



Impact of an Online Learning Module on Student Confidence

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PURPOSE

To create an open-access, online learning module geared toward increasing non-audiology students' exposure to hearing aid related content, and to investigate the impact of the module on student confidence.

BACKGROUND

Unlike audiologists, speech-language pathologists (SLPs) and teachers of the deaf and hard of hearing (MDEs) typically receive only brief training regarding hearing aids. Nevertheless, these professionals find themselves caring for children who depend on hearing aids for successful speech therapy and classroom learning. Even under careful, normal use hearing aids are subject to a host of minor problems that render them effectively useless (e.g., becoming plugged with ear wax, batteries dying, and not fitting snugly in the ear). Basic proficiency and confidence with these devices are required to notice and fix these problems as they occur.

METHODS

PARTICIPANTS

- Two cohorts of students enrolled in an "Introduction to Audiology" course at Vanderbilt University. Cohorts represent two independent groups of students who took the course one year apart. Students were a mix of second-year SLP students and first-year MDE students.
 - "No Module" cohort: 9 females
 - "Module" cohort: 9 females

PROCEDURES

- At the beginning of their respective semesters, students from both cohorts filled out a confidence questionnaire modified from Barnsley et al. (2004) to include topics covered in the module.
- Module cohort students were introduced to the website and were given the opportunity to work through the topics at their own pace during the semester. The No Module cohort had the same classroom experience, but were not given access to the learning module.
- At the end of their respective semesters, students from both cohorts again filled out the confidence questionnaire.
- Hearing aid competence was quantified by performance on the final exam.

LEARNING MODULE AND RESULTS

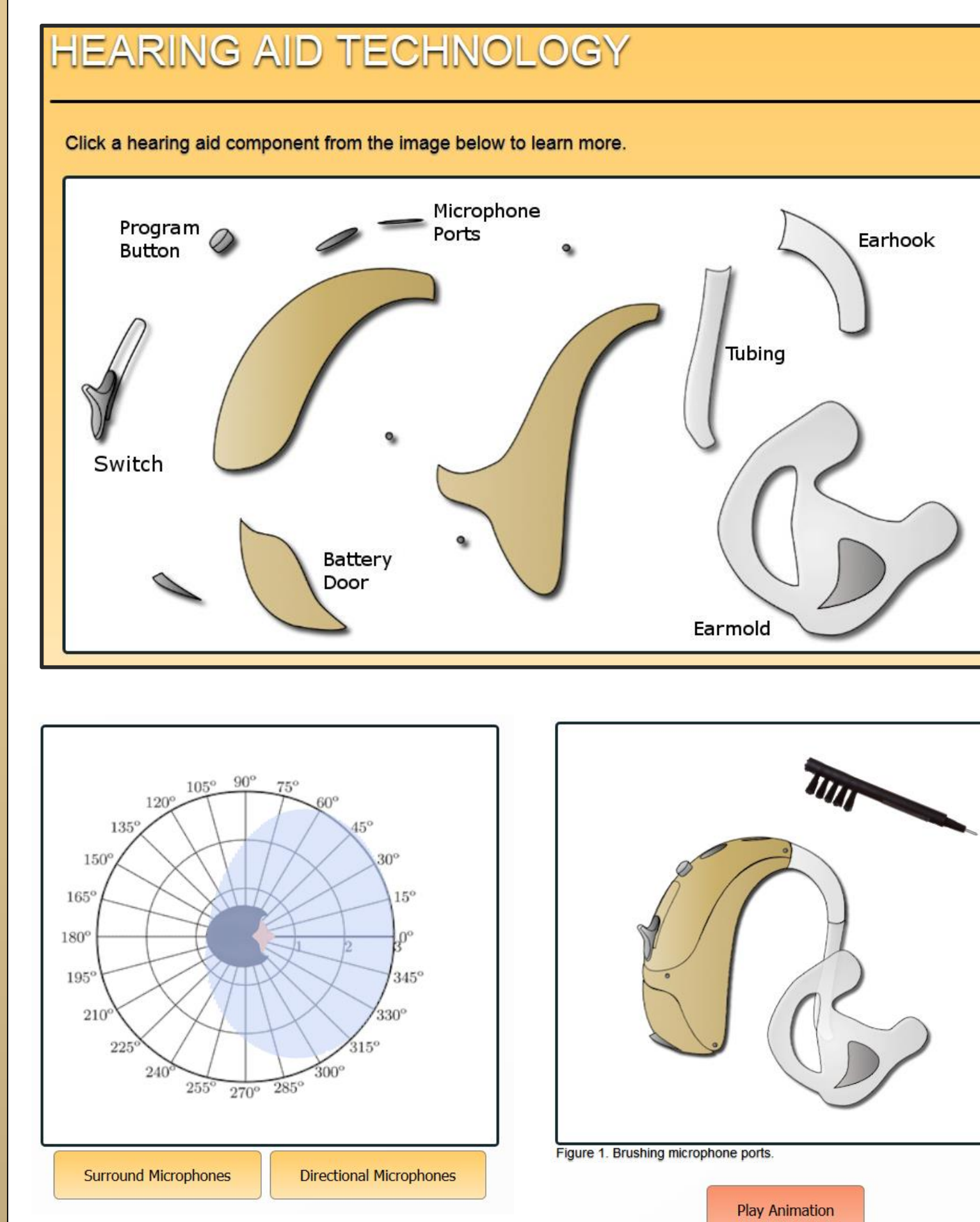


FIG 1. Landing page for hearing aid technology. An image of a hearing aid transitions to an exploded view with parts labeled that students can then click on to learn about specific hearing aid components. A different color, but otherwise identical landing page exists for learning about hearing aid maintenance. All topics are also available in list form via a collapsible side menu.

FIG 2. Example images after choosing to learn about hearing aid microphone technology (A) and maintenance (B).

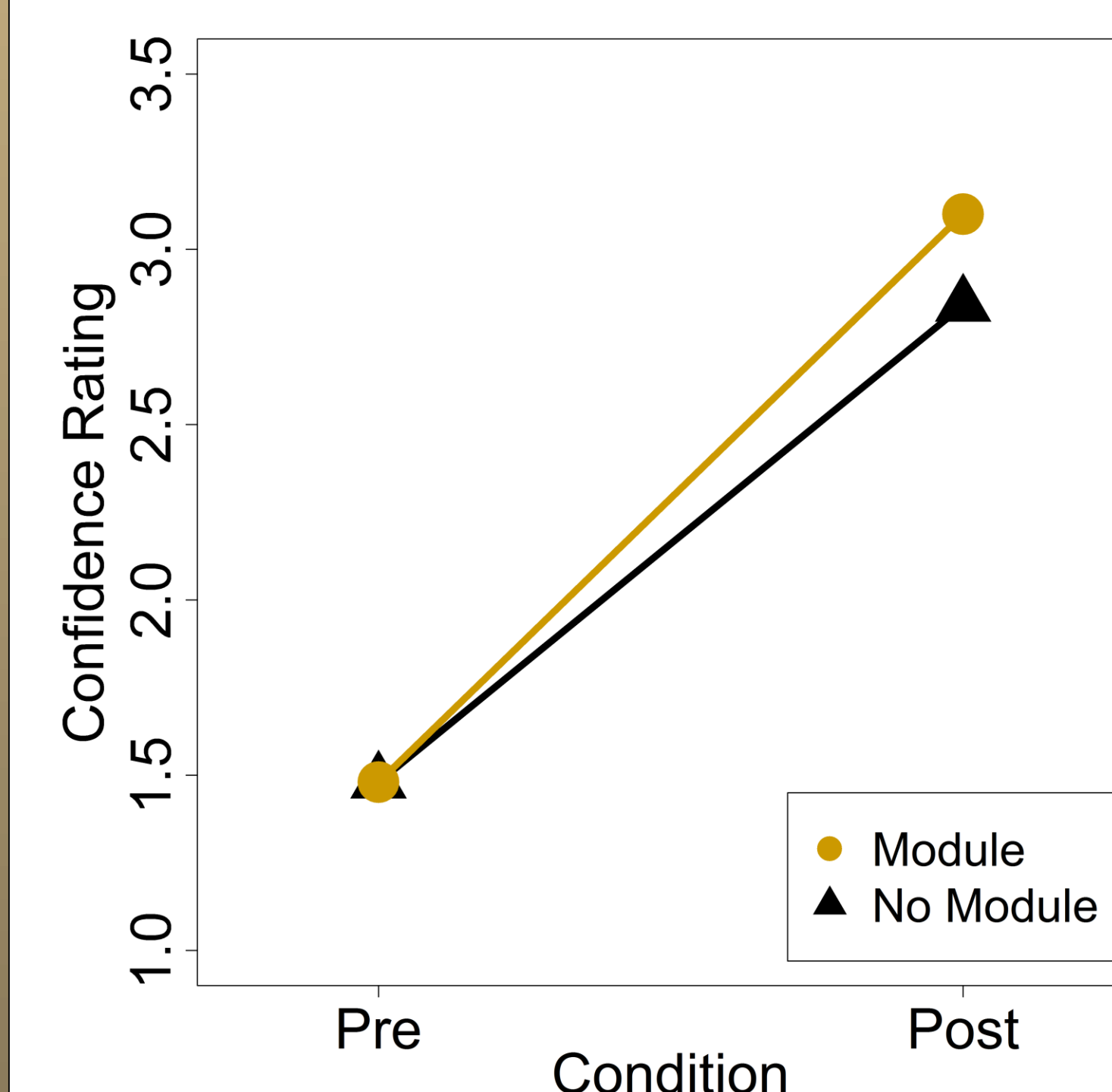


FIG 3. Pre and post confidence ratings for the Module and No Module cohorts (scale = 1 to 4). Ratings were corrected to have a common "pre" value. There was a non-significant trend for the Module cohort to report higher self-confidence at the end of the semester, compared with the No Module cohort.

Final exam results revealed competence to be similar, and near the ceiling across cohorts.

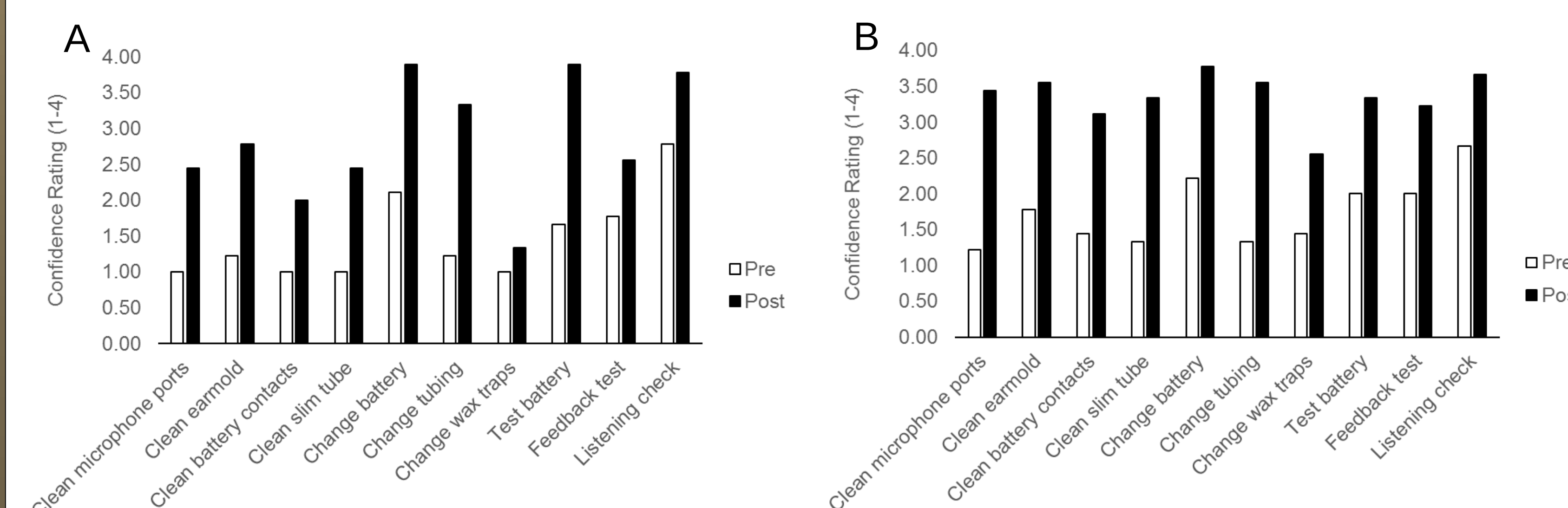


FIG 4. Confidence ratings from the beginning and end of the course for the No Module cohort (a), and the Module cohort (b), for each skill.

DISCUSSION

- There was a trend for the online learning module to increase overall self-reported confidence ratings of basic hearing aid skills in non-audiology students (SLPs and MDEs).
- Data collection is ongoing to increase the sample size.
- Competence, as measured by performance on the final exam, was stable near ceiling across cohorts.
- It is important to consider competence when measuring self-reported confidence. There is evidence that clinical students' self-reported ratings of confidence and observed ratings of competence are not correlated (e.g., Barnsley et al., 2004), with some procedures associated with a high degree of confidence but a low level of observed competence.
- Use of the module coupled with consistent classroom instruction can result in an optimal combination of increased skill level and the self-assurance to use those skills.

CONCLUSIONS

- The online learning module can improve non-audiology student confidence in hearing-aid-related clinical skills.
- The module is completely free to access, and can be used both in the classroom, and as a reference after graduation.



FIG 5. QR code for online module.
URL: <http://www.vestib.com/hearingaidlab>

REFERENCES

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ACKNOWLEDGEMENTS

Supported by the Blended & Online Learning Design (BOLD) Fellows Program, offered through Vanderbilt University's Center for Teaching, and the Center for the Integration of Research, Teaching and Learning (CIRTL).