

The Development and Use of an Instrument to Assess Student Learning Styles

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Although most of the literature on learning styles focuses on general factor preferences (e.g., visual learners, auditory learners, kinesthetic learners, etc.), the approach described here deals with tailoring teaching strategies that can accommodate preferred methods of instruction. Learning is maximized when teachers, in choosing and adapting curriculum and how it is delivered, considers the abilities, interests, learning styles, and expression styles of the students. Although our assessment of interests has always been the most important type of information we like to gather about students, a related interest has been the ways in which we recognize an individual's instructional style preferences. A study using a learning style inventory to investigate differences among elementary students was conducted and this short article describes the instrument that resulted from that study generally showed that by focusing on student preferences for instructional strategies significant differences were found on several categories measured by the instrument (Renzulli, Smith, Rizza, 2002).

The Learning Styles Inventory Version III - Elementary Edition (Renzulli, Smith, & Rizza, 2002) contains 56 items and yields a 7-factor solution. The factors proved stable when exposed to a confirmatory and alpha reliability analysis were found to be adequate. The factors found for this edition were identified as: Direct Instruction, Projects, Peer Teaching, Instruction Through Technology, Drill and Recitation, Independent Study, and Simulations. Student participants in this study were asked to read each item and indicate their preference for the activity it described on Likert scale (0 = Really Dislike, 4 = Really Like). They were specifically instructed to rate their preference for each activity regardless of whether they experienced it in their classroom. A copy of the instrument can be obtained [here](#) and can be used without cost or permission.

Discussion

It was hypothesized that there would be differences in preferences by students according to class placement. The results of these analyses indicate that gifted students have significantly different preferences than their general and special education peers. When differences occurred, however, these data revealed that the gifted group had significantly lower preferences than the groups to which they were compared.

More specifically, students in general and special education had stronger preference for the items in five factors on this instrument. Students in general and special education preferred activities on the Projects, Drill & Recitation, and Direct Instruction factors with greater frequency than their gifted counterparts. The items on Projects include activities that require working in a group. This is not often an ideal

situation for the gifted student who finds it difficult to rely on others when a grade is at stake. Gifted students are often concerned with the events of instruction and quality of work and become frustrated when working with others who have different work ethics. The items on Drill & Recitation and Direct Instruction reflect more scripted and teacher directed forms of instruction. While these activities should appeal to most students who value structure and teacher attention, the nature of the activities may not be appealing to the gifted student. Direct Instruction, for example, describes items that require students to work in large groups, waiting for instruction from the teacher. Gifted students work at a faster pace than the class and often complete activities without the direction of the teacher. In addition, the factor Drill & Recitation contains items that describe being quizzed by the teacher and engaging in programmed instruction activities. These require rote memorization and closed-ended questioning that do not appeal to the metacognitive and advanced thinking skills most gifted students possess. There is support in the literature regarding the preference of students, and especially for students with learning disabilities, for more teacher-directed and structured instruction (Swanson, 2000, Swanson, Hoyskin & Lee, 1999).

On the factors Peer Teaching and Instruction Through Technology, the general and gifted group differed in their preferences. Again, the general education group had higher mean scores than the gifted group. The innovation and group processes present in these forms of instruction may be mitigating factors for such preferences. The items on Peer Teaching describe activities that require one student helping another on schoolwork. Like other forms of cooperative learning, this often puts the gifted student at risk in the classroom. All too often the gifted student is recruited to tutor in their areas of strength, thus precluding their involvement in activities that would advance their knowledge in the area. While some gifted student may find sharing their expertise an enjoyable endeavor, the results of this study may indicate otherwise. Finally, Instruction Through Technology describe activities that allow students to work with various forms of technology like computers and video. This is the most surprising finding of this study because computers are a mainstay in the gifted classroom. Perhaps we as educators need to review the use of technology and its impact on gifted students in the classroom. This seems to be the main point for interpretation of these data, the fact that any investigation into student preferences must be individual and not be predicated on any preconceived notions about how a particular group should act. Assumptions about instructional preferences based on group membership should be avoided because it may cause stereotyping for students who show more within group variability than between group similarities. Style matching, as described earlier, should be a technique used by teachers but must be based on specific class profiles using instruments that highlight individual differences in choice.

The purpose of style investigation was to gain knowledge of individual student preferences to make informed choices regarding the events of instruction. This study investigated group differences, but the generalizability of the results is limited because of the restriction of range and unequal sample sizes. The fact that some differences by group were found does indicate that educators can make decisions regarding instruction based on characteristics shared by groups of students. Gifted students learn differently

and require differentiated instruction based on those differences. While not all will respond similarly to the students in this study, these data make the case for individualized instruction and the importance of understanding the preferences of individual students. Flexibility of instructional practices is the key to success for the gifted student. No one strategy is better than another if it is not in keeping with the style preference of the student. Choice of strategy, therefore, is dependent on several factors: the content, teacher facility, and student preference.

References

- Renzulli, J. S., Rizza, M. G., & Smith, L. H. (2002). *Learning Styles Inventory – Version III: Technical Manual*. Creative Learning Press.
- Swanson H. L. (2000). What instruction works for students with learning disabilities? In R. Gersten, E. P. Schiller, & S. Vaughn (Eds.), *Contemporary special education research* (pp. 1–30). Lawrence Erlbaum Associates.
- Swanson, H. L., Hoseney, M., & Lee, C. M. (1999). *Interventions for students with learning disabilities: A meta-analysis of treatment outcomes*. Guilford Press.