2025–2026 Report for Initial Programme Preparations

Investigating Satisfaction and Effectiveness of B.Ed and Diploma Completers through Q Methodology[1]

CAEP's Standard R4.3: Satisfaction of Completers: The provider demonstrates program completers perceive their preparation as relevant to the responsibilities they encounter on the job, and their preparation was effective.

CAEP's Standard R4.1: Completer effectiveness: Data must address: (a) completer impact in contributing to P-12 student-learning growth AND (b) completer effectiveness in applying professional knowledge, skills, and dispositions

---

Introduction

To investigate the satisfaction of the EPP's initial-level preparation programs (B.Ed. and Diploma), the unit conducts a Q methodology study, examining completers one year after graduation, provided they have entered the teaching workforce. This research aims to explore whether the EPP's completers perceive their preparation as relevant to the responsibilities they encounter in their roles and whether their preparation meets their professional needs. Understanding the satisfaction of completers is crucial in assessing the quality and relevance of initial teacher education programmes (Mayer et al., 2017; Rowan et al., 2015). While institutions design these programmes with specific learning outcomes and pedagogical goals, completers' experiences can provide essential insights into the strengths and limitations of these programmes in practice (Canrinus et al., 2019). Therefore, exploring completers' satisfaction with their preparation journey and their perceived readiness for professional roles offers valuable feedback on how well the EPP's intended outcomes align with the practical demands of teaching. This evaluation not only assesses how well their training aligns with their job expectations but also deepens the unit's understanding of the preparedness and confidence completers feel as they transition into the teaching profession (Goh et al., 2020). Q methodology is particularly well-suited to exploring completers' satisfaction, as it provides a systematic approach to capturing their subjective perspectives and identifying areas for improvement in the preparation programme.

Why Q methodology?

Described as a *qualiquantological* method (Stenner & Rogers, 2004), Q methodology combines the strengths of both qualitative and quantitative research approaches (Dennis & Goldberg, 1996). Watts and Stenner (2012) traced the origins of Q methodology to 1935, when it was first introduced by British physicist and psychologist William Stephenson in a letter to *Nature*. In his letter, Stephenson proposed an innovative modification of Charles Spearman's traditional factor analysis, typically used in R methodology (e.g. surveys and questionnaires),

[1] This research primarily investigates RA4.3. Still, it also examines several aspects of RA4.1. The accreditation team is currently designing and preparing to conduct a separate study fully dedicated to RA4.1. This new study is expected to commence in Fall 2026 and continue thereafter.

which analyses patterns of association between measured variables. Conventional factor analysis measures a population of *n* individuals across *m* tests, producing intercorrelations for those variables that are then subjected to factor analysis (Stephenson, 1936). However, Stephenson suggested reversing this process by analysing *n* tests, each ranked by *m* individuals. In this way, Q methodology adopts an 'inverted' factor analysis technique, with the main purpose of studying human subjectivity (Stenner & Rogers, 2004). Subjectivity refers to 'the things that we say — silently to ourselves as in reveries or publicly to others as in conversation — from our own vantage point, and excluding that which is objective' (Brown, 2019, p. 565). Q methodology can therefore be considered a by-person factor analysis, differing from the by-variable factor analysis used in R methodology. Its primary advantage lies in its ability to correlate subjects using factor analysis, providing insights into the similarities and differences in viewpoints regarding a specific issue. Hence, the EPP selected Q methodology for its unique ability to capture the individualised viewpoints of completers, offering an understanding of their satisfaction with the programme. This methodology effectively highlights the diverse perspectives of completers, providing valuable insights into how their experiences align with the intended outcomes of the EPP.

Conducting Q methodology involves five main stages (Brown, 1980). The ***first*** stage focuses on defining a concourse, which refers to the range of communication and discourse surrounding a particular topic. A concourse encompasses an infinite number of potential subjective opinions that individuals might express about an issue or topic. The ***second*** stage involves developing a Q-sample, which is a set of statements representing the complexity of the concourse in a limited number. This can be done by examining each item in the concourse to eliminate repetitive, marginal, idiosyncratic, or ephemeral statements (Lo Bianco, 2015). The ***third*** stage involves defining the P-set, which refers to the participants of the research. The key principle guiding the selection of participants in Q research is their relevance to the topic under investigation (Watts & Stenner, 2012). In the ***fourth*** stage, participants are invited and instructed to sort the Q-items, each written on separate cards, using a distribution grid according to their personal subjective viewpoints (i.e. doing the Q-sorting). The type and shape of the distribution grid (whether forced choice or free distribution) are determined by the researchers. Still, 'most Q methodologists choose a fixed distribution because it represents the most convenient and pragmatic means of facilitating the item ranking process' (Watts & Stenner, 2012, p. 89). Regardless, the grid is arranged with a fixed number of columns, each corresponding to a degree of agreement or disagreement (e.g., +3 to -3), typically labelled from 'most disagree' to 'most agree,' with a neutral middle section. The number of rows corresponds to the number of Q-items to be sorted. ***Finally***, the collected Q-sorts, which represent participants' subjective perspectives, are analysed using statistical methods such as correlation and inverted factor analysis, through specialised software (e.g., Pqmethod). This process uncovers the inter-subjective patterns of beliefs shared among participants (Watts & Stenner, 2012). The results of this analysis in a Q study are interpreted as social narratives (Webler, Danielson, & Tuler, 2009). The way these steps were applied in this research is explained in the following section.

Research Design

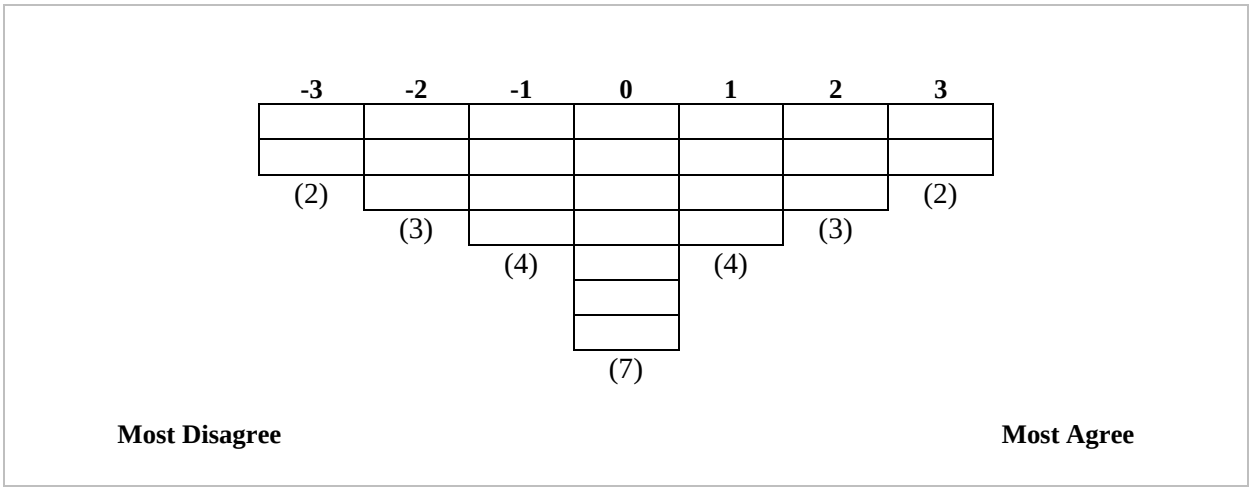
For this research, the concourse was developed based on CAEP's 10 InTASC standards. Several statements were crafted for each standard to explain and describe the competencies and skills of a College of Education candidate, resulting in a total of 45 statements.These statements

were then reviewed to remove any repetition, refining the set of 25 Q-items. Then, an expert was consulted to review the Q-sample, leading to minor adjustments before it was finalised (see Appendix 1 for Q-sample).

Next, using records from the Office of the Associate Dean for Student Affairs, a list of recent completers was compiled, and they were contacted by phone to invite them to participate in the Q-sorting process, provided they had entered the teaching profession. It is important to note that Q research does not require a large number of participants. In fact, Q research typically involves a smaller participant pool compared to R-methods such as surveys and questionnaires. Brown (1980) argues that 'all that is required are enough subjects to establish the existence of a factor for purposes of comparing one factor to another' (p. 355). Neff (2014) supports this by noting that the core premise of Q methodology is that, within a community, there are fewer distinct ways of thinking about a topic than there are individuals. In this study, **17** completers from various specialisations and programmes who had recently entered the teaching workforce agreed to participate (see Appendix 2 for Completers' Demographics). Selected completers participated in online interviews for the Q-sorting activities using two digital platforms concurrently—Zoom (Banyai, 1995) and the Q Sortware website (Pruneddu, 2013). Zoom provided the necessary videoconferencing capabilities, offering a virtual alternative to traditional face-to-face data collection methods. This platform enabled real-time interaction, allowing for immediate engagement, answering questions and offering clarifications as needed. Simultaneously, the Q Sortware website, specifically designed for online Q methodology, facilitated the Q-sorting tasks with its user-friendly, interactive features. During this synchronous online sorting activity, completers were first asked to categorise the 25 Q-items into three boxes — agree, disagree, or neutral — based on the following instruction, which served as an equivalent to a research question in R methodology: '*Throughout your journey at the CED, the college strategically planned and implemented actions to prepare you for your professional role(s), ensuring you felt confident and ready to make a meaningful impact on Qatar's P-12 student learning. The following statements reflect various aspects of this planned preparation. Which of these statements do you agree with, which do you disagree with, and which do you feel neutral about?*'

Completers carried out this task by dragging and dropping statements into one of three boxes: agree, disagree, or neutral. Next, they were instructed to refine their responses regarding their levels of agreement or disagreement, based on the following written instruction: '*Please be more specific regarding your level of agreement or disagreement and sort the statements to best reflect these levels.*' Completers then organised their responses using a digital 7-point forced quasi-normal distribution grid (see Figure 1). Upon completing the Q-sorting activity, completers were encouraged to elaborate on their +3 and -3 choices, with their responses transcribed for further analysis. Finally, completers were asked to provide demographic information.

Figure 1
Grid



2025–2026 Analytical Procedures

The resulting 17 Q-sorts were analysed using PQ-Method software (Schmolck, 2014), focusing on overall correlations and weighing individual statements and groups of statements. *First*, a centroid factor analysis — a factor extraction procedure that identifies repeated patterns by performing a by-person factor analysis — was conducted. This was followed by a varimax rotation to account for the maximum amount of opinion variance (Watts & Stenner, 2012). After eliminating factors with insufficient statistical strength, a two-factor solution was chosen (i.e., F-1 and F-2 were extracted), explaining 30% of the opinion variance. Brown's (1980) equation was then used to calculate the significance of each Q-sort at the $p < 0.01$ level: 2.58 x (1 ÷ √number of items in the Q-set). In this study, factor loadings of at least +/- 0.516 were significant at the $p < 0.01$ level.

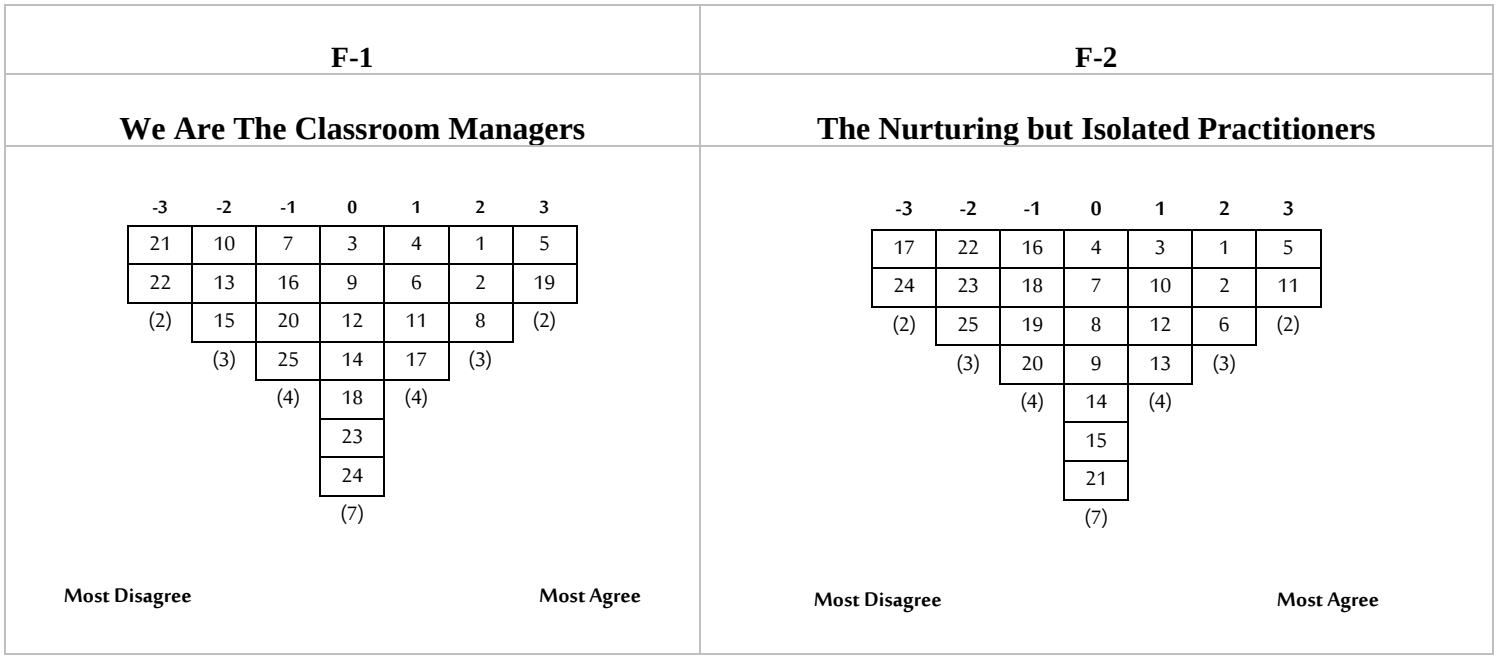
2025–2026 Results

As previously mentioned, two factors (F1 and F2) were extracted, each reflecting a distinct perspective held by a group of completers regarding their satisfaction with their college preparation. No confounded loadings were found. Table 1 summarises the emerging factors, including the variance explained and significant loadings, while Q-sort values for the corresponding items are detailed in Appendix . Figures 2 presents the factor arrays for the two emerging factors, illustrating the composite ranking of Q-items based on the merged perspectives of participants associated with each factor. A factor array represents the shared viewpoint of a group, synthesised from the individual Q-sorts loaded on a specific factor (See Appendix 1).

Table 1
Quantitative Summary of Emerging Factors for 2025–2026

Factor	F1	F2	Null	
Number of loadings	9	7	1	N= 17
% Explained variance	16	14		

Figure 2
Factor arrays for F-1 and F-2 for 2025–2026 results



In the sections that follow, the two emerging factors are qualitatively presented and discussed. Following Stenner and Rogers (2004), these factors are assigned labels encapsulating the general sentiment of the completers. That is, each factor represents a distinct social narrative shared by a group of completers, and these factors, or social narratives, were subsequently labelled to reflect the emerging themes capturing the completers' overall sentiment, as mentioned in Figure 2. Additionally, the following discussion incorporates Q-items and comments made by completers during the sorting activities. Q-item rankings are indicated by figures in brackets. For instance, in the case of F1, (Q-item 1: +3) signifies that Q-item 1 was ranked in the most agreeable position based on the merged average of all completers loaded on this factor, whereas (Q-item 22: -3) indicates that Q-item 22 was placed in the most disagreeable position.

F-1: We Are The Classroom Managers

Nine completers loaded on this factor, accounting for 16% of the variance. They represented a diverse spread of majors: one in Primary Education, two in Secondary Education, two in Special Education, one in Art Education, one in Early Childhood Education and two in the Diploma in Primary Education. Collectively, these completers embody a teaching identity centred on classroom control, subject mastery and instructional confidence, while demonstrating limited engagement with reflective practice and sustained professional growth.

The strongest convictions expressed by this group lie in behaviour management. Their highest-rated statement (Q-item 5: 3) underscores their strong belief in their ability to establish safe, respectful and productive classroom environments. This commitment to order is reinforced by their confidence in applying varied teaching strategies to meet diverse learner needs (Q-item 19: 3). They also report assurance in their subject knowledge (Q-item 8: 2) and their capacity to foster students' holistic development (Q-item 1: 2). Together, these responses indicate a pragmatic confidence in frontline teaching skills across subject areas.

Still, this practical assurance is counterbalanced by a limited orientation towards reflection, assessment and professional growth. The lowest ratings (Q-item 21: –3 and Q-item 22: –3) reveal reluctance to engage in reflective teaching practices or long-term professional development. Similarly, they downplay the importance of data-driven strategies (Q-item 13: –2), diverse assessment design (Q-item 15: –2) and connecting classroom content to real-life contexts (Q-item 10: –2). Feedback (Q-item 16: –1) and opportunities for practical application (Q-item 20: –1) are also deemed less important. This pattern is unsurprising given their novice status as recent graduates. At this stage, their priorities are largely shaped by the immediate demands of classroom management and lesson delivery, rather than by more abstract commitments to reflective cycles or professional development. The relatively low valuation of feedback and application further suggests that their professional identities are still in formation, with survival and short-term instructional effectiveness taking precedence. With time, mentoring and institutional support, however, these dispositions are likely to evolve towards a stronger appreciation of reflection, assessment literacy and continuous growth.

Although not entirely dismissive of inclusive principles, this group treats inclusion as secondary to classroom control. They show moderate support for integrating diverse cultural and linguistic backgrounds (Q-item 4: 1) and acknowledge the importance of equal opportunities for all learners (Q-item 11: 1). For the Special Education completers in particular, this reflects a pragmatic focus on immediate classroom realities rather than abstract commitments to equity and diversity.

In summary, F-1 captures a 'Classroom Manager' profile: completers from varied majors who project confidence in their subject knowledge and in maintaining discipline, but who display a weaker commitment to reflective practice, professional growth and innovative assessment. Their immediate priority is stability and authority within the classroom, often at the expense of longer-term self-development and pedagogical innovation.

F-2: The Nurturing but Isolated Practitioners

Seven completers loaded on this factor, accounting for 14% of the explained variance. They represented a mix of majors, including Primary Education, Secondary Education, Physical Education and the Diploma in Primary Education. Despite this disciplinary diversity, the group

shares a professional identity characterised by confidence in supporting student growth and maintaining classroom safety, but with limited engagement in structured planning, collaboration, and wider professional development.

The strongest convictions expressed by completers here centre on student wellbeing and equity. High ratings highlight their confidence in managing behaviour to establish safe and respectful environments (Q-item 5: 3) and their firm belief that all students deserve equal opportunities to succeed (Q-item 11: 3). They also show confidence in supporting students' cognitive, emotional and social development (Q-item 1: 2), designing developmentally appropriate activities (Q-item 2: 2) and fostering collaborative and participatory learning environments (Q-item 6: 2). Together, these responses suggest a strong relational orientation towards nurturing students and creating a sense of belonging.

Still, these strengths are offset by a noticeable gap in lesson planning and professional connectedness. Their lowest score, in lesson planning aligned with objectives and standards (Q-item 17: –3), points to difficulties in translating broad intentions into structured, coherent instruction. Similarly, limited emphasis is placed on feedback (Q-item 16: –1), integrating student interests into lessons (Q-item 18: –1), and creating opportunities for meaningful application of knowledge (Q-item 20: –1). These responses suggest that while the group values nurturing relationships and equitable treatment, they have yet to fully acquire the pedagogical tools and systematic approaches needed to enact these commitments effectively in practice.

Equally, the group places less importance on professional growth and collaboration. They report limited engagement in professional development (Q-item 22: –2), collaboration with colleagues (Q-item 23: –2), and family–school partnerships (Q-item 24: –3). This inward-looking stance reflects a teaching identity that is confident at the classroom level but less outwardly connected to professional communities and institutional networks. Such tendencies are, however, typical of novice teachers. In the early stages of their careers, new graduates often prioritise the immediate demands of classroom management and student care over the more complex tasks of planning, networking and sustained professional growth. Their reluctance to engage in broader professional practices may also reflect a lack of exposure, mentoring and confidence in navigating institutional expectations. Over time, and with structured guidance, these practitioners are likely to develop stronger lesson-planning skills and greater willingness to collaborate with colleagues and families, enabling them to translate their relational strengths into more integrated and sustainable professional practice.

In summary, F-2 reflects the profile of 'Nurturing but Isolated Practitioners': completers across several majors who excel at creating safe, supportive and equitable classrooms but who lack confidence in structured lesson design, collaborative practice and sustained professional growth. Their strength lies in the affective dimensions of teaching, but without greater integration into professional communities and stronger planning skills, the long-term impact of their work remains limited. With targeted mentoring and structured opportunities for collaboration, their natural inclination towards care and equity could be translated into more sustainable and professionally robust practice.

Conclusion and Recommendations

Taken together, the two factors highlight that new graduates leave their programmes with strong dispositions in core areas of teaching (i.e., classroom management, subject mastery and a genuine commitment to student wellbeing and equity). Still, both profiles reveal parallel gaps in

reflective practice, lesson planning, assessment literacy, collaboration and professional growth. These are not signs of weakness but hallmarks of the early career stage, when novice teachers operate primarily in ‘survival mode,’ prioritising classroom stability and relational care over long-term developmental commitments.

For the CED, these findings point to clear areas of intervention. Strengthening mentoring structures, particularly during the transition from graduation to early employment, will be critical in supporting completers to move beyond immediate classroom concerns. Embedding more sustained opportunities for reflection, peer collaboration and family–school engagement into both coursework and field experiences would help shift dispositions towards a more outward-looking and professionally connected teaching identity. Finally, targeted workshops on lesson planning, assessment design and feedback use could provide the practical scaffolding that complements their relational and managerial strengths. By investing in these supports, the College can ensure that the pragmatic confidence of the ‘Classroom Managers’ and the relational strengths of the ‘Nurturing Practitioners’ evolve into fully rounded professional capacities, equipping completers for long-term impact and continuous growth.

Appendix 1: Q-sample for 2025–2026

Q-item	F-1	F-2
1. I am confident in my ability to support the cognitive, emotional, and social growth of each of my students.	***2***	***2***
2. I am confident in my ability to design learning activities that align with the developmental stages and needs of students.	***2***	***2***
3. I am confident in my ability to meet the diverse and unique educational needs of each of my students.	**0**	**1**
4. I am confident in my ability to implement inclusive teaching practices that support students from diverse cultural and linguistic backgrounds.	**1**	**0**
5. I am confident in my ability to manage student behaviour to create a positive and productive environment where students feel safe, respected, and valued.	***3***	***3***
6. I am confident in my ability to create a collaborative learning environment that encourages student interaction and participation.	***1***	***2***
7. I am confident in my ability to address classroom discipline issues in a way that maintains a constructive and supportive learning environment.	**-1**	**0**
8. I have a strong understanding of the core concepts in the subject I teach.	**2**	**0**
9. I am confident in my ability to explain complex content in a clear and accessible way for students.	**0**	**0**
10. I connect the subjects I teach to real-life contexts, helping students to understand how the content applies to their daily lives.	**-2**	**1**
11. I believe that all students deserve equal opportunities to succeed, and I adapt my teaching practices to reflect this belief.	***1***	***3***
12. I ensure that all students, regardless of their backgrounds or abilities, feel a sense of belonging and appreciation in classroom discussions and activities.	**0**	**1**
13. I use data to identify gaps in student achievement and adjust my teaching practices to address those gaps.	**-2**	**1**
14. I am confident in my ability to use a variety of assessment methods to effectively measure student learning.	**0**	**0**
15. I design assessments that allow students to demonstrate their learning in multiple ways, such as projects, presentations, and tests.	**-2**	**0**
16. I provide timely and meaningful feedback based on assessment data to guide student progress and improvement.	***-1***	***-1***
17. I am confident in my ability to plan lessons that align with learning objectives and standards, while addressing the diverse needs of students.	**1**	**-3**
18. I am confident in my ability to integrate students' interests and backgrounds into lesson planning to enhance their engagement.	**0**	**-1**
19. I am confident in my ability to use a range of teaching strategies to meet the needs of diverse students.	**3**	**-1**
20. I provide opportunities for students to apply their knowledge in meaningful and practical ways, which strengthens their understanding of my subject.	***-1***	***-1***
21. I regularly reflect on my teaching practices and make adjustments based on student outcomes and feedback.	**-3**	**0**
22. I actively engage in professional development opportunities to improve my teaching effectiveness and better meet students' needs.	***-3***	***-2***
23. I collaborate with other teachers to share educational experiences and create a supportive and consistent learning environment for all students.	**0**	**-2**
24. I actively communicate with families to involve them in their children's learning progress and to strengthen home–school collaboration.	**0**	**-3**
25. I can see the positive impact of my practices on my students and on the school as a whole.	***-1***	***-2***

Italic statements in the above table represent the consensus across the emerging perspectives. Reading the above table by column tells about the comparative ranking of Q-items that characterise a particular factor, while reading the table by row shows the comparative ranking of a particular Q-item across factors.

Appendix 2: Completers' Demographics 2025-2026

Specialisation	Name	Email	Code	F-1	F-2
Primary Education	Lubna Daloul	Amsaid0@hotmail.com	BA1		x
Primary Education	Sarah Al-Eshaq	s.al-eshaq0308@education.qa	BA2	x	
Secondary Education	Jumaa	j.adnan2507@education.qa	BA3	x	
Secondary Education	Abdullah	a.vetah05011@education.qa	BA4		x
Secondary Education	Kulthoom	K.gul2410@education.qa	BA5	x	
Special Education	Al-Khnsa	A.yousif124@hotmail.com	BA6	x	
Special Education	Afnan Shaat	Afnanshaat27@gmail.com	BA7	x	
Physical Education	Khalid	Albalushikhalid8@gmail.com	BA8		x
Physical Education	Ahmed	Aa2004446@qu.edu.qa	BA9		x
Art Education	Al-Hanouf	A.al-fehaidi1210@education.qa	BA10	x	
Early Childhood	Maryam	M.al-mohannadi0803@education.qa	BA11	x	
Diploma in Primary Education	Ahmed Nader	a.said@mis.qpschools.qa	BA12	x	
Diploma in Primary Education	Lahcen	l.afkir2612@education.qa	BA13	**Null case**	
Diploma in Primary Education	Wahid	Mezrigui.wahid03@gmail.com	BA14		x
Diploma in Primary Education	Tawfiq	t.nedady1702@education.qa	BA15		x
Diploma in Primary Education	Sayyid	s.yaacoub0301@education.qa	BA16	x	
Diploma in Primary Education	Alaa	a.abdelrazek0504@education.qa	BA17		x

Appendix 3: Glossary of Additional Specialised Terms

This glossary can help readers unfamiliar with Q methodology better understand key concepts discussed in the study.

Concourse	A collection of all possible subjective opinions or statements about a particular topic. In Q methodology, it represents the range of communication and discourse surrounding the research subject.
P-Set	The group of participants in a Q methodology study. The selection of this group is guided by their relevance to the research topic rather than their representativeness of a broader population.
Factor Loadings	Numerical values that indicate the degree to which an individual Q-sort (a participant's sorting of items) aligns with a particular factor. Higher absolute values suggest stronger alignment or correlation with the factor.
Factor Array	A composite ranking of Q-items for a specific factor, created by merging the individual Q-sorts of participants associated with that factor. The array represents the shared perspective or viewpoint of the group linked to the factor.
Q-Sample	A carefully selected subset of statements that represent the broader concourse. These statements are used during the Q-sorting process to elicit participants' subjective perspectives on the topic.
Q-Item	An individual statement within the Q-sample. Each Q-item is sorted by participants based on their level of agreement or disagreement during the Q-sorting activity.
Grid	A distribution chart used in Q methodology to rank Q-items based on participants' subjective viewpoints. It typically follows a quasi-normal distribution, with columns representing levels of agreement or disagreement (e.g. from 'Most Agree' to 'Most Disagree').
Q-Sort	The process in Q methodology where participants rank Q-items along a continuum (e.g. from 'Most Agree' to 'Most Disagree') using a distribution grid. This sorting reflects the participant's subjective perspective on the given topic.
Condition of Instruction	A specific prompt or instruction given to participants before they begin the Q-sorting process. It guides how participants should approach the ranking of Q-items and ensures that their sorting aligns with the research focus.

References

Brown, S. R. (1980). *Political Subjectivity*. Yale University Press.

Canrinus, E. T., Klette, K., & Hammerness, K. (2019). Diversity in coherence: Strengths and opportunities of three programs. *Journal of Teacher Education*, *70*(3), 192-205. https://doi.org/10.1177/0022487117737305

Goh, P. S. C., Canrinus, E. T., & Wong, K. T. (2020). Preservice teachers' perspectives about coherence in their teacher education program. *Educational Studies*, *46*(3), 368-384. https://doi.org/10.1080/03055698.2019.1584856

Lo Bianco, J. (2015). Exploring language problems through Q-sorting. In F. M. Hult, & D. C. Johnson (Eds.), *Research methods in language policy and planning: A practical guide* (pp. 69– 80). Wiley-Blackwell.

Mayer, D., Dixon, M., Kline, J., Kostogriz, A., Moss, J., Rowan, L., et al. (2017). *Studying the effectiveness of teacher education: Early career teachers in diverse settings*. Singapore: Springer.

Mohamed, Z., Valcke, M., & De Wever, B. (2017). Are they ready to teach? Student teachers' readiness for the job with reference to teacher competence frameworks. *Journal of Education for Teaching*, *43*(2), 151-170. https://doi.org/10.1080/02607476.2016.1257509

Pruneddu, A. (2013) *Implicit person theories and Q-sort: Personality change in emerging adults*. [Doctoral dissertation, University of York]. Alessio_Pruneddu_PhD_Thesis_December_2013.pdf

Rowan, L., Mayer, D., Kline, J., Kostogriz, A., & Walker-Gibbs, B. (2015). Investigating the effectiveness of teacher education for early career teachers in diverse settings: The longitudinal research we have to have. *The Australian Educational Researcher*, *42*(3), 273–298. https://doi.org/10.1007/s13384-014-0163-y.

Schmolck, P. (2014). *PQMethod* (Release 2.35). http://schmolck.userweb.mwn.de/qmethod/downpqmac.htm

Stenner, P., & Rogers, R. (2004). Q methodology and qualiquantology: The example of discriminating between emotions. In Z. Todd, B. Nerlich, S. McKeown, & D. D. Clarke (Eds.), Mixing methods in psychology: The integration of qualitative and quantitative methods in theory and practice (pp. 101–120). Psychology Press.

Stephenson, W. (1936). The inverted factor technique. British Journal of Psychology, 26, 344–361.

Watts, S., & Stenner, P. (2012). *Doing Q methodology: Theory, Method and Interpretation*. Sage.

Webler, T., Danielson, S., & Tuler, S. (2009). Using Q method to reveal social perspectives in environmental research. Social and Environmental Research Institute. www.serius.org/pubs/Qprimer.pdf.