

Increasing Undergraduate Student Interpreters' Fluency and Accuracy in Interpreting STEM Content



Audience

Student interpreters enrolled in Lamar University's interpreter training program (ITP).

Need

Supporting the education of students who are deaf or hard of hearing requires increasing the pool of interpreters who can convey STEM content. This 3-year project addresses this need.

Project Design

- Prepare a Signing Bioscience Dictionary (SBD).
- Create summaries of core biology content.
- Produce videos of fingerspelling.
- Conduct an evaluation.
- Disseminate products and findings.

Guiding Questions

1. How do Lamar ITP students use the SBD, content summaries, and videos?
2. How effective are the materials in increasing students' capacity to interpret the SBD terms clearly and accurately?
3. What additions and/or changes would make the materials more effective?

Year 1

Led by PI Judy Vesel, the TERC team prepared the SBD and Life Science Content Summaries.

Year 2

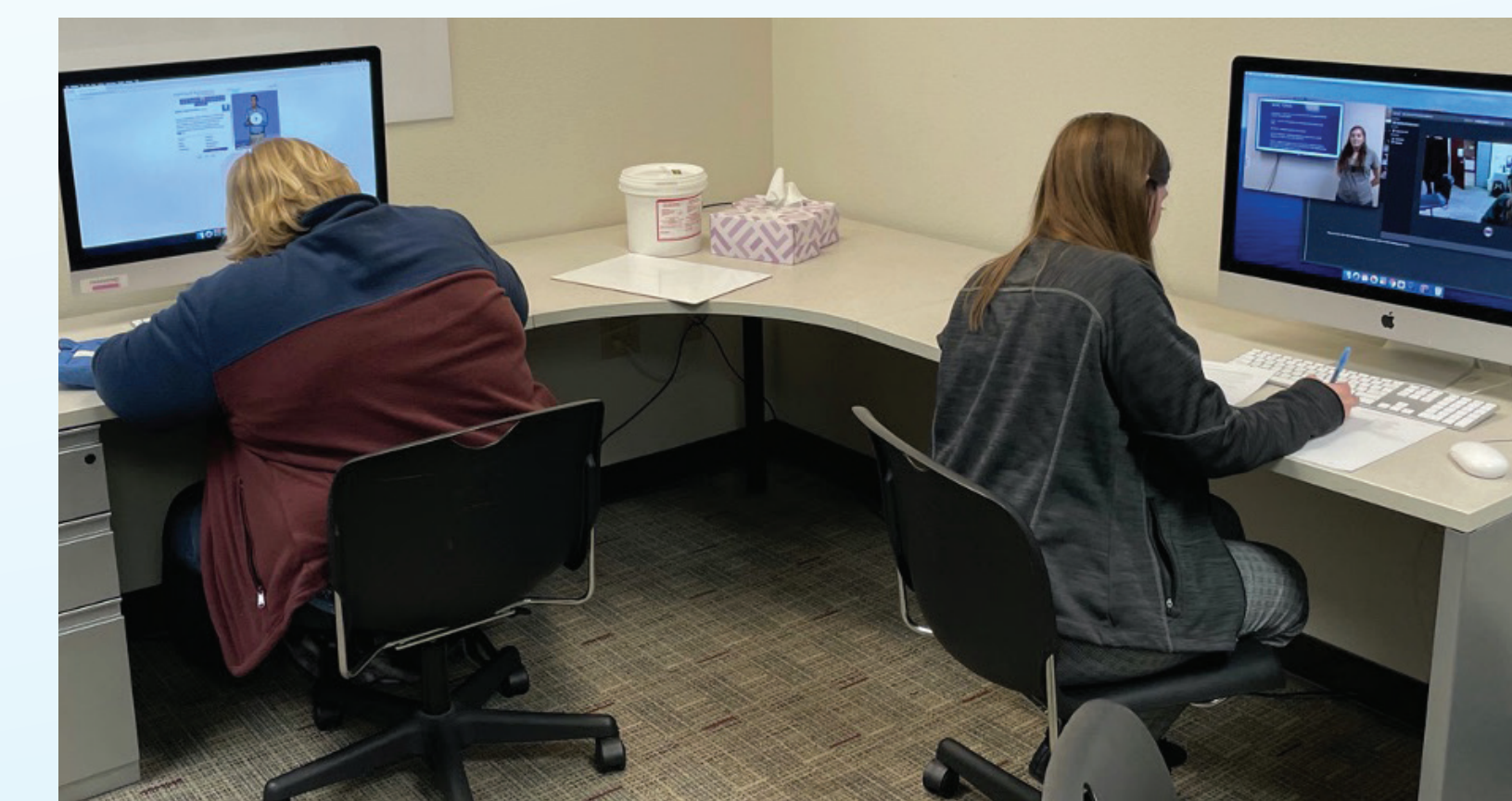
Led by Co-PI M. Diane Clark, the Lamar team prepared the videos and conducted the evaluation.



The evaluation involved testing with one group of 15 students and with another group of 18 students.

Phase I

- Pre-Test—Sign and interpret SBD terms; match words to definitions; interpret a lecture.
- Study Sessions—Use of the SBD and Content Summaries; observation by a team member.
- Post-Test— Same as the Pre-Test.



Phase II

- Pre-Test: Specify prior knowledge of fingerspelling principles; fingerspell SBD terms.
- Study Sessions: Use of the videos; observation by a team member.
- Post-Test: Sign and interpret SBD terms; interpret a lecture.

Results

Paired Samples Statistics					
		Mean	N	Standard Deviation	Standard Error Mean
Pair 1	ghpre	8.7667	15	13.77351	3.55630
	ghpost	32.0333	15	16.28482	4.20472
Pair 2	intpre	2.3667	15	4.70739	1.21544
	intpost	17.0333	15	15.35586	3.96487
Pair 3	matpre	19.0667	15	14.08376	3.63641
	matpost	24.0000	15	14.54550	3.75563

gh=signing terms; int=interpreting; mat=matching

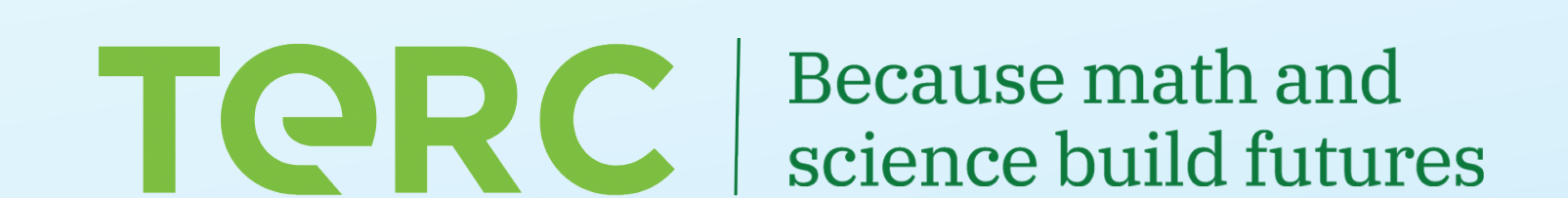
Key Findings

- Significant differences between the ability to sign terms ($p=.000$) and to interpret content ($p=.002$).
- No change in understanding of STEM content.
- Use of the principles made fingerspelling flow naturally.
- A revised version of the SBD is needed.
- Additional or different materials needed to develop understanding of STEM content.

Broader Impacts

Based on analysis of this first set of test data, our findings indicate that the resources being developed will enable students to develop an ASL STEM vocabulary and to understand fingerspelling space and the principles where letters are blended through this space in a fluent motion. This will increase readability of scientific terms that are fingerspelled and enable interpreters to interpret STEM content more effectively for all deaf or hard of hearing students.

Partners



Project Web Site

<https://signsci.terc.edu/video/SBD/interpreters/>



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