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Exploring Wellbeing and Remote Learning Using the Delphi Method: Engaging Teacher Education Students as Co-Producers of Practice

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Abstract
In UK Higher Education (HE), there is a growing awareness that wellbeing is central to student experience. Increasingly, HE agendas are promoting a targeted holistic institutional approach to wellbeing that supports students thrive in and beyond the student journey. This study positions students as experts of the student experience. Through student voice, the study explores teacher education students' experiences as a product of the synergistic effects of wellbeing and eco-systemic factors related to remote learning. In turn, findings feed into programme and practice developments that support positive student wellbeing. A conventional Delphi Method was used for its effectiveness addressing four different conditions: 1) accessing geographically dispersed populations; 2) overcoming unequal power dynamics; 3) supporting structured communication between experts on a topic leading to consensus building and decision making; 4) engaging students as co-producers of practice to support positive wellbeing. Our findings provide new insight into the multiplicity of factors that interact with student wellbeing to benefit, challenge, or threaten student experience and the coping resources teacher education students rely on to maintain their education trajectories. These insights provide valuable understanding informing future teacher education programming and practice.

Key Words: Teacher education, wellbeing, remote learning, delphi method, student experience

Introduction

There is growing awareness in Higher Education (HE) of the central role wellbeing plays in student experience; it is a fundamental pre-requisite for learning and student success (GuildHE, 2018; Houghton & Anderson, 2017) and is widely dependent upon a student's capacity to cope with internal and external demands associated with the highly pressurised student journey (Freire et al., 2020; Author 1, 2020). During the Covid-19 lockdown this awareness has all the more relevance through the swift changes and adaptations to HE programmes, from on-campus taught provision to remote learning (Stanistreet, 2020).

For postgraduate (PGT) students, whose journey is complex and multifaceted

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(Temple, Callender, Grove & Kersh, 2014), the psychological, emotional, and social health that defines positive wellbeing (WHO, 2014a) is essential for developing the higher order capacities and competencies that define PGT study. Within this population, Professional Graduate Diploma in Education (PGDE) students, who are in pursuit of teacher qualification, face unique challenges through the rigorous two-part structure of their intensive 1-year initial teacher education programme, which demands they satisfy academic and professional practice requirements. Traditionally PGDE students have completed their academic study on-campus, through face-to-face lectures and workshops designed to support them in bridging knowledge acquisition with practical application, and to develop their understanding of the complexities involved in teaching and learning (Edwards, 2012). With Covid-19 restrictions in the autumn term of 2020, academics in one UK university were challenged to transform traditional modes of delivery to remote learning for PGDE students to ensure learning continuity. These actions provoked the research that is reported in this paper including the methodological approach, positioning students as experts, capable of providing insight and making judgements about aspects of their experience of remote learning.

The research explored PGDE students' experiences of remote learning through their first 8 weeks of study during the autumn term of 2020. The aim was to activate student voice to better understand and respond to the internal and external study factors associated with remote learning that interconnect with wellbeing and influence student experience. According to Jarvis (2007), students are experts in their own experience and through phenomenological exploration resides opportunity to understand how they learn. The current study adopted a conventional Delphi method approach, recognising the need for expert knowledge gained through the shared understanding of student perspectives, using these to feed into programme level developments (Green, 2014).

A meta-theoretical approach underpins the conceptual framework for the study; drawing from a holism framework, we explore student experience as an entanglement of four intersecting dimensions of the person including, mind, body, culture, and society. We suggest student experience can be understood as the phenomenological representation of person-environment interactions informed by the synergistic effects of wellbeing, emotion processes, and eco-systemic facets of the student journey (Author 1, 2021, p. 5). These ideas will be explored in depth through the next section, and are illustrated in Figure 1, which provides a representation of student experience as the product of these intersecting themes. Within this study, the eco-systemic facets included the various online spaces and at home places within which PGDE students have direct or indirect study-related interactions with people, objects, activities, or semiotics during the first 8 weeks of the student journey (Daniels, Lauder & Porter, 2012).

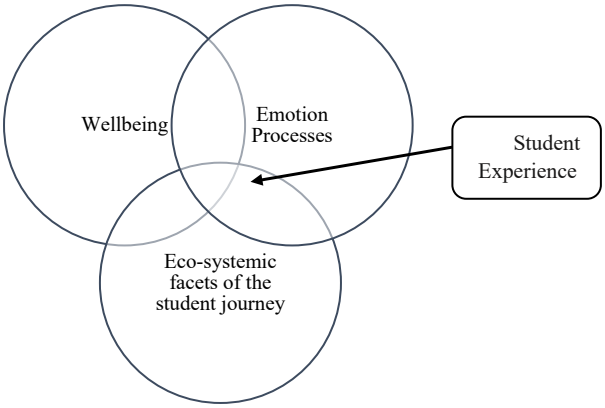

Figure 1. Student Experience: The synergistic relationship between facets of the student journey, emotions, and wellbeing (Author 1, 2021).

This paper presents the methodological approach to gathering the perceptions of students' experiences while engaged in remote learning during their first 8 weeks of academic study and reports the findings relating to their student experience. The study should be of interest to initial teacher education (ITE) educators and higher education programme leaders' sector-wide working on programmes where traditional on-campus teaching has transitioned to online remote learning and where there is interest in developing proactive approaches to promoting positive student wellbeing as a central determinant in student experience.

Theoretical Framework and Literature Review

Wellbeing as a determinant in PGDE student experience

Wellbeing is central to health, human functioning, and global sustainability (Grau, Goddard, Hall, Hazelkorn, & Tandon, 2017; WHO, 2014a.). It is a complex and multifaceted concept influenced by biopsychosocial-cultural processes operating across varying contexts and reflecting an individual's perceived capacities to cope with daily life stresses (Dodge, Daly, Huyton & Sanders, 2012; Lazarus, 2006; WHO, 2014a;). Wellbeing is a determinant in flourishing or languishing in life and encapsulates an individual's perceptions of feeling good and functioning well; it impacts capacity for learning, social connectedness, self-efficacy, and motivations (Keyes, 2005; Seligman, 2018). Within this complexity of wellbeing, emotions have an orchestrating role. Through their enactive nature (Maiese, 2014; 2017), they influence the balance between wellbeing, stress and coping, informing stress related appraisals, motivations, enacted behaviours, and subjective experience, which in turn influence the quality of contextual interactions, and ultimately an individual's social, emotional, and psycho-

logical health (Smith, Haynes & Lazarus, 1993).

Emotion responses arise during person-environment interactions and reflect how an individual construes an interaction as a benefit, challenge, or threat to wellbeing (Lazarus & Smith 1990). This largely depends upon the individual's perceived capacities for coping which are dependent on bio-ecological factors including, antecedent motivations, self-belief variables, perceived situational demands, resources, and environmental constraints (Lazarus & Folkman, 1984; Lazarus, 2000; 2006). Benefit appraisals support positive wellbeing as they reflect an individual's appraisal of an interaction as goal congruent; challenges infer low risk and reflect an individual's perception that sufficient bio-ecological resources exist to support achieving a desired outcome. Appraisals of threat infer high risk to wellbeing through perceived inability to cope and have negative implications on social, psychological, and emotional functioning (Jamieson, Hangen, Lee & Yeager, 2018). This entanglement of appraisals, emotion responses, and coping shape the relational meaning an individual assigns an experience and are highly variable according to changing perceptions of coping (Lazarus, 2006). They directly impact capacities for learning, including productive working, sense of self, and social connectedness, which in turn inform wellbeing and subjective experience (Lazarus, 2006; Schiffer, 2019).

Through this understanding, wellbeing and emotion can be conceived as central factors in PGDE student experience. Like other PGT students, PGDE students enter study influenced by varied external and internal-to-study stressors including varied knowledge and prior learning, diverse expectations of study, care commitments, part-time work duties, and financial obligations (HESA, 2019; Morgan & Direito, 2016). They also face the added challenges of a 1-year professional programme including, limited time to: transition into study; develop academic and professional identities; and gain learner capacities necessary to satisfy the requirements of PGT academic study and the standards for provisional registration essential for both programme completion and entry to the teaching profession. Their capacity to cope with these stressors has a direct impact on wellbeing and subjective experience through the valence, amplitude, and salience of emotion responses that inform their "felt meaning" (Schiffer, 2019, p. 58). The intensity of this programme paired with the multiplicity of internal and external study factors typical of the PGT student population, compounded by the effects of programme changes during the Covid-19 lockdowns highlight the significance of exploring and understanding student experience through the lens of wellbeing for the PGDE population.

This study focused on student experiences of remote learning during the first 8 weeks of study, acknowledging this is a crucial aspect of the PGT student journey (Matheson & Sutcliffe, 2018). For 1-year PGDE students, it is foundational to their transition and enculturation to study, informing academic identities that underpin their academic success (Gale & Parker, 2014).

Wellbeing in higher education

The role of wellbeing in student success is well understood in Higher Education (HE), taking a dominant place on agendas in recent years (Feldman & Newman, 2021; GuildHE, 2018). Sector-wide, campaigns sign-post students to seek support during periods of threatened wellbeing, relegating responsibility to student services (Houghton & Anderson, 2017). Critics, however, suggest this approach is inadequate, and classify it as a deficit model that is both reactionary and atomistic, serving only to address short-term needs of students requiring support during periods of mental health crisis (Feldman & Newman, 2021; GuildHe, 2018). They argue the need for a proactive, preventative, and holistic approach that coordinates all aspects of institutional life with the potential to foster positive wellbeing for all students in study and beyond (de Pury & Dicks, 2020; Feldman & Newman, 2021).

Within this agenda, clear connections to sustainability are developing; proponents argue, a holistic approach fulfils the higher goals of HE to achieve transformative learning. Transformative learning promotes creative, critical, and reflective thinking, positive social interactions, and informs positive learner wellbeing through a developing sense of self-actualisation (Mezirow, 2000) with broader implications through students' ecosystemic connections with family, community, and future workplace settings (Grua et al., 2017; Steuer, Marks & Murphy, 2008). Through institutional connectedness student wellbeing can be targeted for short-term needs during periods of high stress and in a sustained way to promote improved practices that increase students' capacity for coping and potential for thriving throughout their student journey and beyond (GuildHE, 2018). This is a necessity for PGDE students who will enter a profession that reports high stress levels and increasing attrition rates (Lindqvist, Weurlander, Wernerson & Thornberg, 2017; Ravalier & Walsh, 2017). Teacher retention and learner success depend on individual, collective, and organisational wellbeing necessary to achieve effective instructional practices, productivity and creativity, social connectedness, and organisational goal attainment (de Pury & Dicks, 2020; Soini, Pyhältö & Pietarinen, 2010).

Teaching and learning have a role in this holistic approach, orienting the design and delivery of curricular content, pedagogy, and learning environments to support transformative learning and to address the academic and study experience issues that have historically threatened student wellbeing, including sense of belonging, fear of failure, study-related anxiety, and daily life demands (de Pury & Dicks, 2020; Houghton & Anderson, 2017; Jindal-Snape & Rienties, 2016). De Pury & Dicks (2020) suggest the recent transition to digital learning offers good potential for developing innovative, equitable practices in teaching and learning that support positive wellbeing. They highlight the importance of exploring biopsychosocial-cultural dimensions of wellbeing as a part of this process and emphasise the need for the collaborative involvement of students as co-producers of practices (dePury & Dicks, 2020).

This understanding informed the methodology of the current study, which employed a conventional Delphi method to engage students as experts in exploring their academic, study, and remote learning experiences. Findings in turn, have informed programme development including the design of teaching and learning environments; pedagogy; and curriculum delivery to support positive wellbeing.

Two questions guided the research:

1. What are students' perceptions of their experiences of remote learning in the first 8 weeks of study?
2. How can student voice be used to enhance practices that contribute to improved student experience?

Methodology

Context

The study took place in a School of Education in a UK University where, like many programmes nation-wide, the onset of Covid-19 meant the transition from face-to-face teaching to online remote learning. The goal of the study was to engage PGDE students as expert purveyors of their student journey to help inform our understanding of, and programme level response to their academic, study, and remote learning experiences to support their positive wellbeing.

Study design

The study is underpinned by principles of pragmatism, which seeks to bridge research with practice through informed decision making (Creswell, 2014); a conventional Delphi design was chosen for its suitability to studying previously underexplored topics that arise in relation to rapidly changing circumstances (Brady, 2015). A conventional Delphi method engages a panel of experts in a consensus building process; it uses an iterative approach to data collection where responses are aggregated and shared leading to final judgements that can be used to inform decision making (Brady, 2015; Hasson, Keeney & McKenna, 2000). The Delphi design supports anonymous, structured communication, data collection and analysis of judgements across large groups who are geographically dispersed (Franklin & Hart, 2007) befitting the circumstances introduced during the Covid-19 pandemic. The structure of the Delphi method pre-empts any possible power imbalances that arise through social, personal, and professional dynamics to increase the likelihood of honest, open opinions in response to questions (Vogel et al., 2019). The unique features that define the Delphi method make it a useful tool in the design of learning experiences and curricular development providing opportunity for participants to make judgements according to their learning needs and interests (Green, 2014).

In this study, participants participated in a 3-round consensus building process, using anonymous, structured communication to make judgements about the most sig-

nificant factors influencing their student experiences in the first 8 weeks of remote study. Using the Delphi method, it was possible to move beyond a tokenistic inclusion of student voice by positioning students as experts, informing us about aspects of their experience, thereby becoming co-producers of practices that support their positive wellbeing, and embracing a *'No decision about us, without us'* mindset (dePury & Dicks, 2020, p. 23). Figure 1 provides an illustrative overview of the 3-round Delphi process used to support data collection in this study.

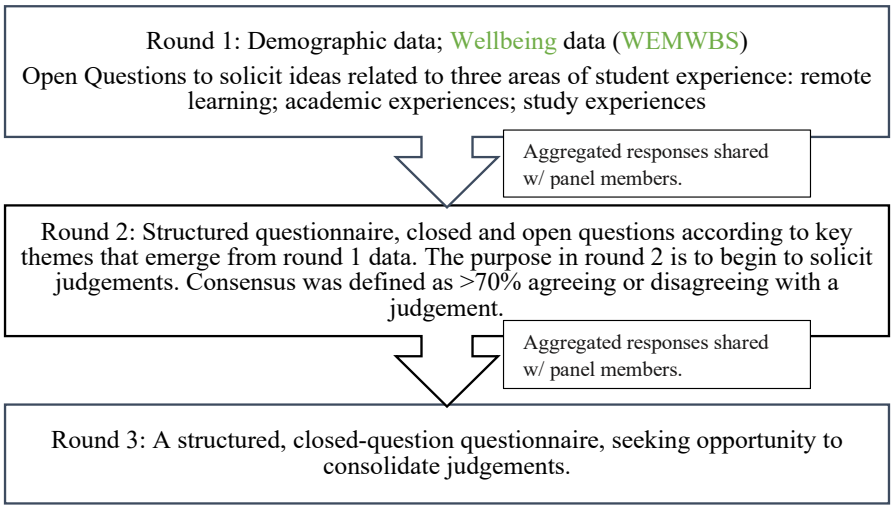

Figure 2. An illustrative representation of the three round conventional Delphi design

Dimitrijević, Simic, Radonjic & Kostic-Ljubisavljevic, (2012) suggest four criteria that define a 'Delphi Method'. These include, anonymity, iteration, controlled feedback, and the collation of data that has undergone statistical analysis (p. 402). The following section outlines our approach to data collection and analysis according to these four criteria.

Recruitment, data collection and analysis

Panel approach

The study was introduced to 219 PGDE students using a 15-minute synchronous online presentation introducing the purpose and design of the research. Recruitment included university web-based internal email communications inviting students to join the study. From the initial recruitment, 80 students consented to participate in round 1, which is in line with previous research suggesting panel membership as low as three and as high as 100 (Ogbeifun, Agwa-Ejon, Mbohwa & Pretorius, 2016). These 80 students became the Round 1 panel of experts and for each subsequent round a new

invitation was emailed inviting panellists to join the next round. By the end of the three-month study, 24 of 80 panellists remained. All data were handled according to UK data protection requirements.

Round 1 data collection included demographic and wellbeing information. Delphi techniques rely on diversity of expertise and backgrounds to inform the consensus building process (Green, 2014; Linstone & Turoff, 1975). Within this study, the eco-systemic and phenomenological nature of the student experience provided a range of participant expertise, and we used the collection of demographic information as a baseline for confirming the diversity of participant characteristics (Table 1). Wellbeing measures were collected using the Warwick-Edinburgh Mental Wellbeing scale (WEMWBS) (Taggart, Stewart-Brown & Parkinson, 2015). This 14-item, 5-point Likert scale measures social, eudemonic, and hedonic aspects of wellbeing in a population (Tennant et al., 2007). In this study, individual wellbeing questions were used to support exploring and discussing group wellbeing (Taggart et al., 2015).

Table 1.
Participant Characteristics

Question	Options	Participants	Percentages
Where are you from?	Scotland	76	95%
	Rest of UK	3	3.8%
	EU	1	1.3%
	International (non- EU)		
Gender	Female	67	83.8%
	Male	13	16.3%
	Other		
Age	18-24	21	26.6%
	25-30	20	25.3%
	31-39	18	22.8%
	40-49	15	19%
	50-59	5	6.3%
	60+	0	-
Gap between current and previous study (years)	0-1	24	30%
	2-4	17	21.3
	5-9	18	22.5
	10+	21	26.3
Dependents?	Yes	31	38.8%
	No	49	61.3%

Round 1 Delphi questions provided participants a series of nine open questions and three free-text responses exploring their experiences across three domains of interest: remote learning, academics, and study experiences (Table 2).

Table 2.
Domains of Interest Presented to Panel Experts in Round 1 Data Collection

Remote Learning	**Academic Experiences**	**Study Experiences**
What you do/don't Enjoy	Digital Tools	Transition
Challenges	The Virtual Learning Space	Strategies used to address challenges
Motivation	Teaching Strategies	Digital Tools
Free Text Response	Free Text Response	Free Text Response

The goal in this initial round was to solicit ideas from participants which were collated and analysed thematically (Braun & Clark, 2006) to create a structured quantitative survey representing the shared ideas and to initiate the consensus building process (Dimitrijević et al., 2012). Following the Round 1 analysis, a summary of the Round 1 findings was shared with panel members alongside the quantitative survey for Round 2. The sharing of findings supports the consensus building process by providing panel members the opportunity to review group responses, which may inform new thinking for future rounds (Linstone & Turoff, 1975).

In the Round 2 quantitative survey, participants were asked to rank order 154 statements across 12 sub-domains, nested within the three domains of interest (Table 3). An open question exploring the theme, *feedback*, was also included in Round 2. This theme emerged as a category in the free text responses in round 1 analysis and an open question was needed in Round 2 to establish a greater depth of understanding of students' experiences. Exploring new ideas that emerge through each round is an approach supported by the Delphi Design (Linstone & Turnoff, 1975).

Quantitative data collected from round 2 underwent statistical analysis to determine group consensus. Consensus was defined at ≥70% of participants agreeing or disagreeing with a judgement; any statements receiving <30% agreement was removed from the round 3 iteration, these are two conditions which are in line with previous Delphi studies (Ogbeifun et al., 2016; Vogal et al., 2019). Any questions meeting the consensus value were removed from the round 3 survey. Using the round 2 analysis of feedback, new closed questions soliciting participant judgements related to this topic were added to the round 3 survey. In Round 3, the revised survey was sent to participants alongside the summary of findings from Round 2. This was the final iteration and

provided panellists the opportunity to establish consensus on the remaining questions (Turoff & Linstone, 1975). Table 3 provides a summary of the Delphi statements used in each round and is organised according to the 12 sub-domains nested within the three domains of interest.

Table 3.
Summary of Grouped statements by Domain and Sub-Domains

Round	Group Size	Domains	Sub- Domains/ Corresponding Statements		Consensus Achieved (CA)
1	80	Remote Learning Experiences	-	4	N/A -Round 1 analysis used to create quantitative survey to elicit participant judgements
		Academic Experiences	-	4	
		Study Experience	-	4	
2	27	Remote Learning Experiences	Health Challenges	8	CA
			Technology Challenges	14	CA
			Study Challenges	17	No Consensus *11 statements less than 30% agreement.
			Emotion Challenges	9	CA
			Likes	20	No Consensus *15 statements less than 30% agreement
		Academic Experiences	Virtual Learning Environment	14	CA
			Desired Teaching and Learning (T&L) Strategies	15	No Consensus *7 statements less than 30% agreement
			Effectively Used T&L Strategies	15**	**Had to be re-asked in round 3
			*Added one open question on feedback		

		Study Experience	Coping	5	CA
			Motivations (positive impact)	8	CA
			Motivations (negative impact)	14	No consensus *9 statements less than 30% agreement
			Study Supports	15	CA
3	24	Remote Learning Experiences	Study Challenges	6	CA
			Likes	5	CA
		Academic Experiences	Desired T&L Strategies	8	No Consensus
			Effectively Used T&L Strategies	15	CA
			Type of Feedback Most Valued	10	CA
			Use of Feedback	10	CA
		Study Experience	Motivations (negative impact)	5	CA

Note. *statements scoring less than 30% agreement were omitted from the round 3 survey.

(CA) Consensus was achieved when 70% or more group agreement was achieved in the ranking of statements. When a minimum of 1 statement for each subdomain achieved consensus, the domain was removed from the next survey round.

** Effectively Used Teaching Strategies had to be re-inserted into round 3 as a result of an error in round 2 wording for one statement.

The next section reports the key findings and insights into the relationship between wellbeing and students' experiences of remote learning.

Findings and Discussion

PGDE student wellbeing

Through its close relationship with learning and emotion (Boekaerts, 1993; Lazarus, 2006), wellbeing is conceptualised in this study as a central factor in student experience. Wellbeing measures were collected and analysed using the WEMBMS scale and user guide (Taggart et al., 2015). Scaled scores were summed for each participant, yielding a result ranging from a minimum score of 14 to a maximum score of 70. Categorical analysis was used to identify low (14-42), average (43-59) and high (60-70) mental wellbeing scores (Table 4).

Table 4.
Summed WEMWBS Scores showing low, average, high wellbeing across the participant population

Levels of Wellbeing (Using WEMWBS Scores)	Student numbers	Percentage of participant population
Low wellbeing	23	29%
Average wellbeing	54	67%
High (60-70)	3	4%

Findings are largely positive, indicating 71% of the participant group were experiencing average to high wellbeing at the time of data collection, inferring the availability of biopsychosocial capacities necessary for engagement with the higher order learning requirements which define PGT study (Jamieson et al., 2018; QAA, 2018). Alternatively, 29% of the student group indicate experiencing low wellbeing at the time of data collection warranting a more granular level of analysis. This included a calculation of mean group wellbeing and a question-by-question analysis of the wellbeing attributes (Taggart et al., 2015). Group mean wellbeing scores were compared to 2019 national wellbeing scores for adults aged 16-64 years in Scotland. Findings are positive, with mean group wellbeing scores of 46.34 (s=7.9) aligning with mean national wellbeing scores of 49.1 (Knudson et al., 2020).

Descriptive statistics were used to support a greater depth of exploration involving question by question analysis (Table 5). Mean scores less than 3 and greater than 3.7 have been highlighted to identify least favourable and most favourable responses. Group percentages for least favourable responses, 'none of the time', or 'rarely' are shown following each item, *having energy to spare* (40%), *feeling relaxed* (35%), and *feeling confident* (33%). In contrast, favourable responses 'often' or 'all of the time' included, *feeling interested in other people* (73%) and *feeling loved* (58%). Interestingly, across all items, 'all of the time' was the most frequent response for 'feeling loved' but it also had the greatest s-value indicating it had the widest range in participant responses.

Table 5.
Descriptive statistics for wellbeing scores

	MEAN	STD DEV.	MODE	MEDIAN
I've been feeling optimistic about the future	3.54	0.76	4	4
I've been feeling useful	3.05	0.91	3	3
I've been feeling relaxed	**2.8**	0.75	3	3
I've been feeling interested in other people	**3.81**	0.82	4	4
I've had energy to spare	**2.71**	0.92	3	3
I've been dealing with problems well	3.41	0.72	4	3
I've been thinking clearly	3.49	0.65	4	4
I've been feeling good about myself	3.14	0.96	3	3
I've been feeling close to other people	3.0	1.08	3	3
I've been feeling confident	**2.9**	0.92	3	3
I've been able to make up my own mind about things	3.7	0.83	4	4
I've been feeling loved	**3.74**	**1.14**	**5**	4
I've been interested in new things	3.64	0.94	4	4
I've been feeling cheerful	3.43	0.77	4	4

Feeling interested in new people is a positive finding through its potential contribution to wellbeing and learning. It suggests participants are open to building positive relationships, which Seligman (2018) highlights as a foundation of wellbeing, providing a sense of connectedness and belonging. Connectedness and belonging are factors that support student engagement, motivation, and identity which in turn foster an orientation to learning (Aked, Marks, Cordon & Thompson, 2008; Fisher et al., 2019). *Feeling loved* is another positive finding. More impactful than the broad social relationships that might developing within a cohort, relationships based on feeling loved provide stability, security, a source of encouragement and coping (Aked et al., 2008). It is possible to reason, feeling loved provides students the coping resources necessary to mitigate against stresses that arise because of internal and external to study demands, supporting positive wellbeing and learning oriented goals.

The findings that indicate over one third of the participant group *lack energy and confidence*, and rarely or never feel relaxed are concerning. Wellbeing relies on capacities to cope with daily life stresses (WHO, 2014a). Through coping, the social, emotional, and cognitive processes that inform wellbeing can be maintained, allowing an individual to sustain their goal directed behaviours (Dodge et al. 2012). Persistent inability to relax or a lack of spare energy create pressures and heightened stress that

potentially interfere with coping (Anisman, 2014). Average stress for university students outweighs stresses in the general population (Gustems-Carnicer, Calderón & Calderón-Garrido, 2019), which when paired with our findings, raises questions about PGDE students' capacities for coping with the internal and external to study demands that define their student journey. Adding to this, Briggs (2014) identifies academic confidence as a predictor of academic success and a contributing factor in building a sense of self-efficacy. Self-efficacy informs student coping through its positive influence on identity, persistence, motivation, and effort (Cisco, 2020; Freire et al., 2020) highlighting *a lack of confidence* as a potential threat to student experience.

Responses to the Delphi Exercise

Analysis of Delphi data provided valuable insight into internal and external study factors associated with three domains of interest: remote learning, academic experiences, study experiences. Across the three rounds, consensus was achieved for 11 of 12 sub-domains (Table 6). No consensus was agreed for Preferred Teaching and Learning Strategies. In this section we explore these findings and their interactions with attributes of wellbeing.

Table 6.
Summary of Statements Achieving Consensus

Domains	Sub-Domains	Consensus	(% agreement)
Remote Learning Experiences	Health Challenges	• Poor concentration	74
	Technology Challenges	• misuse of the chatbox	78
		• inconsistent organization of the VLE area	70
	Study Challenges	• Difficulty gauging progress due to lack of feedback that would normally occur informally through social interaction with peers or lecturers	82
		• Difficulty learning 'practical' subjects (e.g., Art, PE, Design, Dance)	72
	Emotion Challenges	• irritated by too much irrelevant chat in the chat box	70

	Likes	• save time and money associated with travel • Recordings support revisiting materials and flexible viewing for self-paced study • No commute time supports longer engagement with study materials	95 91 77
Academic Experiences	Virtual Learning Environment	• Difficult to keep track of what has been done and what still needs to be done • Lecturers using different methods of communication (email/announcement), which makes it really difficult to go back to find the communication at a later date	70 70
	Preferred Teaching and Learning (T&L) Strategies	• No consensus achieved	
	Effectively Used of T&L Strategies	• Lecturer's Presence • 'Wee' groups • Recorded lectures • YouTube clips	86 77 77 73
	Most Preferred Types of Feedback	• Formal feedback on assignments that provides clear next steps • Formal feedback on assignments linked to defined criterion	86 72
	Most used Feedback	• Formal feedback on assignments linked to defined criterion • Formal feedback on assignments that	90 76

		provides clear next steps • Informal self-feedback used to reflect on activities, goals, and next steps	76
Study Experiences	Coping	• Support of family and peers most important sources of coping • University services scored least important source of coping	71 75
	Motivations (positive impact)	• No Travel - more energy, less tired, no anxiety, more time to engage with materials • Recorded lectures support flexible learning, self-pacing and opportunity to review materials	74 70
	Motivations (negative impact)	• Dwindling motivation - high at the start and has waned through the monotony of sitting at the computer all day • Back-to-back live lectures; lack of active learning opportunities: 'I start to zone-out.' • Mental Health: too much screen time; tiresome routines; migraines	91 91 82
	Study Supports	• Attending every session • If confused about anything, discuss privately with tutor group before emailing a lecturer • When other students are happy to share ideas • Revisiting lectures of areas I am unsure of • Seeing things with more clarity after a day's break	88 85 81 77 70

Remote learning and wellbeing

The complexity of remote learning introduced during the Covid-19 lockdowns in the Autumn term of 2020 have challenged UK universities to adapt and adopt new and innovative practices that support continuity of learning (Stanistreet, 2020). Findings from this study confirm the PGDE student experience of remote learning is influenced by a host of internal to study and external to study factors interacting with student wellbeing to benefit, challenge, and threaten the student journey. Such findings provide valuable insights that can be used to shape programme developments that support an inclusive and sustainable approach to teaching and learning in HE, meeting the transformative goals of the UK Universities' strategic plan 2018-2023 to promote lifelong learning (UK Universities, n.d.).

Benefits, challenges, and threats to remote learning

Benefits include the *flexible nature* of remote learning, which achieved 70% consensus for its positive impact on motivation. Motivational orientation is an important factor in wellbeing, supporting capacities to cope with and overcome challenges to maintain goal directed behaviours (Jamieson et al., 2018). Adding to this, 91% agreed *opportunity to review learning materials* and *self-pacing* were two most liked aspects of study that flexible learning made possible. This flexibility supports students' autonomy and agency, which Houghton & Anderson (2017) suggest is important to wellbeing and learning. Through autonomy and agency students develop their sense of competence, confidence, and academic identity, which in turn inform immersive engagement, transformative learning, and wellbeing through achieving a sense of self-actualisation (Mezirow, 2000; Deci & Ryan, 2008). Wellbeing and transformative learning are the goals of higher education recognising their interconnectedness with wider society, environment, and economy (Grua et al., 2017; Steuer et al., 2008), making flexible pedagogy an important feature in curriculum design.

Another benefit, achieving 95% agreement, *was the time and cost savings* associated with remote learning. Financial burden and time pressure are primary sources of stress for pre-service teachers which can threaten attainment and retention (Gustems-Carnicer et al., 2019; Jindal-Snape & Rienties, 2016). The flexible nature of remote learning mitigates against these traditional sources of stress to support wellbeing and a positive student experience.

Challenges of remote learning related to health, emotions, the use of technology, and study. Of these, the highest level of agreement, 82%, related to study challenges, *difficulty gauging progress due to lack of feedback that would normally occur informally through social interaction with peers or lecturers*. Paquette and Reig (2016) highlight the importance of appropriate feedback for mitigating student stress associated with fear of failure. While the micro-environment of face-to-face settings supports spontaneous and natural feedback (Tobbell & O'Donnell, 2013), the same cannot be

said of online learning environments, which instead require purposefully planned opportunities (Fiock, 2020; Steele & Holbeck, 2018). Fiock (2020) identifies the importance of social presence and teacher presence to support discourse and personalisation for informal feedback opportunities (Fiock, 2020). From our findings, 86% agreed *lecturer presence* was the most effective teaching and learning strategy used, suggesting programme staff are using teacher presence effectively, and raising programme level questions about how to further improve our effective discourse to ensure the inclusion of informal feedback opportunities.

Feedback is a common theme in student experience surveys (Temple et al., 2014) and our findings suggest it is a priority as part of PGDE students' academic experience during remote learning. *Assignment feedback offering clear next steps* was the most preferred form of feedback achieving 86% agreement and 72% of participants agreed *feedback on assignments linked clearly to defined criterion* as a preference. Quality feedback contributes to optimal learning, informing goal setting, progress, and goal attainment which have direct links to student experience and positive wellbeing through their relationship with motivation, sense of satisfaction, feelings of competency, and self-efficacy (Houghton & Anderson, 2017; QAA, 2018). Self-efficacy is a primary determinant in student engagement, persistence, and academic success (Freire et al., 2020, p. 2) making quality feedback a crucial factor in online teaching and learning environments.

Academic and study experiences were challenged in various ways through students' use of, and engagement with technology. Participants agreed that misuse of the chatbox (78%) was one of the greatest technology challenges, and *70% agreed the difficulty navigating, communicating, and keeping track of tasks and assignments* using the virtual learning platform most negatively impacted their academic experience. Pedagogical approaches, including direct instruction, that build taught postgraduate student confidence navigating technology support improved engagement and positive learning trajectories, highlighting their importance as a core practice of effective teaching in higher education (QAA 2018; Tobbell & O'Donnell, 2013).

Findings indicate threats of remote learning, including the repeated use of technology and *the monotony of sitting at a computer all day,* had negative implications to student motivation in multiple ways; 82% of participants indicated tiresome routines and *migraines threaten mental health* and 91% identified *back-to-back lectures without activity* as demotivating factors. Aked et al. (2008) acknowledge the deleterious effects that repetitive approaches can have on wellbeing, resulting in their reduced potency and highlighting the importance of a variety of approaches to support teaching and learning. These findings may offer insight into one aspect of academic experience that did not achieve consensus. Participants could not establish agreement about a *preferred teaching and learning strategy*, suggesting a range and variety of approaches support positive experiences.

Coping strategies are essential to wellbeing and student experience (Author 1, 2020; Lazarus, 2006). They provide an individual the capacities to overcome challenges and threats thereby enabling engagement with learning and sustained goal-directed behaviours (Freire et al., 2020). Our findings have provided insight into the most and least favourable coping strategies that participants rely upon and highlight interesting points of comparison with attributes of wellbeing. Wellbeing data favoured attributes including 'feeling loved' and 'interested in meeting new people'. Delphi data provided insight into these attributes of wellbeing as important coping strategies. *Family and peer support* were highlighted as the most important source of coping, achieving 71% consensus. Strong social relationships found amongst family or friends are supportive, nurturing and encouraging, and inform capacity to persist; while broad relationships such as those within a student group, provide feelings of connectedness and belonging, which inform individual sense of identity with the social, material, and relational surroundings (Aked et al., 2008; Miller, 2003); strong sense of identity supports coping and sustained wellbeing through its positive influence on motivation, engagement, resilience, and academic performance (Fisher et al., 2019; Whannel & Whannel, 2015).

Interestingly, 75% consensus revealed the least important source of coping for participants was university supports. Given the host of research that highlights the importance of university services in supporting student experience (Ciobuno, 2013; dePury & Dicks, 2020; Feldman, 2021) these findings raise questions and highlight new lines for inquiry for future study.

Limitations of the Delphi Method

We note some limitations of the Delphi method that inform our study. The Delphi method lacks universally agreed standards for defining consensus and panel sizes which would otherwise strengthen its efficacy (Fink-Hafner, 2019). Diversity of participant expertise is a defining feature of the Delphi design and a lack of diverse representation in the participant panel limits the generalisability of findings (Brady, 2015). Within our study, we used demographic data as a way of ensuring a diverse representation of experiences from our participant population, acknowledging the eco-systemic and phenomenological nature of the student experience would provide a range of participant expertise. However, the singularity of participant representation from one programme limits the generalisability of our findings. Fink-Hafner (2019) suggests a further limitation of the design is the potential for fragmented information arising when a consensus cannot be reached. This was the case in this study, where participants did not find a consensus about preferred teaching and learning strategies and the study design did not support a depth of engagement for exploring why this was the case.

The Delphi design is time consuming and therefore prone to participant drop-out (Fink-Hafner, 2019). Attrition rates between round 1 and round 2 were a significant

factor in our study. Unsolicited communications from participants suggest two potential explanations; the timing of round 2 was a contributing factor, coming just before a major assignment submission and following a professional practice experience, which can be a source of stress for students limiting their capacity for coping with extraneous activities (Paquette & Reig, 2016).

Conclusion

The Covid-19 crisis has emphasised the importance of proactive measures in higher education to support wellbeing, acknowledging the central role wellbeing has in learning and student success. Increasingly, HE agendas are promoting a targeted holistic institutional approach to wellbeing to support the student journey and to develop capacities for coping, thereby increasing their potential for thriving in and beyond study (GuildHE, 2018; Feldman & Newman, 2021). This is important for PGDE students whose stress in study is likely to recur in the professional context (Lindqvist et al., 2017). A targeted approach to wellbeing that supports transformative learning experiences for teacher education students may have the potential to influence teacher retention and learner success (Houghton & Anderson, 2017; Soini et al., 2010).

In this study we engaged participants as co-producers of practices using a conventional Delphi method to explore and better understand PGDE student experiences of remote learning in the first 8 weeks of study. In turn, we are using findings to feed into programme level developments that support wellbeing. We explored attributes of wellbeing and environmental factors related to remote learning and propose their synergistic effects inform student experience. Our findings highlight concerning attributes of wellbeing, including low confidence, lack of energy, and an inability to relax. They also indicate positive attributes, including interest in meeting new people and feeling loved. An exploration of remote learning experiences reveals eco-systemic factors that benefit, challenge, and threaten student experience. These include the flexible nature of remote learning; ability to navigate technology; feedback; time and cost savings; mental and emotional demands. Findings suggest participants rely most on family and peer support for coping during periods of high demands.

Through an understanding of the synergistic effects of wellbeing with eco-systemic factors resides the potential to identify improved approaches to practice that mitigate against unnecessary stress while maximizing coping resources and implementing an academically rigorous programme. An illustration of this, and in keeping with the purpose of the conventional Delphi method to inform decision making, the following programme developments have been informed by our findings:

- Re-organization of the VLE (improve navigation)
- A blended approach to programming (time and cost savings; build relationships)
- Recorded inputs (flexible access)

- Wellbeing resources (relaxation strategies; screen breaks)

This study supports current HE agendas seeking a holistic approach to wellbeing; it identifies a role for teaching and learning through curricular design, online environment, and delivery and in this process has identified how students can act as co-producers of their learning environment. While acknowledging the bespoke nature of student experience, this study has demonstrated how student voice can be used to identify a consensus that supports addressing the key issues that inform the student journey. In line with current HE goals and wider sustainability agendas, this approach supports transformative learning characterized by the opportunity to engage in critical reflection, shared knowledge exchange, and self-examination from which arises the opportunity to explore new ways of thinking, acting, and interacting within the learning environment (Mezirow, 2000).

Our hope is these findings will contribute to higher education discussions sector-wide, shaping teacher education programme developments and practices that support an inclusive and sustainable approach to teaching and learning in HE, meeting the transformative goals of the UK Universities strategic plan 2018-2023 to promote life-long learning (UK Universities, n.d.).

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