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Skills for the Future

Communication as a Future Ready Skill: A Proposed Framework and Strategies for Assessment

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Communication as a Future Ready Skill: A Proposed Framework and Strategies for Assessment

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Abstract

Effective communication skills are essential for success in both academic and professional contexts. This concept paper presents a novel framework designed to operationally define and support the development of assessments of communication skills with a specific emphasis on K–12 settings. Through discussions on important considerations for the conceptualization, development, implementation, and use of assessments of communication skills, this paper aims to equip educators and interest holders with insights to foster effective assessment practices of communication skills. Ultimately, we hope this framework may support the identification, development, and assessment of communication skills among school-age learners as we strive to empower students to navigate and excel in the future.

Keywords: communication, durable skills, assessment, competency-based education, portrait of a graduate

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Introduction

Communication is essential for academic achievement, social engagement, and professional success (National Academies of Sciences, Engineering, and Medicine, 2017). In academic settings, communication is essential for acquiring knowledge and articulating ideas (Binkley et al., 2010). Strong communication skills also support the development of healthy social interactions by enabling authentic expression and empathy (Fuller et al., 2021).

Furthermore, employers value communication skills for managing challenges, improving processes, and coordinating activities (Rios et al., 2020; Soulé & Warrick, 2015). Nearly every job post requires strong or effective communication skills. This requirement appears to be particularly demanded in social interaction-heavy professions such as teaching (Williams et al., 2023), and even in professions that require a strong technical knowledge and skills (Balcar, 2016; Samek et al., 2021; Verma et al., 2022). Possessing skills such as communication may help to ensure one's employability in the face of a trend toward automation in the workplace (Colombo et al., 2019), particularly considering advances in artificial intelligence (AI; Green, 2024). Despite the importance of communication as a skill for thriving academic, interpersonal, and professional environments, many educational systems fail to adequately prepare students in this area (Bestelmeyer et al., 2015; DiBenedetto & Willis, 2020).

Toward advancing a framework for identifying and assessing the skill of communication in K–12 settings, which we define in the section below, this document has two specific aims. First, we attempt to define communication skills by presenting a comprehensive framework. Second, we offer practical insights for designing and implementing communication skill assessments, including examples of assessment items and scenarios for evaluating communication in various contexts, both in-person and digital. We recognize that digital communication is crucial, especially as youth increasingly engage in digital interactions from an early age (Twenge et al., 2019).

Several notable initiatives have attempted to identify and define features of the skill of communication (see Table A1 in the Appendix). Existing frameworks of communication skills tend to converge on several important features: (1) adaptability and versatility (e.g., XQ Institute [2024], European Commission's LifeComp [Sala et al., 2020], Millar [2014] Global Competence); (2) interpersonal interaction (e.g., National Research Council [2011], EBSCO Competency Center [2016]); (3) multimodal communication (e.g., America Succeeds [Cole et al., 2021]; Partnership for 21st Century Skills, 2007); (4) knowledge, skills, and attitudes (e.g., Assessment and Teaching of 21st Century Skills [Care, 2018]); and (5) self-awareness and context sensitivity (e.g., Essential Skills and Dispositions framework [Lench et al., 2015]).

While these existing frameworks have captured many critical aspects of communication, there is a growing need for a more contemporary and integrated approach to understanding communication, considering current societal and technological changes. We propose that an

updated operational definition and framework of communication skills should meet certain key criteria. In our review, we found that each of the frameworks appears to be lacking in one or more of the following aspects:

1. **Evolves along with social and technological innovations.** The practice of communication is continually changing due to evolving technological advancements and societal norms, especially in K–12 education (Bartolic et al., 2022). A new framework is needed to accurately capture these shifts and reflect modern communication landscapes, including AI-driven capabilities (Celik et al., 2022).
2. **Leverages learners' communication strengths.** Learners have diverse social, cultural, and linguistic backgrounds, and as such, assessments should recognize and support the identification of such varied approaches to communication (see Lopez et al., 2017). An updated framework should allow educators to tailor instruction and assessments to ensure inclusivity and equity for all learners, including multilingual learners who may possess an expansive communication skillset not traditionally recognized in language assessments (Canagarajah, 2011).
3. **Captures the complexity and variation in the skill.** Existing frameworks often miss the complexity and diversity of modern communication skills, focusing too much on conventional language mechanics. A comprehensive framework should assess communication across various modalities and contexts. Furthermore, a more integrated approach to defining communication skills should consider multiple dimensions of communication, especially affective, behavioral, cognitive, and social dimensions (O. Liu et al., 2023).
4. **Supports a common understanding and means for identifying evidence of the skill.** A structured framework provides a more systematic method for evaluating communication skills by linking learner behaviors to specific features of a communication skillset. Such an approach to defining a construct is more likely to facilitate a behaviorally anchored approach to assessment (see Klieger et al., 2018), thereby offering clearer guidelines and criteria for assessment. Without such an approach, assessments may lack objectivity and reliability, hindering the potential to gauge an individual's communication skills in a reliable, valid, and fair manner.

Defining and Developing a Framework for Communication Skill

We sought to develop a framework for communication skills to address each of these previously noted aspects. Our focus was specifically on developing a framework suitable for operationalizing and assessing communication skills with a focus on how such skills would emerge in a population of students enrolled in high school (Grades 9–12). We focus on high school given the need and opportunity to prepare learners with the necessary skills to thrive as adults in postsecondary environments where skills such as communication may be among the most essential and sought-after skills for academic (Petway et al., 2016) and workplace success (Heckman et al., 2006; Lleras, 2008; Rios et al., 2020).

The development of the definition and framework was conducted in several stages, including reviewing existing literature and communication frameworks, synthesizing the literature to draft a preliminary definition, identifying relevant subskills and skill indicators, gathering expert evaluation, and refining and finalizing the definition and framework. Table A2 in Supplemental Materials provides more information about each of these stages. This process was largely guided using a design pattern document (M. Liu & Haertel, 2011), which provides a structured template for conceptualizing the domain modeling in a manner aligned with evidence-centered design approaches (Mislevy et al., 2009). Through this process, the following definition of communication skill emerged from this iterative process:

Communication skill is the ability to share and interpret messages that convey ideas, thoughts, opinions, knowledge, and data with clarity and purpose using various modalities such as verbal, nonverbal, written, visual, and listening while adapting to diverse contexts and audiences.

We note that the proposed definition of communication skill is intentionally broad and reflects a set of competencies that younger learners could provide evidence of in various forms. To capture the skills among the focal population of learners with this definition in mind, we further identified a set of distinct subskills, each reflecting unique dimensions of the overarching skill of communication. In particular, we structured the framework around four subskills (i.e., *Com.1*, *Com.2*, *Com.3*, *Com.4*), each associated with specific skill indicators (i.e., *Com.1.1*, *Com.1.2*, etc.). Table 1 lists each of the subskills and skill indicators.

Specifically, the first subskill (*Com.1*) includes using multimodal forms to comprehend and convey ideas, emphasizing clear articulation, framing ideas differently, and employing

various expressive forms and tools. The importance of multimodal communication has been recognized in existing frameworks (e.g., the Partnership for 21st Century Skills, 2007). This subskill emphasizes clear articulation, the ability to frame ideas in multiple ways, and the use of various expressive forms and communication tools.

The second subskill (*Com.2*) focuses on adapting communication styles for diverse audiences and contexts. This responds to the need for dynamic communication given individuals are frequently required to interact with people from diverse cultural, linguistic, and professional backgrounds across different modalities and settings (XQ Institute, 2024; European Commission's LifeComp [Sala et al., 2020]). This subskill highlights the need to tailor the presentation of ideas based on the audience's needs, background knowledge, or preferences. Another essential aspect of adapting communication is to recognize the specific characteristics of the audience and context in which communication takes place, including understanding the cultural, social, and situational factors that might influence how a message will be received. Finally, adaptive communication includes refining public speaking skills to be able to resonate with different groups by organizing the content and using rhetorical strategies and persuasive techniques.

The third subskill (*Com.3*) emphasizes active listening and comprehension. It goes beyond merely comprehending the explicit content and involves a deeper engagement with the underlying intent or emotion behind the communication. As illustrated in the *Assessment and Teaching of 21st Century Skills* (Care, 2018), communication includes cognitive and behavioral skills to process and synthesize information, as well as attitudes such as openness and empathy required when engaging in active listening. The subskill recognizes linguistic and cultural diversity, identifying key information, seeking clarification, and discerning intent beyond direct communication.

The fourth subskill (*Com.4*) addresses understanding and leveraging the social, emotional, and ethical dimensions of communication, promoting positive interactions, interpreting emotions, conveying empathy, applying cross-cultural competence, demonstrating persuasion skills, and establishing common ground for collaboration. Effective communicators are adept at interpreting emotional cues (e.g., facial expressions and tone of voice; National Research Council, 2011) and adjusting communication accordingly.

Table 1. Communication Skills Framework Showing Subskills and Skill Indicators

Subskill	Skill indicator
COM.1: Uses multimodal forms of communication to effectively convey ideas (e.g., spoken, written, listening, visual, etc.)	COM.1.1: Refines messages to make ideas clearer
	COM.1.2: Shares the same idea in different ways
	COM.1.3: Combines verbal and nonverbal communication to keep others interested
	COM.1.4: Uses different tools to communicate
COM.2: Adapts communication styles based on diverse audiences and contexts	COM.2.1: Presents ideas in a variety of settings and for a variety of purposes
	COM.2.2: Identifies the audience and context to adapt communication
	COM.2.3: Demonstrates presentation and public speaking skills
COM.3: Demonstrates active listening or comprehension	COM.3.1: Listens to others for deeper meaning while valuing others' perspectives
	COM.3.2: Identifies and comprehends key information that has been conveyed by others
	COM.3.3: Seeks clarification from others to resolve ambiguity or uncertainty
	COM.3.4: Demonstrates understanding of a message beyond what is directly stated
COM.4: Understands and leverages the social, emotional, and ethical dimensions of communication	COM.4.1: Maintains a positive and inclusive environment by understanding and resolving conflict
	COM.4.2: Understands others' emotions during conversations
	COM.4.3: Expresses emotions intentionally and empathetically
	COM.4.4: Applies cross-cultural awareness when communicating with others

In developing the proposed framework, we recognized that while each subskill and skill indicator was unique, there were also numerous important interconnections. For example, the skill indicator *Com.1.3 (Combines verbal and nonverbal communication to keep others interested)* is highly interconnected with all four communication subskills. It involves verbal, nonverbal, linguistic, and paralinguistic elements crucial for effective multimodal communication (*Com.1*). This cohesive integration is essential for adapting communication styles to engage diverse audiences (*Com.2*) and for interpreting and building on others' messages through attentive listening (*Com.3*). Additionally, it helps convey empathy, sincerity, and respect, key aspects of social and emotional communication (*Com.4*).

Considerations for Assessing Communication Skills

To measure communication skills based on its proposed conceptualization, it is important to align the assessment criteria with the framework outlined in Table 1. Using this framework

ensures that assessments will cover the full range of communication competencies and allows multiple ways to express or illustrate evidence associated with communication skills. There are several considerations for designing, implementing, and using an assessment of communication skills. Past efforts in communication assessment have often focused on isolated skills like writing or speaking, often using item types like multiple-choice and constructed-response prompts (Sparks et al., 2014). However, there is a growing need for innovative, technology-enabled methods to measure communication, which appear to be increasingly vital for career and social success (Kyllonen et al., 2024). Contemporary assessments must go beyond traditional formats to encompass diverse, real-world communication modes, including virtual presentations and interactive environments, in line with the multimodal and adaptive nature of communication emphasized in the framework. Toward this, assessments of communication should meet the following minimum requirements:

1. Valid, reliable, and fair, ensuring accurate measurement of all aspects of the skill. For example, leveraging multimodal data collection and automated assessment approaches may capture multiple aspects of otherwise hard-to-measure communication skills such as oral language use in public speaking contexts (e.g., Chen et al., 2014; Tun et al., 2023).
2. Comprehensive, covering verbal, nonverbal, written, and interpersonal aspects of communication. For example, using digital and scenario-based integrative language tasks may better ensure assessment tasks require the demonstration of multiple aspects of communication (e.g., Lopez et al., 2021).
3. Adaptable across different contexts and learner profiles, acknowledging diverse communication styles in the service of equity. Such assessments may be developed by leveraging culturally responsive approaches to designing learning (Ober et al., 2023) and assessment tasks (Walker et al., 2023).
4. Able to provide immediate and actionable feedback to support continuous improvement in communication skills for both students and educators. For example, conversation-based agents could be leveraged to provide automatic feedback in a naturalistic dialogue (e.g., Zapata & Forsyth, 2022).

There has been notable progress in evaluating oral communication and interpersonal skills (Koenig et al., 2011), including using AI for automated scoring in high-stakes evaluations (Bridgeman et al., 2012). Advancements in digital and AI technologies offer opportunities to integrate and assess communication skills more seamlessly and naturally, ultimately enhancing the authenticity and effectiveness of communication assessments in identifying proficiencies and opportunities for improvement, thereby helping to prepare learners for varied current and future communication demands. For example, by leveraging AI technologies, assessments of communication skills could incorporate online and in-person formats, interactive scenarios, and real-world contexts like workplace interactions, providing a holistic view of communication competencies (Koenig et al., 2011).

Developing assessments for complex skills like communication requires careful consideration of how evidence of relevant skill indicators will be gathered. Though there are many different types of skill assessments, in general, assessments of skills such as communication may be administered either in school-based contexts or outside of school-based contexts. As the name would suggest, *in-school assessments* include tasks that elicit communication skills and take place in a formal school environment and may include activities that occur during classroom instruction, school-based extracurricular activities, and other educational interactions during the school day under the supervision of school staff. By contrast, *out-of-school assessments* elicit evidence of communication skills and occur in settings outside the formal school environment. Such settings may include after-school programs, community-based activities, internships, unstructured online learning activities or games, and other learning opportunities. Engagement in learning across both contexts is thought to be most conducive to student learning and skill development, yet it also requires a system of adequate social and other supports for the learner (Fredricks, 2011). A comprehensive system designed to assess communication skills is likely to draw from both types of assessment, integrating multiple data sources to gather insights reflecting all facets of the skill. Table 2 provides an example of an in-school and out-of-school assessment of communication subskills that a high school student might undertake.

Table 2. Example of In-School and Out-of-School Assessments of Communication Subskills

Assessment type	Description	Context	Primary subskill assessed
In school	Drafting and revising presentation slides, writing speaker notes which involve the use of verbal and nonverbal cues, and using audio/visual presentation tools for the delivery of an in-class presentation	Classroom assignment, either independently or in a group, on a subject-specific topic	<i>Com.1:</i> Uses multimodal forms of communication to effectively comprehend and convey ideas
Out of school	Engaging in conversation with an individual who relays a story about one of their life experiences while volunteering at a local community center	Out-of-school learning at community center	<i>Com.3:</i> Demonstrates active listening or comprehension

Implementing Assessments of Communication Skills

Incorporating a skill such as communication into core instruction requires careful planning, which can only be successful through strong partnerships, as described in *A New Vision for Skills-Based Assessment* (O. Liu et al., 2023). Curriculum design should involve subject matter experts who can embed communication practice and assessment across subjects. Educators need professional development to teach and assess these skills effectively. Support systems for learners that provide formal and informal learning opportunities can provide opportunities for students to develop communication skills in a variety of settings. Additionally, community engagement can further supplement classroom instruction by providing real-world communication experiences.

Integrating an assessment of communication skills into educational systems also involves careful alignment with existing assessment practices, educational goals, and standards. In K–12 settings, many states have adopted competency frameworks, which outline the essential skills and competencies students should possess upon graduation. Such frameworks assume various names, such as Portrait of a Graduate/Learner or Graduate/Learner Profile (see Atwell & Tucker, 2024). Some states are already in the process of adopting approaches to recognize and possibly even capture information about students’ development of skills such as communication, though further efforts are needed to support the implementation of such frameworks. Consider these examples:

- The State of Utah includes communication as an essential competency, with students expected to communicate effectively through reading, writing, speaking, and listening in

various contexts, media, and languages (Utah State Board of Education, 2024). This framework in particular appears to emphasize initiating communication across various platforms and settings,¹ such as class discussions and presentations (similar to *Com.1*). Another competency emphasizes interpreting and responding to others' communications effectively, focusing on expressive and receptive skills like active listening² (similar to *Com.2*).

- The State of North Carolina also identifies communication as a critical competency (North Carolina Department of Public Instruction, 2025). North Carolina's competencies include the ability for high school graduates to "listen to decipher meaning, values, attitudes, and intentions" (similar to *Com.3*).

Future Directions

We introduce an innovative framework designed to redefine and assess communication skills. While this framework is intended for high school students within K–12 settings, we believe that with some adaptations it could serve as the basis for a similar framework for earlier grade levels as well. This framework aims to provide a foundation to assess students based on adaptable competencies essential for success in an increasingly interconnected society. Emphasizing the framework's integration into core educational curricula, it aims to enhance students' readiness for academic and professional achievements. Future research should explore how these communication skills develop across different grade levels and into postsecondary education. Additional areas for exploration include leveraging technological advancements to improve communication proficiency and incorporating various perspectives to enrich educational experiences and prepare students for a diverse, globalized world.

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Appendix

Table A1. Existing Communication Skill Frameworks Reviewed

Framework	Focus/definition of communication	Citation
XQ Framework	Emphasizes the ability to interpret, reason, explain reasoning, use evidence, and provide a constructive critique.	XQ Institute (2024)
European Commission LifeComp Framework	Prioritizes communication within social contexts, emphasizing strategies, language registers, and tools adapted to diverse contexts. Focuses on clarity and confidence in communication.	Sala et al. (2020)
Asia Society Global Competence	Focuses on recognizing diverse audience perceptions, effective listening, and strategic use of technology and media. Encourages fostering understanding and collaboration in an interdependent world.	Millar (2014)
National Research Council Assessment Framework	Focuses on processing verbal and nonverbal information, selecting key elements to express complex ideas. Highlights active listening, oral, written, assertive, and nonverbal communication.	National Research Council (2011)
EBSCO Competency Center Framework	Articulates four components: active listening, understanding the audience, tailoring the message, and ensuring clarity and deliberation across various communication forms (oral, written, electronic).	EBSCO (2016); Thompson (2020, p. 9)
Partnership for 21st Century Skills Framework	Defines communication as the ability to articulate thoughts orally, in writing, and nonverbally across diverse contexts. Emphasizes effective listening, media use, and communication in multilingual/multicultural environments.	Partnership for 21st Century Skills Framework, (2007); Thompson (2020, p. 11)
Assessment and Teaching of 21st Century Skills (ATCS)	Combines knowledge, skills, and attitude, stressing vocabulary, grammar, and style for communication in different contexts. Highlights positive attitudes towards language as a source of personal and cultural enrichment.	Binkley et al. (2010); Care (2018)
Essential Skills and Dispositions Framework	Explores self-awareness, context sensitivity, message analysis, and adaptable strategies in communication. Emphasizes the impact of communication choices on others.	Lench et al. (2015)
McKinsey Skills Framework	Defines communication as a cognitive skill that includes storytelling, public speaking, asking the right questions, synthesizing messages, and active listening. Identifies a link between communication skills and income.	Dondi et al. (2021)
America Succeeds: Durable Skills Advantage Framework	Defines communication as a durable skill that includes exchange and management of information, presentations, negotiation, and public speaking. Found communication among the most desired durable skills in the workforce.	Cole et al. (2021)
OECD 2030 Learning Compass	Highlights literacy as relevant to communication skills development but does not explicitly define communication	OECD 2030 (2024)

Table A2. Stages for Conceptualizing the Communication Skills Definition and Framework

Stage	Description
1. Review of Existing Literature and Frameworks	Explored existing knowledge to create a strong communication skills framework. Gathered theoretical and empirical research, studied communication literature, and examined established frameworks. Reviewed competency definitions and frameworks used by various states (e.g., North Carolina Board of Education, 2025; Utah State Board of Education, 2024) to identify similarities between definitions the skill of communication and to consider potential relevant behavioral indicators.
2. Synthesize and Draft a Definition	Documented relevant information from the literature search, frameworks, and common themes using a design pattern document (M. Liu & Haertel, 2011). Such information included a summary of the literature and existing frameworks relevant to the construct, a rationale for its measurement, expectations for focal population, focal subskills, among other types of information. Refined understanding and definition of communication skills through continuous iteration.
3. Identify Relevant Subskills and Skill Indicators	Informed by the prior stages, drafted subskills in an effort to document observable features of communication skill demonstrations likely to enable effective measurement and assessment. Distinctive dimensions of the skill of communication (i.e., subskills) were further defined. Within each of the unique dimensions, observable features (i.e., skill indicators) were further identified.
4. Expert Evaluation	Collaborated with assessment experts with expertise in K-12 and higher education, and workforce training to review evaluate the definition and framework for theoretical relevance, clarity, and appropriateness given the focal population. In particular, this process involved individually reviewing definitions and frameworks for each communication skills with other related skills (e.g., critical thinking, digital literacy, perseverance) to identify features of skill definitions and frameworks that overlapped or appeared similar across different skills.
5. Refine and Finalize	Collaboratively discussed the overlapping features of skill definitions and frameworks. Refined subskills and indicators through discussions and consensus-building to ensure greater precision and minimal overlap. Minimized redundancy and ensured clarity. Finalized the set of distinct subskills and indicators that capture effective communication.
6. Develop Skill Levels	Draft behavioral indicators reflecting evidence of communication skills across a continuum of proficiency. Evaluate the consistency of the language used to describe the advancement across levels in the skill progression.
7. Identify Task Examples for Skill Demonstration	Generate examples of in-school and out-of-school activities in which learners may demonstrate evidence of the skill of communication.

Note. Stages 6 and 7 are forthcoming.

Notes

¹ “Students will be able to develop and initiate communication through a variety of modalities appropriate for different environments and audiences.” (Utah State Board of Education, 2024, p. 8)

² “Students will be able to interpret meaning from others’ communications, adapt their responses and apply understanding in relevant contexts.” (Utah State Board of Education, 2024, p. 31)

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