



Effects of a Token Economy on Overhand Throw Performance

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Abstract

Background/Purpose: Despite the recommendations for the use of token economies (Lavay, French, & Henderson, 2006), few studies have examined their effectiveness within physical education settings. Therefore, the purpose of this study was to examine the effects of a token economy on the overhand throw performance of elementary physical education students.

Method: Nine second grade students were selected from an intact class. Students participated in ten overhand throw sessions, consisting of five throws per session. A multielement design, a single-case variation, was used, consisting of two alternating phases: baseline and token economy. During baseline phases, participants performed the throwing task while peers performed a process assessment. During token economy phases, token reinforcement was added; peers rewarded their partners with tokens based on the results of their assessment.

Analysis/Results: The researcher observed videos of each trial and assigned each a score. The skill was divided into four components; one point was awarded for each component performed correctly. Scores for baseline and token sessions were plotted on a graph and inspected for response differentiation between the two phases. Analysis revealed the token economy was effective in six out of nine participants. Additionally, eight out of nine participants increased the number of overhand components performed correctly during token phases by 10 to 27% per session.

Conclusions: A functional relation between token reinforcement and overhand throw performance was evident in most participants. Therefore, token reinforcement can be effective in helping students increase achievement and can be an effective tool for physical educators.

Background

Achieving competency in a variety of motor skills during physical education is of great importance (Pangrazi, 2004; Stodden, Langendorfer, & Robertson, 2009). Some techniques based in applied behavior analysis (ABA) have been shown to aide in the improvement of motor skills (Ward & Barrett, 2002). However, one technique based in ABA, the token economy, has been mostly overlooked by physical education researchers, despite recommendations for its use (Lavay et al., 2006).

Purpose

Token economies have been found useful in several physical activity settings to improve an array of behaviors. However, no studies were identified that examined their effectiveness in physical education with typically developing children. Therefore, the purpose of the study was to examine the effects of a token economy on overhand throw performance of typically developing second grade physical education students.

Method

Participants: Nine typically developing second grade students (4 girls, 5 boys) as well as their physical education teacher served as participants.

Experimental design and procedures: A multielement design was used to evaluate the effectiveness of the token economy, which alternated between two conditions: baseline and token economy. A functional relation could be determined if response differentiation occurred between the two conditions (Kennedy, 2005).

- **Baseline** – participants performed five trials of the overhand throw while a partner performed a peer process assessment on two components of performance: (1) side to target and (2) step toward target with opposite foot.
- **Token economy** – similar to baseline, participants performed five overhand throw trials while being assessed by a peer. However, after each trial, partners would reward the thrower with a token for every component performed correctly. Throwers could earn two tokens per throw and up to 10 tokens per session. Participants had the opportunity once a week to exchange their earned tokens for a variety of prizes.

Data analysis: Videos were recorded of each session. The researcher observed each video and assessed the quality of overhand throw performance based on four operationally defined criteria: (1) side to target, (2) step with opposite foot, (3) arm back and throw, and (4) follow through. Each correctly performed component resulted in one point; participants could earn four points per throw and 20 per session. Results were then plotted on individual graphs to assess response differentiation between the baseline and token economy sessions (see Figure 1).

Results

Six out of nine participants showed response differentiation between conditions (see Figure 1). Additionally, eight participants increased the number of components performed correctly per session by 10 to 27%.

Conclusions

Based on the results of the study, it was concluded that the token economy was effective in improving the overhand throw performance of most of the participants. Also, the token system was implemented with the second grade class with relative ease. Taken together, these two results indicate that the token economy can be an effective and appropriate tool for physical educators.



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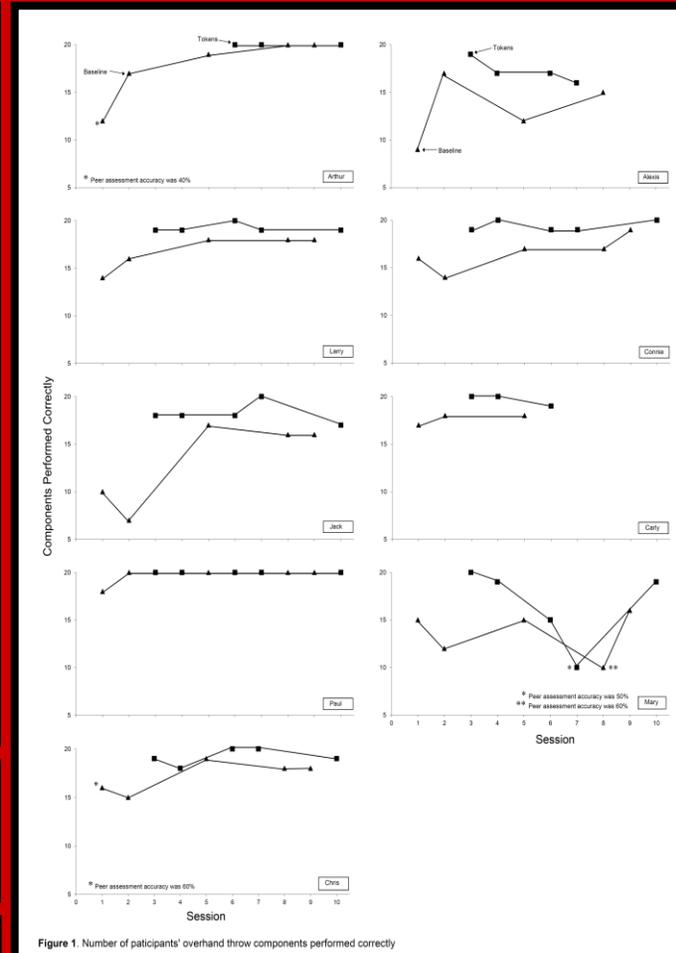


Figure 1. Number of participants' overhand throw components performed correctly

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