

Goal Attainment Scaling

Goal attainment scaling (GAS) is a technique for demonstrating the extent to which goals have been achieved on a common scale. When used for individual students, GAS is used to evaluate the student's functional change after the intervention or for monitoring students' counseling progress. However, GAS can also be used to evaluate student response to intervention (RtI) and for verifying the need for additional interventions. GAS can be used as part of a student's counseling plan, to evaluate the goals of a social-emotional learning curriculum delivered in the classroom, to determine the effectiveness of specific psychological services, or to measure progress of a professional's growth in regard to a given task.

One advantage of GAS is that it can be responsive to small changes. School psychologists, teachers, and/or parents can use the scales with some training. Even students can be taught to complete GAS ratings to self-monitor their own progress (which may increase a student's motivation to change behavior). GAS works best when school psychologists or teams set goals collaboratively to make sure goals are meaningful and valid and to make sure that goals are SMART; i.e., specific and behavioral, easily measured, attainable, relevant, and time limited. GAS can be used for progress monitoring or as an outcome measure.

GAS is a criterion-referenced measure using a scale with five levels of attainment represented by scores ranging from -2 to +2. For each level of attainment or progress toward goals, the school psychologist or team must describe the characteristics of each level. The several samples below indicate the degree of change or lack of change in a student's functioning, but these statements must be stated behaviorally in accordance with the goal that is set. In addition, the team would determine the 'impact' that was made of the intervention in regard to the student's progress toward the goal. Because GAS is often used for individuals, the impact determinants need to fit the capability of the student involved. For example, in the sample below, the baseline performance level might be established as falling at a -1 level. Therefore, Level 0 would indicate that the student met her/his goal. In this case Level 0 is designated the level that indicates that *some* progress has been made. This is positive-so this level would indicate that there has been some progress toward the goal.

Level	Descriptor	Impact
+2	Much higher/much more than anticipated outcome	Strong Impact
+1	Higher/somewhat more than anticipated outcome	Moderate impact
0	Projected level of performance	Mild impact
-1	Somewhat less than anticipated outcome	Baseline
-2	Much less than than anticipated outcome.	No impact

This is not the only way to describe scores. There are many ways a school psychologist or team might design a goal attainment scale. Below is another way to describe levels and determine the degree of impact that the 'Level' may indicate.

Level	Descriptor	Impact
+3	Better than anticipated	High impact
+2	Goal reached	Considerable impact
+1	Considerable progress towards goal	Moderate impact
0	Some progress towards goal	Mild or some impact
-1	Baseline	Baseline
-2	Less than baseline	No impact
-3	Considerably less than baseline	Deterioration

And still another way to design the goal attainment scale:

Level	Descriptor	Impact
+2	Behavior is much better than expected	High impact
+1	Behavior is better than expected	Moderate impact
0	Behavior is as expected	Mild impact
-1	Current Behavior	Baseline
-2	Behavior is worse or is deteriorating	No impact

Goal attainment scaling charts can become quite complex and include several goals. The school psychologist may use weighted goals with some goals more important than others. The school psychologist may use GAS weekly, or monthly, or quarterly for data collection. A GAS scale may be used as an outcome measure at the end of a semester or year.

Goal Attainment Scaling for Individual Students:

Many school psychologists provide counseling for individual students. When used for an individual student, the student's behavior is observed naturalistically, or when engaged in a specific task by one or more observers, degree of behavior change or lack of change is rated according to the goal attainment scale that was created for that particular student. Ratings can be compared before and after an intervention, and this data is graphed. When evaluating the outcome of a counseling, or other intervention for an individual, GAS is not used by itself without other corroborating data. Rather, it is used in addition to standardized measures. Below are several examples of GAS that school psychologists could use as models to create something that fits their job situation.

This example involves a behavioral goal around homework completion for a single student.

Goal		Homework completion	
+3	Considerably more than expected	The student completes 90-100% of homework assignments as rated by teacher feedback form.	High impact
+2	Much more than expected	The student completes 70-89% of homework assignments as rated by teacher feedback form.	High impact
+1	Somewhat more than expected	The student completes 60-69% of homework assignments as rated by teacher feedback form.	Moderate impact

0	Expected level of outcome	The student will compete 70-79% if homework assignments as rated by teacher feedback form.	Mild Impact
0	Baseline	Currently the student completes 50% of homework assignments as rated by the classroom teacher	Baseline
-1	Somewhat less than expected	The student completes 40-49% of homework assignments as rated by teacher feedback form.	No impact
-2	Much less than expected	The student completes less than 40% of homework assignments as rated by teacher feedback form.	No impact
-3	Considerably less than expected	The student is refusing to complete homework and is in danger of a failing grade	Regression

GAS can address more than one behavioral goal for an individual student. This example involves misbehavior in the cafeteria.

Goal		Stay in Seat and Line	Impact	Use 'School' Language	Impact
+2	Much more than expected	Stays in his/her seat and in line more than 80% of the time when observed by staff using a checklist.	High	The student requires only one reminder to stop arguing and uses 'school' language 90-100% of the time during lunch when observed by staff using a checklist.	High
+1	Somewhat more than expected	Stays in seat and in line 60-79% of the time when observed by staff using a checklist.	Moderate	The student requires only one reminder to stop arguing and only one reminder to use 'school' language during lunch when observed by staff using a checklist.	Moderate
0	Expected level of outcome	Gets out of seat and out of line 50% less often than baseline when observed by staff using a checklist.	Mild	The student requires two reminders to stop arguing and two reminders to use 'school' language during lunch when observed by staff using a checklist.	Mild
-1	Somewhat less than expected	Currently the student gets out of his seat and out of line (50% -60% of the time) when observed by staff using a checklist.	Baseline	Currently the student argues with peers during lunch and uses inappropriate language 4-5 times during lunch, when observed by staff using a checklist. Reminders are ignored or are too frequent	Baseline
-2	Much less than expected	The student gets out-of seat and/or out of line more than 60% of the time when observed by staff using a checklist.	No impact	Arguing and use of inappropriate behavior does not change when observed by staff using a checklist, in spite of very frequent reminders.	No impact

School psychologists at the high school level can teach students to evaluate their own progress. Student ratings are then matched with teacher ratings. The example below involves self-evaluation for a secondary student around learning and using study strategies

Goal		Mastery and Use of Study Strategies	Impact
+2	I did even better than expected	I have mastered three study strategies and I use them 90-95% of the time according to my own judgment and that of my teachers.	High impact
+1	I am making a real effort	I have mastered three study strategies and use them 70-79% of the time according to my own judgment and that of my teachers.	Moderate impact
0	I reached my goal	I have reached my goal to develop and use three study strategies at least 50% of the time according to my own judgment and that of my teachers.	Mild impact
-1	Where I am right now	I am not demonstrating use of study strategies that work for me according to my own judgment and that of my teachers.	Baseline
-2	I am loosing ground	I am not willing/not able to develop study strategies according to my own judgment and that of my teachers.	No progress

Goal Attainment Scaling for Group Interventions:

A school psychologist can use a goal attainment scale to evaluate progress of a group intervention for students with poor social skills or other issues. Every student in the group would have his or her own individual charts to measure specific personal goals. The example below is designed to evaluate the effectiveness of the group intervention.

Goal		Identification of emotions in oneself and others.	Impact
+2	Much more than expected	65-80% of students in the group will exhibit the expected level of change in identifying feelings in both themselves or in others as determined by their individual GAS charts, in role play during group sessions, and/or as reported by teachers at the end of the quarter.	High impact
+1	Somewhat more than expected	50-65% of students in the group will exhibit the expected level of change in identifying feelings in themselves or in others as determined by their individual GAS charts, in role play during group sessions, and/or as reported by teachers at the end of the quarter.	Moderate impact
0	Expected level of outcome	40-50% of students in the group will exhibit the expected level of change in identifying feelings in either themselves or in others as determined by their individual GAS charts, in role play during group sessions, and/or as reported by teachers at the end of the quarter.	Mild impact
-1	Somewhat less than expected	Currently all (100%) of students in the group exhibit social skills weaknesses in identifying emotions in themselves and in others according to observations by teachers, parents, and the school psychologist establishing baseline data. All students have set individual SMART goals to improve social skills.	Baseline
-2	Much less than	49% or fewer of the students in the group show improvement is measured in identifying emotions in themselves and others as reported by students themselves,	No impact

	expected	by parents, or through role-play sessions in the group.	
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This example is similar but this time GAS is used to evaluate the group counseling intervention for externalizing students

Goal		Behavioral change through a SEL intervention	Impact
+2	Much more than expected	70-80% of students in the group report the expected level of change as determined by their individual GAS charts with at least two students exhibiting somewhat more than expected (+1) within the quarter. Additionally, improvement is evident for the group on the Strengths and difficulties Questionnaire.	High impact
+1	Somewhat more than expected	51%-69% of students in the group report the expected level of change as determined by their individual GAS charts with at least one student exhibiting somewhat more than expected (+1) within the quarter. Additionally, improvement is evident for the group on the Strengths and difficulties Questionnaire.	Moderate impact
0	Expected level of outcome	50% of students in the group report the expected level of change as determined by their individual GAS charts. Additionally, improvement is evident for the group on the Strengths and difficulties Questionnaire.	Mild impact
-1	Somewhat less than expected	Currently all (100%) of students in the group exhibit behavioral issues according to baseline data collected using the Strengths and Difficulties Questionnaire. All have set SMART goals to improve behavioral goals.	Baseline
-2	Much less than expected	49% or fewer students in the group show no improvement or their behavior would indicate regression as determined by observation, self and teacher reports. No change on the Additionally, lack of improvement is evident for the group on the Strengths and difficulties Questionnaire.	No impact

Note: the specific descriptors need to fit the group of students receiving the intervention. More involved students would be expected to make slower progress. More capable students would need to make more significant progress if an intervention were to have more impact. These differences would require changes in the descriptors of expected progress. In addition, the additional tools used to evaluate progress and impact of the intervention would change depending on the length of the intervention (weekly, versus quarterly or for a semester-long intervention). A shorter tool would be used for frequent data collection and a longer tool (rating scale or questionnaire) would be used for measuring the impact of an intervention that lasted for a period of time such as a semester. The example above is designed to show that the GAS is not used as the only measure of student progress, or measure of the impact of an intervention.

Goa Attainment Scaling for a School Psychologist to Rate Her/Himself:

School psychologists can use goal attainment scaling to evaluate their own work. Some school psychologists ask for supervision and in this case the supervising individual might use a separate feedback form to support the goal attainment scale completed by the school psychologist. Teachers and/or parents can provide feedback checklists as additional data sources. All of these approaches should complement one another. The example below is designed to measure the impact of the goals (or goal setting skills) that are established for students receiving the school psychologist's services.

Goal		Establishing goals for psychoeducational services appropriate to the setting and students served.	Impact
+2	Much more than expected	The school psychologist's SMART goals for psychoeducational services based on data collection are highly appropriate to the situation in the school, to the age of the students, and have been developed following consultations with students, parents, and teachers.	High Impact of work on goal setting
+1	Somewhat more than expected	The school psychologist's SMART goals for psychoeducational services are clear, and are appropriate to the situation in the school and to the age of the students. They clearly reflect the data collected and the concerns of teachers and parents at meetings. They were determined based on data collection	Moderate impact of work on goal setting
0	Expected level of outcome	The school psychologist's goals for psychoeducational services are adequate. They reflect the concerns of teachers and parents as expressed at meetings, and were determined based on data-collection.	Mild impact of work on goal setting
-1	Somewhat less than expected	The school psychologist's goals for psychoeducational services are not well thought out and were established with inadequate consultation with others working with the child.	Baseline
-2	Much less than expected	The school psychologist's goals for psychoeducational services are neither clear nor are they appropriate to the situation or age of the students. The school psychologist established without input from others.	No impact of work on goal setting

This use of GAS evaluates the school psychologist's communication with families. It would be used in conjunction with feedback forms that parents would complete.

Goal		Communicating with Families	Impact
+2	Much more than expected	The school psychologist communicates with families in a manner highly sensitive to cultural and linguistic traditions. The school psychologist reaches out to families of students to enhance trust as measured by feedback forms.	High impact of communication efforts
+1	Somewhat more than expected	The school psychologist communicates with families and does so in a manner sensitive to cultural and linguistic traditions as measured by feedback forms.	Moderate Impact of communication efforts
0	Expected level of outcome	The school psychologist's communication is successful much of the time as measured by feedback forms.	Mild impact of communication efforts
-1	Somewhat less than expected	The school psychologist's communication with families is somewhat successful but an effort to reach out to challenging parents is not observed as measured by feedback forms and observations by administrators.	Baseline
-2	Much less than expected	The school psychologist's communication with families is occasionally insensitive, rushed, or not clear as measured by feedback forms and observations by administrators.	No impact of communication efforts

Some school psychologist's primary role is to conduct psychoeducational evaluations. An individual school psychologist could use this GAS model to create a tool to evaluate herself/himself.

This example of GAS could be strengthened if the lead or head school psychologist in a school district occasionally attended meetings to support the work of individual team members and additionally utilized a checklist of critical content when reading reports.

Goal		Communicating results during eligibility meetings and in written reports	Impact
+2	Much more than expected	The school psychologist always presents evaluation results in a clear and concise manner. Results presented are understandable in writing and orally as determined by feedback forms. The school psychologist makes an effort to elicit questions and adults feel comfortable asking questions as observed by other team members, the team chairperson, or administrator.	High impact of communication at team meetings
+1	Somewhat more than expected	The school psychologist presents results that are understandable for the most part in writing and orally as determined by feedback forms. The school psychologist makes an effort to clarify any apparent confusion as observed by other team members, the team chairperson, or administrator.	Moderate impact of communication at team meetings
0	Expected level of outcome	The school psychologist presents results that are understandable for the most part in writing and orally as determined by feedback forms as observed by other team members, the team chairperson, or administrator.	Mild impact of communication at team meetings
-1	Somewhat less than expected	The school psychologist presents results that are understandable for the most part in writing and orally as determined by feedback forms. Adults do not always appear comfortable asking questions as observed by the team chairperson, or administrator.	Baseline
-2	Much less than expected	The school psychologist presents results that are difficult to understand by parents and school staff in writing and orally as determined by feedback forms. Jargon and vague terminology cause confusion. Questions asked are not responded to clearly as observed by the team chairperson, or administrator.	No impact of communication at team meetings

Synthesizing Data from Goal Attainment Scales:

In cases where goal attainment scaling is used for progress monitoring, data can be charted for the student, or the student can chart his/her own data over time (See Roach & Elliot, 2005). In addition, data can be synthesized from multiple students' goal attainment scales to produce an overall judgment about the impact of an intervention for a group of students in behavioral/emotional areas. To do this, level indicators would be converted to t-scores (see McDougall & King, 2007, p. 13). Cardillo (1994) provides convenient conversion tables. Statistical software is available for this purpose as well. However in day-to-day practice and to make the data understandable to students, it is easier to simply graph the +2 to -2 data.

Additional Resources:

Goal Attainment Scaling Forms

Cicely Saunders Institute, King's College, London
<http://www.csi.kcl.ac.uk/gas-tool.html>

Goal Attainment Scale Guide
http://behavioralinstitute.org/uploads/Goal_Attainment_Scale_Guide_S_Braaten05.pdf

BetterEvaluation: Sharing information to improve education
<http://betterevaluation.org/evaluation-options/GoalAttainmentScales>

Goal Attainment Scaling Excel Files: The original scale and a scale with an extended range.
http://www.marson-and-associates.com/GAS/goal_attainment_scaling_excel.html

Goal Attainment Scale Template for monitoring program implementation.
http://www.oandp.org/olc/lessons/html/SSC_10/PDFs/goal_attainment_scale_template.pdf

Resources

Cardillo, J.E. (1994). Appendix A: Summary score conversion key. In T. J. Kiresuk, A. Smith, & J. E. Cardillo (Eds.), *Goal attainment scaling: Applications, theory and measurement* (p.276). Hillsdale: Erlbaum Associates.

Coffee, G. & Ray-Subramanian, C. E. (2009). Goal attainment scaling: A progress-monitoring tool for behavioral interventions. *School Psychology Forum*, 3(1), 1-12. Retrieved from <http://www.nasponline.org>

Goal attainment scaling: Description, utility, and applications in pediatric therapy services
This *Resource Book/Training Manual by the Thames Valley Children's Centre* is comprehensive.
<http://www.mc.uky.edu/healthsciences/grants/ptcounts/docs/gasmanual2007.pdf>

Goal attainment scaling: Procedure and illustrations.
This source is for assessing progress of children and youth with Autism Spectrum Disorders
http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/12_GAS_Procedures.pdf

Good practice in person-centered health-care
<http://www.nari.unimelb.edu.au>

Martin, I. (2006). Does problem-solving and goal-setting instruction promote self-determination in early elementary students with disabilities? *School Counseling Research Brief 4.3*, The Center for School Counseling Outcome Research, UMass, Amherst. Retrieved from <https://www.umass.edu/schoolcounseling/research-briefs.php>

McDougall, J. & King, G. (2007). Goal attainment scaling: Description, utility, and applications in pediatric therapy services (2nd ed.). London, Ontario: Thames Valley Children's Centre. Retrieved from <http://www.mc.uky.edu/healthsciences/grants/ptcounts/docs/gasmanual2007.pdf>

Prywes, Y. (2012). *Examining the influence of goal attainment scaling on changes in goal attainment in a coaching versus non-coaching context*. (Doctoral dissertation). NY: Columbia University. Retrieved from <http://library.calstate.edu>

Roach, A. T. & Elliot, S. N. (2005). Goal attainment scaling: An efficient and effective approach to monitoring student progress. *Teaching Exceptional Children*, 37(4), 8-17. Retrieved from <http://www.cec.sped.org>

Schlosser R. W. (2004). Goal attainment scaling as a clinical measurement technique in communication disorder: A critical review. *Journal of Communication Disorders*, 37, 217-239. doi:10.1016/j.comdis.2003.09/003. Retrieved from <http://www.cckm.ca/CPSLPR/pdf/Schlosser2004.pdf>
This article has several good examples of GAS for an individual student

Woolwine, A. J. (2011). *Goal attainment scaling to determine effectiveness of individual and group counseling*. Thesis, dissertations and capstones. Paper 295. Retrieved from <http://mds.marshall.edu/cgi/viewcontent.cgi?article=1292&context=etd>

Yarbrough, J., & Thompson, C. (2002). Using single-participant research to assess counseling approaches on children's off-task behavior. *Professional School Counseling*, 5(5), 308-314. Retrieved from <http://www.schoolcounselor.org>