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Validity of Socioculturally Responsive and Culturally Sustaining Assessments: Issues and Practice in an Alaska School District

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ABSTRACT

Over a 6-year period, a sociolinguistic and sociocultural project was undertaken by Alaska Native expert educators and linguists (aka the Yup'ik Expert Group) from the Yup'ik community in the Lower Kuskokwim School District, Central Alaska. The native experts developed their own culturally sustainable, valid, and reliable Kindergarten through Grade 6 Alaska Native language (Yugtun) assessment. Yup'ik experts named their assessment the Yugtun Piciryaraneq Qaneryaraneq-llu Cuqyun (aka Yup'ik Culture and Language Measurement). This paper focuses on a foundational component of the assessment, the Yup'ik Cultural Awareness subtest, which has two components, Nonverbal Communication and Yup'ik Worldview.

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Project Overview

The project was conducted in the largest (by student population) off-road school district in Alaska—an area of approximately 22,000 square miles. The Lower Kuskokwim School District comprises 27 schools, 23 of which are situated in remote, subsistence living Yup'ik villages.¹ There are approximately 4,000 Yup'ik students in the district and travel is by boat, snowmobile, or small plane.

Yup'ik community members and Lower Kuskokwim School District officials believe that preserving the Yugtun language and Yup'ik culture is critical to the survival of the Central Alaska Yup'ik community. District officials found that the nature and use of the Yugtun² language was shifting rapidly due to the all-pervasive influence of the English language. One strategy that district officials enacted to reverse the shift to English and to preserve the Yugtun language and Yup'ik culture was to introduce a Yugtun dual-language program.

Officials understood that assessments translated from an English test would not identify key features of the Yugtun language. For example, the assessments would not reflect the ways in which Yugtun language structures convey meaning, the ways in which Yugtun words and sentences are organized, or how aspects of Yup'ik culture are reflected in the Yugtun language.

In 2016, district officials received funding from the U.S. Department of Education³ to develop their own culturally sustaining, valid, and reliable native language assessment. The project aims were to: “(1) Preserve the Yugtun language and Yup'ik culture; (2) Help future generations of Yup'ik students to understand the importance of who they are in the world and appreciate that their language and culture are to be embraced and respected; (3) Help Yup'ik teachers develop Yugtun curricula and language proficiency assessments; and (4) Sustain the assessment after funding ends” (Miller & Grant, 2019). In early 2023, the Yup'ik Culture and Language Measurement was administered to more than 1,000 students in Kindergarten through Grade 6 in most bilingual schools in the district.

¹ https://www.lksd.org/work_for_us/a_glimpse_of_l_k_s_d_2022-23

² Yugtun, also sometimes referred to as Yup'ik, is the language of the Central Alaska Yup'ik people.

³ External funding received from the U.S. Department of Education: (1) Native American and Alaska Native Children in School Program for 5 years (2016–2017 and 2021–2022); and two grants from the Alaska Native Education program, each for 3 years (2021–2022 and 2023–2024).

Project Requirements

Early in the development of the assessment, the Yup'ik Expert Group established the following requirements for the Yup'ik Culture and Language Measurement. Namely, the assessment:

- **should “Stand on Yup'ik Ground”**—to honor tribal sovereignty, governance, and worldview; ensure community development and ownership by the Central Yup'ik people; and fulfill obligations under tribal research principles and processes.
- **be recognized as a high-quality, valid, and reliable assessment**—one that is valued by the Central Yup'ik people, educators, administrators, and decision-makers; accepted by language assessment experts and researchers so that the Yugtun language and culture assessment counts as much as an English proficiency assessment; and meet requirements of the federal government Assessment Peer Review Processes.
- **reflect the district Yugtun Dual-Language Curriculum**—as developed by Yup'ik educators and the district's Yugtun language experts.
- **be rooted in strong ethos of community consultation and collaboration**—by consulting and engaging with the Central Yup'ik people.
- **be sustainable after funding ends**—to build district staff's capacity in the technical aspects of language measurement, as well as in data management and reporting.

Community-Based Participatory Research Principles and Practice

To accommodate these core requirements, the Yup'ik Culture and Language Measurement project was designed to faithfully enact community-based participatory research principles and practices so that the project:

- recognizes community as a unit of identity
- builds on strengths and resources within the community
- facilitates collaborative, equitable involvement of all partners in all phases of the research
- integrates knowledge and intervention for mutual benefit of all partners
- promotes a co-learning and empowering process that attends to social inequalities
- involves a cyclical and iterative process
- addresses health from both positive and ecological perspectives
- disseminates findings and knowledge gained to all partners
- involves long-term commitment by all partners (Israel, 2001, p. 184)

By adhering to those principles, project participants addressed sociolinguistic and sociocultural features in a manner that upheld Yup'ik peoples' fundamental rights of tribal self-determination and sovereignty.

Language Assessment Development Processes

Through in-person and online workshops, Expert Group members collaborated with Native leaders and researchers to discuss critical issues involved in developing the Yup'ik Culture and Language Measurement. The Expert Group decided that the measurement should comprise three subtests, each with two components: (a) Oral Language (Listening and Speaking); (b) Yup'ik Cultural Awareness (Nonverbal Communication and Yup'ik Worldview); and (c) Literacy (Reading and Writing).

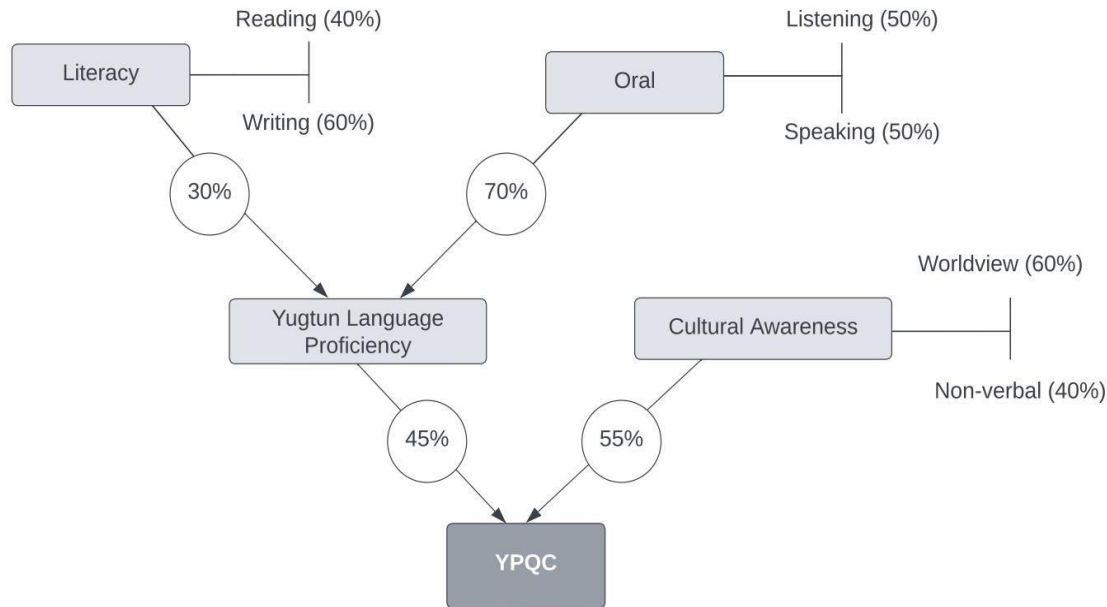
All three subtests and their components are administered in Yugtun, and students are expected to respond in Yugtun. Although the processes involved in developing the Yup'ik Culture and Language Measurement described below are presented sequentially, the activities occurred over 6 years and Expert Group members refined their ideas and decisions as the project evolved. Generally, project ideas evolved through cyclical and iterative, rather than by step-by-step, linear processes.

Each subtest began with Expert Group members discussing preliminary questions and making decisions, which served as road maps for developing assessment frameworks and test items. For example, members decided the nature, structure, and critical discourse features of the Yugtun language and Yup'ik culture to be included in the assessment and identified features appropriate for specific grade clusters—commonly Kindergarten to Grade 1, Grades 2 and 3, Grades 4 and 5, and Grade 6. Test items were prepared using test item specification templates, which were then reviewed and, if necessary, refined by colleagues. Test administration manuals were prepared, and proctors trained. Each subtest was field-tested, and feedback gathered for Expert Group members to select items based on cultural relevance and statistical properties: item difficulty, item discrimination, and subtest reliability.

In addition, Expert Group members decided what weightings should be given to subtest components to establish composite measures for Oral Language, Literacy, and Yup'ik Cultural Awareness, as well as Yugtun Language Proficiency and an overall measure, known as the Yup'ik Culture and Language Measurement. To form scores for measures of Oral Language and Yugtun Language Proficiency, Expert Group members determined that the scale scores should reflect their Yup'ik counting system, which is base-20. In addition, Expert Group members selected weightings that reflected the cultural importance of a particular subtest to achieving project goals.

Figure 1 shows the map of the relationships and weightings between subtests and composite measures. Having made decisions about constructing all measures, the Expert Group identified scores that represented proficiency levels and benchmarks, which were then incorporated into reports for students and parents, teachers, schools, and district officials. Reports for students/parents and teachers are available in both Yugtun and English.

Figure 1. Yup'ik Culture and Language Measurement (YPQC): Components and Weightings



Yup'ik Cultural Awareness Components

Nonverbal Communication Measure

Following an extensive 18-month process by Expert Group members developing their Yugtun Listening and Speaking assessments, they decided a nonverbal communication assessment was essential if their Yup'ik Cultural and Language Measurement was to authentically reflect their culture. Most students were living in remote Alaska Native villages, in which subsistence living and nonverbal communication features were integral to their daily lives.

Members decided which nonverbal communication features should be understood by students and how those features should be assessed. The Yup'ik Expert Group then developed and piloted the items, analyzed the statistical properties, and selected items for the final assessment. In addition, Expert Group members decided how the results should be reported to students, parents, teachers, schools, and district officials.

Nonverbal communication items were framed within Yup'ik relational contexts encountered by children within the district. Expert Group members viewed effective communication within these contexts as being critical to the survival of Yup'ik people living in remote areas of the tundra and elsewhere. The relational contexts that informed the structure of the Nonverbal Communication Assessment Framework were: (a) child-to-child, (b) child-to-adult, (c) adult-to-

child, and (d) adult-to-adult communications. In addition, some nonverbal communication features (aka, universal cross-relationships) were independent of these four contexts.

Yup'ik Worldview Measure

To complement the Nonverbal Communication measure, the Yup'ik Expert Group decided they should develop a Yup'ik Worldview measure, which comprises three interconnected realms (natural, spiritual, and human). These realms, containing the instructions, sayings, warnings, and advice that have been passed down from generation to generation, were crucial to follow and keep harmony within the realms. Together, these two measures form the Cultural Awareness subtest.

When considering a Yup'ik Worldview measure, Yup'ik Expert Group members commented that:

Our children need to be aware of the intricacies within our Yup'ik culture so that they will be aware of their identity and language. [...]

Yup'ik worldview in its entirety has never really been taught in schools; students need to know their identity and where they come from; students need to know and understand Yup'ik values and beliefs. Yup'ik worldview is different from the western worldview, so students need to talk about those differences and set some kind of a balance for oneself. [...]

Our Yup'ik worldview is based on our interconnection to the natural realm, spiritual realm, and the human realm. It is intertwined with the self, family, community, and mindfulness. It is a way to live in harmony with everyone and everything around you. (Yup'ik Expert Group members, personal communication, December 2018).

Expert Group members viewed the Yup'ik worldview as holistic—a set of interrelated beliefs about the nature of reality and human life. These beliefs concern: (a) What exists or is possible to occur in the universe; (b) What experiences and entities are good or bad; and (c) What behaviors and end states should be sought or eschewed.

Yup'ik Expert Group members identified the following 11 critical features of Yup'ik worldview that are appropriate for Kindergarten through Grade 6 students to understand: mindfulness, mental health, spirituality, behavior, respect, sharing, elders, food, wilderness, environment, and weather. These features reflect the natural realm, the spiritual realm, and the human realm proposed by Kawagley (2006, p. 15).

Summary

Yup'ik sociocultural and sociolinguistic features were embedded within the rationale, purpose, and design of the Yup'ik Culture and Language Measurement, as well as within test development processes, test administration, and reporting of student results. In partnership with district officials, Yup'ik Expert Group members:

- **Established the principles and processes for their language test development.** They specified its purposes, identified who would use the results, and how results should be used.
- **Designed the assessment frameworks.** They established language standards, decided what would be expected of students at different grades, and developed proficiency-level descriptors.
- **Created the measurement.** They decided test structure and item development strategies to facilitate item consistency and reliability, and reviewed items.
- **Administered the measurement.** They organized pilot sites, developed test administration manuals, trained proctors, piloted items, and specified scoring procedures.
- **Analyzed pilot results and refined the measurement.** They examined statistical properties of individual items and subtests, gathered feedback from proctors and students, and revised measurement and administrative procedures.
- **Finalized the measurement.** They developed standardized scores, established benchmarks and proficiency-level cut-off points, established data management and reporting systems, and developed reports for various audiences and purposes.

Sociocultural and sociolinguistic features essential for students to learn what it means to be Yup'ik were embedded throughout the Expert Group's activities and decision-making processes. The Yup'ik Culture and Language Measurement is a valuable tool through which to sustain Yup'ik culture. This is an excellent outcome, largely thanks to the deep commitment and support of Yup'ik educators and district officials.

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