Student Goal Setting: An Evidence-Based Practice

Student Goal Setting

The act of goal setting is a desired competency area for students associated with the "learning-to-learn" skills students need to engage in deeper learning (William and Flora Hewlett Foundation, 2013). The act of goal setting, therefore, is a practice that educators can use to help fuel students' learning-to-learn skills, such as a sense of agency, intrinsic motivation, and capacity to manage their own learning. As an educational practice, teachers interested in promoting learning-to-learn skills ask students to engage in goal setting within group advisories, during one-to-one advising sessions, and as an integral component of the students' personalized learning plans.

Expanding State and Local Lists of Evidence-Based Practices

Schools that are interested in promoting student agency, intrinsic motivation, and other self-management skills may want to consider the evidence base for the array of strategies and structures associated with a focus on these intrapersonal skills. The Elementary and Secondary Education Act (ESEA) of 1965 (2015) (ESEA Section 8101(21)(A))[1] allows states to take a lead role in identifying suitable evidence-based practices. As outlined in Table 1, the U.S. Department of Education has established four levels to denote the strength of the evidence base for a particular intervention, educational strategy, or practice (U.S. Department of Education, 2016).

[1] All references to ESEA in this document refer to the Elementary and Secondary Education Act of 1965 as amended by the Every Student Succeeds Act of 2015.

Table 1. Four Tiers of Evidence

Strong Evidence

At least one experimental study that shows a statistically significant and positive effect without being overridden by other statistically negative evidence. Study must have a large, multisite sample with overlap in both setting and population.

Moderate Evidence

At least one quasi-experimental study that shows a statistically significant and positive effect without being overridden by other statistically negative evidence. Must have a large, multisite sample with overlap in either population or setting.

Promising Evidence

At least one correlational study with statistical controls that shows a significant and positive effect without being overridden by other statistically negative evidence.

Demonstrates a Rationale

Strategies that are based on a well-specified theory or logic model informed by research or evaluation that suggests a likelihood of producing positive benefits for students.

ESSA evidence standards: https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdf.

This resource focuses on one practice area—student goal setting. This resource includes a brief summary of the research, highlights promising goal-setting practices, and provides the results of a research evidence review[2] that indicates that there is promising (Tier III) evidence for the practice of student goal setting (U.S. Department of Education, 2018).

Student Goal Setting

The practice of goal setting is believed to increase students' goal-setting skills and also increase students' self-efficacy and intrinsic motivation to further their learning. In his synthesis of goal-setting research, Schunk (2003) explains that students use goals to direct their actions, assess their progress, and drive their own learning over time (Schunk, 2003). Locke and Latham (1990) explain that a key premise for goal theory is that that the nature of the goals that students set influences their performance, with higher goals being positively associated with higher task performance. Furthermore, goal theory suggests that the link between goal setting and task performance is mediated by a cycle of self-regulated learning. As explained by Schunk (1990, p. 71),

as learners work on tasks, they observe their own performances and evaluate their own goal progress. Self-efficacy and goal setting are affected by self-observation, self-judgment, and self-reaction. When students perceive satisfactory goal progress, they feel capable of improving their skills; goal attainment, coupled with high self-efficacy, leads students to set new challenging goals.

What Is the Research Evidence for Goal Setting?

There have been several decades of research on goal setting with many of these studies taking place between 1960 and the late 1990s in work place settings (Latham & Locke, 2007; Tubbs, 1986). Across the years, numerous studies have also been conducted with K–12 and college students. The results of these studies suggest that goal setting may be associated with multiple, positive benefits, for a range of ages and abilities, across academic subject areas and in varying geographic locations in the United States and abroad.

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[2] A review of selected research studies on student goal setting was conducted by the REL Midwest and approved by the Institute of Education Sciences (IES) in January 2018. The results of this review suggest that there is promising evidence for student goal setting. A summary of the results of this review is provided in Appendix A.

range of academic subject areas, including reading (Schunk & Rice, 1989; 1991), writing (Schunk & Swartz, 1993), foreign language study (Moeller, Theiler, & Wu, 2012), social studies (Zimmerman, Bandura, & Martinez-Pons, 1992), science (Meece, Blumenfeld, & Hoyle, 1988), and mathematics (Bandura & Schunk, 1981). Research on goal setting has also shown links with a range of outcomes associated with the deeper learning intrapersonal domain, such as self-regulated learning (Ames & Archer, 1988; Pajares, Britner & Valiant, 2000), self-efficacy (Bandura & Schunk, 1981; Schunk & Rice, 1989), intrinsic motivation (Murayama & Elliott, 2009), and cognitive engagement (Meece et al., 1988). For example, a large, correlational study of high school-aged students conducted in Japan (Murayama & Elliot, 2009) examined the joint influence of goal orientation and classroom goal focus on students' intrinsic motivation and self-concept in mathematics. This study found that, in classrooms where teachers emphasized a mastery goal orientation, students were more likely to adopt a personal mastery goal orientation. Students in these classrooms were also more likely to have higher intrinsic motivation. Conversely, in classrooms where students reported that teachers emphasized a performance goal orientation, students showed lower intrinsic motivation as well as lower self-concept. One five-year, correlational study of comprehensive high school students in 23 high schools[3] (Moeller et al., 2012) examined the relationship between participation in regular goal setting and second language performance. Although this study had a nonexperimental design, its descriptive findings offer a research rationale for how students' participation in a systematic goal-setting practice *might* lead to incremental growth in goal-setting ability, and subsequently to gains in academic performance over time.

Research on student goal setting suggests that this practice is associated with positive outcomes for students of differing ability levels, from those who are academically advanced (Ames & Archer, 1988) to those who struggle academically (Bandura & Schunk, 1981; Morisano, Hirsh, Peterson, Pihl, & Shore, 2010) to those students with identified learning disabilities (Schunk, 1985; Tollefson, Tracy, Johnsen, Farmer, & Buenning, 1984). Studies have also found positive benefits from goal setting for students of varying grades and ages. For example, a small study of elementary-aged students with low math proficiency showed that students had enhanced academic performance as well as increased intrinsic interest and self-efficacy when given proximal goals to pursue (Bandura & Schunk, 1981). Similarly, a study of struggling college

Mastery versus Performance Goals? Two Differing Goal Orientations

Another key factor in the goal-setting process is an individual's goal orientation. Individuals who are focused on gaining new knowledge and skills (i.e., the intrinsic reward of enhanced learning or skill) are said to possess a "mastery" goal orientation. In contrast, individuals who are focused on the completion of tasks and anticipation of extrinsic rewards, recognition, or status are said to possess a "performance" goal orientation (Dweck & Leggett, 1988).

The Joint Influence of Goal Orientation and Classroom Goal Focus

A large correlational study of high-school aged students in Japan (Murayama & Elliot, 2009) found that in classrooms where teachers emphasized a mastery goal orientation, students were more likely to have higher intrinsic motivation.

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[3] This study did not meet criteria for a strong correlational study because it did not include statistical controls such as prior grades or achievement.

students (Morisano et al., 2010) found that students who participated in a 4-month goal-setting intervention showed reduced academic anxiety and improved grades.

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As summarized above, numerous studies have been conducted on goal setting. However, few of these studies satisfy both the rigorous criteria associated with moderate and strong evidence-based practices as established by the U.S. Department of Education (2016) in its recent nonregulatory guidance for assessing evidence-based practices in accordance with ESEA standards, or include samples of students from U.S. secondary schools. A recent review of selected research sources (REL Midwest Educational Laboratory, 2018) indicates that student goal setting shows "promising evidence" (Tier III) as an intervention for contributing to positive student outcomes. Appendix A provides a brief description of the evidence review process, criteria, and highlights one featured study that meets the desired criteria.

Promising Goal-Setting Practices

Although numerous studies link goal setting with positive outcomes, research also suggests that positive outcomes can vary depending on the nature and types of goals set as well as the overall goal orientation

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Promising Evidence for the Practice of Student Goal Setting

A recent review of selected research sources (REL Midwest Educational Laboratory, 2018) indicates that student goal setting shows "promising evidence" (Tier III) as an intervention for contributing to positive student outcomes.

"By themselves, goals do not automatically enhance learning and motivation."

(Schunk, 2003, p. 162)

of the learner (Latham & Locke, 2007). For example, Chase et al. (2013) found that undergraduate student GPAs increased significantly after engaging in a short intervention that combined goal setting with an exploration of personal values, but those students who engaged only in academic goal setting without considering their personal values did not show the same benefit. Similarly, a study of fourth-grade students (Schunk, 1996) found that the act of self-evaluation, when combined with goal setting, significantly enhanced outcomes for students.

GOAL CHARACTERISTICS AND GOAL-SETTING CONDITIONS ASSOCIATED WITH POSITIVE OUTCOMES

In his review of the research literature on goal setting, Schunk (2003) outlines a number of characteristics of effective goals and associated strategies and conditions that have been found to enhance the positive benefits of goal setting for students. Other researchers have identified additional promising conditions and strategies that may enhance goal-setting benefits for students, including

- Setting goals that are "optimally challenging"—not too challenging and not too easy (Griffee & Templin, 1997; Schunk, 2003)

- Establishing goals that are proximal rather than distal in time frame (Bandura & Schunk, 1981)

- Articulating specific, rather than general, goals (Locke & Latham, 1990)

- Creating a classroom environment that emphasizes mastery goals (i.e., focusing on achieving a deep understanding of concepts and skills) and encouraging students to focus on setting mastery-oriented goals (Meece, 1991; Murayama & Elliot, 2009)

- Offering students opportunities to set their own goals (Gaudrea, 2012; Koestner, Leke, Powers, & Chicoine, 2002; Schunk, 1985)

- Accompanying the act of goal setting with other related steps such as planning, self-evaluation of performance, regular feedback, and reflection (Bandura, 1988; Gaa, 1979; Schunk, 1990, 1996; Schunk & Rice, 1991)

Conclusion

Goal setting in isolation cannot be assumed to produce positive outcomes for students. Like most instructional practices and interventions, the outcomes associated with student goal setting will vary depending on how educators design and implement their goal-setting strategies.

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Appendix A. Evidence Review: Student Goal Setting

To determine the evidence base for student goal setting, in June 2017, the Regional Education Lab (REL) Midwest conducted a scan of available research studies on goal setting published within peer-reviewed journals using the search term "student goal setting" to identify sources using ERIC and Google Scholar. Because this initial scan produced only two sources, an additional search was conducted by the Great Lakes and Midwest Regional Deeper Learning research staff. This subsequent search maintained the criteria for peer-reviewed studies but extended the timeline for publications (i.e., earlier than 2002), the location of studies (i.e., not limited to United States), and employed several additional search terms, including "personal goal setting," "self-concordant goals," "academic goal setting," "goal orientation," and "mastery/performance goals." This search identified more than a dozen potential studies. However, many of these studies included multiple interventions, lacked sufficient rigor, were more than 30 years old, or were conducted with populations substantially different from those found in K–12 secondary settings. Among these many studies four were selected that showed merit (i.e., that had a primary focus on goal setting, sufficient sample size, and included student populations generally reflective of secondary student settings). In two cases, the selected studies were representative of similar studies. These four studies were submitted to the REL Midwest for review by What Works Clearinghouse-trained reviewers. These reviewers employed an evidence review template based on the nonregulatory guidance from the U.S. Department of Education (2016). As shown in Table A–1, only one of the four studies submitted for review met the criteria for Tier III or higher evidence-based practices. The selected study that met these criteria is described along with the three additional studies reviewed that did not meet the criteria due to design, geographic location or sample characteristics. See Table A–1.

Table A–1. Evidence Review of Selected Goal-Setting Studies

Study	Level of Evidence	Study Design Highlights	Summary of Study Findings
Schunk, D. H. (1996). Goal and self-evaluative influences during children's cognitive skill learning. *American Educational Research Journal, 33,* 359–382	Promising evidence **Note:** The small sample size contributed to a lowered evidence tier for this experimental study.[a]	• Two small studies each with approximately 40 fourth-grade middle class students of varying racial/ethnic backgrounds • Experimental design • Examined how variations in the nature of goals and the practice of self-evaluation influenced the motivation and achievement of students.	• More positive math performance skill, self-efficacy, and persistence for students assigned to the "learning goals" (i.e., mastery goals) group. • The two studies showed that goals that were equivalent in difficulty, proximity, and specificity, but differed in whether they were mastery or performance-focused goals, were associated with differing outcomes. • Self-evaluation enhanced student learning, regardless of the goal orientation.

Study	Level of Evidence	Study Design Highlights	Summary of Study Findings
Murayama, K., & Elliot, A. (2009). The joint influence of personal achievement goals and classroom goal structures on achievement-relevant outcomes. *Journal of Educational Psychology, 101*(2), 432–447	Reviewers noted that this study was a well-designed and well-implemented correlational study with statistical controls for selection bias. Reviewers noted that this study would have met the standards for *Promising Evidence* if the study had been conducted in the United States.[b]	• 1,578 students in Grades 7–12 • 47 mathematics classrooms from 11 schools in Japan • Correlational study with statistical controls for selection bias • Study explores the relationship between student achievement goals, mathematics classroom goal structures, and students' intrinsic motivation and self-concept.	• Statistically significant positive relationship between students adopting mastery focused goals and higher intrinsic motivation. This relationship was consistent regardless of the goal orientation of their teachers. • For students with performance-oriented goals, their level of intrinsic motivation was found to vary depending on the goal orientation of their teachers • In classrooms where teachers emphasized a mastery goal orientation, students were more likely to adopt personal mastery goals. Students in these classrooms were also more likely to have higher intrinsic motivation. • Conversely, in classrooms with a performance goal orientation, students showed both lower intrinsic motivation as well as lower self-concept.

Study	Level of Evidence	Study Design Highlights	Summary of Study Findings
Morisano, D., Hirsh, J. B., Peterson, J. B., Pihl, R. O, & Shore, B. M. (2010). Setting, elaborating, and reflecting on personal goals improves academic performance. *Journal of Applied Psychology, 95*(2), 255–264.	Reviewers noted that the sample for this experimental study was undergraduate students, outside the age or grade range specified for this review (i.e., K–12). Moreover, the sample was drawn from a Canadian university, a setting not relevant to secondary school settings in the United States. This study was not formally reviewed.	• Explores the extent to which an online goal-setting program influences academic achievement for academically struggling students • 85 college students identified as having prior academic difficulties • Experimental design • Students randomly assigned to goal-setting intervention or control and had equivalent GPA and demographics at baseline • Postassessment conducted 4 months following the initial goal-setting intervention	• Goal-setting group showed higher GPA, subsequent course load, and reduced stress and anxiety than the control group.
Moeller, A., Theiler, J., & Wu, C. (2012). Goal setting and student achievement: A longitudinal study. *Modern Language Journal, 96*(2), 153–169.	This study did not include statistical controls for selection bias in the modeling of relationships between goal-setting capacity and language proficiency. Reviewers concluded that this study did not meet the standards for *Promising Evidence*.	• 1,273 students Grades 9–12 • 23 high schools • Examined relationship between goal-setting ability and second language performance • Correlational design without statistical controls for selection bias • 5-year longitudinal study	• Study reports that students gained increasing capacity in key goal-setting skills over time. • Study reports that students showed growth over time in their capacity to set goals, plan, and reflect on goals. This growth was positively associated with growth over time in language proficiency, independent of the quality of the classroom teacher.

[a] The Regional Deeper Learning Initiative identified three additional studies that used a similar design, had a similar sample size, and were conducted during a similar time frame as Schunk, 1996. These included: Bandura & Schunk, 1981; Schunk & Swartz, 1993; and Schunk, 1985. Full citations for these three studies are provided in the Reference section.

[b] The Regional Deeper Learning Initiative identified two additional U.S. studies that employed a similar correlational design with controls to examine the association of goal orientation and student outcomes. However, both of these studies were conducted 30 years ago and had a smaller sample than Murayama & Elliot, 2009. These two studies include: Ames & Archer, 1988; and, Meece, Blumenfeld, & Hoyle, 1988. Full citations are provided in the Reference section.