Measuring Global Learning

Among Students in AFS Virtual Exchange Programs

globalcities inc.
A PROGRAM OF BLOOMBERG PHILANTHROPIES

AFS Intercultural Programs

About Global Cities, Inc.

A Program of Bloomberg Philanthropies

Global Cities, Inc. has developed an innovative, data-driven approach to teaching, learning, and assessing global competency for K–12 students. We have identified and defined the knowledge, skills, attitudes, and behaviors that students need to be successful in today's interconnected world. Through our innovative Global Scholars model of curriculum-guided virtual exchange, we have made global competency both teachable and measurable. Critical to the success of our Global Scholars model are the connections students make with peers around the world in e-classrooms, learning together how to solve global problems. Our research shows that our project-based curriculum, teacher professional development, and peer-to-peer interactions produce significant growth in students' appreciation for diversity, cultural understanding, global knowledge, and global engagement. We have tested strategies that drive growth in global learning and produced empirical evidence that students can demonstrate these global learning outcomes from a young age. Our *Codebook for Global Student Learning Outcomes* (2023) is a research-proven tool for researchers, program designers, and educators to understand and measure to what extent students are demonstrating global learning in any program or classroom.

About AFS Intercultural Programs

AFS Intercultural Programs is an international, voluntary, non-governmental, non-profit organization that provides intercultural learning opportunities to help people develop the knowledge, skills and understanding needed to create a more just and peaceful world. Our vision at AFS is to ensure a more peaceful, just, equitable and sustainable future. To ensure such a future, the world needs more active global citizens. Through our programs, education initiatives, volunteerism and advocacy efforts, AFS helps create them. Find out more at afs.org.

The Global Competence Certificate, also known as Global Up, AFS's signature digital learning program, develops tangible global skills essential to live, work and make real social impact around the world. Find out more at globalup.com.

Contents

A Letter from Global Cities, Inc.

Recent global challenges, from increases in human migration to the acceleration of climate change, have made the need for global competency education clear and urgent. Innovative education leaders such as AFS Intercultural Programs and Global Cities, Inc., a Program of Bloomberg Philanthropies have responded, designing programs to connect students across cultures and borders, and harnessing advances in technology to make these programs widely available. Today's students do not need to step beyond their classrooms to engage across the world.

Virtual exchange programs use the power of direct peer connections to boost student excitement, engagement, and learning. For more than a decade, the Global Scholars program, operated by Global Cities Inc., has connected more than 127,000 students in 119 cities worldwide to work on solving global problems together. Collaborating in e-classrooms, Global Scholars students complete a year-long project-based curriculum on a common global problem such as water pollution or food insecurity. They recognize their interdependent futures and observe the local impacts of these issues firsthand in their own communities. Posting on discussion boards and sharing projects in the e-classroom, students learn to appreciate and collaborate across cultural differences. Their discussion board posts and replies also provide educators and researchers with rich empirical evidence of student learning over the course of the academic year – a critical primary data source that can answer two questions: Are students actually learning and what are they learning?

Global Cities, in partnership with Harvard Graduate School of Education (HGSE) Project Zero's Out of Eden Learn (now known as The Open Canopy), developed an evaluation tool (the *Codebook for Global Student Learning Outcomes*) to analyze student writing in Global Scholars e-classrooms for evidence of student gains in global competency. HGSE used the evaluation tool to analyze Global Scholars data and both organizations reported the findings (*Successfully Educating Tomorrow's Global Citizens*). The Codebook is the first tested tool for analyzing student writing to understand and measure to what extent and how students demonstrate global learning over the course of a global competency program.

Global Cities commissioned the study with AFS Intercultural Programs to validate this tool – to test whether the Codebook, which was developed from Global Scholars data, could be used to evaluate student global learning in other virtual exchange programs. This study focuses on what we need to teach students to equip them to collaborate to solve global problems, and how we can assess their progress towards these critical competencies.

We are delighted to report that the global competency evaluation tool (the Codebook) was effectively used to analyze e-classroom posts and replies from two AFS programs – Global You Changemaker and Global Up Teen – and demonstrated that participants are making measurable progress in four global learning outcomes: Appreciation for Diversity, Cultural Understanding, Global Engagement and Global Knowledge.

This research was conducted by Ester R. Fuchs, Professor of International and Public Affairs and Political Science at Columbia University's School of International and Public Affairs, and Rebecca Casciano who studied sociology and demography at Princeton University and after earning her doctorate, has led the evaluation research organization Glass Frog Solutions. They prepared the report with assistance from Linda Stuart, Director of Global Education Innovation at AFS Intercultural Programs, and two principals at Global Cities, Inc., Anissa Bazari, Executive Director for Strategy, and Megan Wilhelm, Chief Program Officer.

We are hopeful that this important work will reassure educators, policymakers, and researchers that global competency learning, especially through peer-to-peer virtual exchange, can be defined, measured, and effectively support student educational development.

Marjorie B. Tiven
President and Founder, Global Cities, Inc.

A Letter from AFS Intercultural Programs

AFS Intercultural Programs is proud to partner with Global Cities on this new report, Measuring Global Learning, which advances our collective understanding of how to effectively teach and assess global competence in today's youth.

At AFS, our mission is to provide intercultural learning opportunities to help people develop the knowledge, skills, and understanding needed to create a more just and peaceful world. We strive to develop Active Global Citizens who are prepared to address complex global challenges.

For decades, we have seen the transformative power of intercultural exchange firsthand. That is why we so highly valued partnering with Global Cities on this groundbreaking initiative. We applaud Global Cities' leadership in developing the innovative Codebook for Global Student Learning Outcomes. This research, applying the Codebook to analyze outcomes in AFS virtual exchange programs, provides crucial data demonstrating that structured virtual exchange programs can produce measurable, long-term impact on students.

The findings confirm the educational effectiveness of global programming and underscore our shared commitment with Global Cities to equipping the next generation with the cross-cultural skills essential for a truly interconnected future.

We believe this report will serve as an indispensable resource for educators and policymakers worldwide who share our vision of a more peaceful, equitable, and sustainable world.

Daniel Obst
President and CEO, AFS Intercultural Programs

Executive Summary

Introduction

As the world becomes more interconnected and the problems we confront increasingly require global solutions, the need to teach young people global competency has become more pressing. Global Cities, Inc. and AFS, two leaders in the field of global competency education, partnered on research that is critical for demonstrating that teenage students can learn global competency, and significantly, that programs designed to teach global competency can be evaluated. This study used the Global Cities *Codebook for Global Student Learning Outcomes* (the Codebook) to better understand how AFS virtual exchange programs are working and to determine whether students enrolled in the AFS Global Up Teen (GUP Teen) or Global You Changemaker (GYC) programs were developing global competence. This study demonstrates that the Codebook can be applied to a variety of global competency curricula to identify what students are learning and the aspects of the curriculum and program model that drive student growth. By using the Codebook to identify the types of curricular topics and activities that promote global learning, this study provides insight into the effectiveness of the AFS global learning model in achieving its curricular goals. This research advances this new evaluation methodology in the field of global competency education, which can be used in any K-12 program or classroom to identify student progress.

Codebook for Global StudentLearning Outcomes

In 2018, Global Cities published an evaluation framework that identifies four global learning outcomes critical to achieving global competency: Appreciation for Diversity, Cultural Understanding, Global Knowledge, and Global Engagement – as well as 55 empirical indicators of knowledge, skills, attitudes, and behaviors associated with these four global learning outcomes. Global Cities later partnered with researchers from Project Zero, a research center affiliated with the Harvard Graduate School of Education, to develop a codebook that would enable other researchers, practitioners, and educators to observe and understand how global learning takes place in the classroom; to identify what constitutes global learning in student work; and to measure the extent to which students are demonstrating this learning. The Codebook was developed using posts written by students interacting in the online discussion boards of the Global Scholars virtual exchange program, and provided evidence that students in that program were demonstrating growth in the four global learning outcomes.

AFS Program Background

Both the GUP Teen and GYC programs provide global competency education to teenagers between the ages of 14-17 (GUP Teen) or 15-17 (GYC) in a virtual exchange setting. GUP Teen is one of AFS's global competence certificate programs; GYC also offers a certificate in partnership with the University of Pennsylvania Center for Social Impact Strategy. GYC is a longer and more intensive program and includes modules where students conceive, design, and solicit feedback on social impact projects. Both the GUP Teen and GYC programs are typically completed asynchronously by students outside the traditional classroom setting. During most curriculum modules, students complete activities and then post their responses to prompts in virtual discussion boards. Students may also reply to other students' posts. Each program also has live videoconference dialogue sessions delivered or conducted by an AFS Qualified Facilitator, during which students meet and connect virtually with their peers.

Student Data and Sample

The data for this research were drawn from the full universe of 13,809 original posts and replies made to virtual discussion boards by students who completed either the GYC or GUP Teen program between 2020 to 2023. We sampled separately by program, selecting cases across the full curricula while also over-sampling from modules we wanted to explore more deeply.
The final sample included 1,652 posts, with 932 posts coming from the GYC curriculum and 720 from the GYC curriculum.

Methodology

For this project, 1,652 student posts were reviewed for evidence of 55 global learning indicators of the four global learning outcomes. A research team of one coding manager and four coders systematically reviewed each post and then, using the Codebook, determined whether the post showed evidence of a specific indicator of the learning outcomes. If the post showed evidence of one of the indicators, it was coded "1"; if it did not show evidence of the indicator, it was coded "0." These binary measures offer a simple and easily-quantified metric for coders to consistently identify areas in the curriculum where specific types of global learning occurred.

Once the coders completed their review of all posts for all indicators, we calculated prevalence estimates for each indicator, by curriculum and module. We used the prevalence estimates to identify the modules in which a large percentage of posts were coded for a particular indicator, and then we examined what specifically was happening in those modules to encourage students to demonstrate that competency.

Selected Results

Many students were able to discuss their own and others' cultures. Modules that explicitly prompted such discussions of culture were more likely to elicit more detailed cultural descriptions. For example, when students were asked to think about an object that represents a culture or group with which they identify and then explain the significance of that object, we saw greater prevalence of the Cultural Understanding indicators. However, simply asking students to describe their communities also encouraged some students to talk about their cultures or other cultural groups in their communities. In both AFS programs, we saw many more examples of cultural "awareness" than we did cultural "understanding." There were cases in which students may have had a more nuanced understanding of their own culture, but their posts lacked sufficient detail to be coded for the more advanced indicators.

Structured opportunities for exchange led to students listening to and interacting respectfully with each other. The virtual discussion boards that are part of both program models created a learning environment conducive to demonstration of these Appreciation for Diversity indicators, which were best expressed through replies to others. However, we observed that curriculum modules with prompts that explicitly told students to respond to two or three of their peers' posts tended to result in posts that were coded more frequently for indicators related to respectful interactions. The GYC curriculum modules contained more of these prompts, and consequently we saw many more examples of respectful dialogue in the GYC sample.

Two of the most frequently coded indicators in the GYC curriculum related to students' recognition of their capacity to contribute to local, regional, or global improvement and willingness to do so, attitudes critical to Global Engagement. This is likely a result of the curriculum having a clear focus on students creating change in their communities by developing a prototype that would address a social or global issue. This project-based, action-oriented design may have prompted students to recognize their own capacity and show a willingness to take action. However, the activities in this portion of the curriculum also gave students clear guidance and templates to describe their goals and value proposition. These templates may have helped students articulate both their goals and plans for reaching them.

While the GYC curriculum included projects that provided explicit opportunities for students to take action on global issues, the GUP Teen curriculum demonstrates that even a hypothetical discussion of future actions can help build student efficacy. Students' recognition of their capacity to impact local, regional, or global issues was generally lower in the GUP Teen curriculum, which is not project-based. However, one-third of all posts in the *Taking Action* module in the GUP Teen curriculum showed evidence that students recognized their capacity to make change. This module attempted to bridge the gap between the personal and interpersonal skills developed in the prior modules and a student's next steps as they prepared to complete the program. Asking

students to consider how they might get involved in the future was effective in encouraging them to recognize their own capacity to make changes in their community, and resulted in a higher prevalence of Global Engagement indicators than other modules of the curriculum.

Recommendations for Enhancing Global Learning

With simple modifications, program and curriculum designers can foster deeper global learning in virtual spaces. The following recommendations offer ways to enhance students' learning experiences and help them better connect with the material and with one another.

Foster Respectful Dialogue Through Peer Interaction

Interaction, even in virtual environments, is essential for practicing respectful listening and dialogue. Encouraging students to reply to each other's posts provides more opportunities for them to practice and demonstrate these essential skills by fostering organic interaction where diverse perspectives can be both exchanged and valued.

Encourage Deeper Reflection

When providing prompts for writing or discussion, ask students to explain the significance of what they are sharing, not just to describe or provide facts. This encourages them to delve deeper into the origins and meanings behind the concepts they discuss, promoting a more thoughtful engagement with the material and ultimately a better understanding of global or cultural issues.

Provide Scaffolds and Templates for New Concepts

Since students may be encountering unfamiliar ideas and concepts, providing explicit scaffolds and templates can support their ability to engage with the material effectively. These tools help students organize their thoughts and structure their ideas, ensuring they can better navigate complex topics.

Empower Students by Asking for Involvement

Project-based curricula that provide structured opportunities for student action can be effective in developing student recognition of their capacity and willingness to contribute to local, regional, or global improvement. In global competency programs that do not include projects, it can be beneficial to explicitly ask students how they would like to contribute or how they see themselves getting involved in addressing global challenges in the future. This inquiry can help them develop a sense of personal efficacy and ownership over their role in tackling global problems.

Measuring Global Learning Among Students in AFS Virtual Exchange Programs

A Global Cities, Inc. Research Report

Introduction

As the world becomes more interconnected and the problems we confront increasingly require global solutions, the need to teach young people global competency has become more pressing.[1] Global Cities, Inc. and AFS, two leaders in the field of global competency education, partnered on research that is critical for demonstrating that teenage students can learn global competency, and significantly, that programs designed to teach global competency can be evaluated. This study used the Global Cities *Codebook for Global StudentLearning Outcomes* ("the Codebook") to better understand how AFS virtual exchange programs were working and to determine whether students enrolled in the AFS Global Up Teen (GUP Teen) and Global You Changemaker (GYC) programs were developing global competence. This research demonstrates that the Codebook can be applied to a variety of global competency curricula to identify what students are learning and the aspects of the curriculum and program model that drive student growth. By using the Codebook to identify the types of curriculum content and activities that promote global learning, this study provides insight into the effectiveness of the AFS global learning model in achieving its goals. This research advances this new evaluation methodology in the field of global competency education, which can be used to identify student progress in any K-12 educational setting.

Background

Global Cities Codebook for Student Global Learning Outcomes

In 2018, Global Cities published an evaluation framework that identifies four global learning outcomes critical to achieving global competency: Appreciation for Diversity (AD), Cultural Understanding (CU), Global Knowledge (GK), and Global Engagement (GE) – as well as 55 empirical indicators of the knowledge, knowledge, skills, attitudes, and behaviors associated with these four global learning outcomes (Tiven et al., 2018).[2] See Appendix A for the full list of outcomes and indicators. Global Cities later partnered with researchers from Project Zero, a research center affiliated with the Harvard Graduate School of Education, to develop a codebook that would enable other researchers, practitioners, and educators to observe and understand how global learning takes place in the classroom; to identify what constitutes global learning in student

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[1] Global competency includes the knowledge, skills, attitudes, and behaviors that young people need to confront global issues (Tiven, Fuchs, Bazari, & Wilhelm, 2022).

[2] The framework also includes five general learning outcomes, though this project focuses exclusively on global learning outcomes.

work; and to measure the extent to which students are demonstrating this learning (Tiven et al., 2023). The Codebook was developed using posts written by students interacting in the online discussion boards of the Global Scholars virtual exchange program operated by Global Cities, and provided evidence that students in that program were demonstrating growth in the four global learning outcomes. (See Tiven et al., 2022 for a full description of the Codebook's development.)

AFS Virtual Exchange Programs

Both the GUP Teen and GYC programs provide global competency education to teenagers between the ages of 14-17 (GUP Teen) or 15-17 (GYC) in a virtual exchange setting. Table 1 summarizes the characteristics of the two programs. GUP Teen is an AFS global competence certificate program and GYC offers a certificate in partnership with the University of Pennsylvania Center for Social Impact Strategy. GYC is a longer and more intensive program and includes curriculum modules where students conceive, design, and solicit feedback on social impact projects.

Both the GUP Teen and GYC programs are typically completed asynchronously by students outside the traditional classroom setting. During most curriculum modules, students complete activities and then post their responses to prompts in online discussion boards. Students may also reply to other students' posts. Each program also has live videoconference dialogue sessions conducted by an AFS Qualified Facilitator during which students meet virtually with their peers.

Table 1. Characteristics of AFS programs included in data sample.

	Global Up Teen (GUP Teen)	Global You Changemaker (GYC)
Description[3]	A virtual exchange program for teens to develop key global skills for the emerging future and build bridges across cultures, all while becoming part of a global community.	An interactive virtual exchange program for teens to develop global competence skills, create innovative social impact projects, and earn certification from the University of Pennsylvania Center for Social Impact Strategy.
Designed for?	All students, but specifically suited for students with an interest in global affairs, global citizenry, and international friendships.	Students who are curious about global issues; want to create positive social change in their community; or interested in entrepreneurship, innovation, design, sustainable development, or social justice.
Target age group	14-17	15-17
Country eligibility	Students from all countries are eligible, with majority of students from AFS partner countries	Students from all countries are eligible
Duration	6 weeks	12 weeks
Total time estimate	16-25 hours	24-36 hours
Number of curriculum modules	19	20
Number of facilitated dialogue sessions	4	6
Certification?	Yes, from AFS	Yes, from AFS (with University of Pennsylvania Center for Social Impact Strategy)

AFS programs focus on a range of learning goals, which are designed to build competencies that include life skills and appreciation for diversity among young people and ultimately prepare them to be global citizens. Table 2 shows a full list of AFS learning goals alongside Global Cities' competencies. These learning goals include personal assets, such as self-awareness and emotional intelligence, as well as interpersonal assets, such as building awareness of and connections to others. Prior to beginning the data analysis, it was necessary to determine whether (and where) there was alignment among the AFS learning goals and the Global Cities global learning outcomes and specific empirical indicators. We examined each AFS learning goal and then selected the Global Cities global learning indicators measuring similar competencies. In this way, we were able

[3] Description adapted from information provided by AFS.

to identify the congruent areas between the AFS learning goals and the Global Cities global learning indicators. Table 2 shows these areas of alignment. We determined that AFS learning goals would be most closely associated with indicators of the Appreciation for Diversity global learning outcome, followed by Global Engagement, Global Knowledge, and then Cultural Understanding. Each AFS learning goal was determined to be aligned with more than one empirical indicator across multiple Global Cities global learning outcomes, suggesting that the Codebook can be useful in measuring student learning for different dimensions of each AFS learning goal.

The AFS programs aim to build a range of competencies among young people that are scaffolded across the program. Consequently, some areas of the curriculum may be more directly connected to the Global Cities' global learning outcomes and indicators than others. This means we did not expect to identify evidence of global learning in 100% of posts coded. Consider the global learning outcome of Cultural Understanding for example. A program activity might encourage students to think about the cultural groups they belong to, and this activity would likely lead to students demonstrating Cultural Understanding indicators in their writing. Another program activity may ask students to reflect on their own personal identities or characteristics, which are skills that will eventually develop awareness of others' identities and characteristics, but would not immediately lead to students demonstrating Cultural Understanding in their writing.

In summary, it was expected that we would observe varying degrees of global learning that would differ across the two programs as well as modules within the same program. While one aim of this analysis was to identify the types of activities that encourage specific types of global learning, it is important to note that other types of learning were likely occurring as well.

Table 2. AFS Learning Goals and Alignment with Global Cities Global Learning Outcomes and Indicators.

Alignment of AFS Learning Goals to Global Cities Global Learning Outcomes					
		Global Cities Global Learning Outcomes and Selected Indicators			
AFS Learning Goals		Appreciation for Diversity	Cultural Understanding	Global Knowledge	Global Engagement
Self-awareness	• Demonstrate cultural self-awareness through reflecting on their own personal and cultural experience as citizens in local to global contexts.	1-AD, 2-AD	19-CU, 24-CU	39-GK	43-GE, 45-GE, 51-GE
	• Identify and understand how cultural groups have shaped their characteristic ways of feeling, perceiving, thinking, and behaving.	6-AD, 10-AD, 11-AD	22-CU, 25-CU	40-GK	
	• Analyze and reflect on power relations, privilege, and inequality.			28-GK, 32-GK, 33-GK, 35-GK, 36-GK	
Awareness about Others	• Recognize and understand patterns of behavior and values of people from different cultural contexts.	4-AD, 6-AD	18-CU	34-GK, 38-GK	45-GE
	• Empathize with culturally different others.		21-CU, 26-CU		42-GE
Emotional Resilience/ Intelligence	• Suspend judgment and be flexible in new and different cultural contexts at home and abroad.	6-AD, 13-AD, 14-AD		37-GK	
	• Apply effective and appropriate strategies to deal with ambiguous situations.	8-AD, 12-AD, 17-AD			
	• Describe and manage responses to their own cultural biases and emotional triggers.	9-AD, 12-AD			
	• Demonstrate awareness of personal limits and openness to seek support.	17-AD			
Bridging Differences (Bridges to Others)	• Initiate and develop relationships with different others.	7-AD, 16-AD			46-GE, 47-GE, 55-GE
	• Communicate and interact effectively and appropriately in different contexts.	15-AD	22-CU, 23-CU		49-GE, 50-GE

Student Data and Sample

The data were drawn from the full universe of 13,809 student original posts and replies[4] made to online discussion boards by students who completed either the GYC or GUP Teen program between 2020 and 2023. This included approximately 9,000 posts from the GYC program and 5,000 from the GUP Teen program. Table 3 shows the total number of students and total number of posts in the complete dataset. The GYC dataset was larger and contained proportionately more replies than the GUP Teen dataset. There were also more students enrolled in the GYC program between 2020 and 2023.

Table 3. Characteristics of the full universe of posts from study populations.

	No. students	No. original posts	No. replies	Total posts
GYC	298	7,956	981	8,937
GUP Teen	161	4,820	52	4,872

We sampled each program separately and initially stratified the sample by curriculum module. Three modules in the GYC curriculum did not include discussion board prompts and were therefore unable to be sampled. We divided the sample into two clusters: original student posts and student replies. For the GYC dataset, we further divided the sample into two additional clusters: English-speaking and Spanish-speaking content.[5] We then sampled proportionately from each cluster. We selected cases across the full curricula while also over-sampling from modules we wanted to explore more deeply. The final sample included 1,652 student posts, with 932 posts coming from the GYC curriculum and 720 from the GUP Teen curriculum. Table 4 provides detail of the final sample.

Table 4. Characteristics of final analytic sample. (For more details see Appendix B)

	No. students	No. original posts	No. replies	Total posts
GYC	267	813	119	932
GUP Teen	143	715	5	720

[4] For the remainder of the report, we use the term "posts" when referring to "original posts and replies." When it is relevant to point out that a post is an original post or a reply, we will use these terms.

[5] There were 1,951 posts made as part of a Spanish-speaking version of GYC. These posts were translated into English using Google Translate and added to the English-language dataset. During their review, coders treated posts originally written in Spanish the same as posts originally written in English.

Methodology

For this project, 1,652 student posts were reviewed for evidence of 55 global learning indicators of the four global learning outcomes. A research team of one coding manager and four coders systematically reviewed each post and then, using the Codebook, determined whether the post showed evidence of a specific indicator of the learning outcomes. If the post showed evidence of one of the indicators, it was coded "1"; if it did not show evidence of the indicator, it was coded "0." These binary measures offered a simple and easily-quantified metric for coders to consistently identify areas in the curriculum where specific types of global learning occurred.

Once the coders completed their review of all posts for all indicators, we calculated prevalence for each indicator, by curriculum and module. Prevalence is a simple calculation of the number of times the coders found positive evidence for an indicator in the sample posts. Prevalence calculations were analyzed for this report to help us understand how students' engagement in program activities connected to their learning. Since the sample was not statistically representative, the prevalence numbers were best utilized as a gauge of how much and where different types of learning occurred in the curricula. Specifically, we used the prevalence calculations to identify the modules where a large percentage of posts were coded for a particular indicator. Then, we reviewed the curriculum to determine what was happening during those modules that encouraged students to demonstrate that specific competency, asking questions such as:

- *What topics were students learning about that prompted them to demonstrate particular global learning knowledge, skills, attitudes, or behaviors?*
- *Were there specific activities in the curriculum where students engaged and then reflected on those competencies in their writing?*
- *Were there prompts in the curriculum assignments that might have led students to respond in a particular way?*

These questions helped us connect what we observed in the data to the design of the programs and the curricula.

A fuller description of the methodology is available in Appendix B.

Results from the Data Analysis

Overview

- Students who participated in the GUP Teen and GYC programs developed and practiced global competencies.
- Applying the Codebook to the discussion board data produced evidence of global competency learning.
- The curriculum produced results for the participants in the GUP Teen and GYC programs. The types of global learning observed in the student data tracked closely to the topics covered in each curriculum module.

Below we provide an overview of the evidence of student global competency learning, considering overall prevalence of coding associated with the four global learning outcomes and several indicators and the curriculum modules associated with student demonstrations of specific indicators.

Prevalence by Outcome and Indicator

Of the 932 GYC posts in our sample, 65% were coded for at least one global learning indicator. It is encouraging that nearly two-thirds of all posts showed evidence of global learning, particularly because not all curriculum activities were designed to address global outcomes. The indicators of the global learning outcomes Appreciation for Diversity and Global Engagement had the highest prevalence. There was variability across curriculum modules in the percentage of posts coded for at least one global learning indicator. We observed higher prevalence in the modules AFS identified prior to the study as being more closely aligned with the Global Cities global learning indicators. For example, 100% of the posts reviewed in the *Stereotypes & Generalizations* module were coded at least once; 97% of posts reviewed in the *Defining Your Point of View* module were coded at least once; and 87% of posts reviewed in the *Creating a Prototype* module were coded at least once.

Among the 720 posts in the GUP Teen curriculum sample, nearly half (48%) were coded for at least one global learning indicator. Appreciation for Diversity and Global Engagement indicators were also the most prevalent global learning outcomes in the GUP Teen dataset. As with the GYC dataset, posts associated with certain modules had much higher prevalence: 100% of the posts reviewed in the *Stereotypes & Generalizations* module were coded at least once; 86% of posts reviewed in the *Taking Action* module were coded at least once; and 81% of posts reviewed in the *Power & Privilege* module were coded at least once. Once again, these were curriculum modules identified by AFS as being closely aligned with Global Cities' global learning indicators.

The prevalence data indicate that students in both AFS programs learned global competencies, especially Appreciation for Diversity and Global Engagement. Moreover, we tended to observe global learning occurring in curriculum modules that were explicitly designed to address global competencies. This finding provides evidence that it is possible to teach these competencies to young people.

Within each global learning outcome, specific indicators were coded more frequently than others. Table 5 shows the number of student posts that were positively coded for each global learning indicator by curriculum.

Table 5. Comparison of GYC prevalence of student posts positively coded for each global learning indicator by curriculum, with GYC in descending order and GUP Teen top 10 most prevalent indicators highlighted.

Indicator	Description	GYC	GUP Teen
45-GE	Recognition of one's capacity to advocate for and contribute to local, regional, or global improvement	148	27
15-AD	Interacting with people of different backgrounds positively and respectfully	124	22
4-AD	Awareness of different cultures within one's school, city, region, country and world	101	150
7-AD	Ability to listen to others and discuss issues in a respectful and unbiased way	100	15
47-GE	Willingness to take action to address global issues	96	6
28-GK	Knowledge of global issues and their local impact	79	22
2-AD	Awareness of one's culture (behaviors, identity, beliefs)	71	52
43-GE	Interest in global issues	66	3
33-GK	Understanding that differences in access to information, technology, and resources affect quality of life and perspectives	57	22
13-AD	Willingness to interact with peers and adults of different backgrounds respectfully	56	13
10-AD	Positive attitude towards one's own culture	51	5
44-GE	Recognition of the value of inclusive problem-solving	49	24
51-GE	Gathering and interpreting information from people in one's own city and culture	46	4
31-GK	Understanding that global issues are borderless and affect everyone	45	5
11-AD	Tolerance of differences	38	42
40-GK	Recognition of the importance of analyzing multiple perspectives	38	16
19-CU	Understanding of one's culture (behaviors, identity, beliefs)	32	11
32-GK	Understanding that global issues are complex	30	1
14-AD	Willingness to work collaboratively with peers and adults of different backgrounds to achieve shared goals	28	10
39-GK	Recognition of the importance of learning about global issues that affect us all	28	1
26-CU	Positive attitude towards other cultures	25	6

29-GK	Knowledge of economics and politics and their impact	25	0
48-GE	Using digital tools to learn from and communicate with students from cities around the world	24	30
1-AD	Awareness of how one's life and the lives of others are influenced by broader cultural and historical contexts	23	21
6-AD	Ability to identify and critically reflect on stereotypes in thinking about others	22	34
25-CU	Recognition of different perspectives as legitimate	22	1
9-AD	Ability to identify and critically reflect on bullying behavior online and in-person	21	48
24-CU	Ability to recognize different perspectives on specific global issues	21	0
12-AD	Responding to differences with openness and positivity, not fear	19	7
27-GK	Knowledge of local and world geography	19	3
41-GE	Ability to engage in inclusive problem-solving	19	2
23-CU	Ability to adapt language and content of writing to meet the needs of diverse audiences	18	6
16-AD	Working collaboratively with people of different backgrounds to achieve shared goals	17	7
18-CU	Understanding how one's life and the lives of others are influenced by broader cultural and historical contexts	14	10
38-GK	Recognition of the importance of learning about other cities and countries	14	5
55-GE	Working to contribute to local, regional, or global improvement	14	3
42-GE	Interest in the larger world, particularly unfamiliar people and places	13	10
54-GE	Presenting information, formally and informally, to people in other cities and cultures	13	2
5-AD	Awareness of one's identity as a citizen of one's city	12	3
30-GK	Knowledge of one's city government and differences between city governments around the world	12	4
21-CU	Understanding of different cultures within one's school, city, region, country and world	11	2
34-GK	Understanding that problems may be solved differently depending on socioeconomic status, natural resources, government policy and political differences	11	0
37-GK	Ability to synthesize different perspectives on the same topic to draw conclusions about global issues	10	3
8-AD	Ability to ask questions when encountering different perspectives	6	0
22-CU	Understanding that problems may be solved differently depending on cultural factors	6	0
49-GE	Seeking opportunities to communicate with people in other cities and cultures, as well as one's own	3	3
53-GE	Presenting information, formally and informally, to people in one's own city and culture	3	0
46-GE	Appreciation of language learning as a means of communicating and collaborating with people around the world	2	1
17-AD	Intervening against intolerant behavior online and in-person	1	1
35-GK	Ability to apply research skills (finding, selecting, and applying information from multiple sources) to global issues	1	1
52-GE	Gathering and interpreting information from people in other cities and cultures	1	0
3-AD	Awareness of one's city and how it relates to other cities around the world	0	0
20-CU	Understanding of one's city and how it relates to other cities around the world	0	0
36-GK	Ability to find information about global issues using credible sources from around the world	0	7
50-GE	Seeking opportunities to interact and collaborate with people of different cultures and backgrounds	0	2

Prevalence by Module

The prevalence of codes associated with each outcome varied by module in the curriculum. Figures 1a and 1b show the total number of codes for all indicators within each of the four outcome areas. For example, as shown in the top row of data presented in Figure 1a, the 61 posts reviewed in GYC's *Welcome!* module were coded 175 times overall. The Appreciation for Diversity indicators accounted for 100 of those coded posts, while Cultural Understanding indicators accounted for only 1, Global Knowledge indicators accounted for 3, and Global Engagement indicators accounted for 43 coded posts.

Figure 1a. GYC Modules by total number of codes across all global learning indicators within each outcome area.[6]

Module	Module	No. posts reviewed	AD	CU	GK	GE	Total
2	Welcome	61	100	1	31	43	175
3	Introduction to Social Innovation	115	89	37	91	46	263
4	Who Am I?	34	43	18	4	5	70
5	Stereotypes & Generalizations	28	64	8	14	4	90
6	Cultural Value Dimensions	66	85	42	2	4	133
7	Communication Styles	29	11	4	1	1	17
8	Suspending Judgment	57	0	1	0	0	1
9	Creative Tools for Social Innovation	103	58	1	0	31	90
10	Self-Awareness & Reflection for Impact	44	18	0	0	0	18
11	Tools for Creative Thinking	25	9	0	0	8	17
12	Self in Relation to Community	78	97	13	28	53	191
13	Defining Your Point of View	66	16	8	87	81	192
14	Gathering Information & Generating Ideas	84	49	0	24	67	140
15	Creating a Prototype	61	30	7	41	75	153
17	Piloting and Getting Feedback on Your Prototype	57	18	9	43	65	135
19	Putting it All Together	15	0	0	3	9	12
20	Evaluation	9	3	0	0	5	8
	Total	932	690	149	369	497	1705

[6] Modules 1, 16, and 18 did not contain discussion board prompts and were therefore not included in the sample.

Figure 1b. GUP Teen: Total number of codes across all global learning indicators within each outcome area.

Module	Module	No. posts reviewed	AD	CU	GK	GE	Total
1	Welcome	18	21	0	0	1	22
2	Roadmap	33	19	0	6	12	37
3	Learning Styles	32	0	0	3	0	3
4	Metaphors of Culture	17	5	0	0	2	7
5	Who Am I?	15	4	0	0	0	4
6	Leaving your Comfort Zone	61	4	0	0	1	5
7	Exploring Perspectives	87	83	5	7	0	95
8	Stereotypes & Generalizations	20	37	4	1	0	42
9	Empathy & Listening	31	1	0	0	8	9
10	Suspending Judgment	64	0	1	8	14	23
11	Cultural Value Dimensions	33	32	3	1	2	38
12	Communication Styles	13	5	1	0	0	6
13	Dealing with Conflict	29	1	0	0	0	1
14	Coping & Being Resilient	20	0	0	10	3	13
15	Understanding Inequality	58	84	11	13	4	112
16	Microaggressions	21	18	0	0	1	19
17	Power & Privilege	69	68	10	18	16	112
18	21st Century Skills	30	9	0	0	1	10
19	Taking Action	59	39	1	23	52	115
	Total	720	382	35	67	64	548

For GYC students, demonstrations of the most prevalent outcome, Appreciation for Diversity, happened mostly during the first five modules of the curriculum, though there was also learning happening throughout the duration of the program, particularly in the module *Self in Relation to Community*. Though students showed less evidence of learning related to the Cultural Understanding indicators, their pattern was similar to the Appreciation for Diversity indicators, with more learning demonstrated earlier in the curriculum. Consistent with curriculum goals, students showed evidence of the Global Knowledge and Global Engagement indicators later in the program, starting when they began to design and implement their prototypes in the *Defining Your Point of View* module.

GUP Teen students tended to demonstrate the Appreciation for Diversity indicators in the middle (i.e., *Exploring Perspectives*) and toward the end of the program, starting with the *Understanding Inequality* curriculum module. The final module in the GUP Teen curriculum, *Taking Action*, had the highest prevalence of coded posts across all learning outcomes. This module was the culmination of the program, and the curriculum guided students to reflect on what they learned and share how they planned to take action. The data clearly indicated that by the end of the program the students were learning important aspects of global competency.

The variability in prevalence of indicators across curriculum modules was also interesting. It suggested that the topics students discussed in each module gave them opportunities to demonstrate different types of global knowledge, skills, attitudes, or behaviors. We identified the modules where there was a higher prevalence of global learning indicators coded, and we examined what was happening during the curriculum modules when students demonstrated

specific competencies. To understand the relationship between curriculum modules and global competencies, we explored various aspects of the curricula:

- *Topics that prompted students to demonstrate particular global learning knowledge, skills, attitudes, or behaviors;*
- *Specific activities where students engaged and then reflected on those competencies in their writing;*
- *Prompts in the assignments that might have led students to respond in a particular way.*

Below we present data from student posts in the AFS discussion boards to demonstrate the varied ways in which students demonstrated global learning in their writing. We highlight the specific modules and activities that tended to result in learning associated with each global learning outcome, while presenting specific examples from student posts. For each global learning outcome discussed, we present tables that summarize the connection between global learning indicators and curriculum modules.

Global Learning Outcomes: Appreciation for Diversity and Cultural Understanding

Across both curricula, the most frequently coded indicators were those related to the Appreciation for Diversity global learning outcome. Students demonstrated Appreciation for Diversity through several indicators that represent three indicator clusters:

- Showing awareness, understanding, and appreciation for one's own and others' cultures;
- Respectfully listening to and interacting with others; and
- Showing an ability to think critically about one's own and others' behaviors and attitudes.

Though the Cultural Understanding indicators were coded less frequently, we observed several examples of students demonstrating two Cultural Understanding indicators—**19-CU** *Understanding of one's culture (behaviors, identity, beliefs)* and **26-CU** *Positive attitude towards other cultures*—in some of the same modules as the Appreciation for Diversity indicators.

Tables 6 through 8 summarize the global learning indicators associated with each of the Appreciation for Diversity and Cultural Understanding indicator clusters, as well as the modules in which we observed higher prevalence of these indicators.

Awareness, understanding, and appreciation for one's own and others' cultures

The Codebook includes indicators of global learning outcomes that provide empirical examples of students demonstrating awareness of their own and others' cultures, as well as students demonstrating their understanding of how cultural elements both influence and are influenced by history, geography, environment, and other factors. Coders used this information to determine

whether students demonstrated global learning outcomes. The first four Appreciation for Diversity indicators relate to a student's awareness of the following: how their lives and others' are influenced by cultural and historical contexts (1-AD); their own culture (2-AD); their city and how it relates to other cities (3-AD); and different cultures within their school, city, region, country, or world (4-AD). There are also four paired Cultural Understanding indicators (18-CU through 21-CU) which go beyond capturing students' awareness or appreciation to measuring students' *understanding* of the role that cultural factors play in their own and others' lives. These indicators are used to determine whether students can go beyond demonstration of awareness by identifying and explaining the more complex interactions between culture and other social, economic, political, or historical factors.

Table 6. Summary of indicator clusters related to awareness, understanding, and appreciation for one's own and others' cultures.

Indicator cluster	Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator in key modules
Cultural awareness and understanding	**2-AD** Awareness of one's culture (behaviors, identity, beliefs)	Cultural Value Dimensions (GYC)	25.8 (17)
		Who Am I? (GYC)	35.3 (12)
		Self in Relation to Community (GYC)	35.9 (28)
		Understanding Inequality (GUP Teen)	53.4 (31)
	4-AD Awareness of different cultures within one's school, city, region, country and world	Welcome! (GYC)	27.9 (17)
		Who Am I? (GYC)	26.5 (9)
		Stereotypes & Generalizations (GYC)	60.7 (17)
		Cultural Value Dimensions (GYC)	39.4 (26)
		Exploring Perspectives (GUP Teen)	52.9 (46)
		Roadmap (GUP Teen)	48.5 (16)
		Stereotypes & Generalizations (GUP Teen)	70.0 (14)
		Power & Privilege (GUP Teen)	30.4 (21)
	19-CU Understanding of one's culture (behaviors, identity, beliefs)	Who Am I? (GYC)	23.5 (8)
Positive attitudes towards one's own and others' cultures	**10-AD** Positive attitude towards one's own culture	Who Am I? (GYC)	42.0 (29)
		Self in Relation to Community (GYC)	32.4 (11)
	26-CU Positive attitude towards other cultures	Stereotypes & Generalizations (GYC)	21.4 (6)
		Cultural Value Dimensions (GYC)	19.7 (13)
	11-AD Tolerance of differences	Cultural Value Dimensions (GYC)	34.6 (27)
		Cultural Value Dimensions (GUP Teen)	33.3 (22)
		Exploring Perspectives (GUP Teen)	30.3 (10)

Both the GYC and GUP Teen datasets provided many examples of students demonstrating *awareness* of their own cultures (2-AD) and different cultures within their school, city, region, country, or world (4-AD). The two curricula encouraged students to show cultural awareness in varied ways. In some cases, students simply showed awareness of other cultures (4-AD) by indicating that they were excited to learn about and experience them. This was frequently observed in posts associated with the *Welcome!* module of the GYC curriculum, where students would introduce themselves and often add something similar to this student's statement: "Hey there everybody! 👋🏻 I hope you all doing well. I'm _____ from Chennai, India….I love to be a global citizen **and learning about new culture**, being empathetic, living in a different land with harmony means a lot to me…."[7]

Similarly, during the *Roadmap* module early in the GUP Teen curriculum, students were asked about their expectations and hopes for the program, and many similarly acknowledged other cultures and their eagerness to learn more about them. One GUP Teen student wrote, "I would love to continue my studies abroad. **I always wanted to explore about different cultures and communities** and this program will help me to achieve my goal."

Other parts of both curricula asked students more explicitly to discuss various aspects of their own and others' cultures. For example, the *Cultural Value Dimensions* module in the GYC curriculum sought to "make understanding cultural sensitivity a daily part of your life" and to help students "learn to value people's differences and how to respect the things that make people who they are." Students were introduced to the concepts of individualistic versus collectivistic cultures and then asked to respond to a prompt about where they saw themselves along this continuum. In response to this prompt, students described how they saw their own culture (2-AD) as well as other cultures (4-AD). The following excerpt is from a student whose post showed evidence of both indicators:

> I would most likely **place myself as for now being collectivistic**. For example, living with parents until their 30s is pretty common where I'm from because they would move out usually once they are married. I think hearing from my **friends having an individualistic culture**, I first find it surprising but it didn't cause any conflicts because we all have our preference and background culture.

One GYC module which had many examples of cultural awareness is the *Who Am I?* module. Students were given an explicit definition of culture, encouraged to think about and share various cultural artifacts, and asked to consider both the seen and unseen aspects of their own cultures. Students were ultimately asked to think about and describe their own community, regional, or national culture, and to share an object that represents their own culture. This led to several rich

[7] In the example posts shared, we bold-faced the portion of the post that served as evidence of the indicator. All posts were deidentified and occasionally shortened for purposes of brevity. We did not correct students' typos, grammar, or spelling mistakes.

examples of students demonstrating cultural awareness, and many of these posts were also coded for **19-CU** *Understanding of one's culture (behaviors, identity, beliefs)*. This suggested that activities that explicitly asked students to consider and describe their own cultures were helpful in encouraging students to move beyond basic awareness to deeper understanding in their descriptions and explanations. One example of a post coded for both awareness and understanding of one's own culture was:

> I chose dumplings because I feel that it best represents Chinese culture. Since I was young, I was taught how to make dumplings. Dumplings can be eaten whenever you want, however, it is most commonly eaten during the spring festival or Chinese New Year. **This is because Chinese people believe that eating dumplings will bring good luck and prosperity to households if they eat it because dumplings are in the shape of Chinese gold bars. Chinese people hope that if they eat dumplings during the start of the new year, it will bring a better, more prosperous year.**

Other modules explicitly encouraged students to reflect on others' cultures (4-AD). For example, the *Stereotypes & Generalizations* module in both the GYC and GUP Teen curricula asked students to think about their own and other cultures and the stereotypes attached to those cultures. In doing so, students showed awareness of a variety of cultures and cultural groups. For example, one GYC student wrote,

> I always heard that Japanese people are conservative and not friendly. This is also the information provided by internet. But when I actually went there **, I found people who are really friendly and kind. All my Japanese friends are very happy go lucky in nature.💜 I also found people who were quite shy and scared to talk to me, but later after talking to them i found that they just want to show kind gesture to me**...

In some cases, the modules did not explicitly teach students about culture or ask students to reflect on culture, but touched on topics that indirectly encouraged students to consider elements of their own and others' cultures. For example, in the latter half of the GUP Teen curriculum, students completed a module called *Understanding Inequality*, in which they learned about topics related to power, equality, and inclusion. Students were prompted to reflect on potential inequality in a video they watched, describe examples of potential inequalities they observed when researching the executive teams on corporate websites, and reflect on a time where they may have experienced inequality. Coders found evidence that students were aware of their own culture (2-AD) in over half of the posts associated with this module, since students were explicitly asked to describe their observations of their own communities and countries. As an example, in response to the question asking for examples of discrimination and inequality, one student wrote:

> **In our Indian culture,** it was a tradition that girls only have the right to handle

> household chores and Mens have the only right of studying and working. This was the very worst and bad tradition of my culture…

In another GUP Teen module, *Exploring Perspectives*, students were asked to observe their communities, describe identity groups within their communities, and look for and describe symbols of these various identity groups. Students were also asked whether they have ever been mistaken for members of another group or if they have mistaken others. Again, more than half of the posts reviewed from this module showed evidence that students were aware of other cultures (4-AD). Students, like the one quoted below, were able to name and sometimes describe elements of other cultures observed in their communities:

> I identified one family in our locality. Once there was one meeting held for navaratri I saw **one Marathi family they all were traditionally dressed up we all were speaking in our local language gujarati** and they were able to understand but they had preferred their language first.

Similarly, in the GYC curriculum, students were asked in the *Self in Relation to Community* module to share about their communities and what they liked best. Here we also saw many examples of students showing awareness of their own cultural characteristics. One student wrote, for instance,

> Geographically, I am part of the Java community because **I live on Java Island, which is the largest ethnic group in Indonesia**. What I like best is that **we value harmony and respect, especially the elderly**. Almost everyone in the neighborhood knows each other and **does not hesitate to help if others are in need** of something.

Finally, GUP Teen's *Power & Privilege* module taught students that everyone has multiple identities (e.g., race, gender, class, etc.) that overlap to shape both their own experiences and how they are viewed by others. They were given a case study about a gay Muslim professional named Abdullah, and were asked to discuss how Abdullah's multiple, intersecting identities may shape his experiences in his workplace. As students responded to this question, they showed awareness of a variety of cultural groups, including but not limited to Abdullah's.

To summarize, many of the curriculum modules in both the GYC and GUP Teen programs encouraged students to show awareness of their own and others' cultures. They did so both explicitly, by asking questions about culture, and implicitly, by asking students to reflect on elements of their communities.

We also observed evidence of students demonstrating positive attitudes towards their own (10-AD) and others' (26-CU) cultures in the GYC and GUP Teen posts, as well as evidence of students learning a general tolerance of differences (11-AD) in both programs. Students demonstrated these indicators of global learning in a variety of curriculum modules.

As mentioned above, during the *Who Am I?* module in the GYC curriculum, students were asked to share elements of their own cultures. Students were able to share facts about their cultures and demonstrated a general positivity for their own cultures (10-AD). One student wrote, "Paraguayan culture is **quite distinctive and amazing** compared to others," and another wrote, "[The baguette] is **something so simple yet so meaningful** that we always eat with lots of meals and value greatly."

Later in the GYC curriculum, when students were asked to share about their communities in the *Self in Relation to Community* module, we saw many examples of students showing positivity for where they come from. Two examples from students are:

> *Example 1:* A community I would associate myself with the most right now is my university, mostly because I've been spending a lot of my time here recently. **What I like best about being a part of it is how everyone is so encouraging of improvement and inclusivity**.

> *Example 2:* My community is Caaguazú, what I like most about my community is that **it keeps its culture of art on wood intact**, my father himself is a carpenter, he does lathe work, as well as cup holders, sack holders, legs for beds, etc.

Many demonstrations of positive attitudes toward others' cultures (26-CU) and tolerance for differences in perspectives, experiences, and cultures (11-AD) occurred during the *Cultural Value Dimensions* module in the GYC curriculum and the *Cultural Value Dimensions* and *Exploring Perspectives* modules in the GUP Teen curriculum. In the *Cultural Value Dimensions* module, students talked about their own experiences and conflicts with people from other cultures, and some also described eventually warming up to other cultures. For example, one student explained,

> A couple years ago I studied in a school that people were collectivist and welcoming and emotional and it was really weird for me because I wasn't so sometimes I got really uncomfortable with their intimacy and things they were doing, **but I get used and started to love it!** Now I'm just like that.

Partway through the module, students watched a video highlighting differences in how people express themselves and then were asked to reflect on how comfortable they were showing their emotions in public, as well as how they felt when they had to interact with others who express themselves differently. Many students pointed out differences in how they might express themselves as compared to how others might express themselves, and then demonstrated tolerance for these differences. In one example, a student wrote,

> Personally, I'm not comfortable showing my feelings in public, because I tend to think about how people judge me. Not only that, but also I'm not a fond of physical contact, which is the opposite of my people's behaviour in general. **Despite my way of being, when I**

see someone needs to express their thoughts, I try to listen and be caring.

After working through the module, students were asked to explicitly reflect on cultural and interpersonal conflicts and misunderstandings and share how they might change their approach now that they have this new understanding of various cultural values. Some students explained that, whereas they once might have seen different attitudes or behaviors as negative, they now saw these other cultures as simply different but no less valid.

Respectfully listening to and interacting with others

Several Appreciation for Diversity indicators relate to a student's willingness and ability to listen and interact with others respectfully, even across differences. These include listening to others and discussing issues respectfully (7-AD), showing a willingness to interact with others who have a different background (13-AD), and interacting with people of different backgrounds positively and respectfully (15-AD). Table 7 shows the modules where students demonstrated these indicators. These indicators are distinct, yet clearly related, and so it is unsurprising that there was overlap in the modules where students tended to demonstrate these attitudes and skills.

Table 7. Summary of indicator cluster related to respectfully listening to and interacting with others.

Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator
7-AD Ability to listen to others and discuss issues in a respectful and unbiased way	Introduction to Social Innovation (GYC)	26.1 (30)
	Stereotypes & Generalizations (GYC)	28.6 (8)
	Creative Tools for Social Innovation (GYC)	22.3 (23)
	Self-Awareness & Reflection for Impact (GYC)	22.7 (10)
13-AD Willingness to interact with peers and adults of different backgrounds respectfully	Welcome! (GYC)	49.2 (30)
15-AD Interacting with people of different backgrounds positively and respectfully	Welcome! (GYC)	55.7 (34)
	Welcome! (GUP Teen)	55.6 (10)
	Introduction to Social Innovation (GYC)	19.1 (22)
	Creative Tools for Social Innovation (GYC)	17.5 (18)
	Gathering Information & Generating Ideas (GYC)	19.0 (16)

The *Welcome!* module welcomed students to the program, gave an overview of the curriculum, and provided students with a workbook to use throughout the program. In this module, students were prompted to introduce themselves to the group, share where they live, what is unique about them, and what being a changemaker means to them. As students introduced themselves and talked about their lives, many of them expressed a willingness to engage and interact with their peers in

the program. This is where we saw the most examples of students' willingness to interact respectfully with others from different backgrounds (13-AD).

The *Introduction to Social Innovation* module directly followed the *Welcome!* module. It introduced students to the concept of social innovation and then asked them to participate in a series of activities designed by University of Pennsylvania's Center for Social Impact Strategy. They watched a video on the "key mindsets" required for social innovation and were asked to reflect on a challenging situation they experienced recently and then reframe it by considering new perspectives and underlying motivations. Students shared several interesting anecdotes, though the final part of the prompt was what encouraged students to reflect on and respectfully respond to each other's posts:

> *Post your reflections in the comments below. Your post will be read by others. Try to comment on 2-3 posts by others.*

As a result of this final directive, there were several examples of posts coded for students listening to (7-AD) and interacting respectfully with others (15-AD) in their replies to each other. As an example, one student wrote in response to another student's post, "**I can relate to you so much.** But **your way of thinking is so brilliant** I have to use it too in the future." Another student, replying to a separate post, wrote, "**You make an excellent point**. I find many of my peers constantly comparing test scores and grades."

Later in the same module, students were asked to watch a video where a professor discussed how social entrepreneurs approach complex problems and what makes social innovation different from traditional problem-solving. They were asked to provide their own perspectives on problem-solving and social issues, and then once again directed to "respond to other posts." This also occurred in the *Self-Awareness & Reflection for Impact* and *Gathering Information & Generating Ideas* modules, where students were asked to respond to a prompt and then told to comment on two to three other posts. We saw additional examples of respectful listening and interaction (7-AD and 15-AD) in these modules, indicating that the direction to reply was successful.

As described earlier, the *Stereotypes & Generalizations* module asked students to describe stereotypes they have encountered. In many cases, students responded to other students' posts respectfully and without judgement. Students responded to each other's posts with statements such as, "**I agree. I feel like our problems may seem 'minuscule'** to older generations simply because our situation is different from their past experiences," as well as "**Exactly! Being Muslim is just one identity** in a person's identity flower. They too can be sports lovers."

For indicators like 7-AD and 15-AD, discussion boards in which students exchange information, stories, and ideas make it easier to observe how students interact. Simple design decisions, such as explicitly directing students to respond to each other's posts, can elicit these types of exchanges.

Ability to think critically about one's own and others' behaviors and attitudes

Two of the Appreciation for Diversity indicators touch on the skills of identifying and critically reflecting on stereotypes (6-AD) and bullying behavior online or in-person (9-AD). Students who demonstrate 6-AD notice and name stereotypes, ask critical questions about them, and reflect on their own biases. Students demonstrating 9-AD notice and name bullying behavior and ask critical questions about it. Table 8 summarizes the modules where these indicators were most prevalent. Modules from both curricula include prompts that encourage students to demonstrate these skills, including the *Stereotypes & Generalizations* module in both the GYC and GUP Teen curricula, as well as the *Microaggressions* and *Power & Privilege* modules in the GUP Teen curricula.

Table 8. Summary of indicator cluster related to ability to think critically about one's own and others' behaviors and attitudes.

Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator
6-AD Ability to identify and critically reflect on stereotypes in thinking about others	Stereotypes & Generalizations (GYC)	60.7 (17)
	Stereotypes & Generalizations (GUP Teen)	90.0 (18)
	Microaggressions (GUP Teen)	42.9 (9)
9-AD Ability to identify and critically reflect on bullying behavior online and in-person	Stereotypes & Generalizations (GYC)	32.1 (9)
	Power & Privilege (GUP Teen)	42.0 (29)

In both programs' curricula, the *Stereotypes & Generalizations* module encouraged students to reflect on stereotypes, discuss stereotypes they have seen that may be harmful, and consider how they may have personally employed stereotypes. Students articulated a variety of stereotypes that they had observed in others' behavior or that they themselves had held, including stereotypes related to race, ethnicity, gender, age, and more. One student shared the following, showing their understanding of a stereotype in their culture about women's abilities as well as their critical thinking about the negative effects of the stereotype:

> Some common stereotypes in central India are that **Regarding women - they are often termed as "paraya dhan" meaning "another's wealth." I myself have heard this from some people around me and that women do not have enough critical thinking skills and even if given opportunities women cannot use them as they are not competent and social enough**. Those women who actually work and succeed in professional field are given odd names. The terms used for them are genuinely insulting and often are used by other women themselves....**This affects people's**

> **productivity and the way they view themselves**. It really disheartens me to see the continuing struggles of human against human. I feel very bad and have faced some of the issues mentioned in the women's stereotypes part myself too...

Similarly, the *Microaggressions* module in the GUP Teen curriculum taught students about the concept of microaggressions and encouraged them to think about times they have either committed or been affected by a microaggression. This exercise prompted many students to provide examples of these microaggressions, as well as the underlying stereotypes. For instance, in describing a microaggression they witnessed, one student shared, "I would say that the most common microaggression I have witnessed is in terms of gender differences, like for example when the teacher needs to get something heavy and **always sais that the boys should help or if a girl helps it's 'you're so strong for a girl' etc.**" Prompting students to reflect on microaggressions also encouraged them to consider the role that stereotypes can play in making an act or comment a microaggression.

Many students' posts also revealed that they were able to notice, name, and/or reflect on bullying behavior (9-AD). Once again, in GYC's *Stereotypes & Generalizations* module, students shared stereotypes that they had heard about others or about themselves, and, in doing so, some also discussed either explicitly or implicitly how those stereotypes can encourage bullying. An example of an explicit reference was,

> Some think Finns are very shy. I however am everything but shy. I'm okay with assumptions like these because but it hasn't always been like that. **Still a few years ago I got slightly bullied especially for not being as shy as others and of course it bothered me.**

Other students made more implicit references to the types of questions or behaviors they had encountered from other people who clearly hold stereotypes about them. Students recognized that these more subtle forms of bullying, akin to microaggressions, can make them and others feel bad or insecure. One student shared,

> Since I am bi, **I have been asked many questions/comments regarding my sexuality**. "Are you sure it's not a phase?" "Do you just think girls are pretty?" "If you were to date me, It could help you prove you only like one or the other gender". **Some of these are more negative than others, but they are still hurtful.** I try my best to understand and except everyone's differences and wish they would have a similar attitude towards me.

Another wrote,

> Recently a bad experience with **someone who made some racist comments about me** being Chinese made me realise just how prevalent certain stereotypes are about my race. People have said that all Chinese are stingy, shallow and self-absorbed. It has also been said that all Chinese people eat dogs. **Hearing this directed at me made me feel disappointed, as I thought that most people would have been educated by now**, although now I know that this is simply not the case. **These harmful stereotypes are basically gaslighting, and would make anyone feel horrible about their culture and identity.**

In the *Power & Privilege* module in the GUP Teen curriculum, students learned about various types of privilege and were asked to reflect on their own privilege and consider how to bridge differences. When asked to share examples of oppression in their own countries, some students pointed to instances of different groups using their privilege to wield power over more marginalized groups, which the coders viewed as examples of bullying, though at a more macro level. For example, students cited as examples men's treatment of women in India, colonists' treatment of indigenous communities in Australia and the Americas, caste systems, and the Argentinian government's mistreatment of less privileged people.

As described earlier, students were then given a case study about a man named Abdullah and asked to discuss how the fact that Abdullah had multiple, overlapping identities related to the concepts of power and privilege. Many students were able to point out that Abdullah was exposed to explicit and implicit bullying from others (9-AD). As an example, one student wrote,

> Abdullah is not very comfortable because he is in the margin. **He is being teased about not drinking, and being offend because of homophobic jokes** that his coworkers are saying and doesn't want to express his own emotions. Power and privilege in this case studies would most likely be Abdullah rethinking himself.

Global Learning Outcome: Global Engagement

Global Engagement was the second most prevalent global learning outcome found in the data. Students' demonstration of Global Engagement aligned with **43-GE** *Interest in global issues* and one indicator cluster: Confidence and willingness to address local and global issues and understanding the value of working collectively to do so (44-GE, 45-GE, and 47-GE). Tables 9 and 10 summarize the modules in which we observed higher prevalence of these indicators.

Confidence and willingness to address local and global issues and understanding the value of working collectively to do so

Two indicators related to the Global Engagement outcome are one's recognition that they have the capacity to advocate for and contribute to local, regional, or global improvement (45-GE) and one's willingness to take action to address global issues (47-GE). These two indicators of global learning capture a student's attitude toward being a changemaker, so it is unsurprising that they were two of the most commonly coded indicators in the GYC dataset. We primarily saw evidence of students' feelings of efficacy and willingness to get involved in global issues when they began designing and sharing their projects in the *Defining Your Point of View*, *Gathering Information & Generating Ideas*, *Creating a Prototype*, and *Piloting and Getting Feedback on Your Prototype* modules. We also saw students acknowledging the importance of being inclusive as they attempted to solve social or global problems (44-GE).

Table 9. Summary of indicator cluster related to students' confidence and willingness to address local and global issues and understanding the value of working collectively to do so.

Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator
45-GE Recognition of one's capacity to advocate for and contribute to local, regional, or global improvement	Defining Your Point of View (GYC)	66.7 (44)
	Gathering Information & Generating Ideas (GYC)	19.0 (16)
	Creating a Prototype (GYC)	62.3 (38)
	Piloting and Getting Feedback on your Prototype (GYC)	33.3 (19)
	Taking Action (GUP Teen)	33.9 (20)
47-GE Willingness to take action to address global issues	Defining Your Point of View (GYC)	30.3 (20)
	Gathering Information & Generating Ideas (GYC)	15.5 (13)
	Creating a Prototype (GYC)	54.1 (33)
	Piloting and Getting Feedback on Your Prototype (GYC)	43.9 (25)
44-GE Recognition of the value of inclusive problem-solving	Piloting and Getting Feedback on Your Prototype (GYC)	22.8 (19)

The GYC curriculum modules provided explicit guidance to students on how to articulate the goals and value proposition of their prototype, which in turn supported students as they shared about their goals and projects in the discussion boards. For example, in the *Defining Your Point of View* module, students watched a video where they learned how to write their "Most Important Sentence," or the sentence used to communicate their goal, and were given the following template: *My goal is to* _____ *by* _____. Students were then asked to write their own goals using this format

and share those goals in the discussion boards. One example was, "**My goal is to reduce hate an aggression** towards minority groups **by sharing information and coming up with community activities** that will result in unity and awareness." A second example read, "**My goal is to spread vegan in japan** as well **by using social media or introducing the right information about it**." Posts of this nature showed students' confidence and desire to make social change, and most were coded for both recognition of one's capacity to impact global issues (45-GE) and willingness to address global issues (47-GE). Several of the other modules also provided specific scaffolds to guide students through this process.

Though most examples of students showing confidence and willingness to address local and global issues came from the GYC dataset, there was one module in the GUP Teen curriculum where students also demonstrated a perceived capacity to advocate for and contribute to social change: *Taking Action*. *Taking Action* was the final module in the GUP Teen curriculum. Students learned what it means to be an "Active Global Citizen" and were prompted to reflect on the organizations in their community that are working for social impact and how they might get involved.

The data show that the GYC curriculum provided more specific opportunities for students to demonstrate their capacity and willingness to take action (45-GE and 47-GE). However, it is important to note that the *Taking Action* module in the GUP Teen curriculum provided evidence that students can practice and demonstrate these competencies in a non-project-based learning context.

An additional attitude demonstrated in student posts was understanding of the value of working together and weighing others' perspectives (44-GE). As an example, one student in the GYC program shared the following when asked how they planned to test their prototype,

> My prototype is kind of like the event I will be organizing, but I'll just be testing it with few of my friends to see how it works. I will pilot it by asking for feedback from these friends who have promised to test it out. **I will use few of my other friends as experts since they are experts of their own hobbies and they'll help me with showing their hobbies**.

This student acknowledged that some of their friends have expertise that they do not have, and that they can learn from them.

Interest in global issues

We also saw examples of students in the GYC program demonstrating an interest in global issues (43-GE). This occurred most commonly as students learned about social innovation and discussed their projects. For example, in the *Introduction to Social Innovation* module, students were asked to

describe a social issue they care about and would like to help solve. Students were able to describe a range of issues in which they were interested, including "violence and hate crimes against others," "over consumption of animal products," "existence of patriarchal mindset," and "childhood obesity."

Later in the program, in the *Gathering Information & Generating Ideas* curriculum module, students were asked to brainstorm questions related to making social change. In doing so, many posed questions that demonstrated curiosity about social issues related to their own projects, as well as curiosity and interest in other students' projects.

Table 10. Summary of learning related to students' interest in global issues.

Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator in key modules
43-GE Interest in global issues	Gathering Information & Generating Ideas (GYC)	20.2 (17)
	Introduction to Social Innovation (GYC)	21.7 (25)

Global Learning Outcome: Global Knowledge

Global Knowledge was the third most prevalent global learning outcome found in the data. Students' demonstration of Global Knowledge aligned with **40-GK** *Recognition of the importance of analyzing multiple perspectives* and one indicator cluster: developing knowledge of and appreciation for global issues and their complexity (28-GK, 31-GK, 32-GK, and 33-GK). Tables 11 and 12 summarize the modules in which we observed higher prevalence of these indicators.

Developing knowledge of and appreciation for global issues and their complexity

Though the GYC program was not designed to teach content related to a particular global issue, as students were introduced to the concept of social innovation and worked on their prototypes, we saw examples of them demonstrating knowledge of global issues. We observed students discussing global issues (28-GK), considering how these issues affect various groups (31-GK), grappling with their complexity (32-GK), and understanding that inequality in access to resources can shape people's lived experiences and perspectives with respect to these issues (33-GK).

Table 11. Summary of indicator cluster related to students developing knowledge of and appreciation for global issues and their complexity.

Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator
28-GK Knowledge of global issues and their local impact	Introduction to Social Innovation (GYC)	17.4 (20)
	Defining Your Point of View (GYC)	47.0 (31)
31-GK Understanding that global issues are borderless and affect everyone	Introduction to Social Innovation (GYC)	12.2 (14)
	Defining Your Point of View (GYC)	27.3 (18)
32-GK Understanding that global issues are complex	Introduction to Social Innovation (GYC)	8.7 (10)
	Defining Your Point of View (GYC)	27.3 (14)
33-GK Understanding that differences in access to information, technology, and resources affect quality of life and perspectives	Defining Your Point of View (GYC)	19.7 (13)
	Creating a Prototype (GYC)	16.4 (10)
	Piloting and Getting Feedback on Your Prototype (GYC)	15.8 (9)

Some students' responses were coded for multiple knowledge indicators. One such example was:

> For me, SDGs are the need of the hour. **Its everything that the world needs right now.** It has very small aspects to it that are all equally important and combine together to form what we call as sustainable development goals .They show us the reality, **the reality which might seem a little difficult to achieve** but one filled with peace**. I am very proud to say that my community has been making great progress regarding the climate action. There have been so many drives by various organisations to protect the environment. But, the sad part is that my community is struggling with hunger and poverty. Every street is filled with someone who sleeps hungry at night and is devoid of food.** I want my community as a whole to work on this pressing issue.

In the context of a discussion about United Nations Sustainable Development Goals (SDGs), this student references a global issue (i.e., climate change) and discusses the ways in which their local community is working to take action (**28-GK** *Knowledge of global issues and their local impact*). They recognize that climate change affects the world as well as their local community (**31-GK** *Understanding that global issues are borderless and affect everyone*), and they further recognize that protecting the environment is important but challenging given the existence of other pressing issues in their community such as poverty and hunger (**32-GK** *Understanding that global issues are complex*). Notably, the prompt for this post asked students to consider the SDGs and discuss which ones they think their "community is already making progress towards" and which ones "are more pressing in [their] community." This prompt may have been helpful in encouraging students to explicitly consider the local implications of global issues. Posts like these, which demonstrate multiple indicators, show the power of the Codebook to capture evidence of complex learning.

Recognizing the importance of considering multiple perspectives

As students worked on their projects and eventually received feedback, we saw some evidence of them valuing others' points of view and perspectives (40-GK), particularly as it pertained to their projects. This occurred primarily in the *Piloting and Getting Feedback on Your Prototype* module, as students discussed what they learned by soliciting feedback from others. Students discussed the importance of being open-minded and accepting feedback, and some even shared that they planned to continue asking for feedback in the future. Students shared, "I was able to interact with different types of people and lose the fear of receiving criticism," "I learn that sometimes you have to be open minded in accepting feedbacks," "I have really learned and continue to learn from the society that surrounds me," and "I will focus on getting feedback from the people who are going to be using [my prototype] on a daily basis." Encouraging students to solicit feedback from others may be beneficial as a stepping stone for learning to value others' opinions.

Table 12. Summary of indicator clusters related to students recognizing the importance of considering multiple perspectives.

Relevant global learning indicators	Key curriculum modules	Pct. (number) of posts coded for indicator in key modules
40-GK Recognition of the importance of analyzing multiple perspectives	Piloting and Getting Feedback on Your Prototype (GYC)	31.6 (18)

Conclusions and Recommendations for Enhancing Global Learning

The AFS student posts analyzed for this study demonstrated many different types of global learning. Appreciation for Diversity was the standout global learning outcome. Students also demonstrated more complex knowledge, skills, attitudes, and behaviors associated with Cultural Understanding, albeit with less frequency than the other global learning outcomes. Students showed awareness of and positivity toward their own and others' cultures, listened to and interacted with others respectfully, and thought critically about stereotypes and generalizations. They also showed evidence of Global Knowledge and Global Engagement by demonstrating confidence and willingness to take action, understanding of the value of being collaborative when taking action, and engagement with global issues. The higher preponderance of posts coded for Appreciation for Diversity and Global Engagement indicators was consistent with what we expected given the ways in which the AFS competencies aligned with the competencies identified in the Codebook (see Table 2).

This section explores possible explanations for why certain types of learning were more or less prevalent in the two AFS programs, as well as curriculum revisions that might facilitate deeper global learning.

1. ***Many students were able to discuss their own and others' cultures.***
   Modules that explicitly prompted discussions of cultures were more likely to elicit detailed cultural descriptions. However, simply asking students to describe their communities also encouraged some students to talk about their culture or other cultural groups in their communities. In both programs, we saw many more examples of cultural "awareness" than we did cultural "understanding." When deciding whether a post should be coded for awareness versus understanding, the distinction depended upon whether the student had explained or provided more detail around their claims. There were cases in which students may have had a more nuanced understanding of their own culture, but their post lacked sufficient detail to be coded for the more advanced indicators. One place where we did see more posts coded for Cultural Understanding indicators was in the *Who Am I?* module of the GYC curriculum, when students were asked to think about an object that represents a culture or group they identify with and then *explain* the significance of that object. **When students are asked to explain significance, they are more likely to dig deeper in showing their understanding of the origins and meaning of cultural artifacts.**

2. ***Structured opportunities for exchange led to examples of students listening to and interacting respectfully with one another.***
   The online discussion boards that are part of both program models created a learning environment conducive to demonstration of these Appreciation for Diversity indicators, which were best expressed through replies to others. However, we observed that curriculum modules with prompts that explicitly told students to respond to two or three of their peers' posts tended to result in posts that were coded more frequently for **7-AD** *Ability to listen to others and discuss issues in a respectful and unbiased way*, **13-AD** *Willingness to interact with peers and adults of different backgrounds respectfully*, and **15-AD** *Interacting with people of different backgrounds positively and respectfully*. The GYC curriculum modules contained more of these prompts, and consequently we saw many more examples of respectful dialogue in the GYC sample. **Since interaction, even in a virtual setting, is a precondition for students to demonstrate listening and respectful dialogue, encouraging students to reply to each other's posts, especially with explicit prompts, will give them more opportunities to practice and demonstrate listening skills and respectful interactions.**

3. ***Two of the most frequently coded indicators in the GYC curriculum related to students' recognition of their capacity and willingness to contribute to local, regional, or global improvement (45-GE) and willingness to do so (47-GE), attitudes critical to Global Engagement.*** This is likely a result of the GYC curriculum's clear focus on students creating change in their communities by developing a prototype that would address a social or global issue. This project-based, action-oriented design may have prompted students to recognize their own capacity and show a willingness to take action. However, the activities in this portion of the curriculum also gave students clear guidance and templates to describe their project's goals and benefits. These templates likely helped students articulate both their goals and plans for reaching them. **Providing explicit templates in the curriculum is likely an effective support for students as they write about ideas and concepts that are new to them.**

4. ***While the GYC curriculum included projects that provided explicit opportunities for students to take action on global issues, the GUP Teen curriculum demonstrates that even a hypothetical discussion of future actions can help build student efficacy.***
   Students' recognition of their capacity to impact local, regional, or global issues was generally lower in the GUP curriculum, which is not project-based. However, one-third of all posts in the *Taking Action* module in the GUP Teen curriculum showed evidence that students recognized their capacity to make change. This module attempted to bridge the gap between the personal and interpersonal skills developed in the prior modules and a student's next steps as they prepared to complete the program. Asking students to consider how they might get involved in the future was effective in encouraging them to recognize their own capacity to make changes in their community, and resulted in a higher prevalence of Global Engagement indicators than

other modules of the curriculum. **For global competency programs that do not contain a project, explicitly asking students how they can get involved may help them develop a sense of efficacy related to their capacity to make an impact.**

5. ***Some prompts bundled multiple questions together, and students did not always respond to all of the questions included.***
   When individual prompts include a series of questions, students may only respond to one of the questions or the simplest question. Breaking the questions apart and providing separate fields for each answer will likely encourage students to respond to all questions. This would also provide more opportunities to evaluate what students are learning. In other cases, tweaking the prompts could elicit more detailed responses. As mentioned above, asking students to *explain* elements of their culture may encourage them to provide more detailed explanation or analysis. ***Limiting the number of questions contained in a single prompt and encouraging explanations or analysis will likely lead to more evidence of learning.***

More broadly, this study demonstrates that the Global Cities *Codebook for Global Student Learning Outcomes* can be applied to a variety of global competency curricula to identify what students are learning and the aspects of the curriculum and program model that drive student growth. This research advances this new evaluation methodology in the field of global competency education, which can be used in any K-12 program or classroom to identify student progress.

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Appendix A: Global Cities, Inc. Global Learning Outcomes and Indicators

Appreciation for Diversity

1-AD Awareness of how one's life and the lives of others are influenced by broader cultural and historical contexts
2-AD Awareness of one's culture (behaviors, identity, beliefs)
3-AD Awareness of one's city and how it relates to other cities around the world
4-AD Awareness of different cultures within one's school, city, region, country and world
5-AD Awareness of one's identity as a citizen of one's city
6-AD Ability to identify and critically reflect on stereotypes in thinking about others
7-AD Ability to listen to others and discuss issues in a respectful and unbiased way
8-AD Ability to ask questions when encountering different perspectives
9-AD Ability to identify and critically reflect on bullying behavior online and in-person
10-AD Positive attitude towards one's own culture
11-AD Tolerance of differences
12-AD Responding to differences with openness and positivity, not fear
13-AD Willingness to interact with peers and adults of different backgrounds respectfully
14-AD Willingness to work collaboratively with peers and adults of different backgrounds to achieve shared goals
15-AD Interacting with people of different backgrounds positively and respectfully
16-AD Working collaboratively with people of different backgrounds to achieve shared goals
17-AD Intervening against intolerant behavior online and in-person

Cultural Understanding

18-CU Understanding how one's life and the lives of others are influenced by broader cultural and historical contexts
19-CU Understanding of one's culture (behaviors, identity, beliefs)
20-CU Understanding of one's city and how it relates to other cities around the world
21-CU Understanding of different cultures within one's school, city, region, country and world
22-CU Understanding that problems may be solved differently depending on cultural factors
23-CU Ability to adapt language and content of writing to meet the needs of diverse audiences
24-CU Ability to recognize different perspectives on specific global issues
25-CU Recognition of different perspectives as legitimate
26-CU Positive attitude towards other cultures

Global Knowledge

27-GK Knowledge of local and world geography
28-GK Knowledge of global issues and their local impact
29-GK Knowledge of economics and politics and their impact
30-GK Knowledge of one's city government and differences between city governments around the world
31-GK Understanding that global issues are borderless and affect everyone
32-GK Understanding that global issues are complex
33-GK Understanding that differences in access to information, technology, and resources affect quality of life and perspectives
34-GK Understanding that problems may be solved differently depending on socioeconomic status, natural resources, government policy and political differences
35-GK Ability to apply research skills (finding, selecting, and applying information from multiple sources) to global issues
36-GK Ability to find information about global issues using credible sources from around the world
37-GK Ability to synthesize different perspectives on the same topic to draw conclusions about global issues
38-GK Recognition of the importance of learning about other cities and countries
39-GK Recognition of the importance of learning about global issues that affect us all
40-GK Recognition of the importance of analyzing multiple perspectives

Global Engagement

41-GE Ability to engage in inclusive problem solving
42-GE Interest in the larger world, particularly unfamiliar people and places
43-GE Interest in global issues
44-GE Recognition of the value of inclusive problem-solving
45-GE Recognition of one's capacity to advocate for and contribute to local, regional, or global improvement
46-GE Appreciation of language learning as a means of communicating and collaborating with people around the world
47-GE Willingness to take action to address global issues
48-GE Using digital tools to learn from and communicate with students from cities around the world
49-GE Seeking opportunities to communicate with people in other cities and cultures, as well as one's own
50-GE Seeking opportunities to interact and collaborate with people of different cultures and backgrounds
51-GE Gathering and interpreting information from people in one's own city and culture
52-GE Gathering and interpreting information from people in other cities and cultures
53-GE Presenting information, formally and informally, to people in one's own city and culture
54-GE Presenting information, formally and informally, to people in other cities and cultures"
55-GE Working to contribute to local, regional, or global improvement

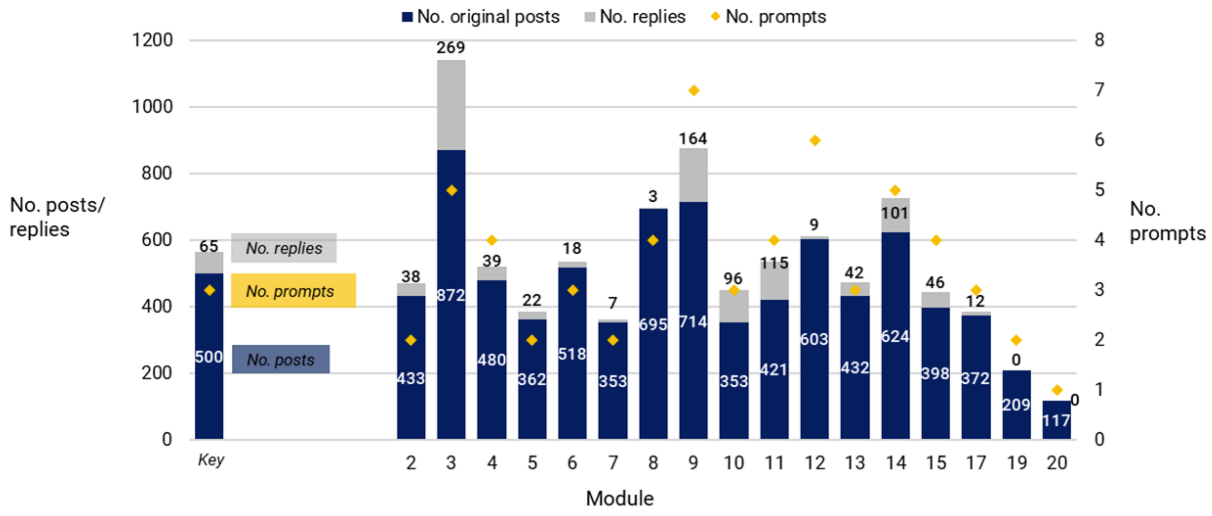
Appendix B: Sampling Design and Methodology

Sampling

The data were drawn from the full universe of 13,809 posts made to online discussion boards by students who completed either the GUP Teen or GYC program between 2020 and 2023.[8] The majority of posts were written in English, though there were 1,951 posts contributed as part of a Spanish-speaking version of GYC. These posts were translated using Google Translate and appended to the English-language dataset. During their review, coders were instructed to treat posts originally written in Spanish the same as posts written in English.

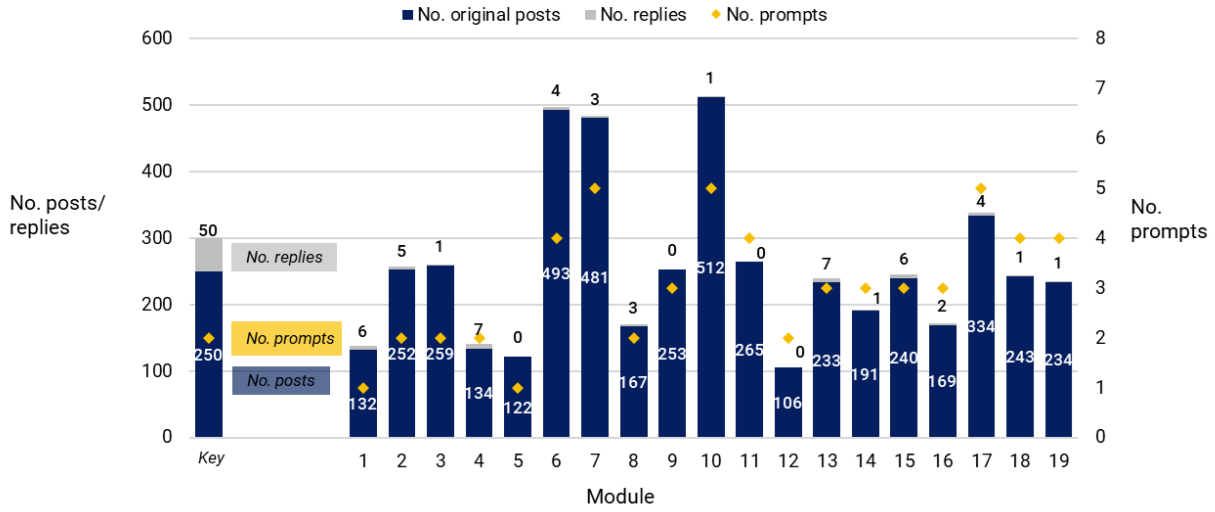
Figures B1 and B2 show the total number of posts, including from the Spanish-speaking dataset, made in the discussion boards during this time period, by module. As a point of reference, we also show the number of prompts in each module.

Figure B1. Number of posts, replies, and prompts in GYC online discussion board between 2020 - 2023, by module.



[8] A handful of posts that were blank or contained only minimal characters were dropped from the sample.

Figure B2. Number of posts, replies, and prompts in GUP Teen online discussion board between 2020 - 2023, by module.



The figures highlight several facts about the number and distribution of posts. First, the number of posts varied by curriculum module. This is in part because the number of prompts associated with each module varied; some modules contained as many as seven prompts, whereas others contained only one. As the charts show, modules with more prompts generally solicited more student posts.

Second, irrespective of the number of prompts, some modules seemed to produce more posts than others. For example, in the GUP Teen program dataset, there were 260 posts in the *Learning Styles* module (Module 3) despite there being only two prompts, whereas the *Communication Styles* module (Module 12) contained only 106 posts despite also having two prompts.

Third, the number of replies to original posts varied considerably by program and curriculum module. The GYC dataset contained more replies than the GUP Teen dataset, though even within the GYC dataset there was a lot of variation by module, with one module, *Introduction to Social Innovation* (Module 3), containing 269 total replies and others containing no replies. In the GUP Teen dataset, the number of replies ranged from zero to 21.

We wanted the final datasets to include student posts from all modules for both the GYC and GUP Teen programs. However, we also knew that some modules would naturally give students greater opportunities to learn and practice global competencies, and we wanted to ensure that our sample included enough cases from those modules to allow us to analyze the connection between those modules' activities and different types of global learning. Our desire to balance having representation from the full population of posts with having enough cases from specific modules gave rise to a two-phase sampling approach. In the first phase, we sampled proportionately across

all modules for which there were discussion board posts available. We sampled to include approximate proportional representation of the number of original posts and replies in each module, and we ensured that the translated Spanish-language posts were also proportionately represented. We selected 1,162 total cases in this initial phase, with 560 cases coming from the GYC curriculum and 602 from the GUP Teen curriculum. This sample size was selected based on prior research using the Codebook; researchers found the sample of 1,200 provided ample heterogeneity in the types of posts reviewed while not being too resource intensive to analyze.

After completing the coding of the initial sample, we analyzed the data to calculate the prevalence of each of the 55 global learning indicators for each program and across each of the curriculum modules. We identified modules where there was a higher overall prevalence of positively coded posts – i.e., modules in which at least 50 posts or replies were coded for one or more indicators. We then selected an additional sample of roughly 25 cases from each of these modules. The purpose of this additional sample was to ensure we would have a large enough sample of coded cases to analyze the connection between the AFS program and curriculum activities and prompts, on the one hand, and students' contributions to the discussion boards, on the other hand.

The final sample includes 1,652 posts, with 932 coming from the GYC program and 720 from the GUP Teen program. We sampled separately by program, selecting cases across the full curricula while also over-sampling from modules we wanted to explore more deeply.

Methodology

The coding team worked under the guidance of Glass Frog Solutions and were independent from AFS and Global Cities. A coding manager, who had experience using the Codebook for a prior global competency coding project, trained a team of four coders who had experience with qualitative data analysis but were not experts in global learning, had not previously used the Codebook, and did not have prior experience with AFS programs and curricula. The coding team and manager all had master's degrees or higher in the social sciences.

During the training phase, the manager assigned two coders to each indicator. Each coding pair trained on and coded a set of indicators, working in conjunction with the coding manager to develop consensus on how the directions for each indicator should be applied. The coding pairs would code 10 to 15 cases asynchronously and then, during meetings with the coding manager, review reliability estimates to determine whether coding was becoming more consistent. If coders had questions, they directed them to the coding manager, who helped them find resolution or, at times, conferred with the principal investigator of the project. By the final norming round, the coders had reached an agreement rate of 94% or higher on all indicators (median = 98.8%).

After the norming process was completed, the coders reviewed and coded the full dataset independently. As noted in the description of the sampling design, the coding proceeded in two phases. In the first phase, coders reviewed the initial 1,162 posts independently for evidence of their assigned indicators.[9] The coding manager occasionally spot checked and reviewed cases or provided more systematic support requested by the coders. After this initial phase, the principal investigator analyzed the data to estimate overall prevalence as well as prevalence by module, and identified several modules where a larger number of posts were coded. An additional 25 posts were selected from each of these modules, and the coders reviewed these additional posts for their assigned indicators.

Once the coders completed this second phase of coding, we calculated prevalence estimates for each indicator, by program and curriculum module. We then cross-referenced these prevalence estimates with the AFS curriculum modules, identifying modules in which certain indicators were coded more frequently and using that information to inform explanations for why some activities and prompts were linked to certain global learning indicators. In this report, we present overall prevalence estimates, though the preponderance of the analysis explains the connection between specific modules and specific indicators. Moreover, because the sample had an uneven number of posts from each module, we relied as much on the percentage of posts in a given module coded for a particular indicator as we did on the raw number of posts coded for that indicator.

As a robustness check, we also computed weighted prevalence estimates by curriculum module, where the weights account for proportional differences in the number of posts sampled per module. Additionally, we computed rates – the total number of codes *per reviewed posts* – for each module to determine whether adjusting for differences in the denominators (i.e., number of reviewed posts per module) led to differences in our conclusions about where evidence of student learning was most prevalent. These revised methods did not change the nature of our findings. Moreover, we did not observe differences in prevalence for the posts originally written in Spanish and those originally written in English.

Before beginning the data analysis, we collaborated with the AFS team to identify the modules in which they expected to see greater evidence of global learning. This expectation was based on the topics covered, the competencies addressed, and the extent to which those competencies aligned with the global learning indicators. To illustrate these connections, we created a series of crosswalks for internal use that mapped the expected alignment.

The goal of this project was not to explicitly test the hypothesis that we would observe more global learning in certain modules. However, during analysis, we referred back to these crosswalks

[9] The indicators were assigned to the four coders as follows: Coder 1: 1-AD - 4-AD and 18-CU - 26-CU; Coder 2: 5-AD - 17-AD; Coder 3: 27-GK - 40-GK; Coder 4: 41-GE - 55-GE.

as a way of identifying areas where we expected to see high prevalence but did not or, conversely, where we did not expect to see high prevalence but did.

Overall, learning tended to occur as predicted, though some modules yielded less evidence of global learning than anticipated. Examining these cases helped us better understand the conditions that foster global learning. The analysis presented in this report highlights the primary reasons for lower-than-expected learning outcomes. Generally, this was due to prompts that were either not explicit enough to elicit responses aligned with global learning indicators or because the curriculum content targeted competencies that did not fully align with those indicators. The main body of this report includes examples of the former – i.e., prompts that could be refined to generate different types of student responses.

There were also cases where the curriculum content and prompts did not align as expected with the global learning indicators. For instance, in the *Suspending Judgement* module of the GYC curriculum, we expected to see examples of **11-AD** *Tolerance of differences*, **12-AD** *Responding to differences with openness and positivity*, **25-CU** *Recognition of different perspectives as legitimate*, as well as other global learning indicators. In this module, students were taught a method for withholding judgment called D.I.V.E. (Describe, Interpret, Verify, and Evaluate) and were asked to apply this method to a handful of case studies as well as their personal experiences. For example, one prompt asked:

> *Think of a time when you found yourself jumping to conclusions only to realize later that your first impression or judgment was incorrect.*
>
> - *How could the D.I.V.E. tool have helped you in that situation?*
> - *How might you react differently next time?*
>
> *Share your response in the forum.*

Many students provided thoughtful responses. For example, one student wrote,

> When I had my first training with my local football team there was this one guy who did not run almost at all. I thought he was just lazy or had bad stamina. Later I found out he was just recovering from a pretty major injury and was unable to run because of that. I felt so bad about judging him at first because he eventually ended up being excellent and super hard working player.

Another student wrote,

> We took the final semester exam two weeks ago and it was very important to us because great scores are required to get into high schools. After the results were returned, one of classmates was depressed, so I thought she wasn't satisfied with her scores and began to encourage her. But she was just having trouble with her friend. D.I.V.E tool is useful in this kind of case. I believe this tool makes us calmed down and gives us time to expect the situation deeper.

These responses show students reflecting on assumptions about their peers and recognizing those assumptions were unfounded or unfair. While such reflections might correlate or give rise to expressing tolerance (11-AD), openness to differences (12-AD), or recognition that other people can have different but still legitimate perspectives (25-CU), they do not meet the criteria established in the Codebook for evidence of these global learning indicators. These indicators focus more specifically on students' expressed comfort with and openness to people with different backgrounds, experiences, cultures, or perspectives.

This report presents numerous examples of how global competencies can be taught. However, the findings underscore the importance of explicit curricular alignment with global learning indicators to achieve the intended learning outcomes.

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