the child's presence after the emission of a set of intermediate behaviors instead of placing it after the child's report (as in the reinforcement set up upon reports procedure). It should be noted that in the present procedure two correspondences are required for the actual delivery of the reinforcer: the correspondence between a report of future behavior and its corresponding intermediate behaviors and the correspondence between the report and the occurrence of the target (Do) nonverbal behavior in the report–intermediate behaviors–do chain.

For example, in the study by Paniagua and Baer (1982), each intermediate behavior was followed by a token plus a statement by the experimenter describing the child's intermediate behaviors (e.g., "You pushed number four [in the elevator] so the elevator will take you to your special play room"; "You are placing the blocks on the floor," etc.). Immediately after the emission of the last

intermediate behavior (i.e., placing the blocks on the floor), the experimenter said "I will change these tokens for this toy ... You make take the toy later." The present procedure is schematized in Figure 7 (using examples of intermediate behaviors reported by Paniagua & Baer, 1982).

In Figure 7, a report about future behavior (e.g., "I'll play with blocks") is followed by a series of intermediate behaviors (e.g., picking up the blocks). Tokens are given to the subject each time an intermediate behavior is emitted. At the end of the last intermediate behavior, tokens are changed by a tangible reinforcer which is presented (the set-up condition) to the subject and later delivered contingently upon the report–intermediate behavior–do correspondence. Prompts might be used to quickly establish the verbal behavior during the verbal–intermediate behaviors–nonverbal behavior chain.

SUMMARY AND CONCLUSION

The aim of this paper was to identify procedures in the correspondence training literature and to name them in terms of procedural manipulations used by investigators. Previously, experimenters have used general terms that have not clearly and unambiguously specified the procedures used. This article argued that a terminology more accurately describing actual procedures, rather than the conceptual function that those procedures are presumed to serve, would benefit the area of correspondence training. I found that a total of seven terms would serve to subsume all the correspondence training procedures and that these seven terms clearly distinguish among the procedural activities of researchers. These correspondence procedures can be classified, or grouped, into nonoverlapping categories by specifying the critical dimensions of those procedures belonging to a single category.

The present classification of correspondence training procedures could stimulate research in the area of comparative studies. For example, Israel and O'Leary (1973) and Paniagua and Baer (1982) found that not all correspondence training techniques are equally effective in controlling the play behavior of children. Also needed are comparative correspondence training studies to investigate the clinical significance of each procedure in the management of behaviors of educational and clinical significance including, for example self-care skills (e.g., bed making), helping behaviors (e.g., trash removal), pro-social behaviors (e.g., sharing), and disruptive behaviors (e.g., hyperactivity, oppositional behavior).

Comparative component analyses could also be stimulated with the present classification. For example, in the reinforcement–set-up-upon–reports procedure both the set up and the delivery of reinforcers appear critical. This could be experimentally investigated, in which case procedures involving set up only (with delivery of reinforcers never occurring) would be compared with the current procedure which involves both set up and delivery of reinforcers. Similarly, in the case of procedures emphasizing intermediate behaviors the function of these behaviors in the control of the target behavior also appears critical. For example, procedures involving intermediate behaviors could be compared with those emphasizing the verbalization and the target behavior only, to evaluate the critical aspect of intermediate behaviors in facilitating the occurrence of the target behavior.

The present procedural analysis of correspondence training techniques could also be considered in future reviews of the literature. Despite the large number of correspondence training studies in the literature, the field has not yet been reviewed in terms of critical parameters including, for example, target behaviors, target population, measurement and reliability, settings, experimental designs, and correspondence training procedures. Either narrative or meta-analysis reviews (see Kazdin, 1988, pp. 32–40) are needed, to provide not only an organization of the entire field of correspondence training but also to indicate future direc-

tions for research and clinical applications in the area. The present procedural description of correspondence training procedures would be particularly relevant for meta-analysis reviews in the field, in which the effect size (ES) for each procedure could be calculated across specific target behaviors using the equation suggested by Smith and Glass (1977). The overall ES of correspondence training procedures in the control of behaviors of clinical significance could also be compared with the overall ES for other behavioral and nonbehavioral procedures targeting similar behaviors. This meta-analytic review would not only provide an estimate of the magnitude of correspondence training effects (using Cohen's [1988] suggestion of ES = .20 for low, ES = .50 for medium, and ES = .80 for large effect size), but could also lead to the identification of new areas of investigation in basic and applied research in the field of correspondence training.

The present analysis suggests that comparative analyses and reviews of the literature (in particular meta-analytic reviews) will be easier to accomplish if procedures are grouped in terms of how experimeters actually intervene and if each group is distinguished by labels that reflect those interventions.

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