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Annotated Bibliography #1

Assessing Aspects of Creativity in Deaf and Hearing High School Students

Christopher M. Stanzione, Susan M. Perez, Amy R. Lederberg, “Assessing Aspects of Creativity in Deaf and Hearing High School Students”, *The Journal of Deaf Studies and Deaf Education*, Volume 18, Issue 2, April 2013, Pages 228–241, <https://doi-org.ezproxy.tcu.edu/10.1093/deafed/ens043>

Hypothesis: This study tested the variation of creativity between hearing and deaf students. The researchers tested both the figural and verbal domains of divergent thinking. Verbal creativity is of high interest to educators of the deaf, because deaf students tend to struggle at mastering communication. One way to assess verbal creativity is to look at how one applies divergent thinking to a task. Figural or nonverbal creativity is also of interest to educators of the deaf, since they rely heavily on visual imagery. This can be assessed based on their creative performance in creating pictures or images. The researchers involved in this study hypothesized that deaf students would perform better on the figural creativity assessment than the verbal creativity assessment. In comparison to the hearing students, they hypothesized that the deaf students would perform worse on the verbal measure but the same, or better, on the figural measure of divergent thinking.

Subjects:

of DHH: 17

of Hearing: 35

Ages: 14-18 years old with a median age of 15 years

Grades: high school freshmen through seniors

Degree of hearing loss: Of the 17 DHH participants, three had a cochlear implant while the other 14 only used hearing aids.

Educational Setting: Deaf students were recruited from a self-contained state school for the deaf in the southeastern United States, and the hearing students were recruited from public schools in the same geographic area.

Communication Approach: Sign language was the primary mode of communication at the state school for the deaf that these participants attended. All 35 hearing students involved in this study were enrolled in an ASL course at their high school.

Methodology:

1. First, the selected students were divided into four groups of 8 to 16 students. Two of these groups consisted of hearing students and the other two consisted of deaf students.
2. Students were first tested in verbal divergent thinking using Silvia et al.'s (2008) test. This test asks students to respond to three tasks which require word responses. Since this test was developed for undergraduate students, the instructions were rewritten at third grade level for the purpose of this study while the tasks remained the same. One group of hearing students and one group of deaf students received instructions in face-to-face condition where the researcher signed or read aloud the instructions. Three tasks were administered:
 - a. Unusual uses task: "You should write down all the original and creative uses for a brick that you can think of...I want you to write down all of the unusual, creative, and uncommon uses you can think of".
 - b. Instances task: "You should write down all of the original and creative instances of things that are round that you can think of...I want you to write down all of the unusual, creative, and uncommon examples of things that are round".

- c. Consequences task: “Imagine that people no longer needed sleep. What would happen as a result? Write down all of the original, creative outcomes of people no longer needing to sleep”.
3. Once the verbal test had been completed, the students were tested in figural divergent thinking using the TTCT Figural Form A, a standardized test of nonverbal creativity. Once again, one of the hearing groups and one of the deaf groups received instructions in face-to-face condition. There were also three tasks in this test:
 - a. Students were given a page with a black oval shape and were told to create a picture, a story, and give the drawing a written title.
 - b. Next, the students were told to add 10 incomplete designs to the picture as well as another title.
 - c. Last, the students were given 30 sets of parallel lines and were told to make a drawing with each pair.
4. The following day, the other group of hearing students and the other group of deaf students were administered both the Silvia et al.’s (2208) test and the TTCT Figural Form A test. All variables and procedures remained the same. However, these two groups received instructions in standard condition where they had to read the written instructions off a piece of paper.
5. Once all groups completed the verbal and figural tests, their answers were scored. A clinical psychologist trained the first author, the one providing the instructions to the students, and the three undergraduate research assistants. Together, they all reached a consensus on the final scores. To reduce bias, none of the people scoring were made

aware of the student's hearing status, or condition that they received instructions when examining their answers.

The researchers scored the student's responses to the verbal divergent thinking test by using Silvia et al.'s (2008) scoring guide which is based on three facets:

- a. Uncommon: whether the response was unique
- b. Remote: whether the response was far from usual responses
- c. Clever: whether the response was insightful or humorous

The researchers scored the student's responses to the figural divergent thinking test by using the published standardized criteria (Torrance, Ball, and Safter, 2008) which is based on five facets:

- d. Fluency: whether the drawing was clearly identifiable
- e. Originality: whether the response was unique and unusual
- f. Elaboration: whether extreme detail is present
- g. Abstractness of titles: how creative the titles are
- h. Resistance to premature closure: whether the student keeps the stimulus open to the imagination

Results:

After conducting both tests for all four groups, the researchers scored their responses and converted all raw scores into percentages by dividing individual total scores by the maximum total score for each test. After doing so, they found their hypotheses to be correct. Deaf students

performed better on the figural creativity than the verbal creativity assessment receiving a 38% on figural and a 19% on verbal. The researchers also confirmed that the hearing students performed far better on the verbal divergent thinking test scoring a 49%. This score is more than double the deaf students' score of 19% for creativity. However, despite what one might assume, this score was not the result of deaf students providing a fewer number of responses than the hearing students. Rather, this low score was simply the result of low creativity. This score reflects deaf student's weak literacy skills in terms of limited vocabulary and limited ideas in their writing. In regard to the figural divergent thinking test, on the other hand, both the hearing students and the deaf students scored a 38% for creativity. In the specific facets of fluency and originality, the deaf students actually surpassed the hearing students suggesting that the deaf students used more stimuli in the allotted time period than the hearing students did. It was also found that very little difference occurred between those that received instructions in standard condition and those that received instructions through face-to-face condition.

Comments/Critiques:

Although this research study revealed poor verbal creativity among deaf students, this test limited verbal creativity to writing in the English language. Other research shows that deaf students are verbally creative in their first language, sign. It was even found that the creativity in the production of their signed language sometimes surpassed that of their hearing peers. Therefore, this lack of creativity appears to typically only be a problem in regard to their writing due to their poor literacy skills.

Since state standards do not assess creativity, the teaching of it is rarely appreciated by teachers and administrators. These test results show just how important it is to develop creativity

amongst deaf students. In order to do so, creativity must be an element of academic standards, and creative thinking must also be incorporated into new curriculum. In Starkos' book, *Creativity in the Classroom*, she covers ways to teach creativity effectively in the classroom setting. One of her main suggestions is to allow students to seek and solve problems on their own which makes the classroom problem friendly.

This study has shown me how great the gap is between a hearing student's and a deaf student's verbal creativity. "Creativity has been associated with success in many areas of education of hearing students including but not limited to reading, writing, mathematics, and the arts" (Christopher 228). Therefore, creativity plays an important role in many aspects of one's life. In order for deaf students to achieve the same success in these areas as hearing students, creativity must be incorporated as an important aspect of the curriculum. Although it might take a long time before this need is recognized in schools, I am now aware of the importance of integrating creative thinking into my own work with deaf students. I will be more alert towards opportunities for deaf students to creatively solve problems on their own and design curriculum that provokes their creative thinking.