

Using Class Dojo to Support Student Self-regulation

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Abstract: Students' self-regulatory skills are linked to success and positive self-motivation both in school and in later life. This study examined the effects of the use of an internet-based behavior tracking and reporting system on student self-regulation. Class Dojo was used to give students awards for specific positive classroom behaviors. Students reviewed their daily behavior scores, and the entire class discussed aggregated behavior scores weekly. Students were able to monitor their progress and create their own behavior goals leading to an increase in positive and self-monitoring behaviors and a decrease in negative behaviors.

An important aspect of a child's education is the development of self-regulation skills; such abilities will transcend the educational experience to become life skills (Zimmerman, 2002). McClelland and Cameron (2011) identified self-regulation as "a key construct in children's healthy and adaptive development" (p. 29). Zimmerman (1996) linked students' use of self-regulatory skills, including using specific strategies and setting goals, to students' success and positive self-motivation. Self-regulatory skills can be encouraged in students but ultimately must be actively developed and used by the individual.

Zimmerman (2002) described self-regulation as the continuous cycle between the forethought phase, the performance phase, and the self-reflection phase. In the forethought phase, students engage in task analysis behaviors; next, students move into the performance phase, during which students exercise self-control. Then students move into the self-reflection phase, which consists of self-judging behaviors. Using the thoughts gathered in the self-reflection phase, self-regulated students adjust their approach as they again enter the forethought phase (Zimmerman, 1996; Zimmerman, 2002). Self-regulated students continuously circulate and adapt through this cycle.

Promoting Self-Regulation

Reward Systems. B. F. Skinner (1987) hypothesized that student behavior can be understood through the motivations, reinforcers, and punishments imposed upon students by teachers. Student motivation, Skinner theorized, can be manipulated by teachers through systems of reinforcements and punishments to increase students' engagement and learning. Chance (1993) defended the use of an external reward system as an effective teaching and classroom management strategy. He claimed that a reward system based on Skinner's theories of reinforcement is ultimately effective for getting students to learn. He did acknowledge, however, that rewards must be used with care. Several other researchers have warned that a behaviorist reward system may have detrimental effects. Mader (2009) stated that students may become demotivated by external rewards because students then become focused on the short-term performance goals, fail to make long-term learning goals, and lose their internal motivation to learn. Kohn (1993) claimed that students lose their sense of autonomy and self-determination, and therefore their interest in learning and the topic, when regulated by a system of rewards.

Classroom Management. Though each educator's approach to classroom management is ultimately individual, based on his or her training, experiences, and beliefs, educational researchers have identified generalizable trends in classroom management systems and philosophy. Understanding one's teaching style is important because students react to teaching style with individual levels of engagement and academic success. In an extension on Baumrind's 1973 work, Walker (2009) concluded that an authoritative teacher, who demanded student self-management and high quality work in addition to providing nurturing to her students, achieved the desirable

combination of student engagement and student academic success. Grubaugh and Houston (1990) argued that the best-managed classrooms often are governed by a set of rules that both the teacher and the students have agreed are fair, desirable, and workable. Self-Brown & Matthews (2003) concluded that students in a contingency-contract controlled classroom set more goals than students in a token economy classroom or a classroom without a distinguishable classroom management system.

Technology Use: Educational researchers continue to stress the importance, relevance, and pervasiveness of technology in students' lives (Bolick & Cooper, 2006; Kimmel & Deek, 1996; Shields & Behrman, 2000; Solomon & Schrum, 2010). Alexander (2008) claims that students "live Web 2.0 digital lives" (p. 151). In the classroom, teacher use of technologies as learning resources necessitates a shift from teacher-centered to constructivist pedagogy because of the nature and intended usage of these technologies (Bolick & Copper, 2006). Using technology as a tool for learning is an important lesson for students. In particular, Web 2.0 and other communicative technologies open new avenues through which students, parents, and teachers might communicate and collaborate (Shields & Behrman, 2000). By interacting and providing mutual support, parents and teachers can help students have a consistent educational experience over the course of several grade levels; such consistency can contribute to a student's development of self-regulating behaviors (Walker & Hoover-Dempsey, 2006).

The Study

This study examined the use of the web-based tool Class Dojo to monitor students' positive classroom behaviors to encourage self-regulation. Tracking positive classroom behaviors and providing individualized access to daily behavior scores helped students monitor their own behavior and create their own behavior goals.

Class DoJo (www.classdojo.com) is an online system that allows teachers to record frequency of student behavior in teacher-generated categories over the course of a day or a class. This study focused only on positive student behaviors in six categories: asking questions, double-checking work, being on task, reading directions, using resources, and working quietly. The awards given by the teacher are stored and compiled by Class Dojo into various charts and representations (see Figures 1 and 2). The site retains information, organized by day, class, and student, until the teacher chooses to delete information. Students each have a username and password that they can use to log on and view their behaviors for a single class or day or trends over time. Reports can be accessed by students and parents using any Internet-capable device. The system also has an option through which the teacher can send behavior reports to parents detailing a child's behavior for a single class, a day, a week, or a longer period of time.

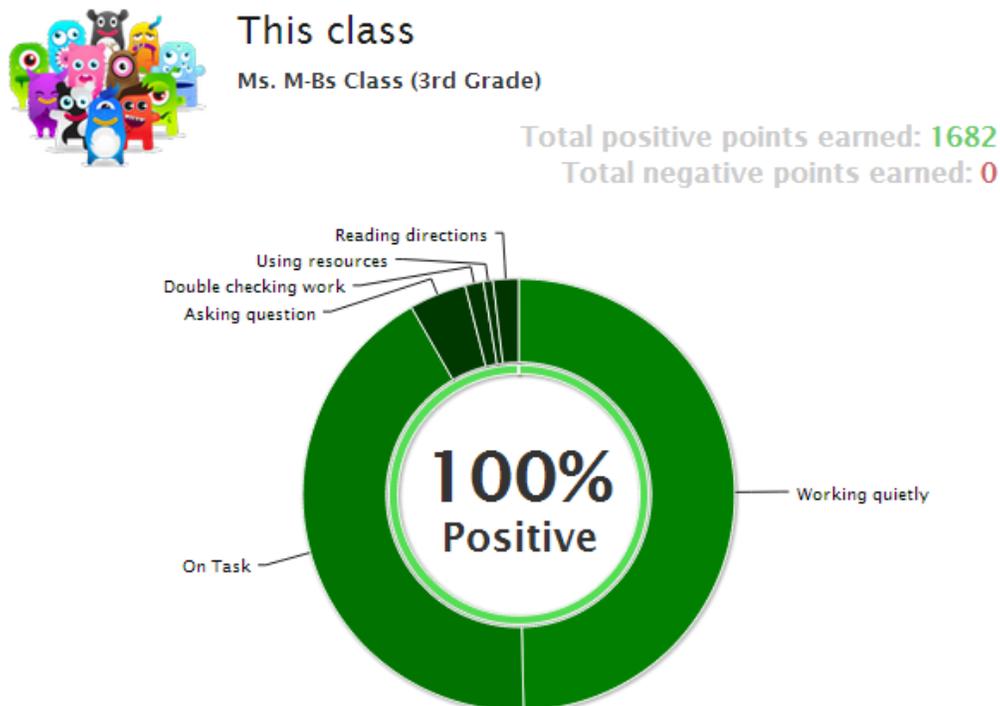


Figure 1. Class Dojo summary report of total awards given to the class.

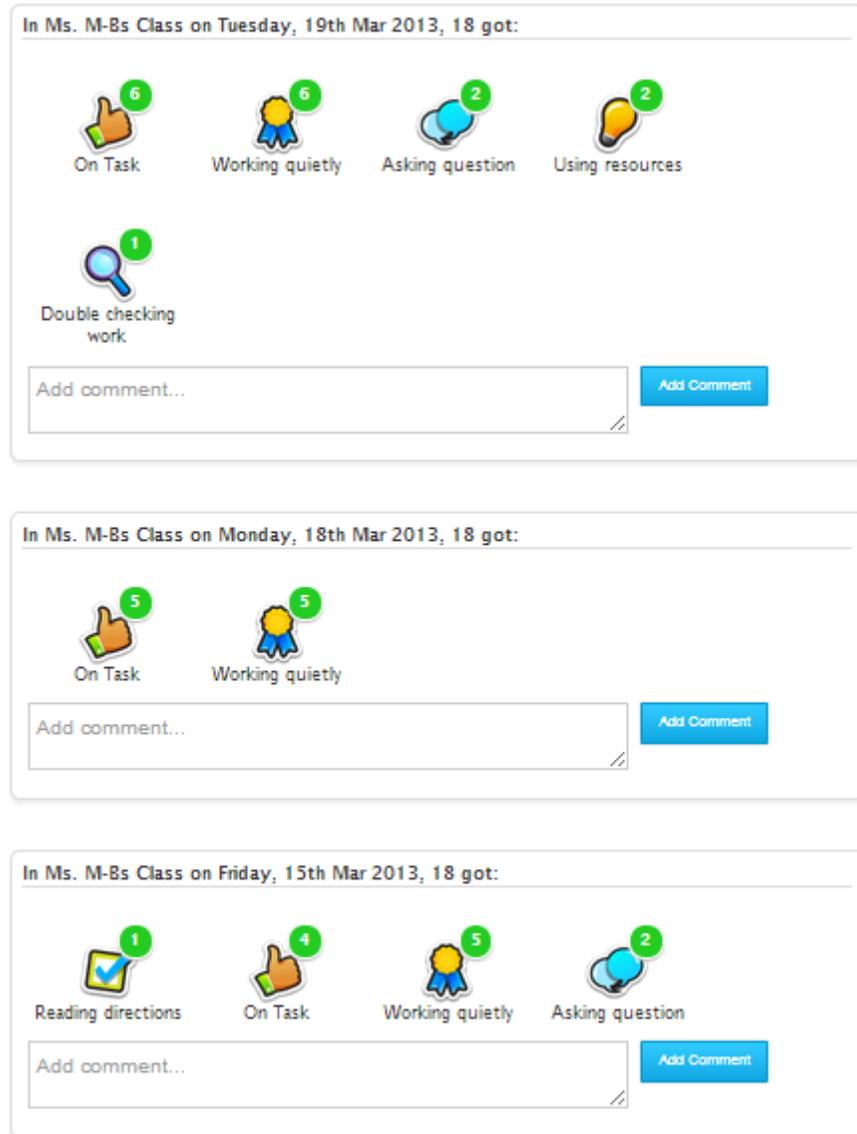


Figure 2. Class Dojo report of daily awards given to a student.

Methods

This study was conducted in a third grade classroom in a public elementary school in the mid-Atlantic region. The class consisted of 24 students ranging in age from 8 to 10 years old; 23 students participated in this study. The parents of seven of the students reported to the teacher that their child had been diagnosed by an outside professional with Attention Deficit Hyperactivity Disorder (ADHD), and some of those students were being medicated in accordance with doctor recommendations. The class also contained one student designated as an English Language Learner.

To begin the project, positive learning behaviors were discussed in a collaborative conversation with students. Class Dojo was used only to record positive behaviors to be reinforced. Implementation was exclusively during independent work time to maximize students' opportunities to engage in self-regulatory behaviors and to reduce disruptions to instruction. For 10 minutes on Friday afternoons, the aggregated class score for the week was projected, which sparked class-wide conversation about what went well that week and to identify areas of possible improvement. In weekly one-on-one meetings with the teacher, each student graphed his/her individual behavior scores for the week and set goals for the next week.

Before introducing the Class DoJo system, two observers recorded the frequency of targeted student behaviors during 30 minutes of independent literacy work time. The same observers returned after three weeks of Class DoJo use and completed the same checklist of self-monitoring behaviors and disruptive behaviors. Class DoJo was used to record positive behaviors throughout the period of the study. Students' affective response to the Class DoJo system were assessed using anonymous open-ended surveys.

Each category on the behavior checklist was compared between the pre- and post-Class DoJo observation to identify significant change in class behavior trends. Student essays were examined to identify general trends in students' attitudes toward the use of Class DoJo.

Results

To calculate change in behavior frequency, the average from the two pre-Class DoJo behavior checklists was compared with the average from the two post-Class DoJo checklists (two observers each completed one pre- and one post-DoJo behavior checklist during a 30 minute independent literacy work time). Data collected and analyzed reflects the change in frequency of each specified behavior for the entire class. Table 1 presents the mean frequencies of the total behaviors for the class pre- and post-Class DoJo, change in mean frequency, and the percentage change between pre- and post-observations.

Table 1.
Mean Frequencies of Behaviors Pre- and Post-Class DoJo Implementation

	Mean Frequency of Behavior Pre-Class DoJo	Mean Frequency of Behavior Post-Class DoJo	Change in Mean Frequency	Percent change in Mean Frequency
Positive Behaviors				
Raised hands to ask question	2.5	6.5	4.0	44.0%
Interacting with directions	0.5	0.5	0.0	0.0%
Working quietly	90.0	103.0	13.0	6.7%
Focusing on work	89.5	102.5	13.0	6.8%
Using classroom resources	1.0	22.0	21.0	91.3%
Double-check work	5.0	29.5	24.5	71.0%
Negative Behaviors				
Talking to another student	13.5	2.0	-11.5	-74.2%
Disruptive behavior	1.5	0.0	-1.5	-100.0%
Not focusing on work	54.0	28.5	-25.5	-30.9%
Stood up and approached teacher with question	10.5	4.0	-6.5	-44.8%

Analysis of data indicates an overall increase in the frequency of positive and self-regulatory learning behaviors including raising hand to ask a question, working quietly, focusing on work, using classroom resources, and double-checking work. The frequency of students using classroom resources and double-checking work increased the most between pre- and post-observations, both in the number of instances of those behaviors and in the percentage change between pre- and post-observations. There was a decrease in the distracted and disruptive behaviors including standing up to ask questions (deemed negative because classroom rules mandate raising hand to minimize disruption), talking to another student, disruptive behavior, and not focusing on work. There was no change noted in the frequency of students interacting with directions.

In the post-Class DoJo open response survey, students were asked to write about what they liked about Class DoJo, what they did not like, and if and why they would want to use it again. Students identified several favorite aspects of the Class DoJo including the avatars ($N = 9$), the ability to see their scores ($N = 12$), and the opportunity to improve on their scores as things they liked ($N = 9$). The majority of students responded with some variety of "I liked everything" when asked to describe what they did not like ($N = 19$). A few students raised concerns about confidentiality ($N = 1$), technical difficulties ($N = 1$), reaching goals ($N = 2$), and being observed ($N = 1$). All but one student responded that they would like to use Class DoJo again, and identified fun ($N = 11$), improved performance in school ($N = 2$), and the avatars ($N = 4$) as reasons to use Class DoJo again. The student

who described hesitation to use Class DoJo again listed being watched and being required to write goals as reasons to not use Class DoJo.

It is interesting to note that Class DoJo was used during independent seat work time, with the teacher using an iPad to record positive behaviors as she moved around the room. It did not take long for students to recognize the procedure, so whenever the teacher picked up the iPad, students immediately sat up straighter, quieted, and got on task. This happened even when the teacher was not actually using the iPad to record behaviors in the Class DoJo system.

Conclusion

Results of this study indicate that the use of Class DoJo to monitor positive learning behaviors, as implemented in this study, engaged students in meaningful and effective conversations about their own learning behaviors, including strengths and weaknesses. Overall, students seemed to enjoy classroom use of the web-based system, and responded positively to the development of personalized behavioral goals. Positive learning behaviors and self-regulatory behaviors increased and negative behaviors decreased even though only the frequency of positive behaviors were tracked using Class DoJo. The study was limited by the restricted four-week time frame as well as the administration of required state standardized testing on four of the days in those four weeks. Future research might explore if there are more beneficial ways to implement Class DoJo by comparing the effects of tracking both positive and negative learning behaviors, and the effects of tracking student behaviors over a longer period of time. Research might also examine if Class DoJo is effective in supporting self-regulatory behaviors for students of different ages, as this study included only third-graders.

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