Exploring Student Perceptions: Major Take-aways from Study Abroad in Scotland through Q Methodology

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This study investigates student perceptions and key takeaways from participating in a short-term study abroad program to Scotland. Utilizing Q methodology, a mixed-method approach, the research explores how students prioritize learning objectives and outcomes across four thematic areas: cultural awareness, educational system nuances, historical importance, and agricultural differences. Participants, consisting of 10 students, engaged in Q-sorting activities, semi-structured interviews, and reflective journal submissions to provide insights into their experiences.

Findings revealed three distinct perspectives among participants: (1) a focus on Scotland's educational systems and student-centered learning approaches, (2) an appreciation for Scottish history, heritage, and cultural traditions, and (3) a preference for outdoor activities and natural landscapes. Across all groups, Scottish heritage, cultural identity, and landscapes were consistently valued, while agricultural themes were less emphasized, highlighting a potential misalignment between program activities and objectives.

The results underscore the influence of experiential learning in fostering intercultural competence, personal growth, and academic insights. The study emphasizes the importance of aligning program design with pre-established learning goals to ensure diverse thematic areas are effectively represented. Recommendations include incorporating more agricultural experiences and conducting longitudinal research to assess long-term impacts on student perceptions and intercultural competence. These findings contribute to the growing body of literature on short-term study abroad programs, offering valuable insights for educators to optimize experiential learning opportunities and enhance global engagement among students.

*Keywords:*Study Abroad, Q Methodology, Student Perceptions, Cultural Awareness, Educational Systems

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Introduction

Universities and institutions have increased opportunities for students to experience global experiential learning through study abroad opportunities, allowing them to observe, experience, and reflect on cultures other than their own to expand global competencies (Clark, 1996). The choices for students to go on an international study abroad trip are personal to each student. Still, trips such as these often foster cultural, historical, and personal growth in a global mindset (Houser & Bornais, 2023). A qualitative study by Challenger (2023) concluded that the long-term impacts of study-abroad trips focus heavily on building integrated self-considering components like careers, engaging in the world, connecting with others, etc.

Short-term study abroad (STSA) programs are becoming more popular in universities to make studying abroad more accessible for students in a short-term extension of the traditional classroom (Elmokadem et al., 2024). The impact of STSA programs compared to their longer counterparts raised the question of the depth of cultural engagement is limited due to the nature of the length of the program; however, Bradly and Iskhakova (2023) highlighted the teacher-developed outcomes before engaging with STSA programs affect what students can take away from the experience.

The University of Georgia strongly emphasizes experiential learning through study abroad opportunities. For the study abroad trip, students engaged in various experiences with objectives including exploration of the Scottish people's culture, analyzing Scotland's history, comparing agricultural practices in Scotland, and evaluating education (specifically primary and secondary schooling) systems.

Purpose and Research Questions

This study aimed to explore the learning objectives and takeaways that students in the [Study Abroad] program subjectively prioritized as most important, using a mixed-methods approach grounded in Q methodology. The guiding research questions are:

1. What are students' subjective perceptions and prioritized major takeaways following their participation in the *Scotland: Youth Engagement in Agriculture* program?

2. How do students' perceptions vary across thematic areas, including cultural awareness, educational system nuances, historical importance, and agricultural differences, following their study abroad experiences?

Literature Review and Conceptual Framework

This study was grounded in Kolb's (1984) Experiential Learning Model as a pedagogical tool to take student learning beyond the classroom through reflection, conceptualization, and application of the knowledge within the experience. During the *Scotland: Youth Engagement in Agriculture* program, students engaged in concrete experiences such as visiting cultural and historical sites, observing educational institutions, and exploring the Scottish countryside to better understand local agricultural practices. These authentic learning opportunities encouraged students to step

outside of their comfort zones, develop greater self-awareness, and deepen their understanding of other cultures (Wickline et al., 2024).

The learning objectives of any study abroad program have a large influence on a student's perception of that program, including cultural awareness, academic growth, and leadership development. The findings of Williams (2005) show that cultural awareness is one of the most significant outcomes of study abroad that students discuss the most. Students frequently discuss academic growth through increased motivation to engage in coursework following a study abroad program (Hadis, 2005). Additionally, leadership skills are often cultivated during study abroad, as students must navigate unfamiliar settings, solve problems independently, and collaborate with peers from diverse backgrounds (Orahood et al., 2004). While these outcomes are widely acknowledged, individual perceptions of what is most valuable vary significantly and are shaped by students' personal goals and the context of their experiences (Anderson et al., 2006). The outcomes for the *Scotland: Youth Engagement in Agriculture* program had four overarching themes including: cultural awareness, educational systems nuances, historical importance, and agricultural differences.

Cultural Awareness

Numerous universities' mission statements encompass developing students' ability to engage in society as global-minded individuals (Wingenbach et al., 2023). To thrive in a multicultural world, students must have experiences that incorporate and embrace various backgrounds and cultures (du Plessis & Bisschoff, 2007). This was commonly achieved through intercultural competence, which is the ability to function effectively across cultures while being respectful, patient, and open-minded (Perry & Southwell, 2011). Study abroad programs are an excellent method of fostering student success for this interconnected mindset (McPherson et al., 2022).

Educational System Nuances

Scotland runs under the Curriculum for Excellence (CfE), a holistic approach to teaching and learning, aiming to develop critical thinking and problem-solving skills through student-centered approaches. Research has shown that the CfE fosters creativity and engagement by promoting teacher autonomy and experiential learning opportunities (Priestley & Humes, 2010). In contrast, the United States (U.S.) education system focuses on standardized curricula and high-stakes testing driven by federal policies. While this approach ensures consistency and accountability, it often narrows the focus to testable subjects and limits opportunities for creativity and broader skill development (Au, 2007). These differences in curriculum design and pedagogy reflected broader cultural and policy priorities that shape student learning outcomes.

Assessment practices further illustrate the contrast. Scotland prioritizes formative assessment, integrating continuous feedback to support personalized learning and self-regulation, which has been shown to enhance engagement and academic achievement (Black & Wiliam, 2010). Conversely, the U.S. relies heavily on summative assessments, such as standardized tests, to evaluate achievement, often at the expense of fostering more profound learning. Seeing these differences firsthand allows students on the study abroad trip to see how educational systems can influence learning experiences.

Historical Importance

Understanding the history of a country was extremely important for study abroad students to consider, as it fosters a more profound intercultural competence and enhances the overall experience. Williams (2005) discussed how historical knowledge provides insights into a country's norms, values, and societal structures that shape daily life, with findings indicating that students who immersed themselves within a host country's site during a study abroad developed greater cultural awareness and adaptability. Additionally, understanding historical context allows study-abroad students to analyze issues and foster a nuanced understanding of global affairs. Students can enhance their abilities to think about history as a foundation of social, political, and economic challenges (Engle & Engle, 2004).

Agricultural Differences

With agriculture as the most prominent industry connecting the world's nations, acknowledging the differences in the agriculture industry, agricultural education, and the impacts of agriculture across the globe is vital when developing a global mindset (Wright et al., 2019). Variations in climate, soil composition, and access to natural resources result in diverse agricultural practices and outputs across nations, shaping regional economies and food systems (Food and Agriculture Organization, 2021). These differences not only influenced how food is produced but also affect trade, policymaking, and the livelihoods of agricultural workers worldwide. Acknowledging these distinctions is also essential in agricultural education, as students must learn to appreciate how historical, cultural, and economic factors shape agricultural systems in different regions (Wright et al., 2019).

Need for the Study

Agriculture-focused study abroad programs offer unique opportunities for experiential learning, fostering global awareness, cultural competency, and specialized agricultural knowledge. Despite their increasing popularity, these programs lack structured exploration into the subjective learning outcomes of participants. Understanding what students personally value and prioritize in their experiences provides critical insights into program effectiveness and alignment with educational goals. By examining these subjective perspectives, educators can better tailor study abroad programs to meet student's diverse needs, enhance their engagement, and optimize learning opportunities, ensuring that thematic areas such as cultural awareness, agricultural systems, and historical contexts are meaningfully integrated into the curriculum.

Methodology

We used Q methodology to explore students' perceptions of the major takeaway objectives after completing the *Scotland: Youth Engagement in Agriculture* program. William Stephenson (1953) developed the Q methodology, a mixed-method approach for scientifically studying subjectivity. Q focuses on individuals' views about a topic or event (Brown, 1980; McKeown & Thomas, 2013; Ramlo, 2024). As defined by the Cambridge Dictionary (2024), subjectivity refers to "the influence of personal beliefs or feelings rather than facts." Analyzing students' personal beliefs about learning objectives is particularly suitable for understanding their individual goals, contexts, and takeaways within thematic areas of exploration.

We aimed to explore student perceptions upon completing a study abroad trip to Scotland. Researchers began with a thorough process to develop a concourse and subsequently derived a Q-set from it. We developed a concourse of statements, each representing a distinct theme or aspect

relevant to the study abroad program's outcomes. To develop this concourse, we drew upon various sources, such as academic literature (Butkovic et al., 2022; Johnson & Battalion, 2008), personal conversations with study abroad leaders and partnering Scottish education institutions, and insights from relevant organizations like the National Farmers Union of Scotland (2024) for key outcomes related to the learning objectives of the program. This in-depth process ensured a diverse concourse and covered a broad spectrum of themes, including cultural awareness, educational system nuances, historical importance, and agricultural differences.

Following the creation of an extensive list of statements, we refined it to ensure balanced representation across all thematic areas aligned with the program's learning objectives, ultimately developing the Q-set seen in Table 1 (Watts & Stenner, 2012). The Q-set serves as the foundation for the Q-methodology data collection approach, allowing participants to express their viewpoints and priorities regarding the major takeaways from their study abroad experience in Scotland. By deriving the Q-set from the concourse, we ensured that the data collected is focused and meaningful (Stephenson, 1953). Researchers guided participants through a structured exploration of their perceptions while maintaining the richness and depth of the original themes encapsulated in the concourse.

Table 1

Q-Set Statements

Thematic Area	Statements
Cultural Awareness	1. Respect Scottish attire: kilts, tartans, honor local customs
	2. Learn dialects for effective communication
	3. Value culinary traditions: haggis, whisky, local cuisine
	4. Respect folklore and storytelling
	5. Appreciate bagpipes and music in Scotland
	6. Understand clan heritage and tartan significance
	7. Embrace outdoor activities: hiking, golfing, and biking
	8. Explore diverse landscapes: Highlands, islands, appreciate natural beauty
	9. Acknowledge sports significance: rugby and football
	10. Recognize Scottish nationalism and politics influence
Educational Systems	11. Understand Scottish grading and curriculum differences
	12. Describe educational processes at Scottish Universities and Institutions
	13. Learn about Scottish teaching methods, classroom dynamics, classroom etiquette, and participation norms
	14. Familiarize with Scottish academic calendar, holidays for scheduling alignment
	15. Recognize Scottish educational priorities, focus areas for academic integration
	16. Appreciate Scottish emphasis on group projects and collaborative learning
	17. Engage with Scottish faculty, professors for academic guidance and support
	18. Adapt to Scottish class sizes and discussion formats

Thematic Area	Statements
	19. Understand Scottish student life, campus culture for social integration
	20. Recognize Scottish diversity, inclusivity efforts in educational institutions
Historical Importance	21. Appreciate Scottish historical sites and landmarks
	22. Understand Scottish history including wars and monarchy
	23. Explore ruins for insight into medieval history
	24. Learn about Scottish independence movements and battles
	25. Appreciate Scottish contributions to the literature and arts
	26. Understand the role of the Windsor family in the United Kingdom
	27. Appreciate Scottish influence on American history, immigration, and culture
	28. Learn about Scottish royal history and monarchs
	29. Engage with Scottish folklore and legends for historical insight
	30. Appreciate Scottish architectural heritage and heritage
Agricultural Differences	31. Understand Scottish farming practices and sustainability efforts
	32. Explore Scottish agricultural landscapes and rural communities
	33. Understand agricultural policies, regulations, and subsidies
	34. Learn about Scottish agricultural challenges such as climate change
	35. Understand Scottish agricultural education, research, and extension services
	36. Appreciate Scottish community-supported agriculture and local food movements
	37. Explore Scottish agroforestry and agroecology practices for sustainability
	38. Whisky distilleries rely on Scottish barley
	39. Understand renewable energy initiatives like windfarms
	40. Understand how the Scottish agricultural industry adapts to meet evolving consumer demands

This study's participants (see Table 2) were students who attended the *Scotland: Youth Engagement in Agriculture* program during the summer semester of 2024. Out of the 16 students enrolled in the course, 10 agreed to participate in the study.

Table 2

Participant Demographics (N = 10)

Pseudonym	Age	Gender	Degree Type	Major
Hannah	29	Female	Graduate	Animal and Dairy Science
Christian	27	Male	Graduate	Agricultural Education
Megan	32	Female	Graduate	Agricultural Education
Rachel	29	Female	Graduate	Agricultural Education

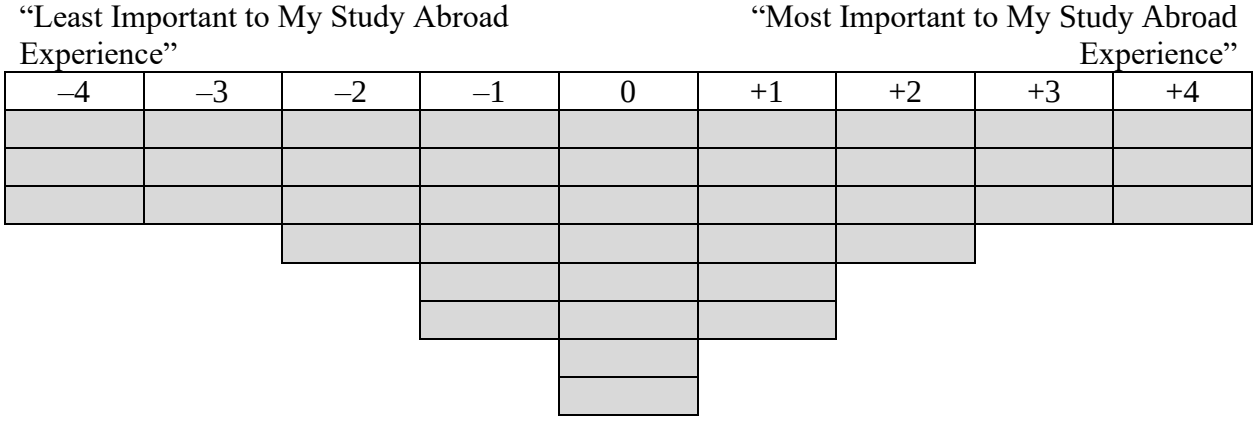
Pseudonym	Age	Gender	Degree Type	Major
Michaela	21	Female	Undergraduate	Veterinary Science
Mary	21	Female	Undergraduate	Agricultural Education
Grace	21	Female	Undergraduate	Biochemistry and Molecular Biology
Kevin	25	Male	Undergraduate	Agribusiness and economics
Bobby	19	Male	Undergraduate	Poultry Science
Sarah	21	Female	Undergraduate	Agricultural Education

Data Collection

As a mixed-method approach quantitative and qualitative data were collected. Participants were involved in a data collection session lasting 60–80 minutes. The data collection session included three parts. Parts one and two included a Q-sort of 40 statements of objectives from the study abroad trip. Participants completed an initial subjective sort of the statements into three categories: "Most Important to My Study Abroad Experience", "Neutral", and "Least Important to My Study Abroad Experience," followed by giving rankings of -4 to +4 in part two of the data collection session. The Q-sort allowed for only a certain number of statements to be ranked each value -4 to +4 in the shape of a bell curve (see Figure 1). This approach assumes that participants' subjectivity is normally distributed, with strong preferences for a few items, clear dislikes for a few others, and a neutral stance on most remaining items (Stephenson, 1953).

Figure 1

Q Sort Distribution



Following the Q-sort, part three included a qualitative semi-structured interview regarding the Q-sort and experiences on the trip (see Appendix A). Researchers engaged in individual field notes and audio recordings during all three parts of the data collection session for transcription and analysis purposes.

Description of the Statistical Analysis

The participants' Q-sort numerical data were analyzed through the KADE system, initially giving an output of eight factors explaining the variances between participants. While factors with

eigenvalues greater than 1.0 are commonly retained, this study kept three factors with eigenvalues above 0.75 for interpretation. One factor, with an eigenvalue of 0.77, was retained due to its conceptual relevance and meaningful contribution to the overall interpretation of the data, as factors below 1.0 can still represent valid and interpretable patterns in Q methodology (Brown, 1980). A Pearson's correlation coefficient (*r*) was run for each factor and each participant. Participants with a correlation coefficient higher than 0.70 were flagged and loaded into that factor, indicating similar subjective preferences, or lack thereof, of fellow participants.

The Q-sort data were transferred into an Excel document and analyzed using the KADE Ken-Q Analysis software. Participant Q-sorts numerical data were analyzed for participant subjective correlations, factor extraction and analysis, and factor loading. The crib sheet method of data analysis was utilized as a blanket of trustworthiness to ensure we depicted a holistic interpretation of the factor array. A crib sheet analyzes each statement individually and for each factor loading (Watts & Stenner, 2012). We utilized inductive, deductive, and abductive analysis strategies to help add meaning to the factor loadings from the analysis. All audio recordings were transcribed word for analysis word. The research team members abductively coded data from the interview portion to identify similarities and themes across participants to help interpret the meaning of the factor loadings of the Q-sort.

Trustworthiness and Rigor

To ensure the trustworthiness and rigor of this study, it is important to address both researcher positionality and the methods of data collection. For the quantitative data collected through the Q-sort, Brauwer (1992/1993), as cited in Watts and Stenner (2012), explains that unlike R methodology, issues of validity and reliability are approached differently in Q due to its focus on subjectivity. For qualitative data, trustworthiness was enhanced through triangulation of data sources, including Q-sorts, participant interviews, and reflection journals (Creswell, 2013).

We acknowledge potential bias in the exploration of student perceptions. The lead researcher served as the faculty member for the program and had a vested interest in the program's outcomes. The second researcher was a graduate student participant in the trip who, while not involved in data collection due to this dual role, contributed to analysis based on prior experience with Q methodology. To mitigate these biases, multiple strategies were employed: use of peer debriefing during the analysis process (Lincoln & Guba, 1985), detailed audit trails for decisions made (Merriam & Tisdell, 2016), and collaborative coding during crib sheet development to support confirmability (Creswell & Poth, 2018).

Findings

The participant Q-sort numerical data were analyzed through the KADE system, initially giving an output of eight factors explaining the variances between participants. The three factors with eigenvalues higher than 0.75 were kept for factor loadings (see Table 3). A Pearson's correlation coefficient (*r*) was run for each factor and each participant. Participants with a correlation coefficient higher than 0.70 were flagged and loaded into that factor, indicating similar subjective preferences, or lack thereof, of fellow participants. This factor analysis served as the base for the findings of this study.

Table 3

Factor Matrix with Defining Sorts Flagged

Participant	Factor 1		Factor 2		Factor 3	
	r	Loadings	*r*	Loadings	*r*	Loadings
Megan	0.8686	Flagged	0.1201		0.1936	
Rachel	0.8549	Flagged	0.0546		0.4167	
Mary	0.8395	Flagged	0.0807		0.3612	
Michaela	0.8386	Flagged	0.1621		0.398	
Hannah	0.0166		0.8417	Flagged	0.0887	
Christian	0.1603		0.7663	Flagged	0.1683	
Kevin	0.2425		0.1579		0.8794	Flagged
Grace	0.5006		0.1111		0.8046	Flagged
Bobby	0.3718		0.2587		0.7226	Flagged
Sarah	0.6444		0.0727		0.7039	Flagged
Eigenvalues	6.19		1.25		0.77	
% Explained Variance	62		13		8	

Each statement of the Q-sort was analyzed to identify the z-score and rank that statement within each factor. And ranking within each factor (see Table 4). The z-score is a weighted average of the values of the Q-sorts most closely related to the factor given to a statement. Factor ranks are integer values based on z-scores and are used to reconstruct the Q-sort of a factor (Zabala & Pascual, 2016).

Table 4

Factor Scores with Corresponding Ranks

Statement	Factor 1		Factor 2		Factor 3	
	Z	Rank	Z	Rank	Z	Rank
Learn about Scottish teaching methods, classroom dynamics, classroom etiquette, and participation norms	1.94	1	1.29	6	1.55	2
Appreciate Scottish emphasis on group project, collaborative learning	1.8	2	-0.63	31	1.67	1

Statement	Factor 1		Factor 2		Factor 3	
	Z	Rank	Z	Rank	Z	Rank
Engage with Scottish faculty, professors for academic guidance and support	1.72	3	0	19	1.13	7
Understand Scottish grading, curriculum differences	1.71	4	-0.99	34	0.35	16
Understand Scottish student life, campus culture for social integration	1.35	5	-0.12	21	1.01	10
Describe educational processes at Scottish Universities and institutions	1.35	6	0.21	15	1.02	9
Recognize Scottish educational priorities, focus areas for academic integration	1.08	7	0.66	10	-1.97	40
Understand clan heritage, tartan significance	1.05	8	1.62	3	1.23	5
Adapt to Scottish class sizes, discussion formats	0.86	9	0.21	16	0.48	14
Understand Scottish history including wars and monarchy	0.72	10	0.42	14	1.24	4
Appreciate Scottish historical sites and landmarks	0.6	11	1.74	2	1.53	3
Recognize nationalism, politics influence	0.51	12	-0.54	30	0.12	19
Learn about Scottish independence movements and battles	0.49	13	1.83	1	0.7	11
Explore diverse landscapes: Highlands, islands, appreciate natural beauty	0.37	14	0.54	11	1.2	6
Acknowledge sports significance: rugby, football	0.22	15	-1.74	38	1.04	8
Appreciate bagpipes and music in Scotland	0.11	16	-0.24	24	0.7	12
Appreciate Scottish architectural heritage, buildings, and landmarks	0.11	17	1.1	8	0.29	18
Understand Scottish farming practices and sustainability efforts	0.1	18	-1.17	35	-0.12	23
Appreciate Scottish contributions to the literature and arts	0	19	-0.66	33	0.41	15
Appreciate Scottish influence on American history, immigration, and culture	0	20	1.17	7	0	21

Statement	Factor 1		Factor 2		Factor 3	
	Z	Rank	Z	Rank	Z	Rank
Learn about Scottish agricultural challenges, such as climate change	-0.01	21	-0.52	28	-0.33	25
Embrace outdoor activities: hiking, golfing, and biking	-0.12	22	-0.33	26	0.68	13
Respect folklore and storytelling	-0.2	23	-1.62	37	-0.42	26
Engage with Scottish folklore, legends for historical insight	-0.24	24	0.52	12	-0.08	22
Value culinary traditions: haggis, whisky, local cuisine	-0.26	25	1.52	4	0.08	20
Respect Scottish attire: kilts, tartans, honor local customs	-0.49	26	1.29	5	0.29	17
Explore Scottish agricultural landscapes and rural communities	-0.5	27	0.12	18	-0.49	27
Learn about Scottish royal history and monarchs	-0.64	28	-0.33	27	-1.4	36
Understand Scottish agricultural policies, regulations, and subsidies	-0.74	29	-0.21	23	-0.28	24
Understand Scottish agricultural education, research, and extension services	-0.86	30	0.45	13	-0.57	29
Appreciate Scottish community-supported agriculture and local food movements	-0.86	31	-0.09	20	-0.49	28
Explore classes ruins for insight into medieval history	-0.88	32	-0.24	25	-0.86	32
Understand the role of the Windsor family in the United Kingdom	-0.93	33	-1.41	36	-1.6	38
Learn dialects for effective communication	-0.97	34	-0.21	22	-1.47	37
Familiarize with Scottish academic calendar, holidays for scheduling alignment	-1	35	-0.66	32	-1.69	39
Explore Scottish agroforestry and agroecology practices for sustainability	-1.22	36	-1.74	39	-0.77	31
The Scottish agricultural industry adapts to meet evolving consumer demands	-1.36	37	-0.52	29	-0.7	30

Statement	Factor 1		Factor 2		Factor 3	
	Z	Rank	Z	Rank	Z	Rank
Whisky distilleries rely on Scottish barley	-1.49	38	-1.95	40	-1.22	35
Recognize Scottish diversity, inclusivity efforts in educational institutions	-1.53	39	0.99	9	-1.1	33
Renewable energy initiatives, like wind farms	-1.82	40	0.21	17	-1.14	34

Factor 1: Scottish Classroom Navigators

Factor 1 has an eigenvalue (EV) of 6.19 and accounts for 62% of the study's variance. Four of the ten participants loaded into this factor. It reflects students who placed high importance on Scotland's educational system but gave less value to statements about Scotland's agriculture. Two distinguishing statements ($p < 0.1$; van Exel & de Graaf, 2005) emerged: "Understand Scottish grading, curriculum differences" was ranked high, while "Renewable energy initiatives, like wind farms" was ranked low.

The distinguishing statements regarding Scotland's education systems were also supported in interviews. Megan explained, "I did like the value of the whole person, it seemed like especially in the schools they were focused on the responsibility of teaching the whole child you know all these extra soft skills of being a good person." In their interview following the Q-sort, Rachel echoed this by saying, "When we went into the classroom, I noticed lots of differences regarding the way that they teach, being collaborative, group settings."

All participants agreed that it was not their view that the agricultural industry was important in Scotland; however, they felt that it lacked memorable takeaways from the trip, ultimately ranking those statements lower. Mary explained in her interview,

> Something I wish we would have done more of is really just more of the farming practices and agriculture and I feel like there was so many there were so many opportunities to experience the vast agricultural landscape and I did feel like that was lacking so that was one of the things that I was I put at the opposite end.

Factor 2: Heritage Seekers and History Buffs

Factor 2 has an EV of 1.25, accounting for 13% of the study's variance, with two participants loading onto it. This "Heritage Seekers and History Buffs" factor reflects students who highly value learning about Scottish culture, traditions, and history. Christian highlighted this saying, "Being able to travel all around gave a really good snapshot of the different cultures within Scotland and also gave a really good idea of how that culture has disseminated across the world through history."

Several distinguishing statements ($p < 0.1$) and consensus statements ($p < 0.5$) were identified. The highest-ranked distinguishing statement was "Learn about Scottish independence movements and battles." Hannah shared her experience visiting the Culloden battleground memorial, "My favorite part was Culloden when we went there to have the history and [tour guide] did such an awesome job leading the tour. He dove into the background and makes you want to

know more. I really appreciated that." Christian echoed this by reflecting on how Scottish culture and tradition has impacted the history of many places,

> I thought it was interesting how, even though we're in the U.S., so many people still have ties to Scotland and embrace that heritage. The idea of being an outsider in their country didn't really seem to exist. When we were at Culloden, [tour guide] mentioned that people in Canada, the U.S., and Australia often have more claim to the Scottish Highlands than some of the people living there today. To me, it meant that people with Scottish roots still have a sense of belonging there, and I thought that was really powerful.

Three negatively ranked distinguishing statements were: "Acknowledge sports significance: Rugby and Football," "Understand Scottish grading, curriculum differences," and "Engage with Scottish faculty, professors for academic guidance and support." Both participants explained that they ranked statements lower when they felt the topic was not a major focus of the study abroad program or did not capture their interest. Regarding sports significance, Hannah said, "There was one statement that we cared about sports... Yeah I did not think that was important, we did not go to a football match." Focusing on education, Christian reflected in his daily journal about his experiences in the Scottish school systems that his takeaways geared towards education focused more on the teacher experience, saying, "Education is a two-way street. The amount of energy and work involved by the teacher is unbelievable to anyone who has not experienced it. It opens your eyes to how much teachers do for their students."

Factor 3: Nature and Adventure Lovers

Factor 3 has an eigenvalue (EV) of 0.77, accounting for 8% of the study's variance, with four participants loading onto it. This factor placed less emphasis on education and history, instead valuing outdoor activities and Scotland's landscapes. "Embrace outdoor activities: hiking, golfing, and biking" was a highly ranked distinguishing statement ($p < 0.5$). Participants agreed on two highly ranked statements: "Explore diverse landscapes: Highlands, islands, appreciate natural beauty" and "Appreciate bagpipes and music in Scotland." Sarah explained that their time on the Isle of Skye "gave me the opportunity to see some of the most stunning landscapes and scenes that I have ever seen. I felt like my pictures I took couldn't do justice to the beauty." Kevin expanded on this within his reflective journal, saying, "The ride from Glasgow to the Isle of Skye showed the incredible diversity of Scotland's landscapes."

Consensus Across Factors

While each factor is distinct, some statements were similarly ranked across all factors, revealing common patterns in student perceptions. The highest-ranking consensus statement ($p < 0.1$) was "Understand clan heritage, tartan significance," with all participants giving it a score of two or higher. This suggests that students universally valued learning about Scottish heritage as a meaningful cultural takeaway. The emphasis on clan systems and tartan traditions may have resonated because they symbolize national identity, legacy, and belonging. These elements are often easy to grasp and emotionally impactful for students engaging in cross-cultural learning. These topics were also likely emphasized during excursions and site visits, reinforcing their salience across experiences.

Conversely, the lowest-ranking consensus statement ($p < 0.1$) was "Explore Scottish agroforestry and agroecology practices for sustainability," with all participants scoring it negative

two or lower. This consistent disinterest in agroecological topics may reflect either limited exposure during the trip or a perceived disconnect between these practices and the students' personal interests or academic goals. While agriculture was a stated theme of the program, the relatively low prioritization of this statement and similar ones related to agriculture suggests that the agricultural content did not leave a strong impression, either because of lack of emphasis or the way it was presented.

Limitations

This study was limited by the number of participants ($N = 10$) relative to the number of Q-sort statements ($N = 40$), which may reduce the generalizability of findings. However, Watts and Stenner (2012) emphasize that Q methodology prioritizes depth of subjective insight over sample size. Additionally, the dual roles of the researchers present a potential for interpretive bias. While steps were taken to reduce this influence, such as the use of peer review and triangulation, it is important to acknowledge this limitation when interpreting the findings. Future research with broader participant groups or multiple study abroad programs may help to validate and expand upon these findings.

Conclusions, Discussions, and Recommendations

The *Scotland: Youth Engagement in Agriculture* program aimed to explore Scotland's culture, history, agricultural industry, and educational systems. Findings from this study highlight diverse student perceptions, with prioritized takeaways centered on educational practices, cultural heritage, and outdoor experiences. These results support the findings of Houser and Bornais (2023), who emphasized the role of study abroad in fostering cultural, historical, and personal growth. While Scottish heritage and landscapes were highly valued, agriculture-related themes ranked lower. Participants noted a misalignment between intended objectives and actual experiences, supporting Bradly and Iskhakova's (2023) conclusion that STSA outcomes depend heavily on alignment between program design and learning goals. Future iterations of this program may benefit from more intentional integration of agricultural content.

The outcomes also reflect Kolb's (1984) experiential learning theory, which emphasizes reflection, conceptualization, and application. Students gravitated toward experiences that offered emotional or intellectual impact, echoing Challenger's (2023) work on integrated self-development. The three factors identified—Scottish Classroom Navigators, Heritage Seekers and History Buffs, and Nature and Adventure Lovers—demonstrate how student engagement is shaped by personal interest and experience.

These insights offer implications for the design of future international agricultural education programs. Designers should ensure that agricultural topics are presented with the same clarity and immersion as cultural or educational components. In agriculture-focused contexts, this might include farm visits, discussions with producers, or comparative analysis of production systems. A well-balanced program can improve student engagement across all learning objectives.

In relation to research question two, the thematic analysis revealed shared values across participants, particularly in cultural and historical appreciation. This supports Williams (2005), who found cultural awareness and historical understanding to be frequent outcomes of study abroad. Participants in this study reported increased intercultural competence through engaging

with Scottish traditions and customs, reinforcing the conclusions of McPherson et al. (2022) regarding the value of immersive cultural experiences in building global awareness.

Participants also responded strongly to the differences observed between Scotland's Curriculum for Excellence and the U.S. education system, particularly regarding student-centered instruction and formative assessment practices. These observations align with findings from Priestley and Humes (2010) and Black and Wiliam (2010), who emphasized the benefits of personalized learning environments. Students expressed interest in applying these ideas to their own educational contexts, especially the focus on educating the "whole child."

Despite agriculture being a stated focus of the program, it was consistently ranked lower across participant responses. This supports Wright et al. (2019), who argued for more meaningful integration of agriculture in global learning experiences. Participant feedback suggests that agricultural content should be more hands-on, visible, and explicitly connected to global systems in order to be perceived as equally valuable.

To improve alignment between program goals and participant experiences, we recommend designing excursions and content that more evenly represent all thematic areas. Future research should explore the long-term impacts of study abroad using mixed method approaches to assess growth in global mindset and intercultural competence. Additionally, the continued use of Q methodology is encouraged as a powerful tool to uncover nuanced perspectives and guide ongoing program development.

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Appendix A

Qualitative Interview Protocol

Question 1: Please explain what brought you to choosing this study abroad trip.

Question 2: When completing the first section of the initial "from the gut" sort, what were some thoughts you had regarding how you were choosing to categorize each statement?

Probe:

What kind of statements were you putting into the "Most Important" pile? Why?

What kind of statements were you putting into the "Least Important" pile? Why?

Question 3: Please explain your thinking in deciding which statements were given the most positive ratings of +4 or +3.

Question 4: Please explain your thinking in deciding which statements were given the most negative ratings of -4 or –3.

Question 5: Please describe your overall perceptions and impressions of your experience on this study abroad trip.

Probe:

What experience was your favorite?

Would you have changed anything about your experience?

Question 6: Is there anything else you would like to share about how you completed the q-sort activity?