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# Goal Attainment Scaling: An Interprofessional Assessment of Student Learning

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# Goal Attainment Scaling: An Interprofessional Assessment of Student Learning

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## Background

Professional development includes self-assessment, critical thinking, and reflective practice. These skills are universal for health care professionals, but are difficult to concretize and measure. The GAS process can be used to capture this highly individualized data for each student and across academic programs.

This program provides students the opportunity to learn and apply a systematic approach to assessment of personal professional development. The primary goal was implementation of an interprofessional education (IPE) study led by clinical faculty from Occupational Therapy, Nursing, Speech Pathology and Audiology and Music Therapy, at selected clinical training locations.

### Specific Aims:

- To examine development of reflective thinking skills in students enrolled in clinical practicums at WMU
- To determine the clinical utility of GAS as an interprofessional tool for measuring self-directed change in students' reflective thinking
- To create an interprofessional model of teaching, supporting, and measuring professional development

## Method

### Fall Semester 2014

Student and supervisor training at start of semester:

- Pizza lunch for interprofessional socializing/networking
- GAS training video
- Baseline data collection and analysis

Midterm review of goal status

Final data collection and analysis

Exit survey at end of semester: student and supervisor data



### Spring Semester 2014: In Progress

Student and supervisor training at start of semester:

- Pizza lunch for interprofessional socializing/networking PLUS forming small interprofessional peer groups to promote dialogue throughout semester
- GAS training video
- Creation of eLearning course site for participants: discussion boards for student partners ongoing dialogue/support

Midterm review of goal status in progress

Final data collection and analysis scheduled for April/May, 2014

## The Instrument: GAS

Goal Attainment Scaling (GAS) is a method of measuring individual and program goal attainment. This tool was originally developed by Kiresuk and Sherman (1968) for practitioners in mental health. GAS involves the use of interviews during goal-setting and re-evaluation to determine progress and, as an outcome measure, often incorporates results of other assessments.

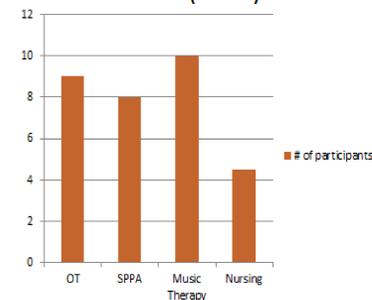
The GAS provides a structured framework for identifying specific, measurable, and objective goals using a five-point numerical scale of +2 to -2. The GAS allows for a comparison of scores among multiple subjects with different goals, making it useful for program evaluation as well (Chapleau, Seroczynski, Meyers, Lamb & Buchino, 2012; Jones, Walley, Leech, Paterson, Common & Metcalfe, 2006; Ottenbacher & Cusick, 1989; Schlosser, 2003).

## STUDENT GOAL SHEET

Student Initials: _____	Place a * next to scale level that dictates level of functioning at initial assessment
Goal Attainment Levels	Goal:
most unfavorable treatment outcome thought likely (-2)	
less than expected success with treatment (-1)	
expected level of treatment success (0)	
more than expected success with treatment (+1)	
best anticipated success with treatment (+2)	

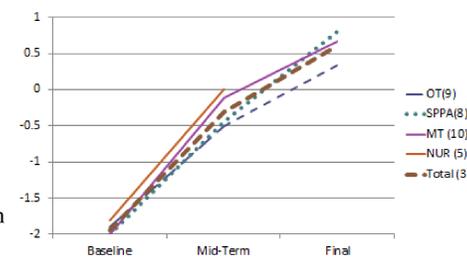
## Results: Quantitative

Number of participants in GAS study  
Fall 2014 (N=34)



- 34 unique students completed the project in Fall 2014, over 4 disciplines
- 32.4% of students were in their first practicum, an additional 29.4% in their second practicum, and 38.2% in their third or later practicum.
- Most placements (85.3%) were in the Kalamazoo area, across 21 different sites.

Mean of GAS scoring at three timepoints (N=32)



- 32 students completed the baseline GAS scale, with a mean of -1.93 and a variance of .06
- 24 students completed the mid-term GAS scale, with a mean of -.31 and variance of .65
- 20 students completed the final GAS scale, with a mean of .6 and variance of 1.31
- Scores significantly increased over time, and there was no significant difference in means or increase by discipline.

- On average, participants reported significantly higher scores on the Goal Attainment Scale (GAS) between beginning of semester baseline (M=-2.00, SE 3.18), and mid-term (M=-.31, SE=.16),  $t(24) = -10.23, p<.01, r=.91$ , a large effect size.
- Also, on average, participants reported significantly higher scores on the Goal Attainment Scale (GAS) at mid-term compared to beginning of semester (M=-.28, SE .16), and final scaling compared to mid-term (M=.60, SE=.26),  $t(20) = -3.07, p<.01, r=.57$ , a moderate effect size.

Paired t-test of GAS scores over time

Pair	Mean (SE <sup>t</sup> )	t-score (r <sup>**</sup> )
Baseline (N=24)	-2.00 (.00)	-10.23* (.91)
Mid-Term (N=24)	-.31 (.16)	
Mid-Term (N=20)	-.28 (.16)	-3.07* (.57)
Final (N=20)	+.60 (.26)	

t Standard Error \*Statistically Significant at p<.01 \*\*effect size

## Results: Qualitative

### Student Goal Attainment in Fall 2014

### Exit Survey Data Fall 2014:

Respondents: 24 students, 6 clinic supervisors

- How did the initial orientation prepare you?** All responses were positive: "video modeling" "It helped me prepare to develop a goal."
- Benefits of participation?** 29/30 responses were positive: "encouraged me to think more about my personal goal" "It kept me accountable to ask my supervisor questions and be prepared." "I was able to set my own personal expectations and push my self to achieve my goals."
- Challenges:** "Writing my goals was a challenge using the GAS format but now I understand the process much better" "balancing the extra work was sometimes tough"

## Discussion

Preliminary findings of this study support the use of GAS as a relevant assessment of student learning for interprofessional groups:

- Students were able to achieve expected or better than expected goal attainment of their individualized learning goal.
- Qualitative data overwhelmingly supported the value of GAS in providing a structured process for self-reflection and growth.
- The primary challenge to IPE was logistics: each academic program's clinic schedule varied, resulting in difficulty scheduling orientation, midterm check-ins, and exit focus groups, and researchers' schedules also limited ongoing planning, collaboration and support.

### Changes made for Spring 2015 semester, based on exit survey feedback:

- Students placed in small IPE groups to collaborate on goals and maintain contact throughout semester
- Creation of eLearning course site for all participants for ongoing access to:
  - Training video
  - Discussion boards
  - Drop boxes for GAS forms and online exit survey
- End of semester meeting changed to focus group to provide additional data collection and IPE experience

## Future Work

- Seek external funding for student assessment using GAS
- Explore feasibility of GAS mobile application to decrease logistical challenges

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