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Using Learning Goals to Promote Self-Directedness: How Problems in Research led to Solutions in Teaching

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Abstract

In promoting self-directedness, our process at MCNY's Learning Enhancement Center begins by having the student construct learning goals. A qualitative analysis of these student learning goals was conducted based on the premise that a student's ability to articulate a goal in a clear, specific, complex, and measurable manner will improve over time. Although our findings did not support our hypothesis, the complex exercise of creating a customized rubric to measure the goals helped us arrive at a standardized evaluation method and build a transparent self-assessment tool to foster independent learning. This attempt to quantify student learning goals created successful iterative loops, which married research discussion with the refinement of pedagogical practices aimed at raising the quality of student learning goals.

Introduction

The history of research on learning goals has been built on the edifice of valuing its benefits for individualized learning and studying its connection to the development of the self-directed learner. As a follow-up to earlier work on contract learning, the use of learning goals took on greater significance in the 70s when Knowles (1975) conceptualized the andragogical principles of teaching. Learning contracts were found to serve as powerful tools for the motivated adult who is eager to know, enriched by the different resources from life experiences and ready to take .onus for his/her learning. Previous research (Ng, and Bereiter 1995) also established that students who engage in active learning by constructing learning agendas have more successful learning outcomes. Setting one's own goals leads to a high level of commitment and growth.

At the Metropolitan College of NY, the Learning Enhancement Center (LEC) serves a non-traditional working adult student population that is over 95% African-American and Hispanic, three-quarters female, with an average age of 37. These students are eager to learn but many are underprepared and are poor in academic proficiency. At the LEC, our aim is to improve student learning and strengthen the institution's retention initiatives. In realizing this vision, we have focused on creating an atmosphere that promotes self-directedness. One of the methods we have used, which values the uniqueness of every student in his /her development as an autonomous learner, is to work with the student in creating a learning goal. There is evidence that students who use the learning goal scale show greater responsibility (Marzano, 2009).

Procedures

Students complete a learning goal during the first session of their attendance for each semester attended. We proposed that students would demonstrate improvement in their learning goals and we evaluated these in terms of complexity, measurability, content specificity, and syntactical specificity. Goals were rated on a three-point scale for each of these values. Measurability was assessed using the same three-point scale, with the addition of a zero-value for goals containing no measurable aspects.

To measure each goal, the investigators established definitional criteria for the values of the scale, using examples of both math and writing goals. These definitions and examples were designed to facilitate inter-rater agreement. Each goal was awarded a total point value, calculated as the sum of the numerical values assigned to the three points of the scale. The lowest score that a goal could earn was three points, and the highest score was 12 points. Inter-rater reliability among the four investigators was measured by examining the percentage of agreement and the mean difference in ratings between each possible pair of raters in each of the evaluation categories.

We used a repeated measures design, with each student serving as his/her own baseline measure. Improvement in goal formulation would be correlated to attendance at the center. In other words, the presumption was that students coming for multiple semesters and more sessions within each semester would show the greatest improvement in articulating their written goals.

Sample

Students selected for the study had a minimum of two learning goals. Our sample comprised of 52 students (30 had writing goals, 17 had math goals, and five had both), based on the selection criteria that they had come to the center for two or more semesters (not necessarily consecutive) and had three or more sessions during the semesters attended. There were 81 goals in writing and 57 goals in math, for a total of 138 evaluated in the study. We did not employ a randomized method for selection; our analysis included all students meeting the criteria.

To conduct a repeated measures analysis, it was necessary for students to have attended at least two unique terms, to ensure they had two or more goals. Students with a minimum of three sessions were selected within each term to ensure that there was enough time within each term to evaluate the student's progress towards that goal.

Findings

The hypothesis was not supported by the findings, as there was no significant improvement in goals over time, or when more sessions were attended. However, we discovered important flaws in the methodology. Our analysis was retroactive, examining data that were not generated at the outset for our investigation. Therefore, the means by which learning goals were constructed had not previously been standardized, and we could not apply a standard instrument in evaluating them. The confounding effect of tutor influence, (including instances in which the tutor wrote the goal himself or herself) also presented a

problem. The tutors had different levels of training and pedagogical visions, and the goals were generated as part of students' learning, without a standard procedural format. These are typical problems of applied research where there is less experimental control.

The following graphs show the mean changes in writing and math goal means over time and number of sessions. In writing there were 35 students with 2 goals, 8 students with 3 goals, and 3 students with 4 goals, and in math there were 22 students with 2 goals, 8 students with 3 goals, and 2 students with 4 goals. None of the p-values were significant.
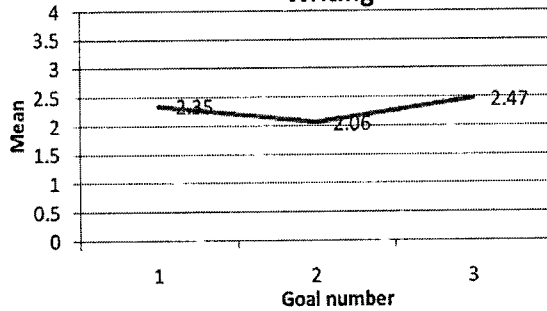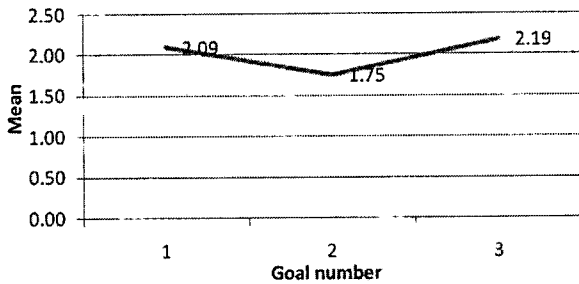
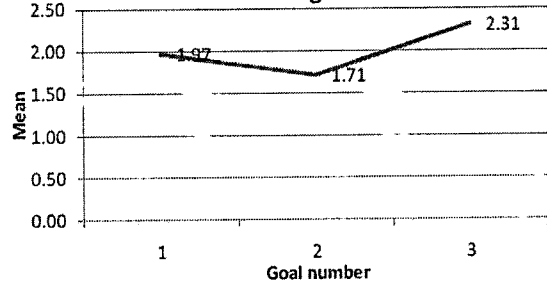## Writing Goals
N=35
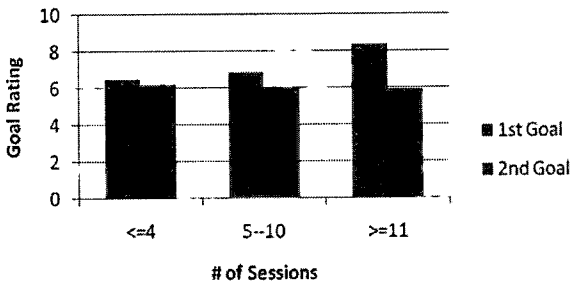
Content Specificity
Writing

Syntax Specificity
Writing

Complexity Means
Writing

Measurability -Writing

Mean vs Goal number (1, 2, 3): values 0.61, 0.62, 0.78

Overall Means-Writing

Mean vs Goal number: 1 (N=35) 7.02, 2 (N=35) 6.14, 3 (N=8) 7.75

Math Goals
N=22

Goal Rating vs # of Sessions (<=4, 5--10, >=11); 1st Goal, 2nd Goal

Overall Means - Math

Mean vs Goal Number: 1 (N=22) 5.78, 2 (N=22) 5.50, 3 (N=8) 5.66
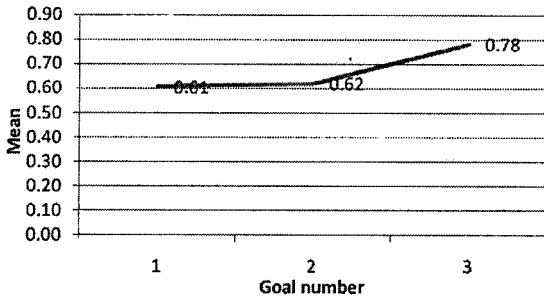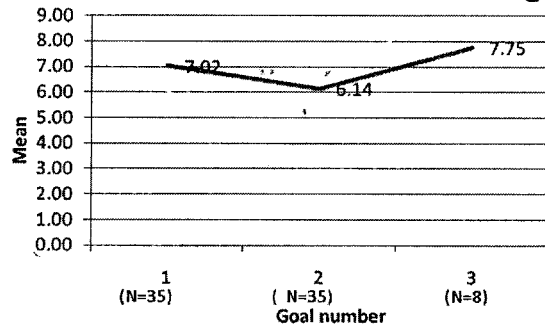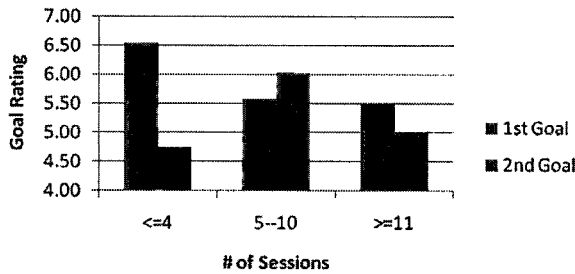
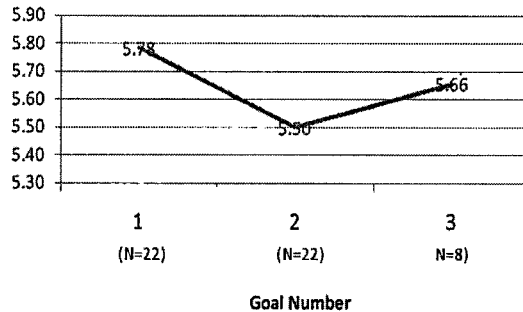## Discussion

Given the demographic characteristics of the student population we serve, and what we know about the nature of the adult learner, it is important for our teaching practices to be informed by applied research and to foster self-directed learning. Differences in teaching practices and the cultural backgrounds of teachers and learners are important variables that are difficult to control or measure, but which need to be taken into consideration. Measuring learning goals calls for complex qualitative analysis; our study sought to quantify this attribute. What seemed to be flaws in our study actually opened up a series of academic discussions that allowed us to reflect on teaching practices, identify student challenges, and revise understandings to develop useful strategies.

We gained an improved understanding of the elements of quality goal construction. This enabled us to standardize, in part, the procedures used when students state their goals. The rubric designed for our analysis can now be employed by students as a useful tool in the effective creation of goals. Additionally, proper training of the tutors and investigators in using this rubric could demonstrate more reliable results and thus improve the analysis of the stated hypothesis in future research. The case for standardization often challenged by the need to promote creativity in teaching is a well-known one in academia. (Jiang, L. 2011).

Research is often conducted in isolation without making any connection back to classroom and teaching. The nature of this study successfully allowed research and pedagogy to inform one another. The nexus between teaching and research is an important area for study and needs to be examined in greater detail to close the loop in assessment. (Neumann, 1994).

References

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