

Running head: IMPLEMENTATION OF TOKEN ECONOMIES

Implementation of Token Economies in School Settings

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Token economies can be a useful classroom management strategy. A token economy typically involves certain rules for how students may gain and/or lose tokens, and the tokens may be redeemed for a reward, which should be reinforcing for the student (Alter, Wyrick, Brown, & Lingo, 2008). Token economies allow teachers to 'reward' students symbolically with tokens to represent the actual reinforcement, which the student will receive in the future, so that the rewards are not frequently disrupting instruction or interfering with other students' learning. There are many different variations, which may be used for implementing token economies and they can be used in conjunction with other strategies or programs as well. Token economies are often used for individual students but class-wide programs are also used at times (Filcheck, McNeil, Greco, & Bernard, 2004). Additionally, self-monitoring can be used with a token economy to give students more control and responsibility. Self-monitoring involves the student marking their own behavior, positive or negative, and consulting with a teacher to verify their responses (Zlomke & Zlomke, 2003). The purpose of this research paper is to examine whether a token economy is more effective for targeting certain behaviors, such as completion of tasks or reduction of inappropriate behaviors, the effectiveness of a class-wide token economy versus an individual program, and whether a self-monitoring aspect to a token economy can increase or decrease the effectiveness of the program.

Behaviors Targeted by the Token Economy

Klimas and McLaughlin (2007) studied a female kindergarten student with a developmental disability who had difficulty completing assignments in the

classroom. The student would engage in behaviors such as hitting or kicking, running around the classroom, and not participating in classroom discussions or activities. An ABC single-subject design was used in this study. The student was given instructions as to how to complete a task and then the duration for how long it took the student to complete the task was recorded. Additionally, the number of assignments the student completed during the 30-minute period was recorded and the number of inappropriate behaviors during that period as well. The student received a token for each assignment she completed. During the B portion of the design the student was able to choose a preferred activity after receiving three tokens, and during the C portion she was able to choose an activity after five tokens. The amount of time it took to complete an assignment during the baseline condition was 10.0 minutes, during the three token portion it was 4 minutes, and during the 5 token portion it was 4.57 minutes. The amount of inappropriate behaviors during the baseline period was an average of 3.33 per 30 minutes, zero inappropriate behaviors were exhibited during the three token system, and one inappropriate behavior was done during the five token system. It appears that the three token system was the most effective, although the five token system was still a significant improvement over the baseline conditions. This study indicates that both academic task completion and inappropriate behaviors can be influenced in a positive way by a token economy.

A nine-year old male student with ADHD was studied by Alter, Wyrick, Brown, & Lingo (2008) to research the effect of a token economy and chaining on math problem solving skills. Similar to the student in the Klimas and McLaughlin

(2007) study, this student had difficulty with completing work, specifically math word problems, and often would not even attempt to complete them. This student is different however, because it seems that these problems were a significant challenge and he had not learned the correct way to complete the problems, whereas, in the Klimas and McLaughlin (2007) study it seems the student just refused to do any tasks in the classroom, even easy ones. This nine-year-old was in a general education class approximately 50% of the school day and a pull-out program approximately 50%. An ABAACBC single-subject design was used. B represents the pull-out program using the token economy intervention, and C was the general education teacher using the token economy in addition to the pull-out program. During the first condition, in his pull-out class a card with the several steps such as “read the problem” and “paraphrase the problem aloud” (p. 4) was given to the student to use when solving word problems, and the card was explained and modeled with a sample problem. The student was then given a point for each step he completed from the card while solving problems. His on-task behavior increased during his pull-out program significantly but did not improve during the general education class. His off-task behavior was also monitored during his general education class in the second condition and he was given points at variable times by his teacher when she noticed he was on task. His on-task behavior then increased, showing that he did not necessarily generalize his behavior from the first condition until the token economy was actually implemented in his general education class as well. This student had attention difficulties as well as problems completing

academic tasks, and a token economy proved to be effective although not necessarily generalized to different classes or environments.

Stevens, Sidener, Reeve, and Sidener (2011) studied two male students, one 15 years old diagnosed with autism and one 6-year-old diagnosed with pervasive developmental disorder, not otherwise specified. The type of design was “A multiple-probe design across participants with an adapted alternating treatments design within participants” (p. 667). Data were collected from sessions in which the student was expected to vocalize the name of an object in a picture. There were three conditions in which either, only a token was given for a correct response, a token plus praise that was behavior-specific was given, or a token plus some general praise was given. The study found that the number of correct responses increased for each of the conditions after the baseline was established, however the study did not find any significant differences between the three conditions, showing that it is possible the token alone was reinforcing enough for both participants. This study focused on students with ASD who were at a lower level of functioning and indicate that praise may not be completely important for all students if they are being given tokens to earn a tangible reward. Specific praise is often still important; however, to ensure students know what it was they did well. This study also indicated that a token economy can be effective for task-related behavior for students who are lower-functioning.

Token economies can also often be effective when focused on decreasing inappropriate behaviors. Higgins, Williams, and McLaughlin (2001) studied a third grade male student with learning disabilities who was in an inclusive classroom.

The teacher and paraprofessional in the class noted that the student had three main problem behaviors, which were: getting out of his seat, talking out, and not sitting with proper posture in his seat. These three behaviors were targeted during the study. The study used a multiple baseline design across behaviors. The researchers observed during a 20-minute period each day during the baseline period and recorded the number of times the child engaged in a particular problem behavior. After an appropriate baseline was established for that behavior, the researcher moved on to the second and third behaviors. The token economy began after this and the student was given a check mark when he behaved appropriately for one minute, meaning that he did not engage in the specific targeted behavior, lasting for 20 minutes each day. The other two behaviors were added to the initial behavior so that the student could earn three check marks per period for not engaging in the inappropriate behaviors. The number of checkmarks earned at the end of the session was divided by two and that number was the number of minutes the child could have to do a preferred activity. The average number of talkouts went from 6 during baseline to .8 during the token economy, the average number of times getting out of seat was 1.9 during baseline and .2 during token economy, and the poor posture was 11 during baseline and 5.0 during the token economy intervention. These show significant decreases in inappropriate behaviors during the token economy phase, and there was a check for maintenance 10 and 12 days after the intervention was discontinued and similar low levels of inappropriate behavior were still found.

Class-wide Token Economy

Token economies for individual students may be appropriate in certain situations, but in situations where there are multiple students in a class with mild behavioral problems, a whole class token economy may be more practical. Filcheck et al. (2004) mention several disadvantages of individual token economies being used in a classroom. One disadvantage is that the teacher may have difficulty keeping track of each system and without enough staff members it could interfere with instruction. Another disadvantage is that the students who do not have token economies may feel left out or their parents may object to their children not receiving that attention. Lastly, if only certain students have token economies this can make them more noticeable to other students and increase isolation.

Filcheck et al. (2004) studied the effect of a token economy on the behavior of an entire preschool class. The teacher and paraprofessional were taught how to implement a token economy, specifically the Level System program (McNeil & Filcheck, in press, as cited in Filcheck et al., 2004). The program involves a chart with seven levels, three positive, three negative, and one neutral. Each student has a marker of some sort (triangle shape, kite, dinosaur, etc.) that may move up or down on the chart. The students all begin on the neutral level, and if they exhibit a positive behavior they move up one spot and if they exhibit negative behavior they move down a level. McNeil and Filcheck advise giving a warning to a student who exhibits a mildly negative behavior and moving them down a level if they continue the behavior, and if a student exhibits a highly negative behavior, such as hitting a peer, they will automatically move down a level. The teachers are also trained to give specific praise when moving a student up a level. About two to four times per

day the students who are in the positive, or “sunny” levels, receive some sort of reward while the other students continue with the normal class activities. After the reward is given each student is put back in the neutral level.

The class Circle Time was videotaped each day and the researchers viewed the tapes and counted the number of inappropriate behaviors exhibited by all children throughout the Circle Time period. The number of behaviors was divided by the number of students, and then this was divided by the number of minutes observed to establish the number of inappropriate behaviors per child per minute. An ABACC’ treatment design was used to compare the effects of the Level System token economy with other programs which were the Child-Directed Interaction (CDI) and Parent-Directed Interaction (PDI) phases of Parent-Child Interaction Therapy (PCIT). The B was the Level System and C was CDI, while C’ was PDI. The PCIT is a program of CDI, in which parents (and the teacher in this case) are taught skills to use such as specific praise and description and PDI in which the parents (and teacher) are taught to use a certain time-out procedure, giving choice statements, and giving instructions effectively. The mean number of inappropriate behaviors per child was .45 during baseline, .29 during use of the Level System, .21 during withdrawal phase, .12 during CDI, and .06 during PDI. This shows that problem behaviors decreased while using the Level System but decreased even more during CDI and PDI (Filcheck, et al., 2004).

The level of treatment integrity was not very consistent with the Level System, falling below 80% seven times, so the Filcheck and colleagues caution that more studies must be done with teachers or researchers who are able to be more

consistent. This study indicates that a token economy can be effective for some classrooms but there may also be other class-wide programs that are even more effective (Filcheck, et al. 2004). Another consideration for a class-wide system is that for an inclusive class with students with disabilities, they may need a more individualized program. Issues may arise such as the rewards not being reinforcing for some students because they are always the same for the whole class and chosen by the teacher, so that may need to be changed.

Token Economies with or without Self-Monitoring

Self-monitoring of behavior is a great way to get students actively involved in their own behavior management. One issue with self-management is that students with significant intellectual disabilities or autism may have difficulty or be unable to follow such a program. Teachers should ensure the student understands the concept of self-monitoring. Zlomke and Zlomke (2003) studied a 13-year-old male student with Bipolar Disorder and Conduct Disorder in a public school setting to determine whether a token economy alone or one with self-monitoring would be more effective in reducing problem behaviors. The student was in a self-contained special education classroom. An ABCB single subject design was used in this study. Data were collected sixteen times per day at school and were divided into three categories of behavior: minor, disruptive, and aggressive. The sixteen times were after fifteen minute periods, so the student could earn three points during each fifteen minute period if he did not engage in any of the three categories of inappropriate behaviors. The token economy plus self-monitoring was implemented after the token economy alone condition. The self-monitoring

involved the student having his own card to record his inappropriate behaviors during the periods. The student earned one extra point per period if his record matched the teacher's record. The token economy alone condition was then implemented again after the token economy plus self-monitoring condition.

Zlomke and Zlomke (2003) found that there was a significant reduction in inappropriate behaviors from the baseline to the token economy phase, from a mean of 118 to a mean of 63, and then an even greater reduction during the token economy plus self-monitoring phase, which had a mean of 7.75. When the token economy alone condition was implemented again the inappropriate behaviors increased somewhat to a mean of 12. The self-monitoring condition clearly decreased the inappropriate behaviors significantly, indicating that although the token economy alone was effective, self-monitoring can be extremely useful for some students.

Another study of two five-year-old male students with Asperger's syndrome used an ABACABAC research design to determine whether a token economy or a self-management strategy would be more effective to increase the following of classroom rules (Shrogen, Lang, Machalicek, Rispoli & O'Reilly, 2011). B was the token economy phase and C was the self-management condition. There was a school-wide positive behavior support program already in place, which had a token system; however this general program was not effective for these two students. There were three main classroom rules that the study focused on, which were stay in your own space, keep hands to yourself, and do what the teacher tells you, and these were measured during center time which was approximately 45 minutes long.

After the baseline condition ended and before the token economy began, both of the students were brought into a room with the researchers to review the classroom rules with examples and non-examples on videotape that the students identified. For the token economy condition, during 10-minute sessions within center time, the students were given either a smiley face or an X if they did or did not follow all three of the rules on their data sheet, which stayed near them. If they earned three smileys during that center time period they earned their chosen reinforcer. The self-management phase involved the same data sheets but they were given to the students with a marker and the students were able to keep the sheets with them at each activity and mark their own sheets with smileys or Xs. The students were informed that if they brought their sheets to each activity and accurately marked their behavior then they would earn their reinforcer after center time. After the first three days with simple prompts they were able to remember the sheets and marked them accurately with few exceptions.

The results of Shrogen et al.'s (2011) study indicated that the students followed the rules significantly more in the token economy condition than in the baseline, and even more in the self-monitoring condition than both the baseline and token economy conditions. The return to baseline condition resulted in significantly decreased rule following behavior, close to the behavior in the original baseline condition, and the classroom teacher requested the baselines be reduced as much as possible because of the disruption. This study, similar to Zlomke and Zlomke's (2003) study, shows that a token economy can significantly improve behavior but when paired with a self-monitoring aspect can even further increase appropriate

behaviors in children with disabilities. This study focused on children with Asperger's but Zlomke and Zlomke's (2003) study involved a child with E/BD showing that self-monitored token economies can be versatile programs.

Further research can be used on token economies because of the vast array of options for implementing such a program. Class-wide systems do not seem to be researched thoroughly and since inclusive classrooms are now quite popular it may be useful to do further studies on the effectiveness of different types of token economies for whole classes with children of varying intellectual levels and behavior. Self-monitoring also seems to be highly effective for some students so further research about the practicality of self-monitoring for students who are lower-functioning may be useful because it can help increase independence and instill a sense of responsibility in students.

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