A MULTIPLE-CASE STUDY ON PEER MENTORING ACROSS DIFFERENT CONTEXTS: HIGHER EDUCATION STUDENTS' EXPERIENCES AND ENGAGEMENT

EBRUNUR ARKUN

BOĞAZİÇİ UNIVERSITY

2024

A MULTIPLE-CASE STUDY ON PEER MENTORING ACROSS DIFFERENT CONTEXTS: HIGHER EDUCATION STUDENTS' EXPERIENCES AND ENGAGEMENT

Thesis submitted to the

Institute for Graduate Studies in Social Sciences

in partial fulfillment of the requirements for the degree of

Master of Arts

in

Educational Technology

by

Ebrunur Arkun

Boğaziçi University

2024

A Multiple-Case Study on Peer Mentoring Across Different Contexts:

Higher Education Students' Experiences and Engagement

The thesis of Ebrunur Arkun

has been approved by:

Assist. Prof. Mutlu Şen Akbulut _____
(Thesis Advisor)

Assoc. Prof. Deniz Kaymak _____

Prof. Hasan Bedir _____
(External Member)

June 2024

DECLARATION OF ORIGINALITY

I, Ebrunur Arkun, certify that

- I am the sole author of this thesis and that I have fully acknowledged and documented in my thesis all sources of ideas and words, including digital resources, which have been produced or published by another person or institution;
- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

Signature.....

Date .....

ABSTRACT

A Multiple-Case Study on Peer Mentoring Across Different Contexts:

Higher Education Students' Experiences and Engagement

This multiple-embedded case study aimed to explore how participation in peer mentoring programs implemented in online, hybrid, and face-to-face contexts facilitated higher education students' engagement and their experiences related to the content and context of the program. In this peer mentoring program, seven mentors and ten mentees met once a week for ten weeks. During these meetings, they participated in different activities based on the The National Survey of Student Engagement (NSSE) framework, which were designed to facilitate engagement. Before the program, individual pre-interviews were conducted with all participants to explore their engagement. During and after the program, separate focus group interviews were conducted with mentors and mentees. Participants reported that through this program, their collaboration skills were supported, they were more involved in campus activities, and they were more aware of and used university facilities. Regarding the content of the program, participants reported that the role-play activities that helped them gain skills such as collaboration and the activities where they discussed university activities and campus facilities that provided them with applicable insights were highly beneficial. Concerning the context of the program, the findings indicated that the participants favored the hybrid peer mentoring program since it had the advantages of both online and face-to-face contexts. Participants shared that they were able to benefit from the flexibility of time and space offered by the online context, while taking advantage of the ease of communication and strong interaction provided by face-to-face context.

ÖZET

Farklı Bağlamlarda Akran Mentorluğu Üzerine Çoklu Vaka Çalışması: Yükseköğretim Öğrencilerinin Deneyimleri ve Katılımı

Bu çoklu vaka çalışması, çevrimiçi, hibrit ve yüz yüze bağlamlarda uygulanan akran danışmanlığı programının yükseköğretim öğrencilerinin üniversiteye katılımını nasıl kolaylaştırdığını, ayrıca programın içeriği ve bağlamına ilişkin deneyimlerini araştırmayı amaçlamıştır. Bu akran danışmanlığı programında yedi akran rehber ve on akran öğrenci on hafta boyunca haftada bir kez bir araya gelmiştir. Bu toplantılar sırasında katılımcılar, YÖBÖ çerçevesine dayanan ve katılımı artırmak için tasarlanmış farklı etkinlikler tamamlamışlardır. Programdan önce, tüm katılımcılarla program öncesi katılımlarını araştırmak için bireysel ön görüşmeler yapılmıştır. Program sırasında (beşinci haftada) ve sonrasında akran rehberler ve akran öğrencilerle ayrı ayrı odak grup görüşmeleri yapılmıştır. Bu çalışmada katılımcılar, bu akran danışmanlığı programı sayesinde işbirliği becerilerinin desteklendiğini, kampüs etkinliklerine daha fazla katıldıklarını ve üniversite olanaklarından daha fazla haberdar olduklarını ve bunları kullandıklarını bildirmişlerdir. Programın içeriğiyle ilgili, ilk olarak işbirliği gibi beceriler kazanmalarına yardımcı olan rol yapma etkinliklerinin, ikinci olarak da kendilerine uygulanabilir bilgiler sağlayan üniversite etkinlikleri ve kampüs olanaklarının tartışıldığı etkinliklerin verimli olduğunu bildirmişlerdir. Programın bağlamı ile ilgili, sonuçlar hibrit akran danışmanlığı programının hem çevrimiçi hem de yüz yüze bağlamların avantajlarına sahip olduğunu göstermiştir. Katılımcılar, yüz yüze bağlamın sağladığı iletişim kolaylığı ve güçlü etkileşimden yararlanırken, çevrimiçi bağlamın sunduğu zaman ve mekan esnekliğinden faydalanabildiklerini paylaşmışlardır.

ACKNOWLEDGMENTS

I would like to express my deepest gratitude to my esteemed advisor, Assist. Prof. Mutlu Sen-Akbulut, for her invaluable guidance, support, and encouragement throughout the process of writing this thesis. Her expertise and patience have been instrumental in shaping this work. I am truly thankful for her unwavering belief in me and her significant contributions to my academic journey.

I would like to express my greatest appreciation to each of the members of my thesis committee, Assoc. Prof. Deniz Albayrak Kaymak and Prof. Dr. Hasan Bedir, for their insightful comments, feedback, and suggestions during this period.

I would like to extend my heartfelt gratitude to my family and friends for their unwavering support throughout this journey. I am especially thankful to my mother, who has always been there for me with love and encouragement, filling the void left by my late father. To my dear friends, your constant support, encouragement, and understanding have been invaluable to me. Lastly, a special thank you to my budgie, Limon, who kept me company by my computer late into the nights while I was writing this thesis. Your presence brought me comfort during those long hours.

To my fiancé, Görkem, I owe my deepest thanks for your endless encouragement, patience, and understanding. Your constant support has been my rock, and I could not have done this without you. You have been my biggest supporter and source of strength, and for that, I am eternally grateful.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION 1

CHAPTER 2: LITERATURE REVIEW 3

2.1 Engagement in higher education 4

2.2 Peer mentoring programs 10

2.3 Cross-age peer mentoring programs 12

2.4 Peer mentoring programs and engagement 16

CHAPTER 3: METHOD 22

3.1 Research design 22

3.2 Context and participants 24

3.3 Program description 26

3.4 Data sources 36

3.5 Data collection procedure 39

3.6 Trustworthiness 41

3.7 Researcher's position 42

3.8 Data analysis 44

CHAPTER 4: RESULTS 48

4.1 Students' engagement in three types of peer mentoring programs 49

4.2 Participants' evaluation of peer mentoring program: content and context insights 93

CHAPTER 5: DISCUSSION AND CONCLUSION 124

5.1 Discussion of results 124

5.2 Implications 133

5.3 Limitations 135

5.4 Recommendations for future research 136
APPENDIX A: NSSE THEMES AND ENGAGEMENT INDICATORS..... 138
APPENDIX B: PARTICIPANT INFORMATION AND CONSENT FORM..... 140
APPENDIX C: PEER MENTORING PROGRAM CODE OF ETHICS..... 144
APPENDIX D: NSSE INDICATORS AND THE MEETINGS IN WHICH THEY ARE COVERED..... 145
APPENDIX E: LIST OF MEETINGS AGENDAS..... 147
APPENDIX F: EXAMPLES OF MEETING AGENDAS 153
APPENDIX G: PRE-INTERVIEW QUESTIONS..... 160
APPENDIX H: MID-FOCUS GROUP INTERVIEW QUESTIONS..... 162
APPENDIX I: POST-FOCUS GROUP INTERVIEW QUESTIONS..... 163
APPENDIX J: MEETING REFLECTION FORM..... 165
APPENDIX K: TRANSLATED QUOTES..... 166
APPENDIX L: ETHICS COMMITTEE APPROVAL..... 181
REFERENCES..... 182

LIST OF TABLES

Table 1. Examples of Positive, Negative, and Non-Engagement 7

Table 2. Groups of the Peer Mentoring Program 25

Table 3. Examples of Meeting Agendas 35

Table 4. Data Sources Used for the Research Questions 37

Table 5. Representations of Data Sources of the Program 40

Table 6. Codebook for Research Question 2.a 45

Table 7. Codebook for Research Question 2.b 46

Table 8. The Impact of Program Context on Participants' Engagement with the NSSE Themes 93

Table 9. Meetings that the Mentors Perceive as Beneficial 113

Table 10. Meetings that the Mentees Perceive as Beneficial 114

Table 11. Advantages and Disadvantages of the Contexts of Peer Mentoring Program According to Mentors 116

Table 12. Advantages and Disadvantages of the Contexts of Peer Mentoring Program According to Mentees 118

CHAPTER 1

INTRODUCTION

Engagement has been emphasized as a crucial factor in education due to its significant impact on various aspects, including academic achievement and adaptation to university life (Casuso-Holgado et al., 2013; Coates, 2005; Finn & Zimmer, 2012; Kahu, 2013; Pino-James, 2018). There are several studies explaining the factors that positively influence engagement, such as self-efficacy (Adams et al., 2020), relationships among peers (Xerri et al., 2018), learning communities (Pike et al., 2011), and the transition to university (Krause & Coates, 2008). In addition to the studies conducted to highlight the impacts and outcomes of engagement, there are various studies indicating the positive impact of peer mentoring on students' engagement On the other hand, student engagement has decreased due to the transition to distance learning and adaptation difficulties during the COVID-19 era (Wester et al., 2021; Hollister et al., 2022; Salta et al., 2022). Although the university where this program was conducted had many social and campus facilities, the pandemic had negative evaluations. The senior students who were mentors during this program spent two years away from the campus during their higher education. On the other hand, first-year students who coped with the challenges of distance learning during their high school education continue their transition to university during the program. Therefore, the peer mentoring program was designed to facilitate participants' engagement.

The Cross-Age Peer Mentoring Framework was by Karcher and colleagues to use peer interactions as an opportunity to help people improve their social relationships, acquire new skills, and promote beneficial personal development

(Willis et al., 2012). Karcher et al. (2006) identified a framework for effective program development by organizing the elements of a peer mentoring program into three dimensions: context, structure, and goals, as well as common and unique elements (e.g., infrastructure and dosage). While several studies are showing that peer mentoring programs was one of the most effective ways to support engagement, there is a gap in the literature on peer mentoring program design in terms of context (Karcher, 2005b; Karcher et al., 2006; Burton, 2020). Prior to the COVID-19 period, studies examining the impact of the environments in which a peer mentoring program was conducted were limited. In the COVID-19 period, there were peer mentoring programs that had moved to the online environment out of necessity due to pandemic conditions or had adapted to the hybrid system with the alleviation of pandemic conditions. To address this gap, the current study explored the experiences of higher education students participating in an online, hybrid, or face-to-face peer mentoring program in terms of engagement.

The purpose of this multiple case study is to explore higher education students' experiences as mentors or mentees in online, hybrid, and face-to-face peer mentoring programs and how these experiences facilitate their engagement. In this study, engagement is conceptualized based on The National Survey of Student Engagement (NSSE) framework including four main themes with ten indicators (see details in the Literature Review section). Within the scope of this study, participants' experience was explored in two main themes which are Learning with Peers and Campus Environment.

CHAPTER 2

LITERATURE REVIEW

University life presents numerous challenges and opportunities for students, particularly those transitioning into higher education. Among the various support mechanisms available, peer mentoring stands out as a vital program that provides higher education students with the opportunity to connect with mentors and gain support from them (Collier, 2017). Peer mentoring significantly enhances student engagement, satisfaction, and retention rates in first-year undergraduate students transitioning to higher education (Carragher & McGaughey, 2016). Efrat et al. (2015) have reported that mentored students feel more integrated and part of their university. According to their findings, peer mentorship enhanced students' sense of acceptance and support in college, potentially bolstering their determination to complete their studies. Flores and Estudillo (2018) also reported that students who participated in the mentoring program reported that it made their adaptation to the university environment easier. The majority of the mentees reported that their peer mentors provided them with the necessary motivation and support to sustain their active engagement.

This study covers two concepts that have been emphasized as important in the field of higher education; student engagement and peer mentoring. This chapter first discusses the importance of the concept of engagement, and then explores its dimensions and definitions. Following this, the NSSE framework, which was created to investigate and support engagement, is presented. Subsequently, previous studies on the effects of peer mentoring programs on student engagement in higher

education are reviewed and discussed. Finally, the relevance of this study to the existing literature and its importance in addressing existing gaps are discussed.

2.1 Engagement in higher education

In education, the notion of engagement has emerged in order to enhance students' achievement and experience (Reschly & Christenson, 2012). Multiple studies have been conducted to comprehend this idea of engagement by investigating the attitudes and behaviors of both high-achieving and low-achieving students (Kahu & Nelson, 2018; Zepke & Leach, 2010 Studies have shown that engagement in higher education is essential for enhancing students' experiences, as it promotes academic achievement (Marks, 2000; Wang & Eccles, 2013) and fosters strong relationships with peers (Juvonen et al., 2012). Lei et al. (2018) investigated the link between student engagement and academic accomplishment. They revealed a significant and positive association between these two concepts. Likewise, Casuso-Holgado et al. (2013) investigated the relationship between academic engagement and achievement in higher education and emphasized the importance of engagement in academic achievement. Juvonen et al. (2012) explained engagement and peer relationships as follows: If students have a strong relationship with their peers, they feel more belonging to the university.

In higher education, there is a group of students for whom the concept of engagement is more crucial and impactful: first-year students (Krause & Coates, 2008). Astin (1993) explained that the engagement of first-year students is critical to their successful university life in the following years. Kuh et al. (2008) conducted a large-scale empirical study on the engagement of first-year university students. In this study, the positive effects of freshman engagement on students' grades and

persistence were highlighted. Ayala and Manzano (2018) investigated the impact of engagement and resilience on the academic achievement of first-year university students. The study's findings clearly showed that individuals who exhibit high levels of engagement and resilience during their initial year of college maintain their interest in their undergraduate studies compared to those who lack these qualities. In addition, Holliman et al. (2018) reported that students' adaptability to university life was significantly associated with the acquisition of a university degree. Moreover, Soria and Stebleton (2012) investigated engagement and retention in a study conducted with 1864 first-year students. The results of this study showed that first-year students have lower levels of engagement and retention than others. Soria and Stebleton (2012) emphasized the vital role of first-year students' engagement and suggested that faculties and administrators should develop strategies to make students feel more involved in the university and campus.

There are several studies in higher education to explore ways to enhance engagement; for example, Zepke and Leach (2010) described ten strategies to increase higher education students' engagement. Researchers have highlighted the relationship between engagement and not only interpersonal interactions but also connections with places and technologies. They emphasized the importance of activities that strengthen these multifaceted relationships. In addition, Bowden et al. (2021) examined engagement by analyzing the different components and effects. With the participation of 952 students, they presented the need to develop experience designs that facilitate student interaction with each other in higher education. In higher education, peer mentoring programs were described as a way to foster engagement by strengthening students' interactions with each other and with their institutions (Topping, 1996; Lunsford et al., 2017).

In short, the concept of student engagement has been extensively studied and thoroughly explored in the context of higher education (Kahu, 2013). Although some studies have analogized engagement to a black box, claiming that student experience is a particularly complex concept to define and measure, there are many descriptions of engagement (Astin, 1984; Bryson, 2014). Multiple dimensions and definitions of student engagement will be presented in the following subsections.

2.1.1 Dimensions of engagement

Fredricks et al., (2004) interpret student engagement as a multifaceted construct consisting of three dimensions: behavioral, emotional, and cognitive involvement. According to their approach, behavioral engagement encompasses active involvement in both academic and extracurricular pursuits, which fosters favorable results and serves as a deterrent to academic disengagement (Jimerson et al., 2003). Based on the framework developed by Fredricks et al. (2004), emotional engagement encompasses both favorable and unfavorable responses towards professors, classmates, and the school environment, which cultivate connections and impact one's motivation to work. Cognitive engagement encompasses the active and deliberate application of mental processes and the exertion of energy (Trowler, 2010). In addition, Trowler (2010) exemplified the dimensions by labeling positive, negative, and non-engagement, which are presented in Table 1.

Table 1. Examples of Positive, Negative, and Non-Engagement

	Positive Engagement	Non-engagement	Negative Engagement
Behavioral	Attends lectures, participates with enthusiasm	Skips lectures without excuse	Boycotts, pickets or disrupts lectures
Emotional	Interest	Boredom	Rejection
Cognitive	Meets or exceeds assignment requirements	Assignments late, rushed or absent	Redefines parameters for assignments

Source: Trowler, V. (2010). Student engagement literature review [Table 1: Examples of Positive and Negative Engagement]. *The Higher Education Academy*, 11(1), 1-15.

2.1.2 Definition of engagement

The definition of "student engagement" remains relatively ambiguous, with different studies offering varying interpretations (Barkley, 2009; Bowen, 2005). For example, Finn (1989) defined engagement as a combination of behavioral and emotional components, where behavioral refers to participation and emotional refers to identification. This study builds upon Kuh's (2003) concise definition, which describes student engagement as the time and effort students invest in academically beneficial activities both within and outside the classroom. In addition, Kuh (2009) described the concept of engagement as a model that combines the quality of individual students' efforts with their involvement in productive learning activities. The studies by Kuh et al. (2001) constitute the scope of the framework of the National Survey of Student Engagement (NSSE). The NSSE framework was developed in 1998 to construct a new “lense” for universities and students to evaluate

undergraduate environments' efficacy (Kuh, 2001). Accordingly, a survey was constructed.

2.1.3 The national survey of student engagement (NSSE)

The National Survey of Student Engagement is identified as one of the most credible annual surveys to evaluate the level of engagement of higher education students through four main themes. (Fink, 2003; McCormick et al., 2013; Pascarella et al., 2010; Porter, 2011). Through this instrument, university students' responses provide insight into how they spend their time and what they gain from attending university (NSSE, 2013) Under the framework, the engagement indicators are grouped into four themes: (1) Academic Challenge; (2) Learning with Peers; (3) Experiences with Faculty; (4) Campus Environment (National Survey of Student Engagement, 2013).

Academic Challenge describes the difficulties associated with academic issues by including four indicators: higher-order learning, reflective and integrative learning, learning strategies, and quantitative reasoning. Learning with Peers' dimension involves two main indicators: collaborative learning and discussion with diverse others to explain how often students contact each other for academic and social issues. Thirdly, the Experiences with Faculty dimension involves two main indicators, which are student-faculty interaction and effective teaching practices. In the last, Campus Environment points out the importance of the interaction of students with each other, academic advisors, student services staff, and other administrators, as well as the quality of campus resources that encourage students' engagement.

Because of the nature of the current study, the peer mentoring program primarily focused on the correlation between students' contact with each other and the campus. The program solely addressed the second indicator, known as 'Learning

with Peers,' and the fourth indicator, referred to as 'Campus Environment.' (see APPENDIX A).

Within the Learning with Peers theme, engagement was articulated as follows: students who engage in group work with their peers, ask questions of their peers, and help their peers understand the course material are more engaged (Kuh, 2001b; Kuh et al., 2010). In addition, students with a high awareness of diversity and the ability to relate to students from different groups were found to be even more engaged in learning activities (Kuh, 2003).

Within the Campus Environment theme, students with high levels of engagement regard the campus environment as a place that includes numerous opportunities to support academic and social development (Kuh, 2009). In addition, Kuh (2003) highlighted the attitudes of senior students towards the campus environment. He reported that senior students were hesitant to participate in campus activities and emphasized that they should be supported in future studies.

With the purpose of encouraging student engagement in higher education, Kuh et al. (2017) designed ten high-impact practices, called HIPs. According to the HIPs, strong student interactions like group projects, peer learning activities, community-based learning activities, and international programs that give them opportunities to interact with different cultures can facilitate the student experience.

Peer mentoring programs, although their effects on engagement are not being extensively studied in the literature, are suggested to enhance student interactions both among themselves and with the institution (Kuh et al., 2006). The next part will examine the impact of peer mentoring programmes in higher education.

2.2 Peer mentoring programs

In higher education, peer mentoring programs provide several significant opportunities for students in their academic (Bussey-Jones et al., 2006; Bonin, 2013), social (Dopp & Block, 2004; Karcher, 2005), and personal (Dickson et al., 2021; Lluch et al., 2021) development. There are many peer mentoring program frameworks in the literature, Dominguez and Hager (2013) examined these frameworks under three main umbrellas: developmental, learning, and, social. According to this study, the components of each peer mentoring model and the definitions of mentor and mentee differ. For example, according to Kram (1988), there was a direct interaction between mentor and mentee. Moreover, according to Kegan (1982), these mentor and mentee interactions could be directed or collaborative. Nora and Crisp (2007) first reviewed the literature and identified four areas of impact of peer mentoring programs in higher education: first, psychological or emotional support; second, goal setting and career pathways; third, academic subject knowledge support; and fourth, the presence of a role model. They then analyzed the survey responses of a group of participants including 200 students and emphasized that peer mentoring programs should be planned to support students' adaptation and engagement.

Peer mentoring programs are critical for mentees in their adaptation to university, as they are often a group in transition to university. The mentor-mentee interactions established through these peer mentoring programs in higher education reduce the dropout rate of students and facilitate their transition to university (Hill & Reddy, 2007). Graham et al. (2021) indicated that participating in a peer mentoring program in the first year of university also increased students' academic achievement. According to their study, they observed an increase of up to 0.4 in the GPA of

students who participated in the peer mentoring program. Moreover, in the results of this study, the mentees who participated in the peer mentoring program expressed that they enjoyed the university experience, increased their sense of belonging, and increased their involvement in the campus. Kaymak (2008) aimed to support students' adaptation to their new life at university in a peer mentoring program in which university preparatory class students were mentored. She stated that the participants who were mentees last year and who were first-year students this year were more conscious in asking for help and their adaptation to the department was more advanced.

In terms of mentors' experience, Connolly (2017) conducted a research study on how peer mentoring programs affect the development of mentors by focusing on personal, academic, and professional skills. Based on the findings of this study, mentors improved in these areas as a result of the peer mentoring program, however, they faced challenges in balancing stress, time management, and responsibilities. It was highlighted that the peer mentoring experience improved mentors' communication and leadership skills, as well as their self-confidence.

In teacher education, peer mentoring programs are critical because they aim to develop the capacity of pre-service teachers to successfully engage in learning communities throughout their teaching careers (Cornu, 2005). Çapan and Bedir (2019) conducted a quasi-experimental study and they compared traditional mentoring programs with reciprocal peer mentoring programs for pre-service teachers. This study revealed that there was a significant need to restructure the traditional mentoring model currently used in pre-service teacher education programs. They indicated that reciprocal peer mentoring programs could be enhanced with the help of peer conferencing and peer observation.

A recent study investigated a peer mentoring program by examining the NSSE survey responses of 296 university students, 76 of whom participated in the program and 270 who did not (Parker, 2018). The study found no significant difference in total NSSE scores between participants and non-participants. However, the peer mentoring program was perceived as facilitating student engagement, particularly in the Supportive Environment indicator.

To address this gap in the literature, it is important to design peer mentoring programs based on valid frameworks and examine their effects on engagement. The Cross-Age peer mentoring framework is one such framework that can be utilized in this context. The following section will elaborate on this framework.

2.3 Cross-age peer mentoring programs

The framework of Cross-Age Peer Mentoring was constructed by Karcher et al. (2006) to utilize peer interactions as an opportunity to help them improve their social relationships, acquire new skills, and foster beneficial self-growth (Willis et al., 2012). Cross-age peer mentoring is an approach that highlights the strong characteristics of children and young people (Dantzer & Perry, 2023). The main target of the framework is to enable mentors to improve fruitful and mutual relationships with mentees (Karcher, 2008).

DuBois and Karcher (2014) focused on the relationship between mentor and mentee when designing peer mentoring, which they called mentoring activities. According to their study, if the relationship between two peers who are not very different in age supports each other's development and aims to benefit each other, these activities are mentoring activities. They highlighted the importance of interpersonal ties to support engagement.

Regarding the effectiveness of cross-age peer mentoring programs, Gensemer (2000), in a review of the literature, emphasized that cross-age peer mentoring programs support students to become engaged by contributing to their learning skills, communication abilities, and retention. For example, Karcher (2008a) designed a cross-age peer mentoring program involving 516 students and administered a survey to students at the beginning and end of the program. Results of the pre-test and the post-test showed that participants' engagement increased with their participation in the program. On the other hand, the results of the study highlighted that participants build stronger bonds with peers from different cultures through the peer mentoring program. In addition, Karcher (2009) examined the cross-age peer mentoring experience of 46 mentors in terms of connectedness and self-esteem. The results demonstrated that participants who served as mentors in a cross-age peer mentoring program had a positive impact on engagement and self-esteem.

Karcher et al. (2006) designed the cross-age-peer mentoring program framework in two main parts: the development of the program and the implementation of the program. Regarding the development of cross-age peer mentoring programs, Karcher et al. (2006) built the framework by investigating peer mentoring program elements in three dimensions: context, structure, and goals. Regarding the implementation of peer mentoring programs, the Cross-Age Peer Mentoring framework includes common and unique elements in two dimensions: infrastructure and dosage to conduct an effective peer mentoring program. (DuBois & Rhodes, 2002).

2.2.1 Elements of the program

Mentoring context is defined as the environment where mentor-mentee relationships build-up (Meza et al., 2018). Program contexts can be divided as field-based or site-based (Rhodes et al., 2002). The former involves matches coordinated by an agency with unstructured interactivity, while the latter centers on specific environments like schools or workplaces and context-oriented objectives with well-structured relationships (Karcher et al., 2006). The structure of the program is related to how the program builds relationships between participants (Karcher et al., 2006). The relationship can be structured as cross-age mentoring, group mentoring, e-mentoring, or intergenerational mentoring (Meza et al., 2018). Karcher (2005a) has two fundamental characteristics: the disparity in age between mentor and mentee and the focus on relationship building instead of scholastic or behavioral goals. Karcher (2005a) proposed two fundamental characteristics for the definition of the type of structure. The first of them is the disparity in age between mentor and mentee, and the second of them is the focus of the mentee-mentor relationship. Program goals are proposed in two dimensions by Karcher and colleagues (2006): developmental and instrumental mentoring. In the case of developmental mentoring, the main point is to develop relationships between mentor and mentee, while the main target of instrumental mentoring is acquiring specific skills or academic objectives.

2.2.2 Common and unique elements of the program

2.2.2.1. Infrastructure

The infrastructure of the program is described in four dimensions: the screening of mentors, matching, training, and ongoing support of mentors by Sipe and Roder (1999).

In the case of the screening of mentors, Burnham & Fleming (2011) indicated that researchers and program designers should take an active role in an ongoing systematic strategy for mentor selection. During the screening of mentors, the researchers reached a consensus and identified the mentors, because the study shows that mentor selection has a significant impact on how mentors interact with and understand mentoring (Alhija & Fresko, 2014). After the screening of mentors, the matching process should be conducted according to the mentors' and mentees' common interests (Altonji et al., 2019; Cox, 2005; Gainforth et al., 2019; Karcher et al., 2005b; Putsche et al., 2008). During the peer mentoring program, online training materials should be used at all times for continuous support by not only mentors but also mentees (Clinard & Ariav, 1998; Marshall et al., 2013; Mukeredzi et al., 2015; Nieuwstraten et al., 2011;). To provide particular support to mentors, a communication channel should be established through which they could seek support and receive feedback at any time if they needed support or if they had a problem (Altonji et al., 2019; Terrion et al., 2007).

2.2.2.2 Dosage

The dosage of the program covers the concepts of amount, intensity, and duration. Karcher et al., (2006) identified the amount as how frequently the mentor and mentee interact, the intensity as the emotional and psychological depth of the relationship, and the duration as the length of the peer mentoring program. Available research suggests the significance of predicted meeting frequency on the mentoring relationship (Allen et al., 2006; Stockkamp & Godshalk, 2022). The meeting amount should be identified as one hour per week, as Karcher (2005a) suggested by examining several peer mentoring programs. In addition, DuBois et al., (2002)

indicated that the provided meeting guide on the consequences of the peer mentoring program and structured meeting agendas were shared with the participants in the study. In the case of intensity, there are several factors that impact the intensity of the program: the nature of the relationship and the mentor-mentee interaction (McConney & Fourie-Malherbe, 2022).

2.4 Peer mentoring programs and engagement

Previous research in this field has proven that peer mentoring programs in higher education help to promote the engagement of mentors and mentees (Christie, 2014; Karcher, 2008b; Snowden et al., 2012). Cornelius et al. (2016) developed a peer mentoring program, namely the First STEP Mentoring Program, with the purpose of improving participants' engagement. The outcomes of the study show that students who successfully complete the peer mentoring program have a positive transition and become more involved and integrated into the university.

There is also a study by Fox and Stevenson (2006) that explored the effectiveness of a peer-mentoring program from the perspective of a qualitative and quantitative approach. On the efficacy of the peer mentoring program, the quantitative data of the study shows that the academic achievement of the mentees increased. Qualitative data from their study also revealed that both mentors and mentees perceived the peer mentoring program as a promoter to support their engagement.

Hall and Jaugietis (2011) conducted a peer mentoring program for six years and aimed to optimize the efficiency of the program by receiving feedback from the participants at the end of each program. The results of this comprehensive study showed that participating in a peer mentoring program improves students' university

experience and increases their engagement. Furthermore, the researchers reported that the following are critical to developing an effective peer mentoring program: selection and training of mentors, and designing peer mentoring activities to increase engagement.

In a study on the experiences of first-year students, the efficacy of peer mentoring programs was investigated at California University (Yomtov et al., 2017). According to the findings of the study, mentored students reported feeling substantially more engaged and connected to their university than did non-mentored students. In addition, there is a mixed-methods study conducted by DeMarinis et al. (2017) to understand the outcomes of peer mentoring programs on first-year students' experiences. Findings show that peer mentoring programs strengthen engagement by helping mentees benefit from academic resources, and become aware of campus facilities. Ultimately, they emphasized that the peer mentoring program made the transition to university easier for first-year students and reduced their anxiety.Beltman and Schaeben (2012) pointed out that the positive impact of these programs is often studied on the mentees, whereas the contribution to the mentors is not highlighted. They conducted a comprehensive study lasting three years with 858 mentors. The results examined the positive effects of peer mentoring on four main themes: altruistic, cognitive, social, and personal development. Collier (2017) clarifies that mentors are strongly engaged in the peer mentoring experience because it is meaningful for the mentor to help a peer who is going through the same path that they are going through. Conversely, Marshall et al. (2021) highlighted the challenges of mentors by conducting a focus group with 22 mentors. According to the findings of the study, the issues were establishing the mentor role, supporting mentees' engagement in the program, and strengthening their relationships with their mentees.

In summary, peer mentoring programs have a number of advantages for participants as well as for institutions in higher education (Beltman & Schaeben, 2012). Peer mentoring programs are an effective way to support first-year students who are most in danger of dropping out (Clark et al., 2013). Furthermore, peer mentoring programs made the senior students feel more accepted and supported in college, which may have encouraged their perseverance in completing their degrees (Yomtov et al., 2017).

With the development of educational technologies, peer mentoring programs have been implemented in online environments (Shpigelman, 2014; Smailes & Gannon-Leary, 2011; Taylor & Zeng, 2008). Bierema and Merriam (2002) have argued that mentoring programs that take place in online environments can overcome time and space limitations and allow more participants to interact with each other with the development of technology. McCarthy et al. (2007) developed an online peer mentoring program using a Web 2.0-based learning management system and aimed for students to connect with each other in a virtual environment, to give and receive feedback, and to socialize. The results of the study show that the online peer mentoring program increases the engagement of the participants. Likewise, Ruane and Lee (2016) also designed an online peer mentoring program through a website. This study shows that the online peer mentoring program facilitates students to establish relationships with each other and exchange information and experience, thereby increasing engagement. With the emergence of the COVID-19 pandemic, online peer mentoring was utilized as an efficient tool in distance education (Goodrich, 2021; Hardt et al., 2022). In addition, Collier (2022) also considered online peer mentoring programs as a potential means to improve the student experience in the aftermath of the pandemic.

In contrast to the benefits of online settings, Ensher et al. (2003) highlighted five main challenges in mentoring programs that took place in online environments prior to the pandemic. The results of this study showed that: firstly, communication was challenging in online environments; secondly, participants did not have a good experience due to both poor technical skills and technological problems; and finally, there might be privacy issues in the online environment. Vaughan et al. (2016) conducted a peer mentoring program in hybrid settings. The study reveals that hybrid peer mentoring strengthened the relationships between the participants and increased engagement, but the findings also raised concerns about technological issues and confidentiality issues in online meetings. In addition, Fayram et al. (2018) designed a peer mentoring program through a forum page, and they observed the relationship and communication between mentors and mentees. The researchers emphasized that even though the online peer mentoring program increased the success and motivation of the participants, communication problems emerged in online environments, with mentees hesitating to share their experiences. Lastly, Shpigelman (2014) stated that the literature shows that although the online context provided flexibility in terms of time and location, it was challenging in effective communication. Consequently, achieving efficiency in online environments might be complicated until a deep mentor-mentee relationship has developed.

Rhodes et al. (2002) emphasized that online mentoring programs were reported to have many challenges as well as opportunities. They emphasized that there was a need to investigate the evaluation of different program contexts because there is limited research on this subject. For example, Schlegel et al. (2022) reported on participant experiences in a peer mentoring program that was moved to online platforms due to the pandemic. This study includeded experiences prior to COVID-

19, during COVID-19, and after COVID-19. Since the pandemic, a variety of online tools have been utilized to conduct the peer mentoring program, such as video calls, emails, and forums. Moreover, the findings of the study clearly showed that face-to-face context enables easy and intimate communication, but online context did not. As the pandemic became less severe, peers did not switch to a completely face-to-face setting; they preferred a hybrid model. Participants described this method as flexible and efficient because the hybrid context includes the advantages of online and face-to-face environments.

Maher (2021) designed a peer mentoring program where mentors and mentees could interact both online and face-to-face. In this study, the peer groups that had face-to-face meetings were also able to communicate asynchronously online. The results showed that this blended environment facilitated the peer mentoring process because it provided more than one medium for peers to interact with each other. In a recent study, Mochona et al. (2024) conducted a peer mentoring program that has been ongoing since the COVID-19 era. Due to COVID-19, this study investigated participants' experiences of the same peer mentoring program in online, hybrid, and face-to-face periods. The findings reported that the student experience was as effective as in the face-to-face setting, although hybrid contexts had disadvantages. In addition, Krause and Moore (2022) conducted a two-year peer mentoring program during the pandemic period, with one term online and one term face-to-face. They claimed that the participants' participation in the peer mentoring program supported their engagement and satisfaction. This study emphasizes that the context of the program was modified due to pandemic conditions, but future studies should investigate the effect of peer mentoring programs in online, hybrid, and face-to-face contexts on student engagement. Additionally, Crisp and Cruz (2009)

conducted a literature review on mentoring programs in higher education for about seventeen years. In this paper, they emphasized the need for research on individuals' experiences in mentoring programs.

Considering all these findings in the literature, in terms of the context in which the peer mentoring program is conducted, most of the studies conducted involve environments that have necessarily changed during the covid period. This study investigates the role of peer mentoring programs in different contexts (with peer mentoring programs taking place in three different contexts; online, hybrid, and face-to-face) on higher education students' experience and engagement. In accordance with the purpose, the following research questions guide the study:

1. How does participating in an online, hybrid, or face-to-face peer mentoring program facilitate higher education students' engagement?
    a. How does participating in the mentoring program facilitate higher education students' collaboration with other students?
    b. How does participating in the mentoring program facilitate higher education students' interactions with diverse others?
    c. How does participating in the mentoring program facilitate students' social interactions in the campus environment?
    d. How does participating in the mentoring program facilitate the perception of a supportive environment on campus?
2. How do participants evaluate the peer mentoring program?
    a. How do participants evaluate the peer mentoring program in terms of the content of the program?
    b. How do participants evaluate the peer mentoring program in terms of the context of the program?

CHAPTER 3

METHOD

The purpose of this multiple-embedded case study was to explore how participation in peer mentoring programs implemented in online, hybrid, and face-to-face contexts facilitated higher education students' engagement and their experiences related to the content and context of the program. In this chapter, the following sections were covered: (1) research design, (2) context and participants, (3) program description, (4) data sources, (5) data collection, and (6) data analysis.

3.1 Research design

The design of this study was a multiple-case study, which was a qualitative approach that included more than one case to illustrate the phenomenon of the study (Creswell, 2012). The basis of this strategy is the investigation of multiple well-structured cases through a comprehensive gathering of data that includes several forms of data, such as observations, interviews, and reports. (Creswell, 2012; Merriam, 2009; Yin, 2009).

In addition, there are two main types of designs for case studies based on a 2 × 2 matrix, which was designed by Yin (2009). These two multiple-case designs are multiple cases with a holistic design and multiple cases with an embedded design (Yin, 2009). Because there was more than one embedded unit of analysis, this study employs the multiple-case embedded design Yin (2009). Different contexts of a specifically designed peer mentoring program were analyzed through three distinct cases: online, hybrid, and face-to-face.

Each case consists of two distinct groups that serve as units of analysis: mentors and mentees. This framework enables a thorough analysis of the units in each case and facilitates a comparative evaluation of the impacts of various contexs of a peer mentoring program.



Figure 1. Multiple embedded case design in the study. Adapted from Yin, 2009, p. 46.

The three cases in the peer mentoring program were conducted in three different contexts: an online context where peers met virtually, a hybrid context with alternating online and face-to-face meetings, and a face-to-face context. Peers of the face-to-face group met in physical environments such as classrooms or cafeterias on campus. All three cases consist of two separate units of analysis: mentors and mentees.

The content of the activities was the same in these cases, and the peer mentoring meeting activities were constructed in light of the NSSE framework. Therefore, the one and only difference between these three case studies was the context of the environment. The selection of the design method enabled a better understanding of the perspectives and interactions of participants in three particular

cases. In this study, the qualitative data were obtained by conducting individual pre-interviews, two main focus group interviews in the middle with mentors and mentees, and two main focus group interviews at the end of the program with mentors and mentees.

3.2 Context and participants

The study employed the purposeful sampling method to gain a comprehensive understanding of the primary phenomenon. (Creswell, 2012). The university where this program was conducted is a public university with a deep-rooted background. It provides a comprehensive learning experience for its students by offering a wide range of research opportunities and diverse academic programs. With its dynamic campus life and supportive environment, the university encourages student development and plays an important role in preparing them for the future.

In the case of mentee selection, the criteria were being a first-year pre-service teacher and volunteering to participate in the peer mentoring program. On the other hand, the selection of a mentor included several criteria, including being a fourth-grade pre-service teacher, volunteering to participate in the peer mentoring program, and having a minimum 2.00 GPA.

The peer mentoring program was planned to conduct eight peer groups with a total of eight mentors and twelve mentees. In the first week of the program, a participant who was planned to be a face-to-face mentee withdrew from the program. In the eighth week of the program, one of the face-to-face groups (one mentor and one mentee) could not complete the program because they were not physically close. Therefore, the data obtained from these three participants—one mentor and two mentees—were not used in the study. Upon completion of the program, 17

participants received peer mentoring program participant certificates. In addition to this certificate of participation, no awards (additional points, financial vouchers, etc.) were given to the participants.

The peer mentoring program that was conducted in the Fall 2023 semester contained seven peer groups. Mentors and mentees were randomly matched according to the number of applications. As a result of the applications, four groups were composed of one mentee and one mentor, while three groups consisted of two mentees and one mentor. These seven peer groups were also randomly assigned into online, hybrid, or face-to-face groups. As a result, there were two online groups, three hybrid groups, and two face-to-face groups. The table below describes the participants who completed the program and were included in the study.

Table 2. Groups of the Peer Mentoring Program

Group	Mentor	Mentee
Online Group 1	Online Mentor 1	Online Mentee 1 Online Mentee 2
Online Group 2	Online Mentor 2	Online Mentee 3 Online Mentee 4
Hybrid Group 1	Hybrid Mentor 1	Hybrid Mentee 1
Hybrid Group 2	Hybrid Mentor 2	Hybrid Mentee 2
Hybrid Group 3	Hybrid Mentor 3	Hybrid Mentee 3 Hybrid Mentee 4
Face-to-Face Group 1	Face-to-Face Mentor 1	Face-to-Face Mentee 1
Face-to-Face Group 2	Face-to-Face Mentor 2	Face-to-Face Mentee 1

Mentors are significantly older than mentees based on their experience at university. Therefore, as Karcher (2005a) highlighted that peer mentoring relationships can be regarded as “cross-age” peer mentoring relationships if mentors are notably older than the mentees.

3.3 Program description

In this study, the peer mentoring program is designed in accordance with the Cross-Age Peer Mentoring Framework (Karcher et al., 2006). The following subsections describe the details of the program. A visualization of the cross-age peer mentoring program framework is as follows:

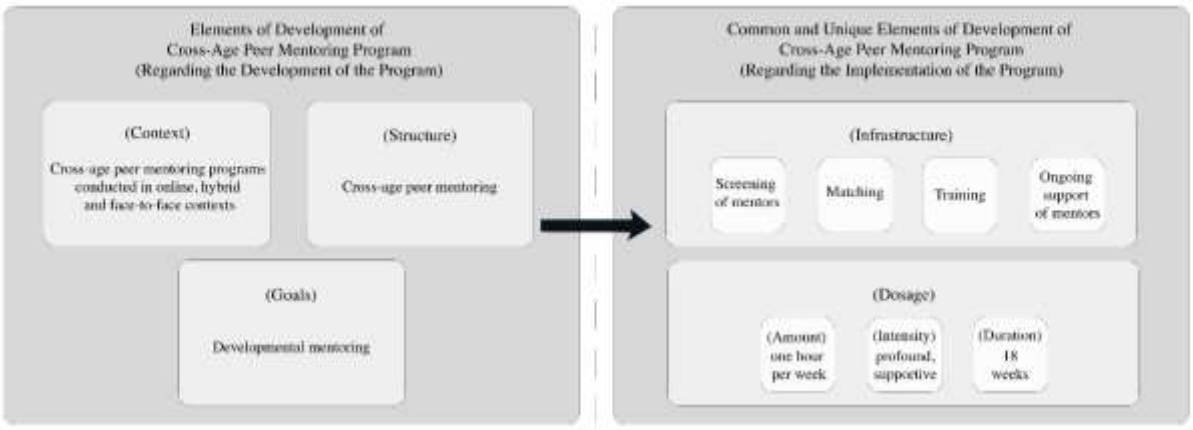

Figure 2. Cross-age peer mentoring framework. Adapted from Karcher et al., 2006.

3.3.1 Elements of the program

Karcher et al. (2006) constructed the framework for conceptualizing the elements of mentoring programs in three dimensions, which are context, structure, and goals. Firstly, the different contexts of the programs generate multiple cases for this study. The contexts of the peer mentoring programs were online context, hybrid context,

and face-to-face context. On the other hand, the structure and goals of these three cases are the same as each other. In the present study, the structure of all cases can be defined as a cross-age peer mentoring program structure because of the age gap between participants. In the case of the goal of the program, the main focus of the peer mentoring program is the acquisition of participants' levels of engagement rather than academic skills or learning abilities. Therefore, the goal of the program can be defined as developmental mentoring (Karcher et al., 2006). The primary emphasis on facilitating the relationship between mentor and mentee as a means of promoting development is established through the development of supportive relationships. In the study, the specific aim of the program is to enhance students' engagement. Therefore, all materials and activities are designed to enhance participants' engagement by developing their beneficial mentee and mentor relationships. There was no difference between the activities of online, hybrid, or face-to-face groups. The same meeting agendas (see APPENDIX E) were utilized in the context of each case.

3.3.2 Common and unique elements of the program

According to the Cross-Age Peer Mentoring Framework, infrastructure and dosage, which are common elements of the program, have an impact on the consequences of peer mentoring programs. It is important that all properties of common and unique elements are the same in online, hybrid, and face-to-face settings. There is no difference in any way to eliminate other variables that may affect the results.

3.3.2.1 Infrastructure of the program

The peer mentoring program in the study is designed with these four dimensions, which are screening of mentors, matching, training, and ongoing support of mentors, as Sipe and Roder (1999) listed.

The mutual selection criteria of mentees and mentors can be identified as being pre-service teachers. The special measures of mentor selection are being a 4th-grade student and having a minimum 2.00 GPA, while the one of mentee selection is being a 1st-year student. The selection criteria in terms of age gap are designed according to the definition of cross-age peer mentoring by Karcher (2005a). Researchers and program designers should take an active role in an ongoing systematic strategy for mentor selection (Burnham & Fleming, 2011). Therefore, mentors are selected by researchers based on their evaluation of the application form (See APPENDIX B). Afterward, the researchers reached a consensus and identified the mentors, because the study shows that mentor selection has a significant impact on how mentors interact with and understand mentoring (Alhija & Fresko, 2014). Regarding the matching process, the pairing of mentors and mentees was conducted randomly based on the total number of applications for mentors and mentees.

Regarding the training, two introductory meetings were held separately for mentors and mentees at the beginning of the program. The introductory meeting of each group included a training session of approximately 90 minutes. For participants unable to attend the first meeting, a second introductory meeting was organized to ensure everyone receives training. This provided an opportunity for all participants to fully understand the program's objectives and expectations.

The training agenda consists of these five main topics: (1) the fundamentals of the program; (2) the principles of the program; (3) the roles of mentees and mentors; (4) the code of ethics of the program (see APPENDIX C); and (5) meeting standards and agendas. The first topic, outlining the program's fundamentals, was designed by researchers to explain the program's nature, objectives, and duration. The content for the principles of the program (Topic 2) and the roles of mentees and mentors (Topic 3) were sourced from the Office of the Provost at Columbia University's guide (2016) titled “Guide to Best Practices in Faculty Mentoring." This guide provides detailed information on responsibilities and expectations.

The fourth topic, the code of ethics of the program, covered confidentiality, privacy, open communication, empathy, understanding, and maintaining professional boundaries. Content for the fifth topic, meeting standards, was drawn from the guide of the Office of Faculty Affairs and Faculty Development (2019), titled “Peer Mentoring Toolkit for Faculty.” Both mentor and mentee training sessions included these contents.

Additionally, the mentor training session encompassed mentor skill development, as described by Karcher (2008a). Content for mentor skill development was retrieved from the guide “Building Effective Peer Mentoring Programs in Schools” (2008), focusing on leadership, goal setting, boundary establishment, listening, communication, and problem-solving skills. The mentee training session also included an additional topic on needs assessment and goal setting, sourced from the Office of the Provost Columbia University's guide (2016) titled “Guide to Best Practices in Faculty Mentoring" as highlighted by Freeman et al. (2021).

Regarding the ongoing support, mentees and mentors received assistance through a well-structured communication plan. Two main communication channels,

"Mentor Team" and "Mentee Team," were established via WhatsApp. These channels allowed for regular check-ins and feedback to ensure the success of the mentoring program. This helped ensure that both mentors and mentees can effectively navigate the mentorship process and share their experiences with other participants. Additional WhatsApp channels were also created for each mentor-mentee group, involving participants in the group and the researcher. Participants were able to communicate with each other and share their ideas or related documents through these channels. On the researcher's end, they were able to share agendas two days before each meeting and distribute meeting reflection forms after each meeting using these channels. Additionally, the researcher had the opportunity to observe whether the meetings are running smoothly. If any issues arise, immediate support can be provided.

In addition to consistently active communication channels, participants received ongoing support by sharing documents. The Mentoring Partnership of Southwestern Pennsylvania's "The Peer Mentoring Handbook" served as the basis for the selection of five topics for the ongoing support materials for mentors. These selected topics included “What is Peer Mentoring?" “Great Expectations", “9 Tips for Establishing Trust", “Communication Tools", and “Cultural Diversity". These materials were shared via the "Mentor Team" WhatsApp channel biweekly. As for mentees, ongoing support material in the form of a tip sheet titled “Tips for Prospective Youth Mentees from Youth Mentees,” developed by the NMRC Youth Advisory Council, was provided at the beginning of the program.

In addition to all these materials and communication channels, there was feedback from the mentors during the focus group meeting in the middle of the program. The mentors expressed their need for more frequent one-to-one contact

with the researcher. Therefore, the researcher contacted the participants on bi-weekly basis in the last half of the program (Week 6, 8 and 10) to get information and support about the flow.

3.3.2.2 Dosage of the program

Unique elements of dosage are discussed, such as the concepts of amount, intensity, and duration (Karcher et al., 2006). Regarding the amount, the meeting frequency was one hour per week, as suggested by Karcher (2005a) through the examination of several peer mentoring programs. The meeting day and time for each group were determined by a mutual decision of the participants. Participants were also informed about the meeting time and date through the online calendar.

Two days prior to each meeting, the researcher provided reminders, agenda links, and updates on the agenda items via WhatsApp channels. This enabled participants to prepare and stay informed about the topics to be discussed, ensuring their readiness. This approach helped maintain a high level of engagement and commitment among the participants throughout the program's duration. On the other hand, if participants were unable to attend due to any reasons, they jointly agreed on a date and time to meet again via these channels.

Because the peer mentoring program was designed as developmental mentoring, the interaction between mentors and mentees should help the development of the mentee in terms of social, emotional, and academic development to enhance their level of engagement (Karcher et al., 2006). Therefore, the intensity of the program in the study was designed to be profound, close, and supportive. Firstly, the mentor training session covered the mentor's role as a supporter of the mentee’s development. Secondly, weekly meetings in this study improved mentor-

mentee interactions. Lastly, there were online communication channels that enabled them to communicate with each other.

Regarding the duration, the duration of the program was 18 weeks in the Fall 2023 semester. The first three weeks were the application weeks for mentors and mentees who have voluntarily participated in the program. At the beginning of the semester, the purpose of the study and the criteria for being a mentor or mentee were announced to all students in the 1st and 4th grades in the department of Computer Education and Education Technology. Then, they requested to participate in the program through an application form. The announcement of the study took place in the onboarding session of 1st year students and in the research class of 4th year students. Both of them occurred in a face-to-face environment.

At the end of the application period, introduction meetings were conducted separately with mentor and mentee groups in week three. After the introduction meetings, the peer mentoring meetings started in the fourth week and lasted for 13 weeks. In the research proposal, it was planned that the program would be completed in regular interviews over ten weeks. However, some groups completed the program in thirteen weeks instead of ten weeks due to some circumstances. The online groups met weekly in online settings, while the face-to-face groups come together in a physical environment on campus. The hybrid groups had meetings on a hybrid basis, one week online and one week face-to-face. After all meetings were covered, focus group interviews were organized in the last 2 weeks of the study. Two types of focus groups were conducted: mentors and mentees. However, three of the mentees were not able to attend the focus group meeting, so another focus group meeting was held with them.

3.3.2 Design of the peer mentoring activities

The main target of the study is to improve students' engagement with the help of their peer mentoring relationships. Therefore, peer mentoring activities were designed for these ten meetings in the program by the researcher to enhance participants' engagement. The activities were developed considering the indicators from the NSSE framework (National Survey of Student Engagement, 2013). Because of the nature of the study, peer mentoring programs focused on the relationship between students' interactions with each other and campus; the activities covered only the second, which is 'Learning with Peers," and the fourth, which is "Campus Environment" indicators. Firstly, the part of 'Learning with Peers' contains the parts of 'Collaborative Learning' and 'Discussions with Diverse Others'. Secondly, the part of "Campus Environment" includes "Quality of Interactions' and 'Supportive Environment'.

Before the program, the content of the program was discussed with another expert who had previously developed and conducted a peer mentoring program at the university. The main feedback from the expert was that the meeting agendas were strong in content but weak in interactive content. InDuring meetings, it was suggested to design activities where mentors and mentees could interact more with each other. For example, for Meeting 5, instead of reading an article on the importance of communication, it was suggested that participants do a role-play activity together. Accordingly, each meeting agenda was revised according to feedback.

The 10 meetings encompassed a comprehensive peer mentoring program, beginning with an introduction to establish rapport and expectations while fostering a comfortable environment. At the second meeting, the topic was study techniques and

collaborative learning; therefore, mentors shared their experiences on their study techniques, resources (books, or websites) for courses, tips and tricks for exams, etc. At the third and fourth meetings, the topic was campus environment and resources such as student clubs, dining halls, cafeterias, health centers, psychological guidance and support centers, career centers, sports centers, and art and culture events. Therefore, peers examined opportunities at the university by answering related questions with them. The fifth meeting's focus was to enhance the active listening and effective communication skills of participants. Therefore, there were several scenarios, and mentors and mentees were expected to role-play how they should communicate in different situations, such as roommate conflict and writing an official email. The sixth meeting was designed to improve cultural awareness and sensitivity. Therefore, they watched short instructional videos and examined some concepts together, such as equality, diversity, and inclusion. Lastly, they discussed these topics. The seventh meeting aimed to enhance their teamwork abilities by developing problem-solving and communication skills in a team setting. Therefore, they completed a project plan as a team on a mini-collaborative assignment that was designed to test their ability to work together effectively. At the eighth meeting, peers discussed effective time management strategies to enhance academic and personal productivity. At the ninth meeting, the core subject was the importance of mental health and sharing wellbeing strategies, so they discussed the importance of taking breaks and practicing self-care. Therefore, they created their own Wellness Action Plans via a template. In the last and tenth meeting, peers reflected on the mentorship experience, personal growth, and accomplishments. Also, the celebration of their achievements that occurred during the mentorship program was the main focus of the last meeting. (See APPENDIX F for details.)

Table 3. Examples of Meeting Agendas

Meeting	Target
1.	Build rapport, establish expectations and create a comfortable atmosphere
2.	Foster effective study skills and promote collaborative learning
3.	Familiarize mentees with available resources for academic and personal support
4.	Familiarize mentees with available resources for academic and personal support
5.	Enhance active listening and effective communication skills Encourage participants to adapt their communication style to different situations
6.	Encourage openness to diverse opinions and experiences Promote respectful dialogue on challenging topics
7.	Enhance teamwork abilities and project collaboration Develop problem-solving and communication skills in a team setting
8.	Develop goal-setting skills that are Specific, Measurable, Achievable, Relevant, and Time-bound (SMART). Acquire effective time management strategies to enhance academic and personal productivity.
9.	Promote well-being and stress management techniques, particularly mindfulness.
10.	Reflect on the mentorship experience, personal growth, and accomplishments. Celebrate achievements, both big and small, that have occurred during the mentorship program.

3.4 Data sources

Concerning the purpose of the study, the main focus was to enable participants to facilitate their engagement. There were three main data sources in the study: one was individual pre-interviews before the program started, another was focus group interviews in the middle of the program, and the third was focus group interviews in the middle of the program. The NSSE framework was used to construct questions from individual pre-interviews and post-focus group interviews to gain qualitative insights into students' experiences with items of the four main engagement indicators. This approach helped to provide a comprehensive understanding of the factors facilitating student engagement. On the other hand, the focus group interviews in the middle of the program were implemented to understand participants' experiences during the program. Furthermore, the focus group interviews conducted at the conclusion of the program also included the same set of questions that were posed during the mid-program focus group interviews, with the aim of comprehending the students' entire experience.

There was one more data source in the research design, namely the meeting reflection forms (see APPENDIX J). After each meeting, four open-ended questions were posed to the participants to share their experiences of the meetings, but their responses were not comprehensive. For example, the answers to the fourth question were "It was good", "It was nice that it was online". Therefore, the data obtained from this data source was not included in the study.

Table 4. Data Sources Used for the Research Questions

Research Question	Individual Pre-interviews	Focus Group Interviews (In the middle of the Program)	Focus Group Interviews (At the end of the Program)
1. How does participating in an online, hybrid, or face-to-face peer mentoring program facilitate higher education students' engagement?	X		X
2. How do participants evaluate the peer mentoring program?		X	X

3.4.1 Individual pre-interviews

Prior to the start of the program, semi-structured individual pre-interviews were conducted with each participant on an individual basis. The primary objective of these individual pre-interviews was to ascertain the engagement of each participant at the institution. The pre-interview protocol comprised a set of eight open-ended questions and their corresponding sub-questions. These questions are carefully formulated based on the indicators outlined in the NSSE framework (see APPENDIX G). The sub-questions were selected based on the participants' responses, as is characteristic of semi-structured interviews. These individual pre-interviews were conducted via a video conference platform (e.g., Zoom), and they were recorded as an audio file. The interviews lasted, on average, about 45 minutes.

3.4.2 Focus group interviews (In the middle of the program)

In the study, participants met with their mentors and mentees at regular intervals. The researchers did not attend the weekly peer mentoring meetings. The way to get

participants' opinions about their experiences in these meetings was planned to be through meeting reflection forms. As mentioned above, participants' responses to the forms were insufficient to understand the experience. Therefore, in the sixth week of the program, the researchers held separate focus group interviews with mentors and mentees during the program. The purpose of these two focus group interviews was to get feedback from the participants about the content and context of the program. Therefore, four open-ended questions, including in the meeting reflection form, were discussed during the focus group interviews in the middle of the program. The first three questions were the same for each participant, but the last question varied according to the context in which the participants conducted their meetings. In short, the approach gave researchers a chance to reach a deeper understanding of the mentor and mentee perspectives on the design of the program. These focus group interviews were conducted via a video conference platform (e.g., Zoom), and they were recorded as an audio file. The focus group interviews lasted, on average, about 90 minutes.

3.4.3 Focus group interviews (At the end of the program)

At the end of the program, a focus group interview was conducted with the mentors. A focus group interview with the mentees was also planned, but three mentees were not able to participate, so a second session was scheduled. In summary, three focus group interviews, two with mentees and one with mentors, were conducted with the participants at the end of the program. This methodology gave participants the opportunity to listen to one another's responses and provide additional comments in addition to their initial remarks. The first purpose of the focus group interviews was to understand the impact of the program on their engagement. Therefore, there were

six open-ended questions that were designed in light of the NSSE framework (see APPENDIX H). The second main purpose of the focus group interviews was to gather feedback on the program's evaluation and identify areas for improvement in terms of the context and content of the program for each case. Therefore, there were additional questions related to the context of the program. The aim was to gather insights on the mentors' and mentees' experiences and perceptions of the peer mentoring program. These focus group meetings which were implemented at the end of the program were conducted via a video conference platform (e.g., Zoom), and they were recorded as an audio file. The interviews lasted, on average, about an hour.

3.5 Data collection procedure

Prior to the beginning of the program, semi-structured individual pre-interviews were implemented individually with each participant. The main purpose of these individual pre-interviews was to assess the participant's level of engagement before they joined the peer mentorship program. Following the individual pre-interviews, the peer mentorship program commenced by organizing regular weekly meetings among the peers. Following each meeting, participants submitted meeting reflection forms consisting of four open-ended questions. The meeting reflection forms were a written document of participants' responses, but the participants gave incomplete or unelaborated answers. Therefore, these questions were discussed in focus group interviews in the middle of the program. The mid-focus group interviews provided an understanding of the experiences of participants in different contexts of programs. Also, participants recognized their experiences with each other and criticized their experiences in detail. Upon the conclusion of the program, focus group interviews with mentors and mentees were undertaken with the aim of obtaining more

comprehensive feedback from the participants. This practice afforded participants the chance to actively engage in consuming each other's responses and offer extra comments alongside their initial views. The primary objectives of the focus group interviews were to get insights into the effects of participants' engagement and to collect input for potential enhancements in both the contextual and content-related aspects of the program for each case.

Table 5. Representations of Data Sources of the Program

Data Source	Interview Session	Duration of Interviews	Time
Individual Pre-Interviews	17 Individual pre-interview	Each individual pre-interview lasted about an hour	Before the program starts
Focus Group Interviews (During of the Program)	A focus group interview with 7 mentors	90 minutes	In the 6th week of the program
	A focus group interview with 10 mentors	90 minutes	
Focus Group Interviews (End of the Program)	A focus group interview with 7 mentors	Lasted an hour and a half	After the end of the program
	A focus group interview with 7 mentors	Lasted an hour and a half	
	A focus group interview with 7 mentors	Lasted an hour	

3.6 Trustworthiness

In educational research, trustworthiness is essential since practitioners, program planners, and professionals utilize research studies to shape educational practice quality and outcomes (Merriam, 2009). Hence, qualitative research needs to be conducted in an ethical manner to increase validity and reliability (Merriam, 2009). There are many methods for ensuring the reliability of qualitative research (Creswell, 2013). In order to support the trustworthiness of this study, it was determined which strategies would be applied before starting the data analysis. Lincoln and Guba (1985) stated that four fundamental strategies were used, which are: credibility, dependability, confirmability, and transferability.

First of all, adequate engagement in data collection is a component of credibility strategies that refers to "adequate time spent collecting data such that the data become saturated" (Merriam, 2009, p. 229). This study emphasizes that, in order to support credibility, findings from a data collection process should be obtained repeatedly until no new information is obtained. In this study, a total of 17 hours of pre-interviews and 7 hours of focus group discussions were conducted. Participants' responses to the research questions often included similar statements; thus, research findings were repeated with similar expressions.

Secondly, the strategy of triangulation is utilized to enhance dependability in the study. Triangulation is described by Creswell (2013) as the use of several types of data from multiple sources to promote the dependability of qualitative studies. This research includes not only individual pre-interviews but also focus group interviews. On the other hand, data were collected from the participants multiple times: before, during, and after the program.

Creswell (2013) stated that another effective strategy for ensuring the trustworthiness of qualitative research processes is confirmability. It is emphasized that qualitative studies should be audited with detailed research reports. In this study, the researcher took notes while collecting data. During data analysis, the researcher transparently wrote down all the steps followed.

Lastly, thick description is one of the strategies employed to increase the transferability of the findings from a qualitative study. (Merriam, 2009). Lincoln and Guba (1985) emphasized the necessity of a detailed description of the context of qualitative research, as these shared details are a critical tool for researchers to assess the similarities between their own work and others. Therefore, the researcher in this study also explained the context of the research in detail. The researcher clearly presented aspects such as how the participants were selected and matched, how the peer mentoring program is designed, how the meeting agendas are prepared, the settings in which the program was conducted, and the duration of the meetings and the program.

3.7 Researcher's position

In a qualitative study, it is critical to share how the role of the researcher might affect the study because the researcher's background, experiences, and approach to research can have a huge impact on the data collection, analysis, and interpretation process. As a researcher, I received my bachelor's degree in Mathematics and Science Education from Boğaziçi University. Afterward, I started my master's program in Educational Technology at the same university. In addition, I work full-time in the educational technologies team of the HR department at one of the major technology companies in Turkey.

Furthermore, I am responsible for the development of the in-house learning management system at my company. During the time I was designing this study, I was also involved in a project where we developed an online peer mentoring feature for the LMS product. My team and I designed and launched an online platform where mentors and mentees could pair up and schedule meetings. My experience in this professional project supported the communication plans I designed for mentor and mentee relationships in the study, such as the calendar integration used in the program and the creation of WhatsApp groups.

In the study, my role was to design the meeting agendas within the NSSE and to iterate them with feedback from the experts. My role at the beginning of the program was to introduce the program, collect mentor and mentee applications, and select and match mentors and mentees. During the execution of the program, I interacted with all participants through WhatsApp groups. I regularly shared the meeting agendas of the mentors and mentees every week, followed up on the completion of the meetings, and answered all questions from the participants about the flow or content of the program.

I was also responsible for planning and executing the introductory meetings at the beginning of the program and the focus groups in the middle and at the end of the program. My regular communication with the mentors and mentees eliminated the problems that could prevent them from getting efficiency from the program. For example, I managed the negotiations by mediating the occasional problems of scheduling meetings.

My extensive role contributed significantly to enhancing the credibility of the study. My proactive involvement as a researcher and continuous review of the processes helped ensure the data's accuracy and reliability.

3.8 Data analysis

The thematic analysis method was used for two main research questions in the study. Thematic analysis helps to identify, evaluate, and present themes within a set of qualitative data (Braun & Clarke, 2006; Guest et al., 2011). This method provides greater flexibility and depth to explore deeper meanings and contexts in the data (Braun & Clarke, 2019). In the initial phase of analysis in this study, the researcher became familiar with the data, following the guidelines outlined by Braun and Clarke (2006). The researcher transcribed the audio recordings of the study's qualitative data set, which included the individual pre-interviews, mid-focus group interviews, and post-focus group interviews. The researcher read over the documents to get a general comprehension of the cases by noting down initial ideas. Then, the text documents were imported into a MAXQDA project.

For the research question 1 (How does participating in an online, hybrid, or face-to-face peer mentoring program facilitate higher education students' engagement?), thematic analysis was conducted in the light of coding reliability approach using a predefined codebook (Braun et al., 2019). This codebook was developed using the NSSE framework. This framework contains detailed codes related to student engagement indicators and their items, which allows for a systematic processing of the data. As a result, four main themes were identified for the first research question: Collaborative Learning, Discussions with Diverse Others, Quality of Interactions, Supportive Environment (see APPENDIX A).

For the research question 2 (How do participants evaluate the peer mentoring program?), a predetermined codebook was not used, and the data were analyzed using an approach of reflexive analysis (Braun & Clarke, 2019). As Braun and

Clarke. (2019) indicated that themes emerge as a result of significant analytical work by the researcher to discover and develop the patterned meaning in the data set. In this study, the collected data were analyzed in detail, and codes were developed directly from the data. This coding enabled the identification of important themes that became evident in the data at this stage of the research. In the reflexive thematic analysis phase, the sub-questions of the second research question were evaluated separately. For the first sub-question of the second research question (How do participants evaluate the peer mentoring program in terms of the content of the program?), two main themes emerged, which are Practical Insights in Peer Mentoring, and Enriching Peer Mentoring Program: Professional and Global Opportunities.

Table 6. Codebook for Research Question 2.a

Theme	Code
Practical Insights in Peer Mentoring	Learning Strategies and Study Habits Exploring Events on Campus Discovering Campus Support Services Communication and Collaboration Diversity & Inclusion Teamwork and Collaboration Time and Goal Management Wellbeing
Enriching Peer Mentoring Program: Professional and Global Opportunities	Internship & Job Opportunities and Experiences Opportunities such as DMP & Minor Erasmus & Study Abroad opportunities

For the second sub-question of the second question (How do participants evaluate the peer mentoring program in terms of the context of the program?), six main themes emerged, namely Advantages of Online Context, Disadvantages of Online Context, Advantages of Hybrid Context, Disadvantages of Hybrid Context, Advantages of Face-to-Face Context, and Disadvantages of Face-to-Face Context

Table 7. Codebook for Research Question 2.b

Theme	Code
Advantages of Online Context	Flexibility of Space Flexibility of Time
Disadvantages of Online Context	Access Problems Communication Issue
Advantages of Hybrid Context	Take Advantage of Both Online and Face-to-face Environments
Disadvantages of Hybrid Context	Flexibility
Advantages of Face-to-Face Context	Easier Communication and Intimacy Improving Time Management Skills
Disadvantages of Face-to-Face Context	Inflexibility of Space Inflexibility of Time Physical Fatigue

After the themes were identified for both research questions, the themes were reviewed and mapped. The themes were finally defined and named before the report was prepared. In summary, the study utilized thematic analysis, to investigate the evaluation of peer mentoring programs in higher education. Thematic analysis was

employed to identify, evaluate, and present themes within the qualitative data set via MAXQDA. For the first question, the coding reliability thematic analysis was conducted using a predefined codebook developed using the National Survey of Student Engagement (NSSE) framework. Four main themes were identified for the first research question: Collaborative Learning, Discussions with Diverse Others, Quality of Interactions, and Supportive Environment. For the second research question, the data was analyzed using reflexive analysis without any pre-defined codebook. Two main themes emerged for the first sub-question: Practical Insights in Peer Mentoring, and Enriching Peer Mentoring Program: Professional and Global Opportunities. Six main themes emerged for the second sub-question: Advantages of Online Context, Disadvantages of Online Context, Advantages of Hybrid Context, Disadvantages of Hybrid Context, Advantages of Face-to-Face Context, and Disadvantages of Face-to-Face Context.

CHAPTER 4

RESULTS

This study uses a multiple-case study approach to explore higher education students' peer mentoring experiences in different contexts. Three cases were diversified: three peer mentoring programs conducted in an online setting, in a hybrid, and in a face-to-face. The content of the peer mentoring program was constructed in light of the NSSE framework, since the main goal was to facilitate student engagement through peer mentoring relationships. Before the program, individual pre-interviews were conducted to understand participants' engagement level before attending the peer mentoring program. Ten meetings were designed within the scope of the program. After each meeting, participants provided feedback on the content and context of these meetings through meeting reflection forms. However, their responses were excluded from the analysis due to the lack of meaningful data. During the program, two focus group interviews were conducted with mentors and mentees separately to evaluate program design and context. At the end of the program, two focus group interviews were organized with mentors and mentees to discuss the mentorship experience and program context again. In this chapter, the results of the analysis to examine firstly the influence of participation in an online, hybrid, or face-to-face peer mentoring program on higher education students' engagement and secondly the evaluation of the program were shared. It should be highlighted that participants answered in Turkish during interviews and focus group interviews, then their expressions were translated into English (See APPENDIX K).

4.1 Students' engagement in three types of peer mentoring programs

In this subsection, the first question, "How does participating in an online, hybrid, or face-to-face peer mentoring program facilitate higher education students' engagement?" is examined through the analysis of individual pre-interviews and post- focus group interviews. Individual pre-interviews and two separate post-focus group interviews with mentors and mentees were conducted to explore how engagement is reflected across different contexts in the peer mentoring program. In the following subsections, the first research question is analyzed for the three cases of the study. Online, hybrid and face-to-face peer mentoring programs were examined in terms of participants' engagement.

4.1.1 Case 1: Online group participants' engagement

As described earlier, there were two online groups including two mentors and four mentees in the peer mentoring program. Table 2 presents information of online group participants. The findings related to the four main engagement indicators of NSSE were examined in the case of online groups in the following subsections.

4.1.1.1 How does participating in the online peer mentoring program facilitate higher education students' collaboration with other students? (Collaborative Learning)

The Peer Mentoring Program covered three meetings related to the Collaborative Learning engagement indicators (see APPENDIX D). The following subsections present findings from individual pre-interviews and focus group interviews of online group mentees and mentors.

Mentors of the Online Groups

Individual pre-interviews of both online group mentors demonstrated that they had a strong commitment to collaborative learning through their proactive engagement in peer interactions, group study sessions, and joint projects before participating in the program. They shared an experience to seek and offer assistance to peers and shared learning experiences as essential components of their academic approach. For example, Online Mentor 1 expressed that "In thermodynamics homework, group collaboration led to problem-solving and continued support during exam preparation." in her individual pre-interview.

In other words, both mentors had very strong collaborative learning skills prior to the program, as a result of their experiences in project-based learning courses at the university. After the program, the online group mentors indicated that it was valuable for them to share their past experiences of group work and collaboration with their mentees. In addition, they found it practical to enhance their time management and leadership skills in their mentor role.

Mentees of Online Groups

Pre-interview analyses conducted individually with online group mentees show that they have experienced most of the items in the "Collaborative Learning" engagement indicator. All online group mentees gave an example of a group activity they participated in, where they received support from their peers to understand course material and explained course material to their peers. The only item that the online group mentees did not experience was preparing for an exam with their peers; none of them had ever prepared for an exam with their peers.

Even though mentees shared some experience on Collaborative Learning engagement indicator, post-focus group interview analyses suggested that this mentoring program contributed to the online group mentees' development in the "Collaborative Learning" indicator. The finding that online group mentees share their knowledge and skills with their classmates and increase their ability to work collaboratively shows how the online peer mentoring program facilitates this engagement indicator. This boosted the online group mentees' self-confidence by strengthening their ability to put what they learned into practice and transfer it to other students. Online Mentee 1 shared that:

> I have really learned a lot about Collaborative Learning and I apply what I have learned in my own life. I even experienced it the previous day: when I said "Let's do this, let's do that", my classmate asked me "How do you know these things?". I shared what I learned thanks to my mentor and this program. We have learned so much that it is really obvious even from the outside. (Post-Focus Group Interview with Mentees)

The findings indicated that the peer mentoring program also guided the online group mentees in planning their attitude toward collaborative learning in future semesters. With the support of their mentors, the online group mentees planned to execute their collaborative learning skills as they are illustrated in the following quotes:

> When we did a group assignment, if a friend of mine was irresponsible, I would take care of it and move on. However, I learned from my mentor during the role play meeting (Meeting 5, see APPENDIX F) that we should be aware of a person's irresponsibility and speak up. In our department, we will do a lot of teamwork. Therefore, I am sure that I will definitely see the effect of these meetings in the future. (Online Mentee 1 - Post-Focus Group Interview with Mentees)

Lastly, online group mentees expressed that they learned to exchange ideas, work on a common file, and practice time management through project-based activities. For example, Online Mentee shared that:

> We exchanged ideas with my partner and my mentee partner to fulfill the projects on the weekly agendas you shared. It was a nice experience. (Online Mentee 4 - Post-Focus Group Interview with Mentees)

4.1.1.2 How does participating in the *online* mentoring program facilitate higher education students' interactions with diverse others? (Discussions with Diverse Others)

The Peer Mentoring Program included two meetings focused on the Discussion with Diverse Others engagement indicators (see APPENDIX D). The subsequent sections present the results obtained from individual pre-interviews and focus group interviews conducted with online group mentees and mentors.

Mentors of the Online Groups

Based on the individual pre-interview of Online Mentor 1, it is indicated that Mentor 1 has friends from different groups and is able to communicate easily with diverse others. In the case of discussion with diverse others, Online Mentor 1 is perceived himself as open to debate as long as his own borders are not interfered with or disrespected. Illustrating this point, Online Mentor 1 remarked that:

> I have friends of different ethnic backgrounds and opinions, which doesn't bother me. I don't stick to my fellow believers' thinking structure, but I expect respect for my own thoughts. It's important for my opponent to respectfully protect my borders. I'll warn him if he's rude, and I don't want to communicate. (Online Mentor 1 - Individual Pre-Interview)

During the focus group interview that was conducted with mentors after the program, Online Mentor 1 shared that he got into a debate with his mentors who had different opinions during one of the meetings. They've been able to talk about differences with respect. There is a quote from Online Mentor 1 below:

> My mentees have a different opinion than I do. There were no problems, we were able to discuss the issues with ease. I was expecting them to show

> understanding, and so it happened. (Post-Focus Group Interview with Mentors)

In short, Online Mentor 1 was frequently interacting with people from various backgrounds and ideas before the program. Online Mentor 1 had a chance to communicate more frequently through this program and had no bad experience (fighting, disrespect).

Online Mentor 2 has many friends with different opinions, like Online Mentor 1. However, Online Mentor 2 did not tend to have close friendships with those who were diverse before the program. In addition, the tendency to label different people was indicated as in the quote:

> For example, if people with very different political opinions politicize their ideas, I keep them away from me, and it's impossible for me to have a close relationship with them. By communicating with different people, I have learned to be both unbiased and biased with the help of experiencing different types of people. It leads to breaking down and forming new prejudices. (Online Mentor 2 - Individual Pre-Interview)

Regarding the indicator of "Discussions with Diverse Others", findings suggested that Online Mentor 2 avoided discussions before and after the program. The peer mentoring program did not influence this participant's engagement regarding this indicator.

Mentees of Online Groups

Based on the analysis of pre-interview meetings of online group mentees, the general situation of them was assessed on several dimensions in relation to the engagement indicator of 'Discussions with Diverse Others'. Even if all online group mentees (n=4) described the university as a liberal environment where everyone respects each other's opinions and is tolerant, three of them tended to avoid discussing sensitive issues such as religious beliefs and political views. On the other hand, they were willing to communicate with people from different races and cultural backgrounds,

and in this context, they tried to communicate with Erasmus students. For the given indicator, the evaluations of the program were observed differently in online group mentees than online group mentors. When the post-focus group mentee meeting was analyzed, significant findings were obtained for mentees in the same group. For example, Online Mentee 1 had positive attitudes regarding diverse others before the program, while Online Mentee 2 had a protective attitude. It is important to highlight that after the program, Online Mentee 2 stated that the participant had a positive attitude and even discussed these issues with a close friend who had a different religious belief

Online group mentees 3 and 4 remained defensive both before and after the program. These two online group mentees (3 and 4) stated that they did not observe any change in their behavior on this issue. It is important to highlight that, the mentor of these two online group mentees was the only mentor with a negative attitude on this issue. The attitudes of mentors and mentees who are in the same group may be a factor affecting the usefulness of the program in terms of the engagement indicator of 'Discussions with Diverse Others' and can be further investigated.

4.1.1.3 How does participating in the *online* mentoring program facilitate students' social interactions in the campus environment? (Quality of Interactions)

Quality of Interactions engagement indicators were covered in five meetings of the Peer Mentoring Program (refer to APPENDIX D). The results obtained from individual pre-interviews and focus group interviews with online group mentees and mentors are presented in the subsequent subsections.

Mentors of the Online Groups

Pre-interview analysis shows that both of the online group mentors had strong interactions with people at the university before the program. They had built strong relationships with their friends, academic advisors, and faculty. They also had interactions with administrative affairs when needed.

After the program, both of them shared that the program did not contribute much in terms of interaction's quality, as they already have strong connections with students, academics and institutions at the university. As a positive impact, Online Mentor 1 shared that it felt good to make two new friends, and Online Mentor 2 shared that it felt good to share his experience with his mentees. Online Mentor 1 indicated that “as a result, I am a member of this institute, a student, and helping a newcomer to this environment gave me extra happiness.” during the post-focus group interview with mentors.

Mentees of the Online Groups

According to the individual pre-interview analyses conducted with the online group mentees (n=4), the "Quality of Interaction" Engagement Indicator varied across mentees. The analysis clearly showed that online group mentees 1 and 4 have an active social circle before the program and are willing to reach out for academic support. On the other hand, online group mentees 2 and 3 exhibited more limited social interactions and academic support seeking. In particular, Mentors 1 and 4 mentioned that they spent a lot of time with their friends on campus and that engaging in social activities expanded their social circles. On the other hand, it was observed that Mentee 2 only participated in certain activities and was limited in communicating, while Mentee 3 similarly had a limited social circle and was hesitant to communicate.

In the "Quality of Interactions" indicator, all online group mentees (n=4) clearly expressed the positive impact of the program during the focus group interview. The most obvious reflection of this impact was seen in the "Student" item of the Quality of Interactions engagement indicator in the NSSE framework.. Moreover, online group mentees (2 and 3), who had more limited social interactions before the program, stated that the program positively increased their interactions with their friends. In particular, they stated that the quality of interaction with their mentors and their friends had improved. For example, mentees stated that they established an interaction with their mentors after the program where they could sit and chat with them and get help when needed. Below are some quotes from the post-focus group interviews with mentees that illustrate the quality of interactions with their mentors:

> I also believe that our interaction with my mentor is something really sincere, not just showering information and then ending it. Even after the program, if I have a question in my mind, when I see him on campus, I think it is a relationship where I can have a cup of tea and talk, consult. (Online Mentee 2 - Post-Focus Group Interview with Mentees)

Online group mentees observed an improvement in their interactions with their academic advisors and other professors. For example, Online Mentee 4 visited his academic advisor during the program, and Online Mentee 3 pointed out that the "Communication with your professor" role-play activity in the 5th meeting of the program contributed to his development. The following excerpt from a dialog in the post-focus group interview with mentees highlighted this improvement in their communication skills:

> On the other hand, I am thinking about improving my communication with my professors when we talk face-to-face. I realized that there are some parts that I need to improve.
> Role play has been a good activity in this regard, and I think it has contributed to my development. Also, role play was already one of the most

> fun among our sessions. (Online Mentee 3 - Post-Focus Group Interview with Mentees)

However, they did not report any change in their interactions with student services or other administrative staff. This suggests that the program strengthened students' relationships with friends and academic staff but did not have a similar impact on other student interactions with other administrative offices such as registrar, financial aid, career services.

4.1.1.4 How does participating in the *online* mentoring program facilitate the perception of a supportive environment on campus? (Supportive Environment)

Mentors of the Online Group

Mentors had both positive and negative opinions regarding the items in the Supportive Environment indicator. According to individual pre-interview analyses, the most positive items included being socially involved at the university, participating in campus activities and events, utilizing opportunities to succeed academically, and supporting non-academic responsibilities.

After the program, both online group mentors shared that they recognized and remembered the opportunities more thanks to the links in the weekly agendas (Meetings 3 and 4, see APPENDIX F). They also stated that they appreciated the campus more thanks to the program and wanted to spend more time in the campus as it's illustrated in the following quote from Online Mentor 1:

> This program may have contributed to me as a social activity, I didn't know about these specific sites, I learned about them through the links you provided. (Online Mentor 1 - Post-Focus Group Interview with Mentors)

In short, although the online group mentors benefited from many opportunities at the university before the program, they learned about new opportunities through the program.

Mentees of Online Group

Based on the individual pre-interview analyses conducted with the four online group mentees, the Engagement Indicator for "Supportive Environment" showed variation among the online group mentees. Two of the online group mentees (1 and 4) positively evaluated the supportive environment offered by the university. These online group mentees stated that they supported their academic success by utilizing the resources provided by the university and actively participating in various social activities. On the other hand, Mentees 2 and 3 emphasized that they felt less support from the university and benefited less from the opportunities offered.

All of the online group mentees mentioned the significant positive impact of the program on the items in the "Supportive Environment" engagement indicator during the post-focus group interview. All online group mentees reported concrete experiences of increased social involvement in the university and active participation in club activities and campus activities. Relevant online group mentees' quotes are highlighted below:

> I had more expectations to get to know the university: clubs, social activities, and courses. My expectations were met. For example, I had never been to the Uçaksavar sports complex. My mentor was doing athletics, so I wanted to experience it, and I went, thanks to my mentor's support. On the other hand, I had never been to Sinebu; I went to the cinema. I can say that I try to use the opportunities. (Online Mentee 4 - Post-Focus Group Interview with Mentees)

Online group mentees' reflections on the positive impact of the program indicate that they have benefited more from the resources provided by the university, especially for academic success and non-academic responsibilities. In addition, they expressed

the positive changes in their personal development. The following excerpts from a dialog in the post-focus group interview with mentees emphasized this improvement in their learning and development:

> Before the program, I was saying, "I will do the minor, I will do Erasmus, I will do the master's degree." All of these things do not happen at the same time, and we need to spend the university years more socially, maybe more fun. I remember saying to myself, "I don't have to be perfect at everything." Honestly, this program raised my awareness. (Online Mentee 1 - Post-Focus Group Interview with Mentees)

> I think even the organization of the Peer Mentoring Program supports me in being academically successful. (Online Mentee 4 - Post-Focus Group Interview with Mentees)

All of the online group mentees (*n*=4), including those who already knew about the university's facilities before the program and those who didn't, claimed that the program helped them learn more about university's facilities. In addition, the online group mentees indicated that they intended to benefit more from the services and activities of their universities that support their personal and professional growth.

4.1.1.5 Summary of case 1 (online groups) findings

Analyzing the experiences of students who participated in the Online Peer Mentoring program, this summary addressed peer collaboration, discussions with different people, social interactions in the campus environment, and the perception of a supportive environment.

The study revealed that the online group mentors had strong academic collaboration prior to the program. They stated that taking on the role of mentor in this online peer mentoring program improved their leadership skills in group work. For example, managing meeting agendas and time, or planning regular meetings as a group.

Furthermore, the online group mentees reported that the program improved their ability to learn collaboratively with their peers and increased discussions with different people and they plan to apply these skills in their future academic life. In addition, the program had a positive impact on the quality of interaction and the perception of a supportive environment on campus. The online group mentees were motivated by the mentoring program to be more involved in the university and to make more use of the available resources. For all four Engagement Indicators, the online group mentees shared concrete examples of how they felt the impact of the program was positive. It is noteworthy that despite the online group mentees' (*n*=4) perceived the supportive environment of the institution at different levels before the program, all of them shared the positive impact of the program. On the other hand, online group mentors (*n*=2) shared fewer concrete examples of the positive impact of the program, since they had strong interactions with stakeholders at the university and perceived the supportive environment as strong.

In sum, the findings suggested that the online peer mentoring program enhanced collaboration among students, enriched social experiences in the campus environment by encouraging interaction with different perspectives, and supported positive perception of the university's supportive environment.

4.1.2 Case 2: Hybrid group participants' engagement

The hybrid peer mentoring program consisted of three groups of three mentors and five mentees in total. Table 2 displays data about participants in hybrid groups. In the following subsections, the experience of hybrid groups is analyzed in respect of the four main engagement indicators in the NSSE.

4.1.2.1 How does participating in the *hybrid* peer mentoring program facilitate higher education students' collaboration with other students? (Collaborative Learning)

The Peer Mentoring Program involved three meetings concerning the Collaborative Learning engagement indicators (see APPENDIX D). The results obtained from individual pre-interviews and focus group interviews with hybrid group mentees and mentors are presented in the subsections below.

Mentors of the Hybrid Groups

The individual pre-interview analysis shows that all three hybrid group mentors have positive experiences in all items of the "Collaborative Learning" engagement indicator. For example, all three hybrid group mentors prepared for exams together with their peers, received help from a peer to understand course material, and participated in group work.

Hybrid group mentors (n=3) had two different views on the impact of the program: Hybrid Mentor 1 stated that the program had no outcome, and hybrid group mentors 2 and 3 stated that the program had positive consequences in the post-focus group interview with mentors.

> I had already done a lot of group work and this program was not challenging for me. Therefore, it did not contribute to me in this regard. (Hybrid Mentor 1 - Post-Focus Group Interview with Mentors)

> It was hard to complete ten hybrid interviews, but we somehow did it; we put effort into it, and it was a good collaboration. (Hybrid Mentor 2 - Post-Focus Group Interview with Mentors)

> Although I have leadership experience, planning meetings and managing the meeting by adapting to agendas have improved my leadership skills. (Hybrid Mentor 3 - Post-Focus Group Interview with Mentors)

In summary, all three hybrid group mentors had positive experience with this engagement indicator before the program. Hybrid Group Mentor 1 reported that there was no impact of the program on her collaboration skills. On the other hand, Hybrid Group Mentors 2 and 3, who also had a lot of experience in this area before the program, shared that they had development opportunities in the program in terms of collaboration and leadership skills.

Mentees of the Hybrid Groups

The analysis of the individual pre-interviews reflected that these hybrid group mentees (*n*=4) described in detail their specific experiences with the "Collaborative Learning" activities. All of them reported helping another student understand course material, explaining coursework to other students, studying course material with other students in preparation for exams, and working with other students on course projects. This suggests that the hybrid group mentees had rich and varied experiences in "Collaborative Learning" before joining the program.

Besides providing many examples of their “Collaborative Learning” experiences before the program, all hybrid group mentees (*n*=4) pointed out the program's positive impact during the post-focus group interview. The two main impacts of the program were communication in group work and efficient study methods. Hybrid group mentees described how the program shaped their attitudes in group work. For instance, the role play activity on the agenda of the 5th meeting was an example of how to recognize and manage problems and conflicts in group work. Also, they reported that they started to use the skills they gained from the role-play activity in their daily lives. The following quote is examples representing the impact of the the agenda of the 5th meeting from the post-focus group interview with mentees:

> In the role play meeting (5th meeting), we talked about what can go wrong in group work, people can have different opinions, and we simulated it with my mentor. Afterwards, I had an experience in my CET 101 course, simulating it before helped me a lot. I learned how I should behave in which situations and how I should not react when I could react to some things. (Hybrid Mentee 3 - Post-Focus Group Interview with Mentors)

Hybrid group mentees stated that they learned a lot from the mentors about efficient studying, for example, time management and productivity. Some examples of their statements are as follows;

> As a study habit, I was used to studying alone throughout my high school life. But at university, I learned that I shouldn't do it that way and that I can get more efficiency by studying with my friends. (Hybrid Mentee 4 - Post-Focus Group Interview with Mentees)

> I agree with my friends, it really contributed to me in terms of time management. This is something that I am actively using in my daily life right now. (Hybrid Mentee 1 - Post-Focus Group Interview with Mentors)

The program encouraged collaborative learning among mentees and improved communication and productive working methods. The program shaped attitudes in teamwork by developing problem-solving and conflict management skills. Hybrid group mentees also gained useful insights from mentors about efficient study methods, time management and productivity.

4.1.2.2 How does participating in the *hybrid* mentoring program facilitate higher education students' interactions with diverse others? (Discussions with Diverse Others)

Two meetings were involved in the Discussion with Diverse Others engagement indicators as part of the Peer Mentoring Program (see APPENDIX D). The findings derived from individual pre-interviews and focus group interviews carried out with hybrid group mentees and mentors are discussed in the following sections.

Mentors of the Hybrid Groups

According to the individual pre-interview analysis, all three hybrid group mentors expressed positive sentiment on all of the "Discussions with Diverse Others" engagement indicator items. For instance, all three hybrid group mentors shared experience in discussions with people who were different from them in terms of race, politics, and religion.

The hybrid group mentors (n=3) had two different ideas about how the program had a facilitating role for this engagement indicator. Hybrid group mentors 1 and 3 said that the program had no facilitator role in this category, while Hybrid Mentor 2 said that the program had beneficial outcomes at the post-focus group mentor interview.

The hybrid group mentors (1 and 3) who could not observe any impact of this program on "Discussions with Diverse Others" stated that the reason for this was that they had similar ideas with their mentees, which did not lead to any discussion. On the contrary, Hybrid Mentor 2, who was paired with a mentee who had different views on discussing with diverse people, stated that this hybrid program had a great impact on this engagement indicator. With the help of the program, Hybrid Mentor 2 stated that both of them are now more open and confident to discuss with people with different opinions and backgrounds. Hybrid Mentor 2's reflection offers insight into the Discussion with Diverse Others, as shown below:

> My mentee and I did not agree on D&I; I thought she seemed non inclusive, but over time we talked more and more about it. We also discussed these issues during the agendas, and we both improved. I thought of myself as a mindful person, but when I discussed these issues with her, my empathy had improved.
> In terms of my mentee, at the beginning of the program, she shared that she could not participate in the activities of some clubs because of her prejudices and that she did not feel that she belonged to the school. During the program, my mentee said that she participated in the activities of the clubs she was

> prejudiced against and had a good time. This made me feel very good. I think I will be able to communicate more easily with people who have different ideas. (Hybrid Mentor 2 - Post-Focus Group Interview with Mentors)

In summary, the outcomes highlighted that peer matching is critical for this engagement indicator. It should be emphasized that the hybrid group mentors, who were matched with mentees with similar ideas and backgrounds, stated that there were no opportunities to discuss different ideas. Therefore, they shared that there is no development opportunity for this engagement indicator. On the other hand, Hybrid Mentor 2, who was matched with a mentee who had different ideas than him, stated that they were able to create a discussion environment thanks to the program. Through the discussions in this program, they were more open to discussing with people with different opinions. To summarize, the fact that mentor and mentee have different opinions leads to learning new concepts by discussing with others who have different ideas.

Mentees of the Hybrid Groups

Regarding the Indicator of "Discussion with Diverse Others", the individual pre-interview analysis of each Hybrid Mentee demonstrated that their communication with people from different backgrounds and life experiences differs. Hybrid Mentee 1 and Hybrid Mentee 2 appear to be individuals who do not hesitate to interact with their friends in all items in this engagement indicator. In addition, these hybrid group mentees (1 and 2) perceive differences as diversity. They did not believe that people should have similar ideas and backgrounds when communicating. On the other hand, Hybrid Mentee 3 and Hybrid Mentee 4 showed a more conservative approach in this regard. Hybrid Mentee 3 expressed challenges in communicating with individuals who differ in political views or socioeconomic backgrounds. Similarly, Hybrid

Mentee 4 disclosed obstacles in dialogues with individuals from diverse religious affiliations. The following excerpts exemplify these assertions:

> There were people in the club, for example, who I used to know had a different political view. I didn't feel very comfortable interacting with them. Because they don't think the way I do, they don't think within the framework that I am comfortable with. That's why we could have problems. I don't like to be in such environments either. So I didn't want to talk to them much. (Hybrid Mentee 3 - Individual Pre-Interview)

> In general, I am a conservative person, and I think that when I approach people who are like me, I meet more with people like me. Even with people who are outside of this, it is certainly not my intention to exclude them, but because I have more in common with them, I have more common problems. That is why I am always in contact with them. I have conversations with others in the classroom, but I never establish a close relationship with them. I won't go any further. (Hybrid Mentee 4 - Individual Pre-Interview)

However, although these mentees tended to communicate more often with people who were similar to them, they stated that through the university experience, they learned to recognize and respect people with different beliefs and orientations. As a result, Hybrid Mentee 1 and Hybrid Mentee 2 were more open-minded and open to communication, while Hybrid Mentee 3 and Hybrid Mentee 4 were more conservative before the program.

There are differences when comparing the changes hybrid group mentees experienced in the engagement indicator of "Discussion with Diverse Others" after the program. First of all, Hybrid Mentee 1 and Hybrid Mentee 2 state that they already had a positive attitude before joining the program. Since they were paired with a like-minded mentor, there was no opportunity for discussion.

However, the impact of the program was varied for Hybrid Mentee 3 and Hybrid Mentee 4. In the case of Hybrid Mentee 3, the participant displayed a protective attitude and hesitated to communicate with people who had different beliefs and opinions than themselves before participating in the program. With the

help of the program, Hybrid Mentee 3 realized that she was micro-aggressing such as judgmental attitudes, and underestimation. They tried to overcome this with the support of her mentor. On the contrary, Hybrid Mentee 4 displayed a similar protective attitude both before and after participating in the program. Hybrid Mentee 4 did not think that the program contributed much to them, but the Mentor of Hybrid Mentee 4 was not aware of the impact of the program. For example, the Mentor observed positive changes in Hybrid Mentee 4's behavior because Hybrid Mentee 4 had participated in club activities that they had been hesitant about before. This reveals a difference in perception between the mentee and mentor.

In summary, for hybrid group mentees, the impact of the program on this engagement indicator was different. Hybrid group mentees who were open to discussion before the program continued to do so after the program. Hybrid group mentees (3 and 4), who were hesitant to communicate with different people before the program, observed the impact of the program differently.

4.1.2.3 How does participating in the *hybrid* mentoring program facilitate students' social interactions in the campus environment? (Quality of Interactions)

The engagement indicators for Quality of Interactions comprised five Peer Mentoring Program meetings (see APPENDIX D). The findings derived from focus group discussions and individual pre-interviews involving hybrid group mentees and mentors are presented in the following subsections.

Mentors of the Hybrid Groups

Pre-interview analysis indicated that three hybrid group mentors reported having substantial interactions with individuals at the university prior to the program. They had established good interaction with their peers, academic advisors, and instructors. Additionally, they engaged in administrative matters as necessary.

The analysis of the post-focus group interviews indicated that all three mentors have benefited from this program in terms of student interaction. Hybrid Mentor 3 indicated that the gathering on campus has enhanced this interaction as it's illustrated in the following quote.

> I already enjoyed spending time with my friends on campus, and this program provided the environment for us. (Hybrid Mentor 3-Post-Focus Group Interview with Mentors)

In summary, Hybrid group mentors stated that the interactions with their firends in the university environment were strengthened by the program, but their interactions with their academic advisors, faculty or other administrative units were not affected.

Mentees of the Hybrid Groups

The hybrid group mentees (n=4) were investigated for the engagement indicator of "Quality of Interactions" before their participation in the program. The results show that all four hybrid group mentees have the strongest interactions with their classmates. In particular, participation in club activities and social events on campus seems to have strengthened mentees' interactions with other students and improved their social skills. Only Hybrid Mentee 4 has weaker interactions than other hybrid group mentees. On the other hand, hybrid group mentees reported that they interacted with other stakeholders such as academic advisor, faculty, student services staff when they needed their support.

The findings suggested that the strongest positive impact of the program was on the "Student" and "Academic Advisor" items. All hybrid group mentees (*n*=4) established strong bonds with their mentors and other mentees in their groups, and stated that these interactions would continue after the program. The followings are examples that indicate the strong bonds they have with their mentors:

> My mentor and I got along very well, and I also made a friend, so I was very happy about that. There were two mentees and one mentor in our group. I think this was also useful because I learned something and really realized something thanks to Hybrid Mentee 2. So I can say that this program was way above my expectations." (Hybrid Mentee 1 - Post-Focus Group Interview with Mentees)

> From now on, if I have a problem, I will knock on my mentor's door. My mentor would even be the first person I would consult. I am sure that I can consult my mentor both during the school process and, as I said, even when I look for an internship or send an email to work-related professors." (Hybrid Mentee 4 - Post-Focus Group Interview with Mentees)

There was diversity in hybrid group mentees' opinions about their interactions with their academic advisors. For example, Hybrid Mentee 1 reported that there was no change with their academic advisor. Other hybrid group mentees (*n*=3) reported that they learned about the positive attitude of their academic advisors through their mentors, and some even visited their advisors for support. Below is a quote that shows the importance of trust in terms of interaction with their academic advisor:

> The program had such an advantage: thanks to my mentor, I actually learned that it is easier to communicate with our academic advisor and that she can help us more than our other department professors." (Hybrid Mentee 4 - Post-Focus Group Interview with Mentees)

These results suggest that the program strengthened the social bonds between students and their academic advisors and supported mentor-mentee interactions. However, some differences were observed in interactions with academic advisors, suggesting that the program may have different experiences on each student.

4.1.2.4 How does participating in the *hybrid* mentoring program facilitate the perception of a supportive environment on campus? (Supportive environment)

Supportive Environment engagement indicator was discussed during seven Peer Mentoring Program meetings (see APPENDIX D). The findings from the individual pre-interviews and focus group discussions with the hybrid group of participants are discussed in two following sections.

Mentors of the Hybrid Groups

Before the program, all three hybrid group mentors hold uniformly favorable perspectives on the things within the "Supportive Environment" engagement indicator. The results from the individual pre-interviews and the post-focus group interviews with the hybrid group of mentees and mentors are discussed in the following sections.

According to the post-focus group interview, hybrid group mentors noticed the positive impact of this program in terms of socialization and campus facilities. They expressed that the links in the 3rd and 4th week meeting topics were very useful. They stated that with this program, they will participate in activities at the universtiy that they have not experienced before. The following excerpt from a dialog in the post-focus group interviews with mentors summarizes this idea:

> I noticed SineBU[1] in the links in the agendas of the meetings, and I said that I will graduate soon, but I still haven't been to SineBU, so I planned to go to SineBU." (Hybrid Mentor 3)

Although the hybrid group mentors (*n*=3) stated that they perceived the support of the university before the program, they also stated that they explored more

[1] SineBU is the movie theater of the university.

opportunities through this peer mentoring program and that they would also benefit from these facilities.

Mentees of the Hybrid Groups

Prior to the Peer Mentoring Program, all four hybrid group mentees were part of campus life, participating in social events and using various services offered by the university. They all used academic advising services to varying degrees and were pleased with the institution's support. In addition, each of them participated in social events and emphasized the importance of spending time on campus, but there were also some differences between the hybrid group mentees. For example, Hybrid Mentee 1 and Hybrid Mentee 3 were actively involved in club activities, while Hybrid Mentee 2 and Hybrid Mentee 4 were less involved.

According to the post-focus group analysis, all hybrid group mentees shared the positive impact of the program for this engagement indicator, regardless of their experiences related to this category before the program. .Hybrid group mentees 1 and 3 already felt connected and belonged to the university before the program. Thanks to the Peer Mentoring Program, they started to see the possibilities offered by the university from a broader perspective. Through the mentor guidance, mentees in the hybrid group were encouraged to participate in campus activities and to use the social spaces of the university more actively. The following quote illustrates this aspect:

> Thanks to my mentor, I had the opportunity to do a lot of things that I had been putting off. For example, I'm talking about concerts, movies, and stuff like that. There are many opportunities at the university. There are campuses, and there are really beautiful places I should go and see. But I was always procrastinating like this. When I had someone who was an example in front of me and said, "Look, do it like this; it's very good; it works like this," I started to benefit more." (Hybrid Mentee 1 - Post-Focus Group Interview with Mentees)

Hybrid group mentees 2 and 4 shared in their individual pre-interviews that they had benefited less from the university's facilities before the program. Through their interactions with their mentors during the Peer Mentoring Program, they were motivated to explore more of the opportunities offered by the university and to make plans. Their mentors guided them to participate more in university activities and opportunities, which increased their engagement with the university, as exemplified in the following excerpt from Hybrid Mentee 4:

> The program definitely increased my sense of belonging; I can say that I use the university more actively, and my desire to come to the university increased. As I used the university, I saw that I was benefiting from it. I learned how useful the clubs, activities, and the whole system at the campus would actually be for me, how much the university would contribute to me even in finding a job or an internship. (Post-Focus Group Interview with Mentees)

As a result, each Hybrid Mentee was able to appreciate the opportunities offered by the institution from a broader perspective thanks to the program. Their interactions with their Mentors increased their commitment to the university and enabled them to benefit more from the social and academic opportunities of the institution.

4.1.2.5 Summary of case 2 (hybrid groups) findings

Analyzing the experiences of higher education students who participated in the Hybrid Peer Mentoring program, this summary addressed the themes of "Learning with Peers" including the indicators of "Collaborative Learning" and "Discussions with Diverse Others " and "Campus Environment" involving the indicators of "Quality of Interactions" and "Supportive Environment".

Prior to the program, hybrid group mentors had varied experiences in collaborative learning and discussions with people with different views. However, the program helped hybrid group mentors to develop their collaboration and

leadership skills and to better understand different perspectives. Hybrid group mentors reported that the program made them more effective in group work and more open to different views.

Hybrid group mentees similarly had experience in collaborative learning and discussions with different people prior to the program. However, the program increased their communication and productivity in the group. In addition, hybrid group mentees gained skills to understand and respect different perspectives. The program enabled the hybrid group mentees to communicate more easily with people who were not like them.

In the case of the theme of "Campus Environment", hybrid group mentors were already active in the university environment prior to the program and had established good interactions with their peers, academic advisors, and administrative units. However, they reported that the program increased their interactions, especially with students. The program helped hybrid group mentors strengthen their social ties at the university and become more involved in campus activities. Similarly, hybrid group mentees were part of campus life before the program and benefited from various services. However, the program particularly strengthened hybrid group mentees' interactions with their academic advisors and encouraged them to be more active in the campus environment. Thanks to the program, hybrid group mentees started to see the opportunities offered by the university from a broader perspective and started to use the social spaces of the campus more actively.

4.1.3 Case 3: Face-to-Face group participants' engagement

At the beginning of the program, there were three face-to-face peer mentoring groups, consisting of three mentors and three mentees. However, one group withdrew from the program in week 6 because they could not meet face-to-face

every week. Table 2 presents information of face-to-face group participants. In this section, the four main NSSE engagement indicators are examined in the remaining two face-to-face groups.

4.1.3.1 How does participating in the *face-to-face* mentoring program facilitate higher education students' collaboration with other students? (Collaborative Learning)

Three meetings pertaining to the Collaborative Learning engagement indicators were covered by the Peer Mentoring Program (see APPENDIX D). The findings from focus group interviews and individual pre-interviews with face-to-face group mentees and mentors are presented in the following sections.

Mentors of the Face-to-Face Groups

During their individual pre-interviews, both mentors of the face-to-face group shared that they prepared for many exams with their peers, did assignments together, and received feedback from their team. They continued to do this both online and offline. Below is a quote that shows their collaborative learning experiences prior to the program:

> We had to complete a project in one lesson. Even if we weren't side by side, we would go on Discord and ask each other questions like, "How are you doing? What are you doing? How is this? How is that?". Last semester, when we were doing homework in Unity again, there were many times when we would sit somewhere, drink coffee, chat a little bit first, and then do homework. (Face-to-Face Mentor 1 - Individual Pre-Interviews)

In the focus group interview with the mentors after the program, both mentors of the face-to-face group shared that this program did not provide an opportunity for development in terms of the indicator since they had already engaged in several collaborative learning experiences before the program.

Mentees of the Face-to-face Groups

The examination of the individual pre-interviews conducted with the face-to-face group mentees (*n*=2) reveals that they encountered a majority of the elements within the "Collaborative Learning" engagement indicator before attending the program. For example, they reported receiving help from their peers to understand the course materials and also explaining the course materials to their peers. On the other hand, one of them (Face-to-Face Mentee 1) reported that they had no experience of studying for an exam with their peers, while the other (Face-to-Face Mentee 2) reported that they did.

During the post-focus group mentee meeting, both face-to-face group mentees expressed positive experiences about the impact of the program. Both face-to-face group mentees emphasized that the program had a positive impact on their group work and time management skills. The Face-to-Face Mentee 1 improved her time management skills through her mentor's punctuality, while the Face-to-Face Mentee 2 emphasized the program's positive impact on time management by providing practical skills for daily life and group work. There is a example of their expression below:

> I agree with my friends, it really helped me with time management. This is something that I am actively using in my daily life right now. (Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees)

In summary, both face-to-face group mentees shared concrete examples of the positive impact of the program for the engagement indicator in terms of project management, productivity and time management.

4.1.3.2 How does participating in the *face-to-face* mentoring program facilitate higher education students' interactions with diverse others? (Discussions with Diverse Others)

Two sessions were held as part of the Peer Mentoring Program with an emphasis on the Discussion with Diverse Others engagement indicators (see APPENDIX D). The findings from focus groups and individual pre-interviews with in-person group mentees and mentors are presented in the following parts.

Mentors of the Face-to-Face Groups

Individual pre-interview analyses showed that both mentors had groups of friends with many different beliefs with whom they could communicate. They both pointed to the multicultural nature of the university as providing a means to have discussions with people from different backgrounds and ideas.

Since they had the same ideas and backgrounds regarding their mentees, they never had any differences of opinion, so the program did not provide an opportunity for development in this area. This was expressed by both mentors in the post focus group interview.

Mentees of the Face-to-Face Groups

When the pre-program face-to-face group mentees' situations regarding the theme "Discussion with Diverse Others" were examined, both face-to-face group mentees stated that they lived in the dormitories of the university and interacted with people from different backgrounds, beliefs, and opinions through randomly matched roommates. Based on their expressions during the individual pre-interviews, the university provided a unique opportunity for mentees to interact with diverse groups, fostering understanding and respect.

In the post-focus group interview, they stated that they perceive any impact of the program, as they were open to discussing and communicating on these issues before the program. It is important to highlight that both face-to-face group mentees stated that they did not have the opportunity to discuss these issues as they had similar ideas and backgrounds with their mentors. There is one example of their expression below:

> In fact, my mentor and I were very similar. In fact, when we talked about the D&I, we both reacted at the same time, like, "Let them people to live". Since our ideas were parallel, there wasn't much of a change. (Face-to-Face Mentee 1 - Post-Focus Group Interview with Mentees)

In summary, all participants of the face to face groups (2 mentors and 2 mentees) had similar ideas and backgrounds with the mentor and mentee they were matched with, they stated that there was no discussion context and therefore they could not find an opportunity for development in the program.

4.1.3.3 How does participating in the *face-to-face* mentoring program facilitate students' social interactions in the campus environment? (Quality of Interactions)

The Peer Mentoring Program's five meetings served as the Quality of Interactions engagement indicators (see APPENDIX D). The next subsections provide the findings from focus groups and individual pre-interviews with mentors and mentees in a face-to-face setting.

Mentors of the Face-to-Face Groups

The individual pre-interviews show that the two mentors of the face-to-face group have different views on "Quality of Interaction". The most obvious difference is their interactions with other students. Face-to-face Mentor 1 identifies himself as an introvert and participates in social activities, group work, and campus events with a

close group of friends. Face-to-face Mentor 2 participates in clubs in different fields (technology and dance) and organizes collaborative activities. In terms of other items, they have similar experiences: they are on good terms with the professors in their department, they have communicated with the administration only when they need to, and they have only exchanged emails with their academic advisors.
Based on the findings of the post-focus group interview, these two mentors, who have different tendencies in terms of building social interactions, shared that they were neither positively nor negatively affected by the program in terms of "Quality of Interaction".

Mentees of the Face-to-Face Groups

Based on the individual pre-interview analysis of face-to-face group mentees (2), both of them stated that they interacted with different people (their peers, academics, and others) at campus and had positive social experiences before the program. However, while Face-to-Face Mentee 1 emphasized that they had a more active social life on campus, Face-to-Face Mentee 2 stated that these interactions decreased because they lived far away from the campus. While Face-to-Face Mentee 1 said that they had a strong interaction with their peers thanks to student club events, Face-to-Face Mentee 2 stated that he was in frequent contact with the dormitory director in particular. This suggests that there were different levels of social interaction among the face-to-face group mentees in the program.

During the post focus-group mentee meeting, both face-to-face group mentee's indicated the program's favorable impact on the "Students" item. They explained the impact of the program with examples of their interactions with their mentors and stated that the time they spent with their mentors was productive and

successful. The following quotes are examples representing their strong interactions with mentors:

> Throughout the program, we were with a person who had spent four years in our department. One way or another, of course, I was sure that he would add something positive to me, so I had an expectation, to be honest. When we looked at the end of the program, both me and my mentor were really like-minded people. He helped me a lot at the point where I had concerns. So I think we had a very productive and successful process. (Face-to-Face Mentee 1- Post-Focus Group Interview with Mentees)
> It's very good that I can come together with someone who is more experienced than me, who has seen more than me. (Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees)

Unlike the other groups, mentees in the Face-to-face group stated that their interaction with their mentors contributed a lot to their mentors as well. Face-to-Face Mentee 1 exemplified their positive impact on their mentor through participation in campus activities, while Face-to-Face Mentee 2 stated that she supported her mentor in digital content productivity. Below is excerpt declaring the impact of the Peer Mentoring Program on the Quality of Interaction engagement indicators:

> We had a conversation about content production. My mentor had the opportunity to show the content he produced, and I had the opportunity to show the content I produced (such as on Youtube, Instagram). After this conversation, my mentor started producing content again. My mentor said that he had quit before and had no desire. I think I may have influenced him in this regard. (Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees)

Nevertheless, all of the face-to-face group mentees (2) did not express any alterations in their interactions with their academic advisors, other faculty members, student services workers, and other administration staff.

4.1.3.4 How does participating in the *face-to-face* mentoring program facilitate the perception of a supportive environment on campus? (Supportive Environment)

In seven Peer Mentoring Program meetings, the topics of Supportive Environment engagement indicators were discussed (see APPENDIX D). The next subsections

contain the findings from focus group interviews and individual pre-interviews with mentors and mentees in a face-to-face setting.

Mentors of the Face-to-Face Groups

According to individual pre-interview analyses, face-to-face group mentors (*n*=2) stated that they perceived the University's support for their well-being, academic success and non-academic responsibilities.

Both mentors regarded campus events as an opportunity to be socially involved through this program. Face-to-face Mentor 1 planned to go to a concert, which he had never been to before, and Face-to-face Mentor 2 planned to go to the Kilyos campus, where his mentee was studying prep. In addition, these two mentors, who attended regular face-to-face meetings every week, stated that they went to the places where they regularly met with their mentees more often and spent more time on campus thanks to this program. The following quotes are representative examples of the peer mentoring program's facilitative impacts on the Supportive Environment engagement indicators:

> Before I started the program, I was looking to finish my work and leave the campus without spending any time. Thanks to my mentee, the time I spent on campus increased. I had never been to the classical music concert (held on the South Campus), so I made a note to go there. (Face-to-Face Mentor 1- Post-Focus Group Interview with Mentors)
> My mentee told me about a café on campus, I had never been there before. Afterwards, we always met there, and I learned about it. (Face-to-Face Mentor 2- Post-Focus Group Interview with Mentors)

In sum, the emphasis on the university's "Supportive Environment" was partially experienced by Face-to-face Mentor 1 and more so by Face-to-Face Mentor 2. After the program, both mentors were more involved in campus activities and events more often.

Mentees of the Face-to-Face Groups

Both face-to-face group mentees had similar experiences in the pre-program period. They both mentioned that they benefited from a variety of sources for academic support and social interaction. Both mentees mentioned the social support that student clubs and campus events provide. They also mentioned health services and psychological counseling on campus, as they both lived in dormitories. However, neither of them had the chance to assess the impact of the school on managing personal responsibilities.

Face-to-face group mentees (*n*=2) were students who were already taking advantage of campus facilities and having social interactions before joining the program. They stated that, thanks to their mentors, they further developed these interactions and discovered areas on campus where they could study, such as the library. There are the quotes below that declare the impact of the peer mentoring program on the Supportive Environment engagement indicators:

> My Mentor gave me tips on which coffee is good on campus. We talked about places to study around the campus, and we went to the study area in the ETAB Blok building. To be honest, now, I also use these places to study, or when I want to get a coffee, I listen to my Mentor's suggestions. My Mentor had such an effect on me. (Face-to-Face Mentee 1 - Post-Focus Group Interview with Mentees)

> I went to ETAB Blok like Face-to-Face Mentee1 did; it was really useful. Other than that, I started using the library on the advice of my mentor. (Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees)

Both face-to-face group mentees took steps to make more use of campus facilities with the guidance of their mentors. For example, Face-to-Face Mentee 1 started to benefit from psychological support services and planned to join career clubs.

Face-to-Face Mentee 2 said that he took part in university clubs like software clubs and bootcamp activities where students can improve their technical skills with the help of his mentor. There is one example of their expression below:

> My mentor was mainly involved in software. I can say that I gained a lot of awareness at this point. There was a program called 42 Istanbul; my mentor participated in it and progressed there. At this point, I got a lot of information, which was good awareness for me. Apart from that, my Mentor showed me some software and the training that my Mentor produced. (Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees)

Although both face-to-face group mentees stated that they perceived the support of the university before the program, they acquired new opportunities and experienced various opportunities through this face-to-face peer mentoring program.

4.1.3.5 Summary of case 3 (face-to-face groups) findings

Regarding the experiences of participants who took part in the face-to-face peer mentoring program, four main topics which are peer collaboration, interactions with diverse people, social connections on campus, and their opinion of a supportive environment were covered. With respect to collaboration, face-to-face group mentors (*n*=2) shared their initial experiences prior to the program, which involved assignment completion, exam preparation, and feedback reception. face-to-face group mentors (*n*=2) expressed that the program lacked the chance for growth and improvement in terms of "Collaborative Learning". On the other side, face-to-face group mentees (*n*=2), like mentors, shared that they collaborated with their peers in activities such as understanding academic materials and doing homework together before the program. It is critical that all face-to-face group mentees (*n*=2) mentioned the positive impact of the program in this regard during the post-focus group

interview. In particular, the program had a positive impact on group work and time management skills.

In addition, all of the face-to-face group mentors and Mentees expressed that they had the opportunity to discuss with people from different faiths and backgrounds before the program. According to the expressions of all of these Face-to-Face Peer Mentoring participants, they indicated that they were unable to engage in meaningful discussions with their peers because of shared opinions and backgrounds.

The mentors of the Face-to-Face groups have different experiences with the interaction quality before the program. While, one mentor was more introverted and the other more sociable in the "Student" interaction; both did not mention the impact of the program. The outcome of the program was different with the face-to-face group mentees, who gave examples of the positive impact of the program. They shared the positive aspects of the interaction with their mentors. It is very important to note that only face-to-face group mentees mentioned that the interactions they had in this program had a positive impact on their mentors. Lastly, not only the face-to-face group mentors but also the face-to-face group mentees did not report any impact of the program in terms of interactions with faculty and administrative staff.

In terms of the Engagement Indicator "Supportive Environment", both face-to-face group mentors were more involved in campus activities and found them more socially inclusive thanks to the program. Likewise, both face-to-face group mentees explored and benefited from the opportunities on campus thanks to the program.

The face-to-face peer mentoring program promotes collaboration by fostering increased engagement among mentees, the campus environment with different social

experiences, and creates a perception of a supportive environment. The findings indicate that the face-to-face peer mentoring program has a beneficial impact on participants' experiences.

4.1.4 Cross-case alysis of participants' engagement in three types of peer mentoring programs

In this section, the first research question, "How does participating in an online, hybrid, or face-to-face peer mentoring program facilitate higher education students' engagement?" was examined across the multiple cases of the study: peer mentoring programs in online, hybrid and face-to-face environments.

4.1.4. Collaborative learning

Mentors

Data from the individual pre-interviews reveals that all of the mentors had positive experiences with the "Collaborative Learning" indicator before the program. The mentors in each group shared that they did group homework with another student and prepared for exams together before the program. Each mentor shared that they received support from a peer to understand course material, and they helped their peers understand it before the program.

The impact of the program on this engagement indicator was discussed in the post-focus group interview. Even though each mentor had a positive experience with the indicator prior to the program, there have been some different opinions expressed. Four out of seven mentors mentioned the positive impact of the program, while three of them stated that it had no impact. Overall, it seems that the program had a varying impact on the mentors, depending on the context of the mentoring. The

online group mentors (2), who interacted with their mentees primarily through virtual platforms, found the program to have a positive impact. However, the hybrid group mentors (n=3), who had a mix of online and face-to-face interactions, had mixed opinions. The face-to-face group mentors (2), who had in-person interactions with their mentees, did not see any unexpected impact from the program regarding collaborative learning.

None of the participants mentioned the relevance of these results to the context. Mentors who expressed the developmental impact of the program stated that this program contributed to them in terms of time management, leadership, and collaboration. The mentors who did not observe any contribution from the program stated that they already had a lot of experience in this field and that this program did not contribute additional skills. Although the mentors' previous experiences with this theme were generally positive, most of them still found this program beneficial for Collaborative Learning engagement indicator. It can be said that the Peer Mentoring Program is efficient for this engagement indicator in the case of mentors. However, it can be concluded that the context of the program was not a significant factor in determining the impact of the collaborative learning theme on the mentors.

Mentees

At the beginning of the program, the majority of the mentees reported that they received help from their peers to understand the course materials and participated in group activities in which they explained the course materials to their peers. However, most of the mentees had not studied for exams with their peers before the program. In summary, although they are not as experienced as mentors before the program, they have experience for this engagement indicator.

When the mentees' experiences in the context of three different programs are examined during the post-focus group interviews, it is seen that the effects on collaborative learning are predominantly positive for all mentees. All mentees mentioned the positive impact of the program on their collaborative learning experiences. Mentees in the online, hybrid, and face-to-face context made significant progress in their collaborative learning processes. In particular, online group mentees improved their knowledge sharing and academic strategies; hybrid group mentees strengthened their conflict management and communication skills; and face-to-face group mentees improved their time and project management skills. The enhancement of these skills made interactions and collaborations within the teamwork more productive and contributed to the academic success and personal development of the mentees. These findings illustrated that peer mentoring programs have a positive impact on mentees' collaborative learning experiences. These positive experiences demonstrate the applicability and evaluation of the program's Collaborative Learning engagement indicator. In addition, there was no differential evaluation of the context in which the program had been conducted, because all mentees reported the facilitating role of the program for this engagement indicator.

4.1.4.2 Discussions with diverse others

Mentors

Regarding "Discussions with Diverse Others", all mentors had prior experiences with diverse backgrounds, including ethnic, economic, religious, and political. Two of them (Online Mentor 2 and Hybrid Mentor 2) found the program to provide new perspectives on interacting with individuals from different perspectives.

However, five mentors who felt the program did not contribute anything in this area stated that they were already exposed to such interactions and that the program did not add any additional skills. It is critical that mentors who shared the impact of the program had mentees with different ideas. However, those who did not have the opportunity to meet face-to-face were more negative about conflicts with their mentees, while those who had the opportunity to meet face-to-face claimed that these conflicts were beneficial. It can be concluded that the context of the program was not an important factor in determining its impact on mentors in this theme. The most crucial factor for mentor engagement is that mentors and mentees are matched with people from different backgrounds and with different ideas, and that they have the opportunity to discuss them face-to-face.

Mentees

Before the program, mentees already had some experience with people from different ethnic, economic, religious, and political backgrounds, although not as much as mentors. Mentees generally expressed a willingness to communicate with people from different cultures in the liberal and tolerant environment of the university, but were hesitant to discuss religious and political issues.

The impact of the program on the theme "Discussions with Diverse Others" varied across mentees. Two out of five of the mentees who were timid before the program had more positive attitudes towards this topic as a result of the program. One of the mentees who expressed the positive impact of the program was the mentee who had the opportunity to meet face-to-face, and the other was the mentee who met completely online. Both of these mentees stated that the program made them more open to different opinions. What they both had in common was that they had open communication with their mentors about this issue and that they had different views

of each other. Other mentees who already had a positive attitude before the program stated that they did not observe any change in this regard.

In short, the impact of the program seems to depend on the mentees' initial attitudes and mentor-mentee matches. The initial openness of the mentees and their interactions with the mentors were decisive in the impact of the program on this theme. For mentees, the results show that it is possible to observe the positive impact of the program in any environment where open communication is possible.

4.1.4.3 Quality of interactions

Mentors

Prior to the program, all mentors had already established strong interactions with students, academic advisors, faculty, and administrative staff at the university. Most mentors reported that they were satisfied with these interactions and were able to find support when they needed the support.

The impact of the program was observed in different ways in mentor groups. Online group mentors found the program beneficial in making new friends but did not significantly improve interaction quality. They felt comfortable sharing their experiences with their mentees. Similar to online group mentors, face-to-face group mentors did not see a significant impact on interaction quality. They believed the program did not contribute to their social circles, as they were already active in their fields. On the other hand, hybrid group mentors noticed the benefits of increasing face-to-face interactions on campus. Hybrid Mentor 3 stated that the program strengthened social interactions by increasing the time spent on campus with friends. This group reported that the program offered positive outcomes in terms of student interactions.

The program offered some new social opportunities, especially for online and hybrid group mentors, but did not have a significant impact on face-to-face group mentors. Mentors' experiences on this theme before and after the program differed depending on their social interaction skills and the quality of their existing interactions. This finding suggests that the impact of the program on interaction quality is sensitive to individual factors.

Mentees

Before the program, mentees already had varying quality of interactions; some had active social circles, while others had more limited social interactions. The impact of the program differed according to these initial situations. Mentees who already had large social circles before the program had different benefits from the program. Although those in the online group who did not have the opportunity to meet face-to-face reported that the impact of the program was limited, those in the face-to-face group who did have the opportunity to meet face-to-face reported that their relationships with their mentors were strengthened and that these interactions were supportive of their academic and career goals.

However, mentees with fewer social interactions reported that the program positively affected their social circles and interactions with academic advisors. These mentees stated that the program supported them in building closer interactions with their mentors and peers. This group reported that the program helped them expand their social circle through social events and on-campus interactions. In particular, hybrid group mentees (1 and 2) emphasized the strong bonds they had established with their mentors and other students through the program and that these interactions would continue.

In conclusion, the impact of the program on the "Quality of Interaction" indicator is closely related to the mentees' initial social environment and level of interaction. The program had positive effects for mentees with limited social interactions. For those who already had active social lives, the program made a greater contribution to those who had the opportunity to meet face-to-face than to those who did not have the opportunity to meet face-to-face.

4.1.4.4 Supportive environment

Mentors

Prior to the program, Mentors experienced the social and academic support provided by the university. Most mentors reported that they were satisfied with these interactions and were able to find support when they needed it. The Peer Mentoring Program positively affected the mentors' utilization of the social and academic resources at the university in terms of the "Supportive Environment" indicator. The program helped mentors to more actively explore and use the university's offerings and encouraged participation in campus events, especially for hybrid and face-to-face group mentors. This improved mentors' overall engagement and the quality of their university experience.

In summary, all mentors benefited from the program despite sharing their positive experiences with this theme before participating in the program. The findings suggest that the impact of the program on mentors is noteworthy in this theme. The groups that had the opportunity to meet face-to-face took action to benefit from the campus facilities. For example, Face-to-Face group 1 stated that the mentor and mentee went to the library and studied together. The group that did not have the opportunity to meet face-to-face stated that this program raised awareness and they learned about

some of the facilities of the university. However, the online group did not take action in this regard. It can be concluded that the context of the program was a significant factor in determining the impact of the Supportive Environment theme on the mentors. The groups that had the opportunity to meet face-to-face benefited more from the program in the engagement indicator.

Mentees

Prior to the implementation of the program, the experiences of the mentees regarding the "Supportive Environment" were diverse. While several mentees effectively utilized the social and academic support systems provided by the university, others did not take full advantage of these facilities.

The impact of the program was found to be positive for both mentee profiles. The mentees with more active social circles were already benefiting from the social and academic opportunities of the university and therefore accepted and started to use the opportunities offered by the program more quickly. They increased these interactions, especially in terms of participation in social activities and academic support services. On the other hand, for mentees with more limited social interactions or less use of university resources, the program provided an opportunity to increase their access to these resources and become more integrated into university life. For this group, the program acted as a catalyst, especially in terms of building new social connections and utilizing support services more beneficially.

The context of the program was not a distinguishing factor for the mentees' experience. Regardless of the group, the mentees shared that they benefited from the program, realized the opportunities and experienced them.

4.1.4.5 Summary of cross-case results of students' engagement in three types of peer mentoring programs

Results of the study shows that the peer mentoring program facilitated the mentors' experiences for the Learning with Peers and Campus Environment themes within the NSSE. For the engagement indicators Collaborative Learning, Discussions with Diverse Others, and Supportive Environment, there was no impact on the experiences of the group that the mentors belonged to. It is critical to note that for the Campus Environment theme, context is an important factor. The groups that had the opportunity to meet face-to-face benefited more from the program than the online group that never had the opportunity to meet face-to-face.

In terms of mentees, the study's findings indicate that the peer mentoring program enhanced their engagement in the Learning with Peers and Campus Environment themes of the NSSE. The engagement indicators, namely Collaborative Learning, Discussions with Diverse Others, and Quality of Interaction, did not have any influence on the experiences of the groups' context.

It is crucial to emphasize that context of the program plays a significant role in the Quality of Interaction theme. The groups that had the chance to have face-to-face interactions derived greater benefits from the program compared to the online group.

Table 8. The Impact of Program Context onParticipants' Engagement with the NSSE Themes

Theme	Engagement indicators	Group	The Role of Context
Learning with Peers	Collaborative Learning	Mentors	No impact of the program context
		Mentees	No impact of the program context
	Discussions with Diverse Others	Mentors	No impact of the program context
		Mentees	No impact of the program context
Campus Environment	Quality of Interactions	Mentors	No impact of the program context
		Mentees	The face-to-face meetings enable mentees to engage more
	Supportive Environment	Mentors	The face-to-face meetings enable mentors to engage more
		Mentees	No impact of the program context

Consequences of the study demonstrated that the peer mentoring program serves as a facilitator for active participation and involvement for not only mentees but also mentors. Furthermore, the program's context does not significantly impact the Learning with peers theme, but it is crucial for the Campus Environment theme. Although the experiences for mentors and mentees differed, the opportunities for face-to-face meetings enhanced the experience in the Campus Environment theme.

4.2 Participants' evaluation of peer mentoring program: content and context insights

In this part, the second research question, "How do participants evaluate the peer mentoring program?" was reviewed with an analysis of focus group interviews that were conducted in the middle of the program and at the end of the program with

mentors and mentees separately. Thematic analysis was conducted on focus group interview transcripts without a predetermined framework. The transcripts were transcribed in Microsoft Word and transferred to MAXQDA24 software for detailed analysis. Initial codes representing participants' experiences and perceptions of the program's content and context were identified. These codes were combined to form broad themes, which were examined in relation to the research question's focal points. Participants' statements and experiences contributed to the development of themes, providing a comprehensive understanding of the program's evaluation. Since Face-to-Face Mentor 2, Online Mentee 4, and Hybrid Mentee 1 did not participate in the focus group meetings in the middle of the program, these focus groups' analysis includes the sharing of 14 participants (6 Mentors and 8 mentees). The focus group interviews conducted at the end of the program were conducted with full participants.

4.2.1 Participants' evaluation of peer mentoring program in terms of content

In this section, the first sub-question of the second research question, "How do participants evaluate the peer mentoring program in terms of the content of the program?" was examined through the analysis of focus group interviews at the middle and end of the program. Participants were asked about the content of the Peer Mentoring Program and the most interesting meetings that contributed to their development. The participants discussed how they have applied or will apply the knowledge and skills gained in these meetings in their daily lives (see APPENDIX J). This section presents the analysis of these interviews and examines the evaluation of the program content. The data reveals two main themes which are Practical Insights in Peer Mentoring and Enriching Peer Mentoring Program: Professional and Global Opportunities.

4.2.1.1 Case 1: Online group participants' evaluation of peer mentoring program in terms of content

Mentors of the Online Groups

Practical Insights in Peer Mentoring. All online group mentors (2) expressed a common satisfaction with the university resources and campus events (Meetings 3, and 4). Both of the online group mentors stated that they learned about places and activities they had never known before from the meeting contents in this program. Online Mentor 1 shared the following example during the mid-program focus group meeting:

> I didn't know that there was a classical music concert at Albert Long Hall, for example, according to a certain calendar. I saw and learned from the document you (the researcher) sent me (Online Mentor 1 - Mid-Focus Group Interview with Mentors).

On the other hand, the online group mentors had different experiences during the meetings on diversity and inclusion (Meeting 5). Online Mentor 1 found this meeting useful and said that they enjoyed getting to know different ideas. On the other hand, Online Mentor 2 stated that the fifth meeting was the most difficult one. Online Mentor 2 regarded it as difficult to manage the conflict of different ideas. Online Mentor 2 identified her mentees as not open-minded individuals who had different views from her own. These two contrasting experiences and findings show that in a peer mentoring program, mentors' perception of the content determines the evaluation of the program in terms of this engagement indicator. While Online Mentor 1 evaluated the meeting on this theme as profitable, Online Mentor 1 also mentioned the positive impact of this program on this indicator in the post focus group meeting.

On the other hand, Online Mentor 2 evaluated the meeting with this theme as challenging and shared negative statements about the engagement indicator of this program in the post-focus group meeting.

Enriching Peer Mentoring Program: Professional and Global Opportunities. Online group mentors had different suggestions about the content of the program. Online Mentor 1 suggested that there should be more free time to chat and that this would increase interaction. Online Mentor 2 suggested adding some content about part-time work opportunities at the university to the meeting content. This suggestion was an example of the theme of Enriching Peer Mentoring Program: Professional and Global Opportunities.

Mentees of the Online Groups

Practical Insights in Peer Mentoring. According to the analysis of the focus group (in the middle of the program) meeting where the online group mentees (3) evaluated the content of the Peer Mentoring Program, the most beneficial meetings were the ones on learning strategies and study habits (Meeting 2), university and campus resources (Meetings 3 and 4), communication activities including role-play (Meeting 5), and diversity and inclusion (Meeting 6).

All of the online group mentees (3) considered the discussions and suggestions on course selection and study habits useful. In particular, they stated that they would apply the advice they received from their mentors in their decision-making process regarding course selection. There is a quote from the focus group meeting in the middle of the program:

> My mentor gave very good examples: these courses are easy to pass, these courses are more fun, and you can take these courses more easily. He gave such good course suggestions, I really think I will benefit from them next semester. I wrote them down. (Online Mentee 2 - Mid-Focus Group Interview with Mentees)

Secondly, sharing information about the university's resources (i.e., student clubs) and campus environment (i.e., study halls) inspired online group mentees (1 and 3) to explore new places. Online Mentee 1 provides the following example about the campus facilities he learned about thanks to the peer mentoring program:

> I also benefited from the meeting where we talked about the resources and the environment of the institution. There are places that you see very often but have never been to. When you get a suggestion from someone who has experienced that place, maybe you discover a café or something that you will go to very often. (Online Mentee 1 - Post-Focus Group Interview with Mentees)

Enriching Peer Mentoring Program: Professional and Global Opportunities. The theme includes a project design activity in the seventh meeting based on the analysis of online group mentees' expressions. Online Mentee 1 suggested that this type of content was boring and that more interactive, participant-oriented activities would be preferable. In addition, online group mentees stated that it would be useful to include specific content about the content of the mentoring program, such as Erasmus and study abroad opportunities, academic opportunities such as DMP, and minors.

In sum, they found the meetings effective in terms of integration into daily life. However, it was also noted that some of the content (e.g., project and assignment-oriented meetings) could have been better designed.

4.2.1.2 Case 2: Hybrid Group students' evaluation of peer mentoring program in terms of content

Mentors of the Hybrid Groups

Practical Insights in Peer Mentoring. The issues of diversity and inclusion (Meeting 6) led to different experiences among the mentors. Hybrid Mentor 2 and Hybrid Mentor 3 considered the sixth meeting productive. Some mentors found these topics

challenging, while for others, such discussions were very instructive. It is significant to highlight that Hybrid Mentor 3, who was the only mentor who found this diversity and inclusion conversation both very challenging and very useful, was also the only mentor who stated the positive contribution of the program in this engagement indicator. Below is a quote from the focus group meeting in the middle of the program that illustrates the evaluation of the agenda including diversity and inclusion:

> For me, the diversity topic was interesting. Because when we were sharing something with each other, there were moments when we thought differently on some points. Of course, we talked about it in a respectful way, but we also shared that we thought very differently. I think I taught something there, and I think he taught me. But it was the longest and most difficult one for me, to be honest. But it was also the subject that taught me the most. (Hybrid Mentor 2 - Mid-Focus Group Interview with Mentees)

On the other hand, Hybrid Mentor 1 did not share any insight about meeting 6, while he expressed that the role-play activities (Meeting 5) was profitable. According to Hybrid Mentor 1, this kind of content made them more actively involved and made the program more enjoyable.

Enriching Peer Mentoring Program: Professional and Global Opportunities.. Both Hybrid group mentors shared that they would like to learn the content of the interviews collectively at the beginning of the program. In this way, they stated that they would manage the meetings more efficiently. The following is example from the mid-program focus group interview with mentors that illustrate sharing meeting agendas with mentors collectively at the beginning of the program:

> It would have been better for me if we knew the agendas in advance. Because of the topics that we discussed in the first meeting, when we found them on the agenda in the third meeting, we inevitably passed them. (Hybrid Mentor 1 - Mid-Focus Group Interview with Mentors)

Mentees of the Hybrid Groups

Practical Insights in Peer Mentoring. Based on the evaluation of the Peer Mentoring Program's content by the hybrid group mentees (3) during a mid-program focus group meeting, the sessions pertaining to learning strategies and study habits (Meeting 2), university and campus resources (Meetings 3 and 4), communication activities including role-play (Meeting 5), and teamwork and collaboration (Meeting 7) proved to be the most helpful.

Hybrid group mentees (2) expressed satisfaction that the guidance on course elections and insights about lecturers significantly helped their academic decisions. For example, hybrid group mentees 3 and 4 found it useful to share experiences about courses and study habits. There is a quote from the focus group meeting in the middle of the program:

> My Mentor had a few elective course suggestions. My Mentor said that this teacher explains this course well, or don't take this course from this professor. They were very useful for me. (Hybrid Mentee 3 - Mid-Focus Group Interview with Mentees)

Hybrid group mentees (3) reported that they benefited significantly from discussions about the resources offered by the university. In particular, hybrid group mentees (3) found the information on exploring new places, suggestions for study places, and the potential benefits of university clubs valuable. Hybrid group mentees (3) reported that the content (Meetings 3 and 4) allowed them to explore a wider range of campus life beyond academic life and to take a more active role within the university community as it's illustrated in the following quote from Hybrid Mentee 4.

> My mentor suggested study places at school. I even went to a few of them. It was good for me. I also didn't know what some of the clubs in our school were for. I really had no idea. There were actually so many things I could benefit from. That interview really helped me a lot. Especially in the career center, it was very good for me. (Hybrid Mentee 4 - Post-Focus Group Interview with Mentees)

In addition to the shared experiences of hybrid group mentees, Hybrid Mentee 2's sharing is also quite remarkable in terms of time management and wellbeing. Hybrid Mentee 2 said that they planned a "21-day habit-building program" as a group. This shows the value of focusing on the development of practical skills and peer support in achieving personal goals. Hybrid Mentee 2 also stated that they discussed mental wellbeing as a group and that she was going to start practicing yoga under the influence of their mentor. Hybrid Mentee 2 expressed that “I also expect to start the next semester with more motivation. I will also finish the 21-day challenge and spend it more efficiently."

Enriching Peer Mentoring Program: Professional and Global Opportunities. On the other side, hybrid group mentees emphasized that content focuses on career planning, internship and job opportunities, academic accomplishment, and study abroad opportunities such as Erasmus. The following excerpts are examples that represent the need for additional topics to be added to the program:

> My mentor did Erasmus, and we talked about his Erasmus experience. That was really useful for me. When someone who has experienced it directly tells you all the pros and cons, there are no questions left in your mind. This was really useful for me. (Hybrid Mentee 4 - Mid-Focus Group Interview with Mentees)

4.2.1.3 Case 3: Face-to-face group participants’ evaluation of peer mentoring program in terms of content

Mentors of the Face-to-Face Groups

Since Hybrid Mentor 2 could not attend the focus group meeting in the middle of the program where the program content was evaluated, only Hybrid Mentor 1's statements were analyzed for the theme of the *Practical Insights in Peer Mentoring*

Practical Insights in Peer Mentoring. Face-to-Face Mentor 1 stated that the face-to-face meetings, especially the role-playing activities (Meeting 5) and the sessions on school resources and environment (Meetings 3 and 4), were of great benefit to them. Face-to-Face Mentor 1 stated that these kinds of interactive activities were more productive. The meetings about the school's resources increased Face-to-Face Mentor 1's knowledge and awareness of social activities for both her and the mentees. These experiences provide valuable insights on how to make the mentoring process more effective and mutually learning oriented.

Enriching Peer Mentoring Program: Professional and Global Opportunities. In this theme, Face-to-Face 1 did not have any suggestions from the mentor, while Face-to-Face 2 made two important contributions. First, Face-to-Face 2 emphasized that it would be useful to add content on internship and job opportunities (like Online Mentor 2). Secondly, Face to Face 2 shared that to get to know all the meeting contents at the beginning in the first week of the program would be more efficient (like hybrid group mentors 1 and 2)

Mentees of the Face-to-Face Groups

Practical Insights in Peer Mentoring. Face-to-face Mentees 1 and 2 expressed their appreciation for the course recommendations and university resources (Meetings 2, 3, and 4). In particular, Face-to-Face Mentee 1 stated that receiving preliminary information about the courses that students should take had a positive impact by ensuring that they were prepared in advance. Face-to-Face Mentee 1 also emphasized that they took note of the mentor's advice on course selection and implemented it. Importantly, on the advice of her mentor, they studied together in a study hall on campus, which she had never been to before. Below is a quote that illustrates how the engagement indicator is facilitated by the mentor's advice:

> One of the topics was about departmental courses and the courses to be taken. My mentor gave me some specific tips about lecturers, courses and subjects and it was useful for me to learn this information in the first year of university. Apart from that, there were suggestions of places where I could study. We even went to the study lounge together and studied. (Face-to-Face Mentee 1 - Mid-Focus Group Interview with Mentees)

On the other hand, Face-to-Face Mentee 2 stated that with the guidance of the program, they discovered resources that she was not aware of before, suggesting that the program was a helpful guide for students to discover new resources.

In terms of constructive feedback on the content of the program, Face-to-face Mentees found it especially valuable for mentors to share their personal experiences and career paths in order to enrich the content of the program. In addition to discussing topics such as career planning, internships, and job opportunities during the mentoring meetings, learning from the mentors' academic and professional experiences was an important benefit for the Face-to-face Mentees.

4.2.2 Students' evaluation of peer mentoring program in terms of context

In this section, the second sub-question of the second research question, "How do participants evaluate the peer mentoring program in terms of the context of the program?" was explored through the analysis of focus group interviews conducted in the middle and at the end of the program. The analysis of these interviews and examines the evaluation of the program context. The data revealed six themes: Advantages of Online Context, Disadvantages of Online Context, Advantages of Hybrid Context, Disadvantages of Hybrid Context, Advantages of Face-to-Face Context, and Disadvantages of Face-to-Face Context. The theme category of 'advantages of online context' can be split into two codes: namely, flexibility of space and flexibility of space. The theme category of 'disadvantages of online

context’ can be categorized into two main codes: access problems, including connection problems, ease of postponement, and difficulties accessing suitable space; communication issues involving easier distraction and communication difficulties. The theme category of Advantages of Hybrid Context covers the code of taking advantage of both online and face-to-face environments, while the theme category of 'disadvantages of hybrid context' encompasses the code of flexibility. The theme category of ‘advantages of face-to-face context’ can be divided into two codes: improving time management skills, easier communication and interaction. The codes of inflexibility of space, inflexibility of time, and physical fatigue were included in the theme category of Disadvantages of Hybrid Context. A visualization of the themes and codes is as follows:

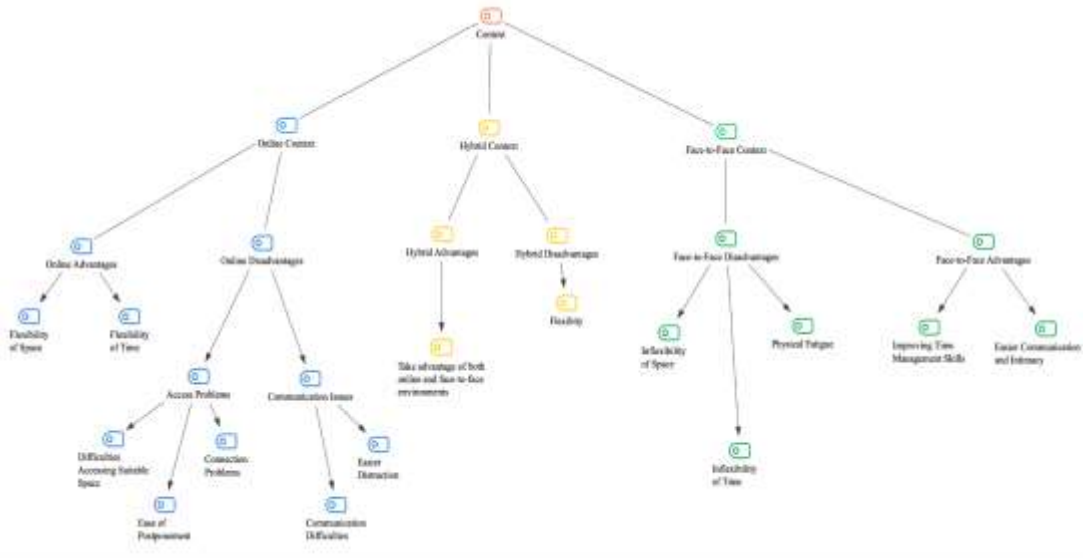

Figure 3. Codes for the evaluation of the peer mentoring program context

4.2.2.1 Case 1: Online participants' evaluation of peer mentoring program in terms of context

Mentors of the Online Groups

Advantages of Online Context. The results showed that both online group mentors agreed on the advantages of the online Peer Mentoring Program in terms of time and space flexibility. Each of them gave concrete examples from their own experiences. For example, they mentioned that online meetings were more advantageous when managing their busy work and school schedules. There is a quote from the focus group meeting in the middle of the program:

> Online was a big advantage for me because I went to different places at certain times, but the meeting times were always fixed. I wouldn't have been able to do this if it was hybrid or face-to-face. (Online Mentor 1 - Post-Focus Group Interview with Mentors)

Disadvantages of Online Context. Both online group mentors mentioned the disadvantages of the Online Peer Mentoring Program. Online Mentor 1 mentioned the codes of access problems, including ease of postponement, while Online Mentor 2 gave examples of communication issues involving communication challenges in an online context. The hybrid group mentors' statements on this theme is as follow:

> The negative side may be that mentees may sometimes not be able to fully focus on the topic due to their location in the online meeting. Sometimes they have to change places. At that moment, for example, if there is an activity to be done, they may not be able to fully participate in it. (Online Mentor 1 - Post-Focus Group Interview with Mentors)

In conclusion, online group mentors mentioned both the advantages and disadvantages of this program. However, in the focus group meeting held at the end of the program, Online Mentor 1 stated that if they were to participate in this program again, the participant would prefer it to be online, while Online Mentor 2 stated that her/his preference would be hybrid.

Mentees of the Online Groups

Advantages of Online Context. The data showed that all three online group mentees agreed on the advantages of the online Peer Mentoring Program in terms of flexibility of time and place. Each of them gave concrete examples of their own experiences. For example, they mentioned that they were able to meet late at night and meet even if their home was far away. The following quote from the post-focus group meeting is an example representing the benefits of an online peer mentoring program:

> The advantage of the online Peer Mentoring Program is that you don't really waste time. It is very practical. We are all sitting in different places, and this provides time flexibility. (Online Mentee 2 - Post-Focus Group Interview with Mentees)

In the focus group interview, it was mentioned that there was no sincere communication in the online context. On the other hand, Online Mentee 2 emphasized that the digital environment does not prevent establishing interaction and that it can even create a strong bond between the participants.

To sum up, the online Peer Mentoring Program offers flexibility and practicality for participants, reducing time loss and allowing them to participate from their own location. This online context enhances the program's practicality and accessibility, ensuring everyone can participate from their own location.

Disadvantages of Online Context. There are different opinions among online group mentees on this theme. Two out of four online group mentees (online group mentees 1 and 2) stated that there are no disadvantages to the online environment, while the remaining two stated that there are disadvantages.

The code of communication issue is the most repeated code in this theme. The results show that half of the online group mentees (online group mentees 3 and 4) stated that they had experiences where interaction was not established in the online environment as it's illustrated in the following quote from Online Mentee 3.

> It would have been better if we met on campus. Because, as one of our friends said, right now, I mean, our emotions were not passing. We were interrupting each other too much. We couldn't fully feel those real-life gestures—the emotions, the mood. I think it was like a robot relationship. (Online Mentee 3 - Post-Focus Group Interview with Mentees)

These findings suggest that despite the convenience of the online Peer Mentoring Program, such as the flexibility of time and space, there is a significant barrier to establishing a deep bond and understanding between mentor and mentee. The lack of face-to-face interaction seems to hinder the emotional bonding that can occur in face-to-face meetings.

4.2.2.2 Case 2: Hybrid students' evaluation of peer mentoring program in terms of context

Mentors of the Hybrid Groups

Advantages of Online Context. Only Hybrid Mentor 1 considered the spatial flexibility and time savings provided by the online environment as advantages of online meetings. He stated that online meetings are especially practical for those who live far away from the campus or during busy times. The remaining two hybrid group mentors (2 and 3) did not mention the advantages of the online environment.

Disadvantages of Online Context. Only Hybrid Mentor 2 gave concrete examples of the disadvantages of the online environment. Hybrid Mentor 2 mentioned the code of access problems, including connection problems, while Online Mentor 2 gave examples of communication issues involving communication challenges and easier

distraction in an online context. The following quotes is an example representing the challenges in online peer mentoring meetings:

> The technical quality of online conversations can affect the quality of the conversation. Even a problem with the internet frankly takes a lot of the flavor out of the conversation. I mean, even if the other person's voice is muted, it bothers me. At the same time, I think that online meetings lack the sincerity of face-to-face meetings. (Hybrid Mentor 2 - Mid-Focus Group Interview with Mentors)

Advantages of Face-to-Face Context. All three hybrid group mentors agree that communication is easier and more intimate in face-to-face meetings. The hybrid group mentor' statement on this theme are as follows:

> Definitely the interaction factor was an advantage. I feel much more comfortable and fluent in face-to-face meetings. Because I think I understand body language better. (Hybrid Mentor 1 - Post-Focus Group Interview with Mentor)

Disadvantages of Face-to-Face Context. Only Hybrid Mentor 2 gave concrete examples of the disadvantages of the face-to-face context, including the codes of inflexibility of time and inflexibility of space. There is a quote from the focus group meeting in the middle of the program:

> The disadvantage is, as I said, that it is not always easy to make the time. Or my mentee is coming from a distant place that day just for the meeting, and it may not be very convenient for him sometimes. Maybe the weather is cold; maybe I have another program. (Hybrid Mentor 2 - Mid-Focus Group Interview with Mentor)

Advantages of Hybrid Context. The data shows that the Hybrid Peer Mentoring Program combines the advantages of face-to-face and online meetings, preventing the meetings from feeling like lectures and keeping the participants motivated. Hybrid group mentors (3) reported that this format was the optimal way to provide both interaction and flexibility. The following quote from mid-focus group interview with mentors is an example representing how advantageous the hybrid context is:

> Good thing it's hybrid! We used the hybrid facilities until the end of the program. You know, we organized it weekly offline or remotely, depending on the intensity. (Hybrid Mentor 1 - Mid-Focus Group Interview with Mentor)

Hybrid group mentors (3) mentioned both the advantages and disadvantages of online and offline meetings. All hybrid group mentors significantly emphasized that the hybrid approach is the most productive context for the Peer Mentoring Program. They suggested that the context of the meeting should be planned according to the content of the meeting.

Mentees of the Hybrid Groups

Advantages of Online Context. Hybrid Mentee 3 and Hybrid Mentee 4 found the spatial and time flexibility of online meetings to be advantageous. The ability to participate from home or remotely and to meet late at night are strengths of online meetings. It's illustrated in the following quote from Hybrid Mentee 3.

> I used to attend online meetings from home, it was more comfortable. I didn't need to go anywhere or run around. Because sometimes our meetings were after school, I could be late, so I was going fast so as not to keep my mentor waiting. Being online made it easier for us. (Hybrid Mentee 3 - Post-focus Group İnterview with Mentees)

In summary, half of the hybrid group mentees (Hybrid group mentees 3 and 4) agreed on the codes of time flexibility and space flexibility for this theme, while the remaining two hybrid group mentees (Hybrid group mentees 1 and 2) did not mention the advantages of meeting in online contexts.

Disadvantages of Online Context. Each of the hybrid group mentees shared many concrete examples of the disadvantages of online interviews, even those who mentioned the advantages. The codes that emerged were varied. Two of the three hybrid group mentees who participated in the focus group midway through the program gave examples of the codes of access problems and communication issues.

> We were interrupting each other a little bit more because of the internet connection. We could communicate less. (Hybrid Mentee 4 - Mid-Focus Group Interview with Mentee)

In addition, Hybrid Mentee 4 considers the time and space flexibility of online meetings as an advantage, but the fact that these meetings can be postponed more easily is a disadvantage. Below is a quote that shows how easily meetings can be revised online:

> It was such a plus, but sometimes it turned out to be a big disadvantage. I was preparing myself, and suddenly his work would come up. We would suddenly postpone it, 20 minutes or half an hour before the interview. This makes me unhappy sometimes. (Hybrid Mentee 4 - Mid-Focus Group Interview with Mentee)

In short, the program featured a hybrid approach where hybrid group mentees shared their experiences with online meetings, highlighting both the advantages and disadvantages of online meetings. The codes of the program included access problems and communication issues, with some pointing out interruptions and decreased productivity.

Advantages of Face-to-Face Context. Each of the hybrid group mentees (4) clearly preferred face-to-face meetings in terms of communication and interaction. The data shows that each of the four hybrid group mentees perceived face-to-face communication to be more intimate and productive. The following excerpt from the dialogues in the post-focus group interview with mentees supports this idea

> In face-to-face meetings, I think our communication is better; it is more comfortable, and we can get to know each other more easily. Therefore, we can warm up to each other more easily. That is why I am in favor of face-to-face meetings. (Hybrid Mentee 1 - Post-Focus Group Interview with Mentee)

In summary, the hybrid format with face-to-face meetings allowed for faster and deeper bonding between Mentor and Mentee.

Disadvantages of Face-to-Face Context. None of the four hybrid group mentees (4) specifically mentioned the disadvantage of face-to-face meetings.

Advantages of Hybrid Context. The data gathered from the hybrid group mentees indicates a widespread positive reception of the hybrid context employed in the Peer Mentoring Program. This context effectively incorporates the most advantageous elements of both online and face-to-face interactions. Three hybrid group mentees of four acknowledged that this format provided distinct advantages, such as increased freedom in scheduling meetings and choosing meeting locations, as well as the opportunity to establish strong interaction. The subsequent excerpt from the mid-focus group interview with mentees provides support for that idea:

> The advantages of being a hybrid outweighed. We met face-to-face, got to know each other very well, and communicated very well. On the other hand, some days it was not convenient for us to meet around the campus, or we could meet at late hours. On such days, being online was useful for all of us. (Hybrid Mentee 2 - Mid-Focus Group Interview with Mentee)

Disadvantages of Hybrid Context. Only one of the hybrid group mentees (Hybrid Mentee 2) highlighted the disadvantages of the Hybrid Peer Mentoring Program. This disadvantage was related to the structure of the program (i.e., online one week and face-to-face the next) as it's illustrated in the following quote from Hybrid Mentee 2.

> The disadvantages were that it was definitely one week face-to-face and one week online. This part was a bit difficult, because there were times when we wanted to talk face-to-face and at such times we felt obliged to meet online, but we didn't get much efficiency; we got bored. (Hybrid Mentee 2 - Post-Focus Group Interview with Mentees)

In summary, while three of the Hybrid Group mentees found it advantageous that this program was hybrid, only one of them (Hybrid Mentee 1) shared that they would prefer it to be face-to-face.

4.2.2.3 Case 3: Face-to-face participants' evaluation of peer mentoring program in terms of context

Mentors of the Face-to-Face Groups

Advantages of Face-to-Face Context. The results showed that both face-to-face group mentors agreed on the advantages of the Face-to-Face Peer Mentoring Program in terms of easier communication and interaction. For example, Face-to-Face Mentor 2 expressed that the face-to-face aspect of the program helped create a sense of interaction and trust between themselves and their mentees, enhancing the overall evaluation of the peer mentoring experience. On the other hand, Face-to-Face Mentor 1 emphasized that not experiencing technical problems in face-to-face meetings like in online ones strengthened communication. There are some quotes from the focus group meeting in the middle of the program:

> For example, when someone says something here (in an online focus group meeting), we usually wait for that person to finish. We cannot dive in at once; the sound goes and comes. But this is unlikely to happen face-to-face. Therefore, I think the advantage of face-to-face meetings is that communication is much stronger. (Face-to-Face Mentor 1 - Post-Focus Group Interview with Mentors)

Disadvantages of Face-to-Face Context. Two face-to-face group mentors also shared about the disadvantages of face-to-face meetings. The code of flexibility in space was common to both. The crowded campus and not finding a suitable environment proved negative aspects of both mentors' experiences. In addition, Face-to-Face Mentor 2 mentioned the inflexibility of time as a disadvantage, while Face-to-Face Mentor 1 disagreed.

Mentees of the Face-to-Face Groups

Advantages of Face-to-Face Context. The analysis of focus group meetings clearly shows a consensus on the distinct advantages of the Face-to-Face Peer Mentoring

Program regarding improved communication and interaction. For instance, all Face-to-face Mentees (2) noted the benefits of having in-depth discussions and building relationships during face-to-face meetings. These interactions not only facilitated a deeper understanding among participants but also fostered a sense of belonging and community. To illustrate, here are some reflections shared during the post-focus group session:

> Obviously, both my mentor and I are face-to-face people. That's why it's a great chance for me to be able to do this program face-to-face. (Face-to-Face Mentee 1 - Post-Focus Group Interview with Mentees)

In addition, Face-to-Face Mentor 1 has emphasized the value of enhanced planning skills as a significant advantage in this context, stating that the necessity of meeting at a specific time and place prompted them to manage their schedules more efficiently. Face-to-Face Mentor 1 expressed that “I think there is no disadvantage. On the contrary, it taught me how to plan within a program. Because, we had to sit and meet on that campus at that time that day."

Disadvantages of Face-to-Face Context. In this theme, only one of the two Face-to-Face Mentees (Face-to-Face Mentee 2) mentioned disadvantages, while the other (Face-to-Face Mentee 1) stated that there were no disadvantages. Therefore, only the statements of Face-to-Face Mentee 2 are included in this section. The data demonstrates that this Face-to-Face Mentee supported the codes of lack of time flexibility, lack of space flexibility, and physical fatigue. Face-to-Face Mentor 2 that when we meet face-to-face, we have to find some physical activity. Also, we were usually meeting later that day, like in the evening. That can be a bit tiring." during the focus group meeting with mentees at the end of the program.

Consequently, while the face-to-face context encourages immediate and intimate communication, it also requires a higher level of time-space coordination. This information from face-to-face mentees highlights the importance of carefully planning physical meetings and providing adequate support to maximize the benefits of the face-to-face mentoring format.

4.2.3 Summary of participants' evaluation of peer mentoring programs

4.2.3.1 Summary of content insights

Mentors

Practical Insights in Peer Mentoring. According to the mentors who participated in the focus group held in the middle of the program, the most productive meetings were Meetings 3 and 4: Discovering Campus Support Services I and II, and Meeting 5: Communication and Collaboration (Role-play). Four out of six mentors reported the third, fourth, and fifth meetings as beneficial. Below is a visualized version of the qualitative data from the mid-program focus group:

Table 9. Meetings that the Mentors Perceive as Beneficial

Meeting / Mentor	Online Mentor 1	Online Mentor 2	Hybrid Mentor 1	Hybrid Mentor 2	Hybrid Mentor 3	Face-to-Face Mentor 1	Total
Meeting 1: Introduction							
Meeting 2: Learning Strategies and Study Habits			●				1
Meeting 3 & 4: Discovering Campus Support Services I & II	●	●		●		●	4
Meeting 5: Communication and Collaboration (Role-play)			●	●	●	●	4
Meeting 6: Diversity & Inclusion	●	●					2
Meeting 7: Teamwork and Collaboration							0
Meeting 8: Time and Goal Management					●		1
Meeting 9: Wellbeing							0

Enriching Peer Mentoring Program: Professional and Global Opportunities. In the analysis of the mentors' post-focus group interviews, the most themes in this regard were the addition of job and internship opportunities to the program content.

In addition, most of the Mentors stated that it would be more efficient if the interview materials were shared collectively at the beginning of the program. As they did not know the content of the program in a cumulative way, some of them stated that they had already touched upon relevant topics in some of the interviews.

Mentees

Practical Insights in Peer Mentoring. According to the mentees who participated in the focus group held in the middle of the program, the most productive meetings were Meeting 2: Learning Strategies and Study Habits and Meetings 3 & 4: Discovering Campus Support Services I and II. Six out of eight Mentees reported the second, third and fourth meetings as productive. Below is a visualized version of the qualitative data from the mid-program focus group:

Table 10. Meetings that the Mentees Perceive as Beneficial

Meeting / Mentees	Online Mentee 1	Online Mentee 2	Online Mentee 3	Hybrid Mentee 2	Hybrid Mentee 3	Hybrid Mentee 4	Face-to-Face Mentee 1	Face-to-Face Mentee 2	Total
Meeting 1: Introduction									0
Meeting 2: Learning Strategies and Study Habits	●	●	●		●	●	●		6
Meeting 3 & 4: Discovering Campus Support Services I & II	●		●		●	●	●	●	6
Meeting 5: Communication and Collaboration (Role-play)		●		●		●			3
Meeting 6: Diversity & Inclusion			●				●		2
Meeting 7: Teamwork and Collaboration	●				●	●			3
Meeting 8: Time and Goal Management				●			●		2
Meeting 9: Wellbeing				●					2

According to the mentees, they obtained valuable output from these meetings. Examples of these outputs are the mentor's advice on Meeting 2, course selection, study venues, and the advantages of studying with friends.

Regarding Meeting 3, they shared their knowledge and experiences about the facilities of the university and campus activities. The places discovered on campus (such as study areas, cafes, and dining halls) and clubs are the code in this theme.

Enriching Peer Mentoring Program: Professional and Global Opportunities. In this theme, the most emphasized code by mentees was internships and job opportunities. In the post focus group interview conducted in the middle of the program, 4 out of 8 mentees stated that this topic should be added to the program. The other code was Erasmus and study abroad opportunities, with three mentees emphasizing this theme. Considering the needs of first year university students, it may be useful to add the topics that will be the most guiding for the future to the peer mentoring program.

4.2.3.2 Summary of contextual insights

Mentors

In the analysis of the focus group interviews in which the context of the program was evaluated, mentors mentioned the advantages and disadvantages of both online and face-to-face contexts. The thematic analysis of the qualitative data is visualized in the table below:

Table 11. Advantages and Disadvantages of the Contexts of Peer Mentoring Program According to Mentors

Superordinate Theme	Online Mentor 1	Online Mentor 2	Hybrid Mentor 1	Hybrid Mentor 2	Hybrid Mentor 3	Face-to-Face Mentor 1	Face-to-Face Mentor 2	Total
Online Advantages								
Flexibility of Space	●	●	●					3
Flexibility of Time	●	●	●					3
Online Disadvantages								
Access Problems	●	●		●				3
Communication Issues	●			●		●		3
Face-to-Face Advantages								
Easier Communication and Intimacy			●	●	●	●	●	5
Improving Time Management Skills								0
Face-to-Face Disadvantages								
Inflexibility of Space				●		●	●	3
Inflexibility of Time				●			●	1
Physical Fatigue								
Hybrid Advantages								
Take Advantage of Both			●	●	●			3
Hybrid Disadvantages								
Flexibity					●			1

Advantages of Online Context. In this regard, online group mentors (2) emphasized the advantages of online context for both codes. That is, both online group mentors considered the flexibility in terms of both time and space as an advantage of the online context. Surprisingly, only Hybrid Mentor 1 agreed with the flexibility in time and space of the online context. Hybrid group mentors 2 and 3 did not express an opinion on the advantages of the online context.

Disadvantages of Online Context. In this theme, both online group mentors mentioned the disadvantages of the virtual context, with the code of access problems being the most prominent. Only one of the hybrid group mentors (Hybrid Mentor 2) mentioned the disadvantages of online contexts. Hybrid Mentor 2 shared negative

experiences in both codes, including access problems and communication issues. Even though Face-to-Face Mentor 1 did not participate in any online program, Face-to-Face Mentor 1 expressed their negative bias towards online meetings based on their previous virtual meeting experiences.

Advantages of Face-to-Face Context. All five mentors who had the opportunity to meet face-to-face during the program agreed on the advantages of face-to-face meetings. All three hybrid group mentors and two face-to-face group mentors emphasized that face-to-face meetings were easier to communicate and more sincere. None of the mentors who had the opportunity to meet face-to-face claimed the opposite of this code.

Disadvantages of Face-to-Face Context. Only three of the five mentors who had the opportunity to meet face-to-face during the program shared the disadvantages of face-to-face meetings. Sharing these negative experiences, all three mentors agree on the code of the inflexibility of space. On the other hand, another prominent code was the inflexibility of time. No mentor mentioned physical fatigue. Finally, it is noteworthy that the mentors who mentioned the disadvantages of face-to-face meetings were both mentors of the face-to-face group. The other mentor is Hybrid Mentor 2.

Advantages of Hybrid Context. For this theme, only three hybrid group mentors who experienced the hybrid program were able to share. All of them strongly agreed that the hybrid program is the most effective method. The only common and prominent code of the Hybrid Peer Mentoring Program was the ability to benefit from the advantages of both methods (both online and face-to-face). Each Hybrid Mentor (3) emphasized that being able to choose the right environment according to needs is the most sustainable way.

Disadvantages of Hybrid Context. Only one of the hybrid group mentors mentioned the disadvantages of the hybrid interview routine (online one week and face-to-face the other week) planned for this research. According to Hybrid Mentor 3, it was efficient to be able to decide the setting of the program based on the location of the participants, the intensity of their commitments, and the type of meeting content. The remaining two hybrid group mentors did not mention any disadvantages of this context, they only emphasized its advantages.

Mentees

During the analysis of the focus group interviews, the program's context was examined, and the mentees discussed the pros and cons of both online and face-to-face settings. The qualitative data is analyzed thematically and presented in the table below:

Table 12. Advantages and Disadvantages of the Contexts of Peer Mentoring Program Accorging to Mentees

Superordinate Theme	Online Mentee 1	Online Mentee 2	Online Mentee 3	Online Mentee 4	Hybrid Mentee 1	Hybrid Mentee 2	Hybrid Mentee 3	Hybrid Mentee 4	Face-to-Face Mentee 1	Face-to-Face Mentee 2	Total
Online Advantages											
Flexibility of Space		●	●			●	●	●			5
Flexibility of Time	●	●	●	●		●	●	●			7
Online Disadvantages											
Access Problems			●		●	●	●	●	●		6
Communication Issues	●		●		●	●					4
Face-to-Face Advantages											
Easier Communication and Intimacy					●	●	●	●	●	●	6
Improving Time Management Skills									●		1
Face-to-Face Disadvantages											
Inflexibility of Space											0
Inflexibility of Time											0
Physical Fatigue										●	1
Hybrid Advantages											
Take Advantage of Both	●					●	●	●		●	5
Hybrid Disadvantages											
Flexibity						●					1

Advantages of Online Context. All online group mentees (4) emphasized the advantages of the online context. Three out of four of the hybrid group mentees, another group that had the opportunity to meet virtually, mentioned the advantages of online interviews. According to the mentees with online meeting experience, the most prominent code was the flexibility of time. Seven out of eight mentees emphasized the time savings of online meetings. On the other hand, five mentees considered the flexibility of the space an advantage.

Disadvantages of Online Context. Half of all online group mentees (two out of four) emphasized the disadvantages of the online context. Hybrid group mentees, on the other hand, each stated that they had experienced the negative aspects of online interviews. According to the participants' statements, the most prominent code was access problems. Six out of eight Mentees stated that they experienced technical problems during the online interviews. They also shared the difficulty of finding a suitable space for online interviews. On the other hand, four Mentees evaluated communication issues as a negative experience. They shared that they were more easily distracted in the digital environment and experienced communication problems more frequently. It is interesting to note that Face-to-Face Mentee 1, who did not have any online interview experience during the program, considered the lack of online interviews in the program an advantage because she did not have a suitable environment and internet connection for online interviews as she was staying in a dormitory.

Advantages of Face-to-Face Context. All six mentees who had the opportunity to meet in person during the program consistently acknowledged the benefits of face-to-face meetings. The four hybrid group mentees and two Face-to-Face Mentees all highlighted the advantages of in-person encounters, emphasizing that they found

them to be more beneficial for communication and more genuine in nature. All the mentees who had the chance to meet in person agreed with this conception. Moreover, only one of the mentees (Face-to-Face Mentee 1) stated that continuous face-to-face contact also improved his/her time management skills.

Disadvantages of Face-to-Face Context. Striking results were obtained in this theme. Five of the six Mentees who experienced face-to-face meetings did not mention any disadvantages of the face-to-face setting, emphasizing only the positive aspects. Only Face-to-Face Mentee 2 pointed out that meeting face-to-face every week leads to physical fatigue.

Advantages of Hybrid Context. The ability to take advantage of both online and face-to-face formats emerged as the most significant advantage of the hybrid context. Three of the four hybrid group mentees experienced and shared this advantage. It is noteworthy that Face-to-Face Mentee 2, who had not experienced the hybrid program, stated that it would be more efficient if the program was hybrid.

Disadvantages of Hybrid Context. Only one of the four hybrid group mentees emphasized the disadvantages of the hybrid context; the remaining three mentees only expressed their experience of its advantages. Hybrid Mentee 2 mentioned the hybrid routine in this peer mentoring program (online one week and face-to-face the other week) as a disadvantage.

In summary, the findings reflect a wide range of mentor and mentee experiences from the different formats of the program and reveal specific advantages and disadvantages of each format. These findings indicate important factors to consider when assessing the evaluation of each format of the program and its suitability for participants.

4.2.4 Cross-case analysis of participants' evaluation of peer mentoring program: content and context insights

In this part, the second research question, "How do participants evaluate the peer mentoring program?" was discussed across three cases

4.2.4.1 Content of the of peer mentoring program

Mentors

The mentors stated that some of the meetings with websites, videos, and visuals could be more productive online. On the other hand, they mentioned that it is advantageous to be online when they are going to give information about the courses or share notes. On the other hand, they also considered it sincere to have face-to-face and on-campus meetings to share experiences and campus facilities. Table 9 shows a result that supports this. The online group mentors found the meeting content with digital content (e.g. Meeting 2) more useful, whereas the groups that had the opportunity to meet face-to-face found the content designed for communication (e.g. Meeting 5 with role-play) more useful. These results show that scheduling online or face-to-face meetings depending on the content of the meetings, i.e. a hybrid context, is the most efficient method. Ultimately, this combination of online and face-to-face interactions enhances the overall evaluation of the peer mentoring program.

Mentees

Mentees, similar to mentors, expressed that certain contents of the program should be handled through online, while others should be conducted face-to-face. Mentees who had the opportunity to meet online found the meeting content with digital content more productive, while those who had the opportunity to meet face-to-face found the meetings that required communication and experience sharing useful.

4.2.4.2 Context of the of peer mentoring program

Mentors

The flexibility of space and time are the prominent benefits of the online program for the group that only had the chance to meet online. Mentors in the hybrid group partially agree with this advantage. This suggests that the online format makes it possible for students to participate in the program regardless of their location and less subject to time constraints. The disadvantages of the online program were cited as access issues and communication difficulties. Many mentors in the group that had the possibility to meet online agreed on these disadvantages. It is noteworthy that even a mentor who has never had an online meeting emphasized the disadvantages of the online peer mentoring program by giving the example of her online education experience.

The most important advantage of the face-to-face program was easier and more intimate communication, which was the consensus of all mentors who had the opportunity to meet face-to-face. This shows that face-to-face interaction facilitates direct and personal communication. For face-to-face meetings, the disadvantages cited were inflexibility of time and place and physical fatigue. This suggests that face-to-face programs require more fixed and limited schedules and can sometimes be physically taxing on participants.

All of the hybrid group mentors found the hybrid context to be beneficial in terms of taking advantage of the benefits of both types. The hybrid model seems to offer the advantages of flexibility and accessibility that come from the combination of online and face-to-face contexts formats. The program was online one week and face-to-face the next was seen as a disadvantage.

Overall, there are some similarities and differences in the way mentors perceive online, hybrid and face-to-face programs. The online and hybrid models offer flexibility in time and space, but some challenges in communication and access; the face-to-face model offers advantages in communication and proximity, but is more limited in time and space; the hybrid model tries to combine the advantages of these two formats, but may have its own disadvantages.

Mentees

The mentees' perceptions of the program's context closely aligned with the perspectives of the mentors. Online, hybrid, and face-to-face mentees have both shared perceptions and distinct differences regarding the program. Although online and hybrid group mentees experienced benefits such as flexibility in terms of time and location, they encountered challenges in areas like communication and accessibility. Conversely, mentees who had face-to-face interactions mentioned benefits such as direct communication and close closeness, without reporting any significant drawbacks. This implies that the diverse styles of program involvement can have varying effects on the experiences of mentees. Each model possesses unique benefits and drawbacks, which might impact students' level of engagement in the program.

CHAPTER 5

DISCUSSION AND CONCLUSION

The purpose of this multiple embedded case study was to explore how attending peer mentoring programs conducted in online, hybrid, and face-to-face contexts facilitates higher education students' engagement and their experiences regarding the content and context of the program. This section discussed the results of two main research questions were discussed in accordance with the literature. Secondly, the limitations of this study were examined. Lastly, recommendations for further research were presented.

5.1 Discussion of results

The findings of the study supported that peer mentoring programs have a facilitating role on higher education student engagement. The fact that 20 students started the program and 17 of them successfully completed it is one of the evidence of the engagement of the program. It is a demonstration of engagement that 85% of the students in this program completed the program despite the fact that no financial support/grading awards were given.

On the other hand, one of the 3 students who dropped out of the program because he thought that he would not be able to spare time before the program started, and two participants (Face-to-face Mentor and Mentee) stated that they dropped out of the program with sadness because they could not continue the face-to-face meetings because they were out of town. In summary, the fact that the majority of students complete the program is a sign of engagement. This finding is in conformity with the results of empirical studies suggesting that peer mentoring

programs are an effective tool to increase engagement in higher education (Cooper, 2018; Godfrey, 2008; Liang et al., 2002). Since the study participants spent more time and effort on university activities with the help of the peer mentoring program, this result is consistent with Kuh's (2003) definition of engagement.

In terms of the facilitation of participants' engagement by peer mentoring programs conducted in online, hybrid or face-to-face contexts, there is no significant difference between the groups. Indeed, all these peer mentoring programs facilitated the engagement of all participants. In the Learning with Peers theme of the NSSE, the context was not critical for either mentors or mentees. The findings were not associated with whether the peer mentoring meetings were conducted face-to-face or online.

Regarding the Campus Environment theme, the context of the peer mentoring program was considered to be significant. In terms of Quality of Interaction engagement indicator, the context of the program was distinctive for the mentees. Mentees who had the opportunity to meet face-to-face stated that they formed stronger bonds with their mentors because of face-to-face contact. Participants of this study reported that they were able to communicate more easily in a face-to-face environment, that it was easier to express themselves and that the bond between them was strengthened. Similarly, Smith-Jentsch et al. (2008) analyzed mentor-mentee interactions in face-to-face and online peer mentoring programs through their dialogues. The results of their study showed that participants who had face-to-face interactions benefited more from the program in terms of self-efficacy, psychosocial support, and career support.

Moreover, Boyle et al. (2010) conducted an online peer mentoring program with participants from three different countries. They highlighted that mentees with low self-confidence may hesitate to express themselves in online environments such as forums.

For the Supportive Environment engagement indicator, the mentors' experiences differed according to the context in which the peer mentoring program was implemented. Mentors reported that face-to-face meetings were more beneficial for this engagement indicator, similar to the mentees' responses for the Quality of Interaction engagement indicator. Mentors stated that they had the opportunity to use the facilities of the university thanks to the face-to-face meetings. These findings are in line with Astin's (1984) developmental theory. According to Astin's theory, there is a beneficial association between the amount of time students spend on campus and the utilization of the university's facilities. Therefore, this theory posited that individuals who engage more in social and academic activities exhibit a higher degree of involvement. To summarize, the participants of this study stated that the face-to-face meetings for the Campus Environment theme facilitated the experience.

The findings of this study revealed that higher education students who participated in the program as mentees shared more positive outcomes about the evaluation of the program. Similarly, many other studies in the literature reported that mentees are more satisfied than mentors in peer mentoring programs (Allen et al., 1997; Kram, 1988). Existing empirical studies have consistently confirmed the positive effects of the program for first-year students: mentor-mentee relationships make mentees more adaptable to university and facilitate their transition to university (Akinla et al., 2018; Boyle et al., 2010; Budny et al., 2006; Glaser et al., 2006; Rodger & Tremblay, 2003). In a recent study, Owusu-Agyeman (2022) analyzed the

survey responses of 1538 first-year students and emphasized that transition experiences are facilitated when first-year students have strong interactions with the university and awareness of the university's university facilities. Moreover, Gunn et al. (2017) conducted an exploratory study with 16 mentors and 107 mentees. They claimed that mentors perceived the most beneficial aspect of the mentor role as being a role model for new first-year students. Similarly, mentors in this study reported that sharing their knowledge and experience made them feel satisfied with the peer mentoring program. Furthermore, Kalpazidou Schmidt and Faber (2016) emphasized that being a mentor in peer mentoring programs is a fulfilling responsibility as the mentor-mentee interaction is mutual.

5.1.1 Students' engagement in three types of of peer mentoring program

The purpose of this study is to explore how peer mentoring programs facilitate engagement. Therefore, the peer mentoring program was designed within the NSSE framework. Analysis of the data exploring higher education students' engagement was also conducted in line with these themes of NSSE. In general, the results show that four main engagement indicators examined for mentors and mentees were supported through the peer mentoring program: Collaborative Learning, Discussions with Diverse Others, Quality of Interactions, and Supportive Environment. The findings of the study were in conflict with Parker (2018). Because in his study, the results showed that the peer mentoring program did not have a significant effect on the NSSE results. It is important to note that there are methodological differences between this study and Parker (2018).

In Parker's (2018) quantitative study, the NSSE questionnaire was used as the data instrument, but in this multiple case study, the qualitative data obtained from the participants' responses were analyzed within the NSSE framework.

With respect to the Collaborative Learning engagement indicator, the mentors of this study expressed several advantages of the peer mentoring program. Firstly, the mentors regarded the peer mentoring program as group work, reporting that the program was practical for developing their collaboration skills. In the same manner, Zachary (2005) described the mentoring process as a collaborative learning relationship between mentor and mentee. Secondly, the mentors indicated that the program also improved their leadership and time management skills, which are essential for group work. Similar to this outcome, previous studies in the literature have suggested that mentors' leadership skills may be improved through peer mentoring programs. (Gafni Lachter & Ruland, 2018; Kalpazidou Schmidt & Faber, 2016; Walters & Kanak, 2016). In terms of the mentees in the study, they have explored methods to increase their success through the peer mentoring program. For example, the mentees reported that they learned how to prepare for exams together with their classmates, how to manage conflicts in group work, and how to use time efficiently while studying, thanks to the advice of their mentors. Regarding the engagement indicator of Discussions with Diverse Others, the findings of this study were critical in terms of mentor-mentee pairings. The majority of the participants stated that the program did not make a significant contribution to their engagement with people with different ideas, beliefs, and backgrounds. They justified that the peers they were paired with already had similar ideas to their own. On the contrary, participants who found the program helpful for this engagement indicator stated that the peers they were paired with were different from themselves. They stated that the

program gave them the opportunity to discuss with people of different beliefs, backgrounds, and ideas. Karcher et al. (2005) underlined the value of matching in peer mentoring programs and showed that various matching strategies might lead to different consequences. In addition, Karcher et al. (2010) conducted an empirical study to examine mentor-mentee matches in cross-age peer mentoring programs. The results of the study showed that the interactions between mentor and mentee depend on the perspectives and opinions of the participants. Their study also emphasized the importance of matching individuals with different perspectives in mentor-mentee pairings, as mentor-mentee interaction directly affects the impact of the program. Conversely, Campbell and Campbell (1997) matched a group of students with ethnically similar students and another group of students with ethnically mismatched students. The results of this study reported that ethnically similar groups benefited from the peer mentoring program longer and found the program more effective. Similarly, Eby et al. (2006) reported in the meta-analysis that mentor-mentee groups that were more similar to each other benefited more from the peer mentoring program by establishing stronger interactions. In addition to the various claims, the findings of this study showed that the impact of the peer mentoring program in this engagement indicator may vary according to individuals and according to the goals of the program.

The results of this study show that the peer mentoring program strongly strengthened the participants' interactions with their peers. Appel (2011) pointed out that peer mentoring programs mostly enhance student-student interaction because students are able to form stronger and easier interactions with those who are closer to them in age. Karcher (2005a) also supported the evaluation of peer mentoring programs where the age difference between mentors and mentees is minimal.

Similarly, the age difference between mentors and mentees in this study was three years. In this way, mentees who participated in the study also shared that they see their mentors not only as role models but also as friends. Every participant in this peer mentoring program described the interactions between mentor and mentee as strong and beneficial. They also expressed that they could contact each other whenever they needed to after the program. Similarly, Ashman and Colvin (2010) investigated the role of peer mentoring. They reported that mentors emphasized that the most productive aspect of their program was making friends by building strong interactions with mentees. However, Risquez and Sanchez-Garcia (2012) conducted a study with 42 mentors and found that mentors did not always meet their expectations of strong interaction in their dialogue with their mentees. In contrast to the Risquez and Sanchez-Garcia (2012) study, mentors in this study reported that they had established friendships with their mentees.

The program did not have a significant role on their connections with the academic advisor, faculty, or administrative affairs. The reason for this finding could be that participants in this study did not have an environment to communicate directly with these stakeholders. In this study, through the mentors sharing their experiences, the mentees discussed methods to interact with this stakeholder. However, in future studies, beneficial findings could be obtained by designing activities in which the participants directly interact with these stakeholders. Studies have shown that faculty-student mentoring programs that ensure higher education students are able to interact with faculty are actually efficient (Campbell & Campbell, 1997; Fuentes et al., 2014; Kim & Sax, 2017; Law et al., 2020).

Regarding the engagement indicator of Supportive Environment, participants of the study reported that they became more aware of the opportunities at the university by participating in the peer mentoring program. For example, they shared that they participated in social activities such as concerts and cinema and were involved in projects through student clubs. In addition, some of the participants shared that they benefited from the facilities on campus, such as the library and psychological support. In line with this finding, Hillier et al. (2019) also stated that peer mentoring is an important means for students to get to know the university environment and learn how to access resources. In addition, Cornelius et al. (2016) highlighted that students with fewer resources are less likely to handle challenges and academic stress in higher education. They found that students with limited resources were more disengaged than their peers with access to more support. The results of this peer mentoring program also emphasize that participants' engagement was facilitated because this peer mentoring program provided the environment to spend more time in campus facilities and activities.

5.1.2 Evaluation of the of peer mentoring programs

This multiple-embedded case study aims to explore how participation in peer mentoring programs provided online, hybrid, face-to-face contexts and their perceptions of the program's context and content. Therefore, the researchers used the NSSE framework to develop ten meeting agendas for mentor and mentee interviews. Participants shared that meeting contents that were easily applicable and helped them acquire a skill were productive. These practical strategies were based on two prominent topics: academic achievement and university opportunities. According to the mentees, the most useful content from the program was the mentors' advice on

effective study techniques and curriculum. Fox et al. (2010) reported that participants' academic achievement throughout the peer mentoring program increased. Their research results show that first-year students who participated in the peer mentoring program had higher academic performance at the end of the year compared to those who did not. In a recent study, Muggli et al. (2021) conducted a similar empirical study. Likewise, they reported that students who participated in the peer mentoring program were more successful than those who did not, in terms of GPA, retention rates, and engagement levels. In addition, additional topics such as job and internship opportunities, Erasmus and Abroad programs, and major and minor programs were beneficial. Although not explicitly covered in the program's activities, these topics were discussed during mentor and mentee meetings. In particular, mentees of this study expressed that they found it highly motivating to learn about their mentors' experiences and ideas regarding career and global opportunities.

The meetings in which campus and university opportunities were discussed were recognized as the most productive sessions of the program. Not only the mentors but also the mentees stated that they directly utilized the information they learned from the program about campus facilities. Furthermore, Üstünlüoğlu (2024) recently explored the benefits and challenges of peer mentoring programs by investigating participants' experiences. The findings of her study showed that participant’s perceived peer mentoring programs as an opportunity to participate in campus activities and benefit from university facilities.

The second important insight about the content of the peer mentoring program was that the content that supported the participants in gaining skills such as communication and collaboration was considered beneficial. In particular, mentees

indicated that learning about their mentors' experiences in group work was the major advantage of the program. This peer mentoring program improved the participants' communication and collaboration skills through the role-play activities. Reid (2008) also mentioned the effectiveness of role-play activities in peer mentoring programs in this study.

This research involves peer mentoring programs in three different contexts: online, hybrid, and face-to-face peer mentoring programs. The results of the study showed that the participants agreed that the hybrid context is the most efficient context. Similar results were obtained in a recent study by Mochona et al. (2024), which designed peer mentoring programs in three different contexts (i.e., online, hybrid, and face-to-face). The results of this study likewise highlighted the beneficial evaluation of the hybrid method. Regarding the findings of this study, the agreement was based on the fact that the hybrid context combines the advantages of both online context and face-to-face context.

As overlapped with previous studies, the most prominent advantages of the online peer mentoring program were that the program could be conducted independently of time and place. For the face-to-face peer mentoring program, the advantages were the ability to establish stronger interactions between mentors and mentees, as in line with previous research.

5.2 Implications

The findings of this study suggest that peer mentoring programs in higher education are an important means of increasing student engagement and enriching student experiences. In this context, universities can increase student engagement by making such programs more widespread. Hybrid mentoring programs in particular have the

potential to reach a wider student audience by combining the advantages of both face-to-face and online interactions. Therefore, universities can enhance the evaluation of peer mentoring programs by considering offering them in a hybrid format. In hybrid peer mentoring programs, which meetings are online and which are face-to-face also play an important role in the program experience. It is beneficial for meetings that include online material (e.g. project file, video content, website) to take place online. For meetings that require a strong interaction, such as the first meeting, role-play activities or diversity and inclusion discussions, a face-to-face setting is recommended.

The results of the study revealed that peer mentoring programs not only provide participants with insights about academic success and university opportunities, but also help them acquire important skills such as communication and collaboration. Therefore, the content of mentor programs should be designed to contribute to participants' personal and professional development in addition to providing academic support. For example, practices such as role-playing activities and group work can provide students with practical experiences for real-life situations, which can increase the overall success of the program.

Finally, purposeful mentor-mentee pairings play a critical role in the success of the program. The research shows that matching mentors and mentees with different ideas and backgrounds can increase the interaction between participants and benefit from the program. Therefore, diversity in mentor-mentee pairings can help the program provide a richer experience for participants. Universities should develop specific strategies to ensure this diversity in mentor-mentee pairings.

5.3 Limitations

Although this study provides evidence for the engagement of all mentors and mentees, it is important to acknowledge that no investigation is exempt from limitations. The data sources might be one of the limitations of this study. The study only included data based on the participants' statements, such as individual interviews and focus group interviews. However, other types of data sources, like observation or document analysis, would have allowed for the acquisition of various insights. Moreover, in this study, individual pre-interviews were conducted only before the program. Due to the large number of participants, a focus group was conducted at the end of the program. In future studies, individual interviews can be conducted both before and after the program.

Considering the dosage of the program, the amount and duration of the peer mentoring program might be one of the limitations of this study. Conducting the peer mentoring program with one-hour meetings for only ten weeks may prevent the examination of longer-term outcomes and interactions.

Regarding the infrastructure of the program, the matching process could be another limitation of this study. The results showed that the pairings in the program were critical for the Discussions with Diverse Others engagement indicator. In mentor-mentee groups where mentors and mentees had the same opinion, participants reported that they did not get a development opportunity. On the other hand, mentor-mentee pairings with different backgrounds were able to discuss diversity through the program. Therefore, the random matching process may have affected the results of the study in terms of the engagement indicator.

Finally, this program was conducted with students from the Computer Education and Technologies department at a major university during the Fall 2023 semester. At the time of the program, the university was an institution with many opportunities and campus facilities to support student engagement. Different results may be achieved with the facilities of a different university.

5.4 Recommendations for future research

This study successfully conducted a peer mentoring program to facilitate the engagement of higher education students. Therefore, this research provides information for educators, faculties, and institutions to design a peer mentoring program for higher education students to facilitate their engagement. It also provides design recommendations for peer mentoring programs in various contexts, such as online context, hybrid context, and face-to-face context. This study highlights the benefits of hybrid peer mentoring programs to provide opportunities to meet both in online and face-to-face contexts. The decision of whether meetings will be held online or face-to-face should be based on the meeting's content. For example, if the mentor-mentee meeting involves online course material (e.g., a website or video learning), the online context is more beneficial in terms of meeting efficiency. On the other hand, communication-based meetings, such as introductory meetings and role-play activities, are more useful when in a face-to-face context. In this study, mentors and mentees met one week online and the other week in a face-to-face context. The research results show that this arrangement of meetings is the single disadvantage of the hybrid program. In conclusion, a hybrid peer mentoring program can be designed with different methods, and student experiences can be investigated for optimal results.

In this study, the online peer mentoring program was conducted through a video conference tool (e.g., Zoom) and instant messaging applications (e.g., WhatsApp groups). In addition to these, different methods can be applied to increase interactions in the online environment. For example, peer mentoring programs can be enriched with forum pages, as in Cassiani et al. 's (2020) study, or virtual reality, as in Knowlin et al.'s (2023) study.

Finally, mentor and mentee matches in this program were made randomly. According to the purpose of the research, mentors and mentees can be matched in a specific way, not randomly. As practical implications, this study suggests pairing mentors and mentees with different backgrounds and ideas in a peer mentoring program to facilitate students' discussions.

APPENDIX A

NSSE THEMES AND ENGAGEMENT INDICATORS

Theme	Engagement Indicators	Indicator Item
Learning with Peers	Collaborative Learning	Asked another student to help you understand course material Explained course material to one or more students Prepared for exams by discussing or working through course material with other students Worked with other students on course projects or assignments.
	Discussions with Diverse Others	People from a race or ethnicity other than your own People from an economic background other than your own People with religious beliefs other than your own People with political views other than your own
Campus Environment	Quality of Interactions	Indicate the quality of your interactions with the following people at your institution: • Students • Academic advisors • Faculty • Student services staff (career services, student activities, housing, etc.)

	• Other administrative staff and offices (registrar, financial aid, etc.)
Supportive Environment	Providing support to help students succeed academically Using learning support services (tutoring services, writing center, etc.) Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.) Providing opportunities to be involved socially Providing support for your overall well-being (recreation, health care, counseling, etc.) Helping you manage your nonacademic responsibilities (work, family, etc.) Attending campus activities and events (performing arts, athletic events, etc.) Attending events that address important social, economic, or political issues

Source: [NSSE, 2013]

APPENDIX B

PARTICIPANT INFORMATION AND CONSENT FORM

(For Mentees of Online Group)

Research sponsoring institution: BOĞAZİÇİ UNIVERSITY

Title of the research project: The Impact of Peer Mentoring on University Students' Engagement in Online, Hybrid and Face-to-Face Contexts

Dear students,

The Department of Computer Education and Educational Technology at XX University is carrying out a scientific research project. The research aims to explore the engagement of higher education students participating in an online, hybrid or face-to-face peer mentoring program.

As a 1st year student at XX University, you started your undergraduate study this year. The peer mentoring program is designed to facilitate your transition to university, to support your participation in the university and to develop the necessary competencies for academic and social environments.

During the peer mentoring program, you will be mentees and matched with 4th year students .Matches will be random and based on the number of mentors and mentees. In the peer mentoring program, mentors and mentees will meet regularly for 10 weeks. These meetings will take place online and last for approximately one hour. Activities are designed for each meeting, the aim of these activities is to help mentors and mentees to share their experiences and make their university life more engaging. Before these meetings, you will be asked to participate in an individual interview to understand your engagement in university life and your expectations from the program. The interviews will be conducted via a video conference platform (e.g., Zoom) and they will be recorded as an audio file. At the end of each mentor-mentee meeting, a meeting reflection form with four open-ended questions will be answered. The purpose of this form is not to evaluate the mentor-mentee meeting but to understand your experiences in the program. There are no success criteria. These forms will not be scored. After the meetings, you can volunteer to join a group interview to share your experiences about being a mentee at the end of the semester. The interviews will be conducted via a video conference platform and they will be

recorded as an audio file. Your identities will not be shared at any part of the research. Your involvement in the study is voluntary, and you may choose not to participate or to stop participating at any time without penalty. The decision to be in the study or not to be in the study and researcher's evaluation of your work will not affect your grades. The stored records will be destroyed after the completion of the research. There are no known risks or inconveniences associated with this study. Please ask if you have any questions about the study before signing this form. If you have any questions later, you can contact the project coordinator. You can consult the XX University Ethics Committee for Master and PhD Theses in Social Sciences and Humanities (SOBETIK) about your rights regarding research

I have read the text above and fully understand the scope and purpose of the study I am asked to participate in, and my responsibilities as a volunteer. I had the opportunity to ask questions about the study. I understood that I could leave the study whenever I wanted and without having to give any reason, and that I would not face any negative consequences if I quit. In these circumstances, I agree to participate in the research in question voluntarily, without any pressure or coercion.

I have / do not want to have a sample of the form (in which case the researcher keeps this copy).

Participant Name-Surname: I approve to participate in the study. ☐ I approve to join an audio-recorded interview. ☐ I approve of joining a video-recorded interview. ☐ Date (day/month/year):...../...../.....	Date (day/month/year):...../...../.....

PARTICIPANT INFORMATION AND CONSENT FORM

(For Mentors of Online Group)

Research sponsoring institution: BOĞAZİÇİ UNIVERSITY

Title of the research project: The Impact of Peer Mentoring on University Students' Engagement in Online, Hybrid and Face-to-Face Contexts

Dear students,

The Department of Computer Education and Educational Technology at XX University is carrying out a scientific research project. The research aims to explore the engagement of higher education students participating in an online, hybrid or face-to-face peer mentoring program.

As a 4th year student at XX University, you are about to graduate at the end of the year. The peer mentoring program is designed to support your participation in the university and to develop the necessary competencies for academic and social environments. In addition, the program will facilitate mentee's (1st- year students) transition to university life.

During the peer mentoring program, you will be mentors and matched with 1st year students. Matches will be random and based on the number of mentors and mentees. In the peer mentoring program, mentors and mentees will meet regularly for 10 weeks. These meetings will take place online and last for approximately one hour. Activities are designed for each meeting by the researcher. The aim of these activities is to help mentors and mentees to share their experiences and make their university life more engaging.

Before these meetings, you will be asked to participate in an individual interview to understand your engagement in university life and your expectations from the program. The interviews will be conducted via a video conference platform (e.g., Zoom) and they will be recorded as an audio file. At the end of each mentor-mentee meeting, a meeting reflection form with four open-ended questions will be answered. The purpose of this form is not to evaluate the mentor-mentee meeting but to understand your experiences in the program. There are no success criteria. These forms will not be scored. After the meetings, you can volunteer to join a group interview to share your experiences about being a mentee at the end of the semester. The interviews will be conducted via a video conference platform and they will be recorded as an audio file. Your identities will not be shared at any part of the

research. Your involvement in the study is voluntary, and you may choose not to participate or to stop participating at any time without penalty. The decision to be in the study or not to be in the study and researcher's evaluation of your work will not affect your grades. The stored records will be destroyed after the completion of the research. There are no known risks or inconveniences associated with this study. Please ask if you have any questions about the study before signing this form. If you have any questions later, you can contact the project coordinator. You can consult the XX University Ethics Committee for Master and PhD Theses in Social Sciences and Humanities (SOBETIK) about your rights regarding research

I have read the text above and fully understand the scope and purpose of the study I am asked to participate in, and my responsibilities as a volunteer. I had the opportunity to ask questions about the study. I understood that I could leave the study whenever I wanted and without having to give any reason, and that I would not face any negative consequences if I quit. In these circumstances, I agree to participate in the research in question voluntarily, without any pressure or coercion.

I have / do not want to have a sample of the form (in which case the researcher keeps this copy).

Participant Name-Surname: I approve to participate in the study. ☐ I approve to join an audio-recorded interview. ☐ I approve to join a video-recorded interview. ☐ Date (day/month/year):...../...../.....	Date (day/month/year):...../...../.....

APPENDIX C

PEER MENTORING PROGRAM CODE OF ETHICS

1. Confidentiality and Privacy: Students' personal information and sharing will be kept confidential during the mentoring process.
2. Openness and Honesty: Communication between mentors and mentees should be open and honest. Facts should not be hidden and problems should be tried to be solved through open communication.
3. Empathy and Understanding: Mentors should empathize with mentees' feelings and experiences and try to understand them. You should help mentees by taking their needs into account.
4. Professionalism: The relationship between mentors and mentees should be maintained in a professional framework. Personal relationships should not be mixed into a mentoring relationship.

APPENDIX D

NSSE INDICATORS AND THE MEETINGS IN WHICH THEY ARE COVERED

Engagement Indicators	Meetings
2. Learning with Peers	
2.1 Collaborative Learning During the current school year, how often have you	
2.1.1 Asked another student to help you understand course material	Meeting 2,5
2.1.2 Explained course material to one or more students	Meeting 2
2.1.3 Prepared for exams by discussing or working through course material with other students	Meeting 2,5,7
2.1.4 Worked with other students on course projects or assignments	Meeting 5,6
2.2 Discussions with Diverse Others	
During the current school year, how often have you had discussions with people from the following groups	
2.2.1 People from races or ethnicities other than your own	Meeting 5,6
2.2.2 People from economic backgrounds other than your own	Meeting 5,6
2.2.3 People with religious beliefs other than your own	Meeting 5,6
2.2.4 People with political views other than your own	Meeting 5,6
4. Campus Environment	
4.1 Quality of Interactions	
Indicate the quality of your interactions with the following people at your institution:	

4.1.1 Students	Meeting 1,5,7
4.1.2 Academic advisors	Meeting 1,5
4.1.3 Faculty	Meeting 1
4.1.4 Student services staff (career services, student activities, housing, etc.)	Meeting 1,3,4
4.1.5 Other administrative staff and offices (registrar, financial aid etc.)	Meeting 1,3,4
4.2 Supportive Environment	
How much does your institution emphasize the following:	
4.2.1 Providing support to help students succeed academically	Meeting 3, 4, 7, 8, 9
4.2.2 Using learning support services (tutoring services, writing center, etc.)	Meeting 3, 4
4.2.3 Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	Meeting 1,6
4.2.4 Providing opportunities to be involved socially	Meeting 1, 3, 4
4.2.5 Providing support for your overall well-being (recreation, health care, counseling, etc.)	Meeting 3, 4, 9
4.2.6 Helping you manage your nonacademic responsibilities (work, family, etc.)	Meeting 8, 9
4.2.7 Attending campus activities and events (performing arts, athletic events, etc.)	Meeting 3, 4
4.2.8 Attending events that address important social, economic, or political issues	Meeting 3, 4

APPENDIX E

LIST OF MEETINGS AGENDAS

Meeting	Target	Activities
1.	Build rapport, establish expectations Create a comfortable atmosphere	1.Program overview -Discuss the purpose, goals, and structure of the mentoring program and their relationship for these meetings 2.Introduction round -Each participant shares their name, major, interests, and a fun facts -Icebreaker game: "Two Truths and a Lie" 3. Vision boards via Milanote -Create vision boards that represent life at the university -The board includes their friends, courses, their future, career plans, their academic advisors, Faculty, .Student services staff (career services, student activities, housing, etc.) and Other administrative staff and offices (registrar, financial aid etc.)
2.	Foster effective study skills Promote collaborative learning	1.Study technics -Sharing personal study techniques, -time-management strategies, -apps or website 2.Pomodoro -Review a specific subject which is one of study techniques, pomodoro techniques -Watch the video together -Discuss the techniques which are explained in

		the video 3.Examination of mass courses' syllabus -Overview the syllabus of mass courses together -Mentors share their experience for these courses such as their study techniques for especially these courses, teacher/academics of these courses, resources (videos, books or website) for these lessons, tips and tricks for midterms and final exams of these lessons -Mentees share their learning habits and they discuss mentee's possible challenges 4. Action items Mentees try implementing a new study technique and report their experience for the next meeting
3.	Familiarize mentees with available resources for academic and personal support	0. Small talk of previous meeting Previous action items are briefly discussed 1.Resource hunt -Mentors and mentees discuss campus facilities: fundamental of campuses, cafeterias, halls, student clubs -Then, they discuss how these resources can aid academic success or their social life by answering related questions 3.Action items Mentee plans a visit to a specific campus resources which are discussed at the meeting and report back on their experience
4.	Familiarize mentees with available resources for academic and	0. Small talk of previous meeting Previous action items are briefly discussed 1.Resource hunt -Mentors and mentees discuss campus

	personal support	facilities:events, sports, fine arts, culture and so on -Then, they discuss how these resources can aid academic success or their social life by answering related questions 3.Action items Mentee plans a visit to a specific campus resources which are discussed at the meeting and report back on their experience
5.	Enhance active listening and effective communication skills Encourage participants to adapt their communication style to different situations	1.Role-playing -Mentors and mentees are given a communication scenario -they practice active listening, and effective communication 2.Giving feedback to each other -one evaluates their communication skills, body language, and active listening, while other pair is performing -after each role-play, they provide constructive feedback: discuss what went well and what could be improved 3.Action items Mentees reflect on a real-life situation where effective communication made a difference and share their experiences in the next meeting
6.	Encourage openness to diverse opinions and experiences Enhance cultural awareness and sensitivity	0. Small talk of previous meeting Previous action items are briefly discussed 1.Watching Videos for Fundamentals of Diversity Mentors and mentees will watch three videos together:

	Promote respectful dialogue on challenging topics	Video 1: Equality, Diversity & Inclusion: link Video 2: The Little Voice: link Video 3:How to get serious about diversity and inclusion in the workplace | Janet Stovall | TED: link (watch until 4:00) 2.Diversity at the university -They will choose a cultural topic or identity from a provided list that they may not be familiar with or have personal experiences related to -They conduct research on their chosen cultural topic, exploring its significance, addressing common misconceptions, and sharing any relevant experiences or stories during their discussion
7.	Enhance teamwork abilities and project collaboration Develop problem-solving and communication skills in a team setting	1. Collaborative Mini-Project -You will work together as a team on a mini collaborative assignment or problem -Collaborate to complete the assignment within a specified time frame -Utilize effective teamwork dynamics, communication, and problem-solving strategies as you work together. 2.Discussion and Reflection: After completing the mini-project, engage in a discussion. Reflect on the experience as a team, sharing your thoughts on the challenges you faced, the strategies you employed to overcome them, and the successes you achieved together. Discuss the importance of effective teamwork and collaboration skills in both academic and professional settings.

8.	Develop goal-setting skills that are Specific, Measurable, Achievable, Relevant, and Time-bound (SMART). Acquire effective time management strategies to enhance academic and personal productivity.	1. Goal-Setting Workshop Discuss the importance of setting goals in both academic and personal life Emphasize the concept of SMART goals - Read the guideline below - Determine your 2 SMART goals with the help of the sheet below - 2 SMART goals: one specific academic and one personal goal they would like to achieve 2. Time Management Exercise -Discuss the importance of creating a weekly schedule to allocate time to academic tasks, personal commitments, and goal-related activities. -Watch the video to organize your agendas as university student -Together, create a sample weekly schedule that demonstrates how to allocate time efficiently.
9.	Promote well-being and stress management techniques, particularly mindfulness. Facilitate discussions on the importance of mental health and sharing personal coping strategies.	0. Small talk of previous meeting Discuss how your weekly and daily plans are going 1. Introduction to Wellness Action Plans-Begin -The meeting by introducing the concept of a Wellness Action Plan (WAP) -Therefore, they watch the videos 2.Creating Individual Wellness Action Plans -Mentor and mentee each work on creating their own WAPs during the meeting. -A WAP typically includes the following components: Identifying Triggers Recognizing Early Warning Signs

		Coping Strategies Building a Support System Emergency Plan Self-Care Routine Goal Setting Regular Review
10.	Reflect on the mentorship experience, personal growth, and accomplishments. Celebrate achievements, both big and small, that have occurred during the mentorship program.	1. Mentorship Journey Reflection -The mentor and mentee to reflect individually on their mentorship journey, -Then they share their reflections with each other. 2. Celebration -Take time to celebrate achievements, both big and small, that have occurred during the mentorship program. 3. Vision Board Evaluation -They revisit the vision board created by the mentee at the beginning of the program. -Assess the progress made toward achieving these goals and aspirations during the mentorship program. 4. Action Items and Next Steps -Conclude the meeting by discussing concrete action items and future plans. For example, mentees can share their post-mentorship goals or intentions for continuing their personal and academic development.

APPENDIX F

EXAMPLES OF MEETING AGENDAS

Meeting 2: Learning Strategies and Study Habits

Objectives:

- Foster effective study skills
- Promote collaborative learning

Meeting Agenda:

1. Study Techniques (15 mins)

Share your experience about

- personal study techniques,
- time-management strategies,
- apps or website

2. Pomodoro (15 mins)

Review a specific subject which is one of study techniques: Pomodoro

- Watch the video (link) together
- Discuss the techniques which are explained in the video

3. Examination of mass courses' syllabus

- Overview the syllabus of mass courses together
- Mentors share their experience for these courses, such as
- their study techniques for especially these courses,
- teacher/academics of these courses, resources (videos, books or website) for these lessons,
- tips and tricks for midterms and final exams of these lessons
- Mentees share their learning habits and they discuss mentee's possible challenges

Mentee’s To do for the NEXT meeting

Mentees try implementing a new study technique and report their experience for the next meeting

Meeting 3: Discovering Campus Support Services I

Objectives:

- Familiarize mentees with available resources of campus

Meeting Agenda:

1. Experience sharing (20 mins)

- Discuss these questions together to explore campus life at the university

Questions to ask the mentor

- Did you participate in any club activities at school?
- Did you participate in the Taş Oda festival/concerts held on campus?
- What do you like to do with your friends after the last final of the semester?
- Where do you study most efficiently on campus?

Questions to ask the mentee

- What surprised you the most when you arrived on campus?
- Where is your favorite view/landscape at school?
- Did you go to Bebek using the funicular?

Questions to ask the mentee & mentor

- Where is your favorite place to drink coffee at school?
- What's your favorite Yemekhane food?
- Where was the first photo you took at school? if you want to share it, you can share it with your mentee/mentor :)

2. Resource Hunt (30 mins)

- There is a list of campus resources at the university. Explore the resources of campus together by clicking links
- Discuss questions for each resource
- Mentor shares their experience with the resources

Campus Life at the university

Resource	Link	Questions
Campuses	link	- Which campus resources do you believe are essential for students living on campus? - Are there any specific resources you wish you had known about earlier in your campus life?

Abbreviations and Explanations	link	- Were there any campus resource abbreviations or terms that initially confused you, and how did you navigate them? - Have you ever been lost in KB? :)
Dining Halls/ Cafeteria/ Canteens	link	- Could you share your experiences with dining options on campus during your time at the university? - Were there any dining halls or specific meals you particularly enjoyed?
Monthly Cafeteria List	link	- Did you find the monthly cafeteria list helpful in planning your meals?
Student Clubs	link	- Can you discuss your involvement in student clubs or organizations? - How has participating in clubs contributed to your personal and academic growth? - What guidance or suggestions do you have for fellow students who might be interested in joining a student club based on your experiences?
General Questions	-	- In what ways have campus resources enhanced your overall campus experience and sense of community as students living on campus? - What suggestions do you have to actively engage with and contribute to these resources as students living on campus?

Mentee's To do for the NEXT meeting

Mentee plans a visit to a specific campus resources which are discussed at the meeting and report back on their experience

Meeting 5: Communication and Collaboration

Objectives:

- Enhance active listening and effective communication skills
- Encourage you to adapt your communication style to different situations

Meeting Agenda:

- There are three scenarios below relevant to university life
- Discuss these scenarios as if they were real by role-playing
- While role-playing, you should evaluates your mentee/mentor's communication skills, body language, and active listening
- After each scenario, you should provide constructive feedback: discuss what went well and what could be improved
- After each scenario, you should share your relevant experience and discuss your attitude

Scenario 1: Group Project Discussion (10 mins)

Mentee: You are a member of a group project team for designing web-site. You believe that the project should take a different direction, focusing on new UI/UX principles, but the majority of your team members are resistant to change. You are concerned that the current approach might not yield the desired results.

Mentor: You are the team leader of the designing web-site project group. You need to facilitate a productive discussion among your team members and find a consensus on the project's direction. You want to ensure that everyone feels heard and that the final decision benefits the project.

Provide Constructive Feedback to Each Other

- What went well? What could be improved?

Scenario 2: Writing an Email (10 mins)

Mentee : You are a first-year student who is struggling with a challenging research paper. You should send an email to your professor for guidance and clarification on the assignment. You're feeling anxious and unsure about how to write the email.

Mentor: You are the psychology professor. Your goal is to provide clear guidance and support to the student while maintaining a welcoming and approachable demeanor. You want to obtain clear and professional email from your students.

Provide Constructive Feedback to Each Other

- What went well? What could be improved?

Scenario 3: Roommate Conflict (duration 10 min)

Mentee: You share a dorm room with a roommate. Lately, you've noticed that your roommate's lack of cleanliness has become a problem. You want to address the situation kindly and find a solution that ensures a more harmonious living environment.

Mentor 2: You are the roommate. You are unaware of your roommate's concerns and may be defensive when approached about your cleanliness habits. You need to listen to your roommate's concerns and work together to resolve the issue.

Provide Constructive Feedback to Each Other

- What went well? What could be improved?

Mentee’s To do for the NEXT meeting

Mentees reflect on a real-life situation where effective communication made a difference and share their experiences in the next meeting

Meeting 8: Teamwork and Collaboration

Objectives:

- Enhance teamwork abilities and project collaboration
- Develop problem-solving and communication skills in a team setting

Meeting Agenda:

1. Goal Setting Workshop (15 mins)

- Discuss the importance of setting goals in both academic and personal life
- Emphasize the concept of SMART goals
- Read the guideline below
- Determine your 2 SMART goals with the help of the sheet below
- 2 SMART goals: one specific academic and one personal goal they would like to achieve
- Time Management Exercise (35 mins)

Time to brainstorming

- Discuss the importance of creating a weekly schedule to allocate time to academic tasks, personal commitments, and goal-related activities
- Share your time-management strategies with your mentor/mentee

Learn to manage your time

- Watch the video to organize your agendas as university student (link)

Time to action

- Together, create a sample weekly schedule that demonstrates how to allocate time efficiently
- Weekly planner examples are shared below
- You can design a weekly planner for mentee and mentor by choosing one of them
- Do not forget: you can use analog tools such as your notebooks or organizers rather than online tools :)

SMART GOALs SETTING

Specific	Clearly define the goal.
Measurable	Establish criteria to measure progress.
Achievable	Ensure the goal is realistic and attainable.
Relevant	Ensure the goal aligns with personal or academic objectives.
Time-Bound	Set a specific timeframe for goal completion.

Your SMART Goal

You can discuss how you will work and support each other to achieve these goals

Your Academic Goal	
Mentee:	
Mentor:	
Your Personal Goal	
Mentee:	
Mentor:	

Weekly Planner

Design your own weekly planner together via use one of these tool

1. My Study Life: It is an academic planner designed for students, helping them manage schedules, assignments, exams, and reminders.
2. Trello: It is a visual project management tool that uses boards and cards to help users organize tasks and projects effectively.
3. Tweek: It is a user-friendly digital planner that focuses on time management, scheduling, and task tracking for improved productivity.
4. ClickUp: It is a comprehensive project management platform that offers task management, goal tracking, and collaboration tools for teams of all sizes.
5. Wedo: It is a task and project management app designed for teams, enabling them to collaborate, assign tasks, and track progress in real time.
6. Canva: There are several templates, so you can design your own weekly planner and then you can use it.

APPENDIX G

PRE-INTERVIEW QUESTIONS

Part 1: Sense of Belonging

1. How do you define the feeling of belonging to our university?

- Can you share a moment when you felt a sense of belonging to our university?
- How would you describe this sense of belonging?
- Have you participated in university clubs or group activities? If so, what did these experiences bring you?
- Do you like spending time on campus?

Part 2: Collaborative Learning

2. Can you share an experience of collaborating in a group work or project at university?

- What was your role in this experience and what kind of learning did this work provide for you?
- Do you ask another student to help you understand the course material?
- Do you explain the course material to other students?
- Do you prepare for exams by discussing or studying the course material with other students?
- Do you have the opportunity to work with other students on projects or assignments?

Part 3: Discussions with Diverse Others

3. Can you share an interaction you had with friends from different cultures (ethnicity, economic status, religious views, political views)?

- How did this interaction change your perspective or way of thinking?
- How often did/do you interact with these groups?

Part 4: Campus Environment

4. How do you interact with your friends on campus?

- What is the social event at school that you enjoyed the most?
- What role did this event play in your social circle?

5. How is your interaction with your academic advisor?

- How often do you meet?
- Have you ever met (for mentees)?

- How often do you communicate?

6. How is your interaction with the faculty?

- How often do you interact?
- In which ways do you interact with the faculty?
- Who do you know from the faculty? (Academics, research assistants, faculty secretaries)

7. How often and in what ways do you interact with administrative affairs (registrar/scholarship office/dorm director)?

- How often do you interact?
- In which ways do you interact with administrative affairs?

Part 5: Quality of Interactions

8. How much does your institution emphasize the following?

- Providing support to help students succeed academically
- Using learning support services (tutoring services, writing center, etc.)
- Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)
- Providing opportunities to be involved socially
- Providing support for your overall well-being (recreation, health care, counseling, etc.)
- Helping you manage your nonacademic responsibilities (work, family, etc.)
- Attending campus activities and events (performing arts, athletic events, etc.)
- Attending events that address important social, economic, or political issues.

APPENDIX H

MID-FOCUS GROUP INTERVIEW QUESTIONS

1. What are the most significant insights you've gained from today's meeting that you believe will positively influence your university journey?
2. What aspects of today's meeting content (topics, activities, discussions) did you find most engaging and relevant to your university experience?
3. Are there any suggestions or recommendations you have for improving future meetings or the program as a whole?
4. Would you suggest conducting this meeting online or face-to-face for the future

APPENDIX I

POST-FOCUS GROUP INTERVIEW QUESTIONS

1. Can you describe your overall experience in the peer mentoring program?
- What were your initial expectations?
- How did they evolve throughout the program?
- Looking back on your journey as a mentee in the peer mentoring program, can you share any specific moments or experiences that had a significant impact on you?
- How do you plan to maintain the connections and lessons learned from the peer mentoring program as you continue your university journey?
2. How do you define the feeling of belonging to our university during the program?
- Do you think that participating in this program has affected your sense of belonging? If so, how?
3. In the context of an online/hybrid/face-to-face peer mentoring program, how did you collaborate with other students, including your mentor?
- Were there any specific activities or moments that stood out to you?
4. Tell us about your interactions with peers from diverse backgrounds (ethnicity, economic status, religious views, and political views) during the program.
- How did these interactions influence your university experience?
- How often did/do you interact with these groups?
5. How has the mentoring program impacted your social interactions and sense of belonging in the campus environment?
- Were there any changes you noticed in your engagement with campus life?
6. In terms of support services and resources, what did you find most helpful during your participation in the program?
- How did these services contribute to your sense of well-being?

Post-Focus Group Interview Questions (Mentors)

1. Can you describe your overall experience as a mentor in the peer mentoring program?
- What were your initial expectations?
- How did they evolve throughout the program?
- What motivated you to become a mentor?

- How did your role evolve over time?

2. How do you define the feeling of belonging to our university during the program?

- Do you think that participating in this program has affected your sense of belonging? If so, how?

3. In the context of an online/hybrid/face-to-face peer mentoring program, how did you collaborate with other students, including your mentee?

- Were there any specific activities or moments that stood out to you?
- How did you facilitate engagement and collaboration among your mentees?
- Can you describe any specific strategies or activities you found effective?

4. Tell us about your interactions with peers from diverse backgrounds (ethnicity, economic status, religious views, political views) during the program.

- How did these interactions influence your university experience?
- As a mentor, how did you encourage your mentees to interact with students from diverse backgrounds?
- How often did/do you interact with these groups?

5. How has the mentoring program impacted your social interactions and sense of belonging in the campus environment?

- Were there any changes you noticed in your engagement with campus life?
- How do you believe your mentorship impacted your mentees' social interactions and sense of belonging in the campus environment?

6. In terms of support services and resources, what did you find most helpful during your participation in the program?

- How did these services contribute to your sense of well-being?
- What resources or guidance did you provide to support your mentees' overall well-being? How did your mentorship contribute to creating a supportive environment for them?

APPENDIX J

MEETING REFLECTION FORM

1. What are the most significant insights you've gained from today's meeting that you believe will positively influence your university journey?
2. What aspects of today's meeting content (topics, activities, discussions) did you find most engaging and relevant to your university experience?
3. Are there any suggestions or recommendations you have for improving future meetings or the program as a whole?
4. Would you suggest conducting this meeting online or face-to-face for the future?

APPENDIX K

TRANSLATED QUOTES

Online Mentee 1 - Post-Focus Group Interview with Mentees	
İşbirliğine Dayalı Öğrenme konusunda gerçekten çok şey öğrendim ve bunu uyguluyorum. Hatta geçen gün deneyimledim. Arkadaşlarımızla konuşurken "Şöyle yapalım , böyle yapalım, şu da olabilir" dediğim zaman bana "Sen bunları nereden biliyorsun?" diye sordular. Ben de Mentörüm sayesinde ve bu program sayesinde öğrendiğimi paylaştım. O kadar çok şey öğrendik ki gerçekten bu artık dışarıdan bile belli oluyor.	I have really learned a lot about Collaborative Learning and I apply what I have learned in my own life. I even experienced it the previous day: when I said "Let's do this, let's do that", my classmate asked me "How do you know these things?". I shared what I learned thanks to my mentor and this program. We have learned so much that it is really obvious even from the outside.
Online Mentee 1 - Post-Focus Group Interview with Mentees	
Ben genelde grup ödevi yaptığımızda bir arkadaşım sorumsuzca davranırsa, ben hallederim yolumuza bakalımdiyordum. Oysa ki bir kişinin sorumsuzluğunu dile getirmemiz gerektiğini Role play yaptığımız toplantıda mentorumdan öğrenmiştim. Bizim bölümümüz gereği çok fazla ekipçe çalışmalar yapacağız. Dolayısıyla ilerleyen dönemlerde kesinlikle bu görüşmelerin etkisini göreceğime eminim.	When we did a group assignment, if a friend of mine was irresponsible, I would take care of it and move on. However, I learned from my mentor during the role play meeting that we should be aware of a person's irresponsibility and speak up. In our department, we will do a lot of teamwork. Therefore, I am sure that I will definitely see the effect of these meetings in the future.
Online Mentee 4 - Post-Focus Group Interview with Mentees	
Sizin paylaştığınız haftalık agendalardaki, projeleri güzelce yerine getirebilmek için partnerimle de, diğer mentee partnerimle de fikir alışverişi yaptık. Bu güzel bir deneyimdi.	We exchanged ideas with my partner and my mentee partner to fulfill the projects on the weekly agendas you shared. It was a nice experience.
Online Mentor 1 - Individual Pre-Interview	
Farklı etnik kökenlerden ve görüşlerden arkadaşlarım var ve bu beni rahatsız etmiyor. İnançlı arkadaşlarımın düşünce yapısına bağlı kalmam ama kendi	I have friends of different ethnic backgrounds and opinions, which doesn't bother me. I don't stick to my fellow believers' thinking structure, but I expect

düşüncelerime saygı beklerim. Karşımdakinin de benim sınırlarımı saygıyla koruması önemlidir. Kaba davranırsa onu uyarırım ve iletişim kurmak istemem.	respect for my own thoughts. It's important for my opponent to respectfully protect my borders. I'll warn him if he's rude, and I don't want to communicate.
Online Mentor 1 - Post-Focus Group Interview with Mentors	
Mentilerimin benden farklı görüşleri var. Hiçbir sorun olmadı, konuları rahatlıkla tartışabildik. Anlayış göstermelerini bekliyordum ve öyle de oldu.	My mentees have a different opinion than I do. There were no problems, we were able to discuss the issues with ease. I was expecting them to show understanding, and so it happened.
Online Mentor 2 - Individual Pre-Interview	
Örneğin, çok farklı siyasi görüşlere sahip insanlar fikirlerini politize ederlerse, onları kendimden uzak tutarım ve onlarla yakın bir ilişki kurmam mümkün olmaz. Farklı insanlarla iletişim kurarak, farklı insan tiplerini deneyimlemenin yardımıyla hem önyargısız hem de önyargılı olmayı öğrendim. Bu da yeni önyargıların yıkılmasına ve oluşmasına yol açıyor.	For example, if people with very different political opinions politicize their ideas, I keep them away from me, and it's impossible for me to have a close relationship with them. By communicating with different people, I have learned to be both unbiased and biased with the help of experiencing different types of people. It leads to breaking down and forming new prejudices.
Online Mentee 2 - Post-Focus Group Interview with Mentees	
Bir de mentorum ile ilişkimizin tam bilgiyi yağmurunu tutup sonrasında bitirmek değil de gerçekten samimi bir şey olduğuna inanıyorum. Programdan sonra da aklımda bir soru olsa, kampüste gördüğümde bir çay içip konuşabileceğim, danışabileceğim bir ilişki olduğunu düşünüyorum artık.	I also believe that our interaction with my mentor is something really sincere, not just showering information and then ending it. Even after the program, if I have a question in my mind, when I see him on campus, I think it is a relationship where I can have a cup of tea and talk, consult.
Online Mentee 1 - Post-Focus Group Interview with Mentees	
Sonuç olarak bu okulun bir ferdi bir öğrencisiyim ve bu ortama yeni gelmiş bir insana yardım etmek bana ekstra bir mutluluk sağlamıştı.	As a result, I am a member of this institute, a student, and helping a newcomer to this environment gave me extra happiness.
Online Mentee 3 - Post-Focus Group Interview with Mentees	
Mail kısmında sorunum yokmuş, doğru mail yazdığımı öğrendim. Diğer yandan,	On the other hand, I am thinking about improving my communication with my

öğretmenlerimle yüz yüze konuşacağımız zamanki iletişimimi geliştirmeyi düşünüyorum. Geliştirmem gereken bazı kısımlar olduğunu fark ettim.Role play bu konuda güzel bir etkinlik oldu, gelişimime kattığını düşünüyorum. Ayrıca, Role play zaten bizim seanslarımız arasındaki en eğlencelilerden birisiydi.	professors when we talk face-to-face. I realized that there are some parts that I need to improve. Role play has been a good activity in this regard, and I think it has contributed to my development. Also, role play was already one of the most fun among our sessions.
Online Mentor 1 - Post-Focus Group Interview with Mentors	
Bu program sosyal aktivite olarak bana şunu katmış olabilir, bu belirli yani siteleri tam olarak bilmiyordum attığınız linkler vasıtasıyla öğrendim	This program may have contributed to me as a social activity, I didn't know about these specific sites, I learned about them through the links you provided.
Online Mentee 4 - Post-Focus Group Interview with Mentees	
Daha çok üniversiteyi tanımaya yönelik beklentilerim vardı; kulüpler, sosyal faaliyetler, dersler. Bu beklentilerim karşılandı. Örneğin, Uçaksavar spor kompleksine ben hiç gitmemiştim. Mentorum atletizm yapıyordu,ben de onu bir deneyimlemek istedim ve gittim. Diğer bir yandan Sinebu'ya hiç gitmemiştim, oraya gittim. Olanakları kullanmaya çalışıyorum diyebilirim.	I had more expectations to get to know the university: clubs, social activities, and courses. My expectations were met. For example, I had never been to the Uçaksavar sports complex. My mentor was doing athletics, so I wanted to experience it, and I went, thanks to my mentor's support. On the other hand, I had never been to Sinebu; I went to the cinema. I can say that I try to use the opportunities.
Online Mentee 1 - Post-Focus Group Interview with Mentees	
Programdan önce "yandal da yapacağım, Erasmus da yapacağım, yüksek lisans yapacağım" diyordum. Bunların hepsi bazen aynı anda olmuyor ve üniversite yıllarını daha böyle sosyal, belki daha eğlenceli geçirmemiz de gerekiyor. Kendime "her şeyde de mükemmel olmak zorunda değilim" dediğimi hatırlıyorum. Açıkçası bu program bana farkındalık kattı.	Before the program, I was saying, "I will do the minor, I will do Erasmus, I will do the master's degree." All of these things do not happen at the same time, and we need to spend the university years more socially, maybe more fun. I remember saying to myself, "I don't have to be perfect at everything." Honestly, this program raised my awareness.
Online Mentee 4 - Post-Focus Group Interview with Mentees	
Bence bu Peer Mentoring Programı'nın düzenlenmesi bile benim akademik olarak başarılı olmamı destekliyor.	I think even the organization of the Peer Mentoring Program supports me in being academically successful.

Hybrid Mentor 1 - Post-Focus Group Interview with Mentors	
Ben zaten çok fazla grup çalışmasında bulunmuştum , bu program da benim için zorlayıcı değildi. Bu nedenle bana bu konuda katkı sağlamadı.	I had already done a lot of group work and this program was not challenging for me. Therefore, it did not contribute to me in this regard.
Hybrid Mentor 2 - Post-Focus Group Interview with Mentors	
On hybrid görüşmeyi tamamlamak zordu, ama biz bir şekilde tamamladık. Bunun için çaba harcadık ve bu güzel bir iş birliğiydi	It was hard to complete ten hybrid interviews, but we somehow did it; we put effort into it, and it was a good collaboration.
Hybrid Mentor 3 - Post-Focus Group Interview with Mentors	
Liderlik deneyimim olmasına rağmen görüşmeleri planlamak, agendalara uyum sağlayarak toplantıyı yönetmek benim liderlik becerilierimi geliştirdi.	Although I have leadership experience, planning meetings and managing the meeting by adapting to agendas have improved my leadership skills.
Hybrid Mentee 3 - Post-Focus Group Interview with Mentors	
Role play toplantısında (5. toplantı) grup çalışmasında nelerin yanlış gidebileceğini, insanların farklı fikirlere sahip olabileceğini konuştuk ve mentorumla bunu simüle ettik. Sonrasında CET 101 dersimde bir deneyim yaşadım, daha önce simüle etmek bana çok yardımcı oldu. Hangi durumlarda nasıl davranmam gerektiğini ve bazı şeylere tepki verebilecekken nasıl tepki vermemem gerektiğini öğrendim.	In the role play meeting (5th meeting), we talked about what can go wrong in group work, people can have different opinions, and we simulated it with my mentor. Afterwards, I had an experience in my CET 101 course, simulating it before helped me a lot. I learned how I should behave in which situations and how I should not react when I could react to some things.
Hybrid Mentee 4 - Post-Focus Group Interview with Mentees	
Ben ders çalışma alışkanlığı olarak hep lise hayatım boyunca tek başıma çalışmaya çok alışmıştım. Ama üniversitede bu şekilde yapmamam gerektiğini, arkadaşlarımla birlikte çalışarak daha çok verim alabileceğimi öğrendim.	As a study habit, I was used to studying alone throughout my high school life. But at university, I learned that I shouldn't do it that way and that I can get more efficiency by studying with my friends.
Hybrid Mentee 1 - Post-Focus Group Interview with Mentees	

Arkadaşlarıma katılıyorum, zaman yönetimi konusunda gerçekten bana katkısı oldu. Günlük hayatımda aktif bir şekilde kullanıldığım bir şey şu anda bu.	I agree with my friends, it really contributed to me in terms of time management. This is something that I am actively using in my daily life right now.
Hybrid Mentor 2 - Post-Focus Group Interview with Mentors	
Mentim ve ben D&I konusunda aynı fikirde değildik; onun kapsayıcı görünmediğini düşünüyordum, ancak zamanla bu konuda daha fazla konuştuk. Bu konuları gündemler sırasında da tartıştık ve ikimiz de geliştik. Kendimi dikkatli bir insan olarak görüyordum ama bu konuları onunla tartıştığımda empatim gelişti. Mentime gelince, programın başında önyargıları nedeniyle bazı kulüplerin etkinliklerine katılamadığını ve kendini okula ait hissetmediğini paylaşmıştı. Menti program süresince önyargılı olduğu kulüplerin etkinliklerine katıldığını ve güzel vakit geçirdiğini söyledi. Bu beni çok iyi hissettirdi. Farklı fikirlere sahip insanlarla daha kolay iletişim kurabileceğimi düşünüyorum	My mentee and I did not agree on D&I; I thought she seemed non inclusive, but over time we talked more and more about it. We also discussed these issues during the agendas, and we both improved. I thought of myself as a mindful person, but when I discussed these issues with her, my empathy had improved. In terms of my mentee, at the beginning of the program, she shared that she could not participate in the activities of some clubs because of her prejudices and that she did not feel that she belonged to the school. During the program, my mentee said that she participated in the activities of the clubs she was prejudiced against and had a good time. This made me feel very good. I think I will be able to communicate more easily with people who have different ideas.
Hybrid Mentee 3 - Individual Pre-Interview	
Kulüpten mesela eskiden farklı bir siyasi görüşü olduğunu bildiğim insanlar vardı. Onlarla iletişime girmek beni çok rahat hissettirmiyordu. Çünkü benim düşündüğüm gibi düşünmek değil de, o rahat olduğum çerçevede düşünmüyorlar. O yüzden sıkıntılar yaşayabiliyorduk. Ben de böyle ortamlarda bulunmayı pek sevmem. O yüzden onlarla pek konuşmak istemiyordum	There were people in the club, for example, who I used to know had a different political view. I didn't feel very comfortable interacting with them. Because they don't think the way I do, they don't think within the framework that I am comfortable with. That's why we could have problems. I don't like to be in such environments either. So I didn't want to talk to them much.
Hybrid Mentee 4 - Individual Pre-Interview	
Genel olarak ben muhafazakar bir insanım ve benim gibi olan insanlara yaklaştığımı, benim gibilerle daha çok görüştüğümü düşünüyorum. Hatta bunun dışında olan insanlarla, onları dışlamak değil kesinlikle niyetim ama onlarla daha çok ortak noktam	In general, I am a conservative person, and I think that when I approach people who are like me, I meet more with people like me. Even with people who are outside of this, it is certainly not my intention to exclude them, but because I have more in common

olduğum için daha ortak dertlerim var. O yüzden hep onlarla görüşme içerisindeyim. Diğerleriyle sınıf içerisinde, ortam içerisinde bir konuşmam oluyor ama hiç yakın ilişki kurduğum olmuyor. Daha ilerisine gitmiyorum.	with them, I have more common problems. That is why I am always in contact with them. I have conversations with others in the classroom, but I never establish a close relationship with them. I won't go any further.
Hybrid Mentor 3 - Post-Focus Group Interview with Mentors	
Ben zaten kampüste arkadaşlarımla vakit geçirmeyi seviyordum, bu program buna ortam sağladı.	I already enjoyed spending time with my friends on campus, and this program provided the environment for us.
Hybrid Mentee 1 - Post-Focus Group Interview with Mentees	
Mentorumla bayağı iyi anlaştık, bir arkadaş da edinmiş oldum. O yüzden çok mutlu oldum bu konuda. Bir de bizim grubumuzda iki mente, bir mentor vardı. Bunun da faydasının olduğunu düşünüyorum ben.Çünkü "Hybrid Mentee 2" sayesinde de bir şeyler öğrenmiş, bir şeyleri gerçekten fark etmiş oldum. O yüzden bu program benim beklentim bayağı üstündeydi diyebilirim.	My mentor and I got along very well, and I also made a friend, so I was very happy about that. There were two mentees and one mentor in our group. I think this was also useful because I learned something and really realized something thanks to Hybrid Mentee 2. So I can say that this program was way above my expectations.
Hybrid Mentee 4 - Post-Focus Group Interview with Mentees	
Bundan sonra da bir problemim olsa mentorumun kapısını çalarım. Hatta ilk danışaca,ğım kişi olur. Hem okul sürecinde hem de dediğim gibi staj arayacağım zaman veya işle alakalı hocalara mail atacağım zaman bile mentoruma danışabileceğime eminim.	From now on, if I have a problem, I will knock on my mentor's door. My mentor would even be the first person I would consult. I am sure that I can consult my mentor both during the school process and, as I said, even when I look for an internship or send an email to work-related professors.
Hybrid Mentee 4 - Post-Focus Group Interview with Mentees	
Programın şöyle bir artısı oldu: mentorum sayesinde akademik danışmanımız ile iletişimin daha kolay olduğunu, diğer bölüm hocalarımıza göre bize daha çok yardımcı olabileceğini öğrendim aslında.	The program had such an advantage: thanks to my mentor, I actually learned that it is easier to communicate with our academic advisor and that she can help us more than our other department professors."
Hybrid Mentor 3 - Post-Focus Group Interview with Mentors	

Görüşme ajandalarındaki linklerde SineBU'yu fark ettim ve dedim ki ben mezun olacağım ve hala SineBU'ya gitmedim, o yüzden Sinebu'ya gitmeyi planladım.	I noticed SineBU[2] in the links in the agendas of the meetings, and I said that I will graduate soon, but I still haven't been to SineBU, so I planned to go to SineBU.
Hybrid Mentee 1 - Post-Focus Group Interview with Mentees	
Okulun sosyal olanakları konusunda Mentörüm sayesinde birçok ertelediğim şeyi yapma fırsatı buldum. Örneğin, konserler, sinema tarzı şeylerden bahsediyorum burada da. üniversitedepek çok imkan var: kampüsler var, gidip görmem gereken gerçekten güzel yerler var. Fakat daima böyle bir erteliyordum ben. Önümde örnek birisi olunca ve "Bak böyle yap çok güzel oluyor, şu şekilde oluyor" diye söyleyince ben de daha çok faydalanmaya başladım.	Thanks to my mentor, I had the opportunity to do a lot of things that I had been putting off. For example, I'm talking about concerts, movies, and stuff like that. There are many opportunities at the university. There are campuses, and there are really beautiful places I should go and see. But I was always procrastinating like this. When I had someone who was an example in front of me and said, "Look, do it like this; it's very good; it works like this," I started to benefit more.
Hybrid Mentee 4 - Post-Focus Group Interview with Mentees	
Benim aidiyet duygumu kesinlikle arttırdı, okulu daha aktif bir şekilde kullanıyorum ve okula gelme isteğim arttı diyebilirim. Okulu kullandıkça faydalandığımı gördüm. Okuldaki kulüpler, etkinlikler, bütün o düzenin aslında benim için ne kadar faydalı olacağını, iş bulmamda, staj bulmamda bile okulun bana ne kadar çok katkı sağlayacağını öğrendim.	The program definitely increased my sense of belonging; I can say that I use the university more actively, and my desire to come to the university increased. As I used the university, I saw that I was benefiting from it. I learned how useful the clubs, activities, and the whole system at the campus would actually be for me, how much the university would contribute to me even in finding a job or an internship.
Face-to-Face Mentor 1 - Individual Pre-Interviews	
Bir derste proje yetiştirmemiz gerekiyordu. Discord'a girip yan yana olmasak bile orada birbirimize nasıl gidiyor, ne yapıyorsun, bu nasıl olmuş, şu nasıl olmuş gibi sorular soruyorduk. Geçen dönem yine Unity'de ödev yaparken, bir yere oturup kahve içip ilk önce biraz sohbet edip sonra ödev yaptığımız çok oluyordu.	We had to complete a project in one lesson. Even if we weren't side by side, we would go on Discord and ask each other questions like, "How are you doing? What are you doing ? How is this? How is that?". Last semester, when we were doing homework in Unity again, there were many times when

[2] SineBU is the movie theater of the University.

	we would sit somewhere, drink coffee, chat a little bit first, and then do homework.
Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees	
Arkadaşlarıma katılıyorum. Zaman yönetimi konusunda gerçekten bana katkısı oldu. Günlük hayatımda aktif bir şekilde kullanıldığım bir şey şu anda bu.	I agree with my friends, it really helped me with time management. This is something that I am actively using in my daily life right now.
Face-to-Face Mentee 1 - Post-Focus Group Interview with Mentees	
Aslında mentorum ve ben birbirimize çok benziyorduk. Hatta D&I'dan bahsettiğimizde ikimiz de aynı anda "Let them people to live" gibi bir tepki verdik. Fikirlerimiz paralel olduğu için çok fazla bir değişiklik olmadı.	In fact, my mentor and I were very similar. In fact, when we talked about the D&I, we both reacted at the same time, like, "Let them people to live". Since our ideas were parallel, there wasn't much of a change.
Face-to-Face Mentee 1 - Post-Focus Group Interview with Mentees	
Program boyunca, bölümümüzde dört sene geçirilmiş bir insanla beraberdik. Öyle ya da böyle tabii ki bana pozitif bir şeyler katacağına ben emindim. O yüzden bir beklentim vardı açıkçası. Program sonuna baktığımızda, ben de mentorum da gerçekten kafa dengi insanlardık. Benim de kaygılarımın olduğu noktada gayet yardımcı oldu bana. O yüzden bence gayet verimli ve başarılı bir süreç geçirdiğimizi düşünüyorum.	Throughout the program, we were with a person who had spent four years in our department. One way or another, of course, I was sure that he would add something positive to me, so I had an expectation, to be honest. When we looked at the end of the program, both me and my mentor were really like-minded people. He helped me a lot at the point where I had concerns. So I think we had a very productive and successful process.
Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees	
Benden daha tecrübeli, benden daha fazla şey görmüş biriyle bir araya gelebilmem çok iyi bir şey.	It's very good that I can come together with someone who is more experienced than me, who has seen more than me.
Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees	
Benim de ona bir etkimin olduğunu düşünüyorum. İçerik üretimiyle ilgili bir muhabbetimiz olmuştu. Mentorum kendi ürettiği içerikleri, ben kendi ürettiğim içerikleri (Youtube, Instagram gibi)	We had a conversation about content production. My mentor had the opportunity to show the content he produced, and I had the opportunity to show the content I produced (such as on Youtube, Instagram).

göstermek fırsatımız olmuştu karşılıklı. Bu sohbetten sonra mentorum içerik üretmeye başladı tekrardan. Öncesinde bıraktığını ve isteğinin olmadığını söylemişti. Galiba bu konuda onu etkilemiş olabilirim.	After this conversation, my mentor started producing content again. My mentor said that he had quit before and had no desire. I think I may have influenced him in this regard.
Face-to-Face Mentor 1- Post-Focus Group Interview with Mentors	
Programa başlamadan önce hiç şey vakit geçirmeden işimi bitirip kampüsten çıkmaya bakıyordum. Mentimin sayesinde kampüste kaldığım vakit de arttı. Klasik müzik konserine (Güney kampüste gerçekleşen) hiç gitmemiştim, oraya gitmeyi not aldım.	Before I started the program, I was looking to finish my work and leave the campus without spending any time. Thanks to my mentee, the time I spent on campus increased. I had never been to the classical music concert (held on the South Campus), so I made a note to go there.
Face-to-Face Mentor 2 - Post-Focus Group Interview with Mentors	
Kampüste olan bir kafeden bahsetti mentim, ben daha önce hiç gitmemiştim. Sonrasında hep orada buluştuk, ben de öğrenmiş oldum.	My mentee told me about a café on campus, I had never been there before. Afterwards, we always met there, and I learned about it.
Face-to-Face Mentee 1- Post-Focus Group Interview with Mentees	
Kampüste hangi kahve nerede güzeldir, onun ipuçlarını vermişti bana. Kampüs çevresinde ders çalışılabilecek yerler hakkında konuşmuştuk ve ETAB binasındaki ders çalışma alanına gitmiştik. Buraları da kullanıyorum açıkçası ben ders çalışmak için ya da bir kahve alayım dediğimde onun önerilerini dinliyorum. Böyle bir etkisi olmuştu benim üzerimde.	My Mentor gave me tips on which coffee is good on campus. We talked about places to study around the campus, and we went to the study area in the ETAB Blok building. To be honest, now, I also use these places to study, or when I want to get a coffee, I listen to my Mentor's suggestions. My Mentor had such an effect on me.
Face-to-Face Mentee 2- Post-Focus Group Interview with Mentees	
Face-to-Face Mentee 1'in kullandığı gibi ETAB''e ben de gittim, gerçekten faydalı oldu. Onun dışında kütüphaneyi gerçekten kullanmaya başladım. Mentorum da kullanıyordu.	I went to ETAB Blok like Face-to-Face Mentee1 did; it was really useful. Other than that, I started using the library on the advice of my mentor. (Face-to-Face Mentee 2 - Post-Focus Group Interview with Mentees)
Face-to-Face Mentee 1- Post-Focus Group Interview with Mentees	
Mentörüm ağırlıklı olarak yazılımla uğraşıyordu. Bu noktada epey farkındalık	My mentor was mainly involved in software. I can say that I gained a lot of awareness at

kazandığımı söyleyebilirim. Mentorum, 42 İstanbul diye bir program vardı; ona katılmış ve orada ilerlemiş. Bu noktada epey bilgi aldım, bu benim için güzel farkındalık oldu. Onun dışında kendi yaptığı bazı yazılımları gösterdi. Yapıyor olduğu eğitimleri gösterdi.	this point. There was a program called 42 Istanbul; my mentor participated in it and progressed there. At this point, I got a lot of information, which was good awareness for me. Apart from that, my Mentor showed me some software and the training that my Mentor produced.
Online Mentor 1 - Mid-Focus Group Interview with Mentors	
Ben Albert Long Hall'de mesela belirli bir takvime göre klasik müzik konseri olduğunu bilmiyordum. Senin (researcher) attığın dokümandan görmüş ve öğrenmiş oldum.	I didn't know that there was a classical music concert at Albert Long Hall, for example, according to a certain calendar. I saw and learned from the document you (the researcher) sent me.
Online Mentee 2 - Mid-Focus Group Interview with Mentees	
Mentorumm çok güzel örnekler verdi: şu derslerden geçmek kolay, şu dersler daha eğlenceli, şu dersleri daha rahat alabilirsin. Böyle güzel ders önerileri vermişti, gerçekten bir dahaki dönem faydasını göreceğimi düşünüyorum. Bir yere not aldım bunları.	My mentor gave very good examples: these courses are easy to pass, these courses are more fun, and you can take these courses more easily. He gave such good course suggestions, I really think I will benefit from them next semester. I wrote them down.
Online Mentee 1 - Post-Focus Group Interview with Mentees	
Ben de okulun kaynakları ve çevresiyle ilgili konuştuğumuz görüşmeden verim aldım. Çok sık gördüğümüz ama hiç girmediğiniz mekanlar oluyor. Orayı tecrübe etmiş birinden öneri alınca belki de çok sık gideceğiniz bir kafeyi falan keşfetmiş oluyorsunuz.	I also benefited from the meeting where we talked about the resources and the environment of the institution. There are places that you see very often but have never been to. When you get a suggestion from someone who has experienced that place, maybe you discover a café or something that you will go to very often.
Hybrid Mentor 2 - Mid-Focus Group Interview with Mentees	
Benim için çeşitlilik konusu ilginçti. Çünkü birbirimizle bir şeyler paylaşırken bazı noktalarda farklı düşündüğümüz anlar oldu. Tabii ki bunu saygılı bir şekilde konuştuk ama çok farklı düşündüğümüz de paylaştık. Sanırım ben orada bir şeyler öğrendim, o da bana bir şeyler öğretti. Ama benim için en	For me, the diversity topic was interesting. Because when we were sharing something with each other, there were moments when we thought differently on some points. Of course, we talked about it in a respectful way, but we also shared that we thought very differently. I think I taught something there, and I think he taught me. But it was

uzun ve en zor olanıydı açıkçası. Ama aynı zamanda bana en çok şey öğreten konuydu.	the longest and most difficult one for me, to be honest. But it was also the subject that taught me the most.
Hybrid Mentor 1 - Mid-Focus Group Interview with Mentees	
Agendaları önceden bilseydik benim açımdan daha iyi olurdu. Çünkü ilk toplantıda konuştuğumuz konulari sonrasinda üçüncü toplantida ajenda olarak karşımızda bulunca onu ister istemez geçiyor olduk.	It would have been better for me if we knew the agendas in advance. Because of the topics that we discussed in the first meeting, when we found them on the agenda in the third meeting, we inevitably passed them.
Hybrid Mentor 3 - Mid-Focus Group Interview with Mentees	
Mentorum işte birkaç tane seçmeli ders önerisi vardı. Şu hoca bu dersi güzel anlatıyor ya da bu hocadan bu ders alma falan demişti. Onlar benim bayağı işime yaradı.	My Mentor had a few elective course suggestions. My Mentor said that this teacher explains this course well, or don't take this course from this professor. They were very useful for me.
Hybrid Mentee 4 - Post-Focus Group Interview with Mentees	
Mentorum okuldaki ders çalışma mekanları önerdi. Onlara da gittim hatta birkaçına. Güzeldi benim için. Ayrıca okulumuzdaki bazı kulüplerin ne işe yaradığını bilmiyormuşum. Gerçekten hiçbir fikrim yokmuş. Faydalanabileceğim o kadar çok şey varmış ki aslında. O görüşme gerçekten bana fazlasıyla katkı sağlamıştı. Özellikle kariyer merkezinde anlatmıştı, o benim için çok iyiydi.	My mentor suggested study places at school. I even went to a few of them. It was good for me. I also didn't know what some of the clubs in our school were for. I really had no idea. There were actually so many things I could benefit from. That interview really helped me a lot. Especially in the career center, it was very good for me.
Hybrid Mentee 4 - Mid-Focus Group Interview with Mentees	
Benim Mentorum Erasmus yapmış ve Erasmus deneyiminden bahsettik. O benim için gerçekten faydalıydı. Direkt olarak deneyimlemiş biri tüm artısı ve eksisiyle size anlattığı zaman, aklınıza soru kalmıyor. Bu benim için gerçekten çok faydalıydı.	My mentor did Erasmus, and we talked about his Erasmus experience. That was really useful for me. When someone who has experienced it directly tells you all the pros and cons, there are no questions left in your mind. This was really useful for me.
Hybrid Mentee 1 - Mid-Focus Group Interview with Mentees	

Konulardan bir tanesi de CET dersleri ve alınması gereken derslerle alakalıydı. Mentorum, dersi veren hocalar, ders işleyişi ve topicler hakkında bilgiler vermişti.Öncesinden bir şeyleri öğrenmek açıkçası biraz içime su serpti. Onun haricinde ders çalışabileceğim mekanın önerileri varmış. Hatta birlikte study lounge'ına gidip çalıştık.	One of the topics was about departmental courses and the courses to be taken. My mentor gave me some specific tips about lecturers, courses and subjects and it was useful for me to learn this information in the first year of university. Apart from that, there were suggestions of places where I could study. We even went to the study lounge together and studied.
Online Mentor 1 - Post-Focus Group Interview with Mentors	
Online alması benim açımdan büyük bir avantajdı, çünkü belirli zamanlarda farklı yerlere gittim. Buna rağmen görüşme saatleri sürekli sabit kaldı. Hibrit veya yüz yüze olsa bunu yapamazdım.	Online was a big advantage for me because I went to different places at certain times, but the meeting times were always fixed. I wouldn't have been able to do this if it was hybrid or face-to-face.
Online Mentor 1 - Post-Focus Group Interview with Mentors	
Negatif yanı belki şu olabilir. Mentiler bazen tam olarak konuya odaklanamadılar, online toplantıdaki konum durumundan dolayı. Bazen yer değiştirme durumundalar. O an mesela bir aktivite yapılacaksa tam olarak ona katılımı sağlayamıyorlar.	The negative side may be that mentees may sometimes not be able to fully focus on the topic due to their location in the online meeting. Sometimes they have to change places. At that moment, for example, if there is an activity to be done, they may not be able to fully participate in it.
Online Mentee 2 - Post-Focus Group Interview with Mentees	
Online ortamın şöyle bir artısı var, zaman kaybetmiyorsunuz gerçekten. Çok pratik. Hepimiz farklı yerlerde oturuyoruz ve bu bir zaman esnekliği sağlıyor.	The advantage of the online Peer Mentoring Program is that you don't really waste time. It is very practical. We are all sitting in different places, and this provides time flexibility.
Online Mentee 3 - Post-Focus Group Interview with Mentees	
Kampüste buluşsak daha güzel olabilirdi. Çünkü bir arkadaşımızın dediği gibi şu an yani duygularımız pek geçmiyordu. Çok fazla birbirimizin sözünü kesiyorduk. O gerçek hayattaki mimikleri tam olarak hissedemedik; duyguları, havayı. Robot ilişkisi gibi oldu diye düşünüyorum.Pek samimi olmadı.	It would have been better if we met on campus. Because, as one of our friends said, right now, I mean, our emotions were not passing. We were interrupting each other too much. We couldn't fully feel those real-life gestures—the emotions, the mood. I think it was like a robot relationship.

Hybrid Mentor 2 - Mid-Focus Group Interview with Mentors	
Online görüşmelerin teknik kalitesi gerçekleştirilen sohbetin kalitesini etkileyebiliyor. İnternetle ilgili bir sıkıntı bile açıkçası o görüşmenin tadını çok kaçırıyor. Yani karşı tarafın sesini kesik almam bile beni rahatsız ediyor. Aynı zamanda, online toplantılarda yüz yüze görüşmelerdeki samimiyetin yakalanamadığı görüşündeyim.	The technical quality of online conversations can affect the quality of the conversation. Even a problem with the internet frankly takes a lot of the flavor out of the conversation. I mean, even if the other person's voice is muted, it bothers me. At the same time, I think that online meetings lack the sincerity of face-to-face meetings.
Hybrid Mentor 1 - Post-Focus Group Interview with Mentor	
Kesinlikle samimiyet faktörü bir avantajdı. Ven çok daha rahat akıcı hissediyorum yüz yüze görüşmelerde. Çünkü, vücut dilini daha iyi anladığımı düşünüyorum.	Definitely the interaction factor was an advantage. I feel much more comfortable and fluent in face-to-face meetings. Because I think I understand body language better.
Hybrid Mentor 2 - Mid-Focus Group Interview with Mentor	
Dezavantajı dediğim gibi her zaman zamanı uydurmak kolay olmuyor. Ya da benim menteem o gün sadece buluşma için uzak bir yerden geliyor ve bu onun için çok da bazen uygun olmayabiliyor. Belki hava soğuk oluyor, belki başka bir programım oluyor.	The disadvantage is, as I said, that it is not always easy to make the time. Or my mentee is coming from a distant place that day just for the meeting, and it may not be very convenient for him sometimes. Maybe the weather is cold; maybe I have another program.
Hybrid Mentor 1 - Mid-Focus Group Interview with Mentor	
İyi ki hibrit! Programın sonuna kadar kullandık hibrit imkanlarını. hani yoğunluğa göre haftalık offline ya da remote olarak düzenledik.	Good thing it's hybrid! We used the hybrid facilities until the end of the program. You know, we organized it weekly offline or remotely, depending on the intensity.
Hybrid Mentee 3 - Post-focus Group Interview with Mentees	
Online görüşmelere evden katılıyordum, daha rahat oluyordu ortam. Bir yere gitmeme ya da koşturmama gerek kalmıyordu. Çünkü bazen görüşmelerimiz okul çıkışı oluyordu, geç kalabiliyordum. O yüzden mentorumu da bekletmemek için hızlı gidiyordum. Online olması daha böyle kolaylık sağlıyordu bize.	I used to attend online meetings from home, it was more comfortable. I didn't need to go anywhere or run around. Because sometimes our meetings were after school, I could be late, so I was going fast so as not to keep my mentor waiting. Being online made it easier for us.

Hybrid Mentee 4 - Mid-Focus Group Interview with Mentee	
İnternet bağlantısı nedeniyle birbirimizin sözünü biraz daha fazla kesiyorduk. Daha az iletişim kurabiliyorduk.	We were interrupting each other a little bit more because of the internet connection. We could communicate less.
Hybrid Mentee 4 - Mid-Focus Group Interview with Mentee	
Bu bir artıydı ama bazen de büyük bir dezavantaja dönüşüyordu. Mesela, ben kendimi hazırlıyordum ve aniden onun işi çıkıyordu. Görüşmeye 20 dakika ya da yarım saat kala aniden erteleyebiliyorduk. Bu beni bazen mutsuz ediyor.	It was such a plus, but sometimes it turned out to be a big disadvantage. I was preparing myself, and suddenly his work would come up. We would suddenly postpone it, 20 minutes or half an hour before the interview. This makes me unhappy sometimes.
Hybrid Mentee 1 - Post-Focus Group Interview with Mentee	
Yüz yüze görüşmelerde hem iletişimimiz daha iyi oluyor hem daha rahat oluyor hem de birbirimizi daha kolay tanıyabiliyoruz bence. Bu yüzden daha rahat ısınabiliyoruz birbirimize. O yüzden yüz yüze olmasından yanayım ben.	In face-to-face meetings, I think our communication is better; it is more comfortable, and we can get to know each other more easily. Therefore, we can warm up to each other more easily. That is why I am in favor of face-to-face meetings.
Hybrid Mentee 2 - Mid-Focus Group Interview with Mentee	
Hibrit olmanın avantajları ağır bastı. Yüz yüze tanıştık, birbirimizi çok iyi tanıdık ve çok iyi iletişim kurduk. Öte yandan, bazı günler kampüs çevresinde buluşmak bizim için uygun değildi ya da geç saatlerde buluşabiliyorduk. Böyle günlerde çevrimiçi olmak hepimiz için faydalı oldu.	The advantages of being a hybrid outweighed. We met face-to-face, got to know each other very well, and communicated very well. On the other hand, some days it was not convenient for us to meet around the campus, or we could meet at late hours. On such days, being online was useful for all of us.
Hybrid Mentee 2 - Post-Focus Group Interview with Mentees	
Dezavantajları ise kesin olarak bir hafta yüz yüze bir hafta online olmasıydı. Bu kısmı biraz zordu, çünkü yüz yüze konusmak istediğimiz zamanlar oldu ve böyle zamanlarda online görüşmeyi zorunda hissettik kendimizi ve pek verim alamadık, sıkıldık.	The disadvantages were that it was definitely one week face-to-face and one week online. This part was a bit difficult, because there were times when we wanted to talk face-to-face and at such times we felt obliged to meet online, but we didn't get much efficiency; we got bored.

Face-to-Face Mentor 1 - Post-Focus Group Interview with Mentors	
Mesela şimdi burada (çevrimiçi odak grup görüşmesi) birine bir söz geldiği zaman genelde o kişinin lafını bitirmeyi bekliyoruz. Bir anda dalamıyoruz, ses gidiyor geliyor. Ama yüz yüze de böyle bir şey olması olası değil. Bu nedenle yüz yüze görüşmenin avantajı da iletişimin çok daha güçlü olması bence.	For example, when someone says something here (in an online focus group meeting), we usually wait for that person to finish. We cannot dive in at once; the sound goes and comes. But this is unlikely to happen face-to-face. Therefore, I think the advantage of face-to-face meetings is that communication is much stronger.
Face-to-Face Mentor 1 - Post-Focus Group Interview with Mentors	
Bence bir dezavantaj yok. Aksine bir program içerisinde bir planlama yapmayı öğretti bana.Çünkü o gün o saat içerisinde o kampüste oturup buluşmak zorundaydık.	I think there is no disadvantage. On the contrary, it taught me how to plan within a program. Because, we had to sit and meet on that campus at that time that day
Face-to-Face Mentee 1 - Post-Focus Group Interview with Mentee	
Açıkçası mentorum da ben de yüz yüze konuşma insanıyız. Bu yüzden Yüz Yüze bu programı gerçekleştiriyor olabilmek benim için büyük bir şans.	Obviously, both my mentor and I are face-to-face people. That's why it's a great chance for me to be able to do this program face-to-face.

APPENDIX L

ETHICS COMMITTEE APPROVAL

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sosyal ve Beşeri Bilimler İnsan Araştırmaları Etik Kurulu (Sbinarek)

Sayı : E-84391427-050.01.04-154605 21.11.2023
Konu : 2023-13T Kayıt Numaralı Başvurunuz Hakkında

Sayın Dr. Öğr. Üyesi Mutlu Şen Akbulut

Tez danışmanlığını yürüttüğünüz öğrenciniz Ebrunur Arkun'un "The Impact of Peer Mentoring on University Students' Engagement in Online, Hybrid and Face-to-Face Contexts" başlıklı projesi ile Boğaziçi Üniversitesi Sosyal ve Beşeri Bilimler İnsan Araştırmaları Etik Kurulu (SBİNAREK)'e yaptığınız 2023-13T kayıt numaralı başvurunuz 20.11.2023 tarih ve 2023/09 sayılı kurul toplantısında incelenmiş ve projenize etik onay verilmesi uygun bulunmuştur.

Bu karar tüm üyelerin toplantıya on-line olarak katılımıyla ve oybirliği ile alınmıştır. Onay mektubu tüm üyeler adına Komisyon Başkanı tarafından e-imzalanmıştır. Bilgilerinizi rica ederiz.

Saygılarımızla,

Dr. Öğr. Üyesi Işıl Erduyan
Kurul Başkanı

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Belge Doğrulama Kodu : 0IGL-YBHB-0OP5 Belge Doğrulama Adresi : https://www.turkiye.gov.tr/bogazici-universitesi-ebys

Adres: 34342 Bebek-İSTANBUL
Telefon No:
e-Posta:
Kep Adresi: bogaziciuniversitesi@hs01.kep.tr
Fax No:
İnternet Adresi: https://www.bogazici.edu.tr/
Bilgi İçin:Nurşen MUNAR
Mühendis
Telefon No:

REFERENCES

Adams, A. M., Wilson, H., Money, J., Palmer-Conn, S., & Fearn, J. (2020). Student engagement with feedback and attainment: the role of academic self-efficacy. *Assessment & Evaluation in Higher Education*, 45(2), 317-329.

Akinla, O., Hagan, P., & Atiomo, W. (2018). A systematic review of the literature describing the outcomes of near-peer mentoring programs for first year medical students. *BMC medical education*, *18*, 1-10.

Alhija, F., & Fresko, B. (2014). An Exploration of the Relationships between Mentor Recruitment, the Implementation of Mentoring, and Mentors' Attitudes. *Mentoring & Tutoring: Partnership in Learning, 22, 162 - 180*. https://doi.org/10.1080/13611267.2014.902557.

Allen, T. D. ; Russell, J. E.A.; Maetzke, S. B. (1997). *Formal Peer Mentoring: Factors Related to Proteges' Satisfaction and Willingness to Mentor Others. Group & Organization Management, 22(4), 488–507*.doi:10.1177/1059601197224005

Allen, T. D., Eby, L. T., & Lentz, E. (2006). Mentorship behaviors and mentorship quality associated with formal mentoring programs: closing the gap between research and practice. *Journal of applied psychology*, 91(3), 567.

Altonji, S., Baños, J., & Harada, C. (2019). Perceived Benefits of a Peer Mentoring Program for First-Year Medical Students. *Teaching and Learning in Medicine*, 31, 445 - 452. https://doi.org/10.1080/10401334.2019.1574579.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25(4), 297-308. Retrieved from http://www.jcsdonline.org/

Astin, A. 1993. What matters in college? *Four critical years revisited*. San Francisco: Jossey-Bass.

Ayala, J. C., & Manzano, G. (2018). Academic performance of first-year university students: the influence of resilience and engagement. *Higher Education Research & Development*, *37*(7), 1321-1335.

Barkley, E. F. (2009). Student engagement techniques: A handbook for college faculty. *San Francisco: Jossey-Bass.*

Beltman, S., & Schaeben, M. (2012). Institution-wide peer mentoring: Benefits for mentors. *The International Journal of the First Year in Higher Education*, *3*(2), 33-44.

Bierema, L. L., & Merriam, S. B. (2002). E-mentoring: Using computer mediated communication to enhance the mentoring process. *Innovative higher education, 26*, 211-227.

Bonin, E. (2013). Effect of peer mentors on academic performance. *Methodology, 2*, 12.

Bowden, J. L. H., Tickle, L., & Naumann, K. (2021). The four pillars of tertiary student engagement and success: a holistic measurement approach. *Studies in Higher Education*, *46*(6), 1207-1224.

Bowen, S. (2005). Engaged learning: Are we all on the same page? *Peer Review*, 7(2), 4!7.

Boyle, F., Kwon, J., Ross, C., & Simpson, O. (2010). Student–student mentoring for retention and engagement in distance education. *Open Learning: The Journal of Open, Distance and e-Learning*, *25*(2), 115-130.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, *11*(4), 589-597.

Bryson, C. (2014). Clarifying the concept of student engagement. In C. Bryson (Ed.), *Understanding and developing student engagement* (pp. 1-22). Abingdon, United Kingdom: Routledge.

Budny, D., Paul, C. A., & Bon, L. (2006, October). The impact peer mentoring can have on freshman students. In *Proceedings. Frontiers in Education. 36th Annual Conference* (pp. 1-6). IEEE.

Burnham, E., & Fleming, M. (2011). Selection of Research Mentors for K- Funded Scholars. Clinical and Translational Science, 4. https://doi.org/10.1111/j.1752-8062.2011.00273.x.

Burton, Samantha, "Cross-Age Peer Mentoring: A Meta-Analysis" (2020). Graduate Doctoral Dissertations. 591.https://scholarworks.umb.edu/doctoral_dissertations/591

Bussey-Jones, J., Bernstein, L., Higgins, S., Malebranche, D., Paranjape, A., Genao, I., ... & Branch, W. (2006). Repaving the road to academic success: the IMeRGE approach to peer mentoring. *Academic Medicine*, *81*(7), 674-679.

Campbell, T. A., & Campbell, D. E. (1997). Faculty/student mentor program: Effects on academic performance and retention. *Research in higher education, 38*, 727-742.

Carragher, J., & McGaughey, J. (2016). The effectiveness of peer mentoring in promoting a positive transition to higher education for first-year

undergraduate students: a mixed methods systematic review protocol. Systematic reviews, 5, 1-9.

Casuso-Holgado, M. J., Cuesta-Vargas, A. I., Moreno-Morales, N., Labajos-Manzanares, M. T., Barón-López, F. J., & Vega-Cuesta, M. (2013). The association between academic engagement and achievement in health sciences students. *BMC medical education*, 13(1), 1-7.

Cassiani, C., Stinson, J., & Lindsay, S. (2020). E-mentoring for youth with physical disabilities preparing for employment: A content analysis of support exchanged between participants of a mentored and non-mentored group. *Disability and rehabilitation*, *42*(14), 1963-1970.

Christie, H. (2014). Peer mentoring in higher education: Issues of power and control. *Teaching in Higher Education*, *19*(3), 955.

Clark, R., Andrews, J., & Gorman, P. (2013). Tackling Transition: The value of peer mentoring. *Widening Participation and Lifelong Learning*, *14*(1), 57-75.

Clinard, L., & Ariav, T. (1998). What Mentoring Does for Mentors: A Cross-Cultural Perspective. *European Journal of Teacher Education*, 21, 91-108. https://doi.org/10.1080/0261976980210109.

Creswell, J. W. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. *Pearson Education, Inc.*

Creswell, J. (2013). Qualitative inquiry & research design: Choosing among five approaches.

Crisp, G., & Cruz, I. (2009). Mentoring college students: A critical review of the literature between 1990 and 2007. *Research in higher education*, *50*, 525-545.

Coates, H. (2005). The value of student engagement for higher education quality assurance. *Quality in higher education*, 11(1), 25-36.

Columbia University Office of the Provost. (2016). *Guide to Best Practices in Faculty Mentoring.*

Colvin, J. W., & Ashman, M. (2010). Roles, risks, and benefits of peer mentoring relationships in higher education. *Mentoring & tutoring: partnership in learning*, 18(2), 121-134.

Collier, P. (2017). Why Peer Mentoring is an Effective Approach for Promoting College Student Success.. , 28, 9-19. https://doi.org/10.18060/21539.

Collier, P. (2022). How Peer Mentoring Can Help Universities Promote Student Success in a Post-COVID19 Pandemic World. *Metropolitan Universities*, *33*(1), 37-54.

Cornelius, V., Wood, L., & Lai, J. (2016). Implementation and evaluation of a formal academic-peer-mentoring programme in higher education. *Active Learning in Higher Education*, *17*(3), 193-205.

Connolly, S. (2017). The impact of peer mentoring on the mentors. *Journal of Applied Research in Higher Education*, *9*(2), 255-266.

Cooper, R. (2018). Connecting embedded and stand-alone peer mentoring models to enhance student engagement. A Practice Report. *Student Success*, *9*(2), 87-93

Cornu, B. (2015). Teacher education in France: Universitisation and professionalisation–from IUFMs to ESPEs. *Education Inquiry*, *6*(3), 28649.

Cox, E. (2005). For better, for worse: the matching process in formal mentoring schemes. *Mentoring & Tutoring: Partnership in Learning*, 13(3), 403-414.

Çapan, S. A., & Bedir, H. (2019). Pre-service teachers' perceptions of practicum through reciprocal peer mentoring and traditional mentoring. *Journal of Language and Linguistic Studies*, *15*(3), 953-971.

Dantzer, B., & Perry, N. (2023). Co-constructing knowledge with youth: what high-school aged mentors say and do to support their mentees' autonomy, belonging, and competence. *Educational Action Research*, 31(2), 195-212.

DeMarinis, M., Beaulieu, J., Cull, I., & Abd-El-Aziz, A. (2017). A mixed-methods approach to understanding the impact of a first-year peer mentor program. *Journal of the First-Year Experience & Students in Transition*, *29*(2), 93-107.

Dickson, K. S., Glass, J. E., Barnett, M. L., Graham, A. K., Powell, B. J., & Stadnick, N. A. (2021). Value of peer mentoring for early career professional, research, and personal development: a case study of implementation scientists. *Journal of clinical and translational science*, *5*(1), e112.

Dominguez, N., & Hager, M. (2013). Mentoring frameworks: synthesis and critique. *International Journal of Mentoring and Coaching in Education*, *2*(3), 171-188.

Dopp, J., & Block, T. (2004). High school peer mentoring that works!. *Teaching Exceptional Children*, *37*(1), 56-62.

DuBois, D. L., & Rhodes, J. E. (2006). Introduction to the special issue: Youth mentoring: Bridging science with practice. *Journal of Community Psychology*, 34(6), 647-655.

DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: A meta- analytic review. *American journal of community psychology*, 30(2), 157-197.

DuBois, D. L., & Karcher, M. J. (2014). Youth mentoring in a contemporary perspective. *Handbook of youth mentoring*, *2*, 3-15

Efrat, K., Wald, A., & Gilboa, S. (2022). The transition from novice to serial crowdfunders: behavioral antecedents and well-being drivers. *Internet Research*, 32(1), 172-196.

Ensher, E. A., Heun, C., & Blanchard, A. (2003). Online mentoring and computer-mediated communication: New directions in research. *Journal of Vocational Behavior*, *63*(2), 264-288.

Fayram, J., Boswood, N., Kan, Q., Motzo, A., & Proudfoot, A. (2018). Investigating the benefits of online peer mentoring for student confidence and motivation. *International Journal of mentoring and Coaching in Education*, *7*(4), 312-328.

Fink, J. E. (2003). *Creating significant learning experiences: An integrated approach to designing college courses.* San Francisco, CA: Jossey-Bass.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, 59, 117-142.

Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter?. In *Handbook of research on student engagement* (pp. 97-131). Boston, MA: Springer US.

Flores Ph D, G., & Estudillo Ph D, A. G. (2018). Effects of a peer-to-peer mentoring program: Supporting first-year college students' academic and social integration on campus. *Journal of Human Services: Training, Research, and Practice*, 3(2), 3.

Fox, A., & Stevenson, L. (2006). Exploring the effectiveness of peer mentoring of accounting and finance students in higher education. *Accounting Education: an international journal*, *15*(2), 189-202

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of educational research*, 74(1), 59-109.

Fredricks, J. A., Filsecker, M., & Lawson, M. A. (2016). Student engagement, context, and adjustment: Addressing definitional, measurement, and methodological issues. *Learning and instruction*, 43, 1-4.

Freeman, D., Hodgson, K., & Darling, M. (2021). Mentoring New Veterinary Graduates for Transition to Practice and Lifelong Learning. *Journal of veterinary medical education*, e20210036. https://doi.org/10.3138/jvme-2021-0036.

Fox, A., Stevenson, L., Connelly, P., Duff, A., & Dunlop, A. (2010). Peer-mentoring undergraduate accounting students: The influence on approaches to learning and academic performance. *Active learning in higher education*, *11*(2), 145-156.

Fuentes, M. V., Ruiz Alvarado, A., Berdan, J., & DeAngelo, L. (2014). Mentorship matters: Does early faculty contact lead to quality faculty interaction?. *Research in Higher Education, 55*, 288-307.

Gainforth, H., Giroux, E., Shaw, R., Casemore, S., Clarke, T., McBride, C., Garnett, C., & Sweet, S. (2019). *Investigating Characteristics of Quality Peer Mentors with Spinal Cord Injury.* Archives of physical medicine and rehabilitation. https://doi.org/10.1016/j.apmr.2019.04.019.

Gafni Lachter, L. R., & Ruland, J. P. (2018). Enhancing leadership and relationships by implementing a peer mentoring program. *Australian Occupational Therapy Journal*, *65*(4), 276-284.

Gensemer, P. (2000). Effectiveness of Cross-Age and Peer Mentoring Programs.

Glaser, N., Hall, R., & Halperin, S. (2006). Students supporting students: The effects of peer mentoring on the experiences of first year university students. *Journal of the Australia and New Zealand Student Services Association*, *27*(1), 4-19.

Godfrey, E. (2008, January). Sustainability of peer mentoring and peer tutoring initiatives to increase student engagement and reduce attrition. In *Proceedings of the 2008 AaeE Conference*.

Goodrich, A. (2021). Online peer mentoring and remote learning. *Music Education Research*, *23*(2), 256-269.

Guide, A. I. (2008). Building effective peer mentoring programs in schools. *Washington, DC: US Department of Education.*

Guest, G., MacQueen, K. M., & Namey, E. E. (2011). *Applied thematic analysis*. sage publications.

Gunn, F., Lee, S. H., & Steed, M. (2017). Student perceptions of benefits and challenges of peer mentoring programs: Divergent perspectives from mentors and mentees. *Marketing Education Review*, *27*(1), 15-26

Hall, R., & Jaugietis, Z. (2011). Developing peer mentoring through evaluation. *Innovative Higher Education*, *36*, 41-52.

Hardt, D., Nagler, M., & Rincke, J. (2022). Can peer mentoring improve online teaching effectiveness? An RCT during the COVID-19 pandemic. *Labour Economics*, *78*, 102220.

Hill, R., & Reddy, P. (2007). Undergraduate Peer Mentoring: An Investigation into Processes, Activities and Outcomes. Psychology Learning & Teaching, 6(2), 98-103. https://doi.org/10.2304/plat.2007.6.2.98

Hillier, A., Goldstein, J., Tornatore, L., Byrne, E., & Johnson, H. M. (2019). Outcomes of a peer mentoring program for university students with disabilities. *Mentoring & Tutoring: Partnership in Learning*, *27*(5), 487-508.

Holliman, A. J., Martin, A. J., & Collie, R. J. (2018). Adaptability, engagement, and degree completion: a longitudinal investigation of university students. *Educational Psychology*, *38*(6), 785-799.

Hollister, B., Nair, P., Hill-Lindsay, S., & Chukoskie, L. (2022, May). Engagement in online learning: student attitudes and behavior during COVID-19-19. In *Frontiers in education* (Vol. 7, p. 851019). Frontiers Media SA.

Jimerson, S. R., Campos, E., & Greif, J. L. (2003). Toward an understanding of definitions and measures of school engagement and related terms. *The California School Psychologist*, 8, 7-27.

Juvonen, J., Espinoza, G., & Knifsend, C. (2012). The role of peer relationships in student academic and extracurricular engagement. *Handbook of research on student engagement*, 387-401.

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in higher education*, 38(5), 758-773.

Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: Understanding the mechanisms of student success. *Higher education research & development*, *37*(1), 58-71.

Kalpazidou Schmidt, E., & Faber, S. T. (2016). Benefits of peer mentoring to mentors, female mentees and higher education institutions. *Mentoring & Tutoring: Partnership in Learning*, *24*(2), 137-157.

Karcher, M. J. (2005). Cross-Age Peer Mentoring. *Handbook of Youth Mentoring*, 266-285. https://doi.org/10.4135/9781412976664.n18

Karcher, M. J. (2005). The effects of developmental mentoring and high school mentors' attendance on their younger mentees' self- esteem, social skills, and connectedness. *Psychology in the Schools*, *42*(1), 65-77.

Karcher, M. J., Davidson, A. J., Rhodes, J. E., & Herrera, C. (2010). Pygmalion in the program: The role of teenage peer mentors' attitudes in shaping their mentees' outcomes. *Applied Developmental Science*, *14*(4), 212-227.

Karcher, M. J., Nakkula, M. J., & Harris, J. (2005). Developmental mentoring match characteristics: Correspondence between mentors' and mentees' assessments of relationship quality. *Journal of Primary Prevention*, 26, 93-110.

Karcher, M. J., Kuperminc, G. P., Portwood, S. G., Sipe, C. L., & Taylor, A. S. (2006). Mentoring programs: A framework to inform program development, research, and evaluation. *Journal of community psychology*, 34(6), 709-725.

Karcher, M. (2008). The Cross-Age Mentoring Program: A Developmental Intervention for Promoting Students' Connectedness Across Grade Levels. *Professional School Counseling*, *12*(2), 137-143. https://doi.org/10.5330/psc.n.2010-12.137

Karcher, M. J. (2008). The Study of Mentoring in the Learning Environment (SMILE): A Randomized Evaluation of the Effectiveness of School-based Mentoring. *Prevention Science*, *9*(2), 99-113. https://doi.org/10.1007/s11121-008-0083-z

Kaymak, D. A. (2008). Üniversite danışmanlığında akran desteği: Bir bölüm akranlığı projesi uygulaması. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, (23).

Kegan, R. (1982), The Evolving Self: Problem and Process in Human Development, Harvard University Press, Cambridge, MA.

Kim, Y. K., & Sax, L. J. (2017). The impact of college students' interactions with faculty: A review of general and conditional effects. *Higher education: Handbook of theory and research: Published under the sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)*, 85-139.

Knowlin, L. T., Min, H. J., Abelairas-Gomez, C., Liu, D. R., & Fijacko, N. (2023). Near-peer mentoring and virtual reality for adult basic life support education in high school students. *Resuscitation Plus*, *13*, 100356.

Kram, K. E., & Isabella, L. A. (1985). Mentoring alternatives: The role of peer relationships in career development. *Academy of management Journal*, 28(1), 110-132.

Kram, K. E. (1988). *Mentoring at work: Developmental relationships in organizational life*. University Press of America.

Krause, K. L., & Coates, H. (2008). Students' engagement in first- year university. *Assessment & Evaluation in Higher Education*, 33(5), 493-505.

Krause, A. J., & Moore, S. Y. (2022). Creating an online peer-to-peer mentoring program: Promoting student relationships, engagement, and satisfaction during the era of COVID-19. *College Teaching*, *70*(3), 296-308.

Kuh, G. D. (2001). Assessing what really matters to student learning inside the national survey of student engagement. *Change: The magazine of higher learning*, *33*(3), 10-17.

Kuh, G. D. (2001). The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties.

Kuh, G. D. (2003). What We're Learning About Student Engagement From NSSE: Benchmarks for Effective Educational Practices. *Change: The Magazine of Higher Learning*, *35*(2), 24–32. https://doi.org/10.1080/00091380309604090

Kuh, G. D., Kinzie, J. L., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What matters to student success: A review of the literature* (Vol. 8). Washington, DC: National Postsecondary Education Cooperative.

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The journal of higher education*, *79*(5), 540-563.

Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New Directions for Institutional Research*, *2009*(141), 5-20. https://doi.org/10.1002/ir.283

Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt, E. J., & Associates. (2010). *Student success in college: Creating conditions that matter.* San Francisco, CA: Jossey-Bass.

Kuh, G., O'Donnell, K., & Schneider, C. G. (2017). HIPs at ten. *Change: The magazine of higher learning*, *49*(5), 8-16.

Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality: an international journal*, *46*(3), 517-528.

Law, D. D., Hales, K., & Busenbark, D. (2020). Student success: A literature review of faculty to student mentoring. *Journal on Empowering Teaching Excellence*, *4*(1), 6.

Liang, B., Tracy, A. J., Taylor, C. A., & Williams, L. M. (2002). Mentoring college-age women: A relational approach. *American journal of community psychology*, *30*(2), 271-288.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Thousand Oaks, CA: Sage.

Lluch, A. M., Lluch, C., Arregui, M., Jiménez, E., & Giner-Tarrida, L. (2021). Peer mentoring as a tool for developing soft skills in clinical practice: A 3-year study. *Dentistry Journal*, *9*(5), 57.

Lunsford, L. G., Crisp, G., Dolan, E. L., & Wuetherick, B. (2017). Mentoring in higher education. *The SAGE handbook of mentoring*, *20*, 316-334.

Maher, D. (2021). Peer Mentoring for First-Year Pre-Service Teachers via a Blended Community to Support Literacy Development. *Social Education Research*, 205-216.

Marshall, J., Lawrence, E., & Peugh, J. (2013). College Women Mentoring Adolescent Girls: The Relationship between Mentor Peer Support and Mentee Outcomes. Mentoring & Tutoring: Partnership in Learning, 21, 444 - 462. https://doi.org/10.1080/13611267.2013.855860.

Marshall, M., Dobbs-Oates, J., Kunberger, T., & Greene, J. (2021). The peer mentor experience: Benefits and challenges in undergraduate programs. *Mentoring & Tutoring: Partnership in Learning*, *29*(1), 89-109.

Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American educational research journal*, *37*(1), 153-184.

McCarthy, J. (2007). Digital design and student learning through videoconference collaboration. In *ICT: Providing choices for learners and learning. Proceedings Ascilite Singapore* 2007. http://www.ascilite.org.au/conferences/singapore07/procs/mccarthy.pdf

McConney, A., & Fourie-Malherbe, M. (2022). Facilitating First-Year Student Adjustment: Towards a Model for Intentional Peer Mentoring. *Journal of Student Affairs in Africa*, 10(2), 163-177.

McCormick, A. C., Gonyea, R. M., & Kinzie, J. (2013). Refreshing engagement: NSSE at 13. *Change, 45*(3), 6-15. http://dx.doi.org/10.1080/00091383.2013.786985

McMillan, J. H., & Schumacher, S. (2001). Research in education: A conceptual introduction. *Longman*.

Merriam, S. B. (2009). *Qualitative Research: A Guide Design And Implementation*. John Wiley & Sons.

Meza, J. I., Rodriguez, K., Trujillo, C., & Ladd-Viti, C. (2018). Helping students at the margins get into graduate school: evaluating a multifaceted mentoring program. *The Mentor: Innovative Scholarship on Academic Advising*, 20, 26-41.

Mochona, B., Redda, K. K., Offringa, I. A., Allen, J., Carpten, J. D., Stern, M. C., ... & Wilkie, D. J. (2024). Mentoring Minority Cancer Researchers of Tomorrow: Comparison of the Face-to-Face, Virtual, and Hybrid Training Methods of the CaRE2 Summer Cancer Research Education and Training Program. *Journal of Cancer Education*, 1-8.

Mukeredzi, T., Mthiyane, N., & Bertram, C. (2015). Becoming professionally qualified: The school-based mentoring experiences of part-time PGCE students. *South African Journal of Education*, 35, 01-09. https://doi.org/10.15700/SAJE.V35N2A1057.

Nieuwstraten, C., Huh, A., Liu, G., Davis, K., & Dolovich, L. (2011). Developing, implementing, and evaluating a formal pharmacist mentorship program. *The Canadian journal of hospital pharmacy*, 64(2), 124.

NMRC Youth Advisory Council. Tips for Prospective Youth Mentees from Youth Mentees. Retrieved from https://nationalmentoringresourcecenter.org/resource/preparing-for-your-mentoring-relationship-as-a-mentee/

Nora, A., & Crisp, G. (2007). Mentoring students: Conceptualizing and validating the multi-dimensions of a support system. *Journal of College Student Retention: Research, Theory & Practice, 9*(3), 337-356.

NSSE. National Survey of Student Engagement. (2012). NSSE Construct Validity Study. Retrieved on May 16, 2024, from https://nsse.indiana.edu/nsse/about-nsse/index.html

NSSE. National Survey of Student Engagement. (2014). NSSE Construct Validity Study. Retrieved on May 25, 2023, from https://nsse.indiana.edu/nsse/psychometric-portfolio/construct-validity.html

NSSE. National Survey of Student Engagement. (2022). NSSE 2022 Scale Reliabilities (Cronbach's Alpha). Retrieved on May 25, 2023, from https://nsse.indiana.edu/nsse/psychometric-portfolio/scale-reliabilities.html

Office of Faculty Affairs and Faculty Development. (2019). *Peer Mentoring Toolkit for Faculty.*

Pascarella, E. T., Seifert, T. A., & Blaich, C. (2010). How effective are the NSSE benchmarks in predicting important educational outcomes?. *Change: The Magazine of Higher Learning*, 42(1), 16-22.

Pino-James, N. (2018). Evaluation of a pedagogical model for student engagement in learning activities. *Educational Action Research*, 26(3), 456-479.

Putsche, L., Storrs, D., Lewis, A., & Haylett, J. (2008). The development of a mentoring program for university undergraduate women. *Cambridge Journal of Education*, 38, 513 - 528. https://doi.org/10.1080/03057640802482322.

Porter, S. R. (2011). Do college student surveys have any validity?. *The Review of Higher Education*, *35*(1), 45-76.

Risquez, A., & Sanchez-Garcia, M. (2012). The jury is still out: Psychoemotional support in peer e-mentoring for transition to university. *The Internet and Higher Education*, *15*(3), 213-221.

Reid, E. S. (2008). Mentoring peer mentors: Mentor education and support in the composition program. *Composition Studies*, *36*(2), 51-79.

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In *Handbook of research on student engagement* (pp. 3-19). Boston, MA: Springer US.

Rhodes, J. E., Bogat, G. A., Roffman, J., Edelman, P., & Galasso, L. (2002). Youth mentoring in perspective: Introduction to the special issue. *American Journal of Community Psychology*, 30(2), 149-155.

Rodger, S., & Tremblay, P. F. (2003). The effects of a peer mentoring program on academic success among first year university students. *Canadian Journal of Higher Education*, *33*(3), 1-17

Rowley, J. B. (1999). The good mentor. Educational leadership, 56(8), 20-22.

Ruane, R., & Lee, V. J. (2016). Analysis of discussion board interaction in an online peer mentoring site. *Online Learning*, *20*(4), 79-99.

Salta, K., Paschalidou, K., Tsetseri, M., & Koulougliotis, D. (2022). Shift from a traditional to a distance learning environment during the COVID-19 pandemic: University students' engagement and interactions. *Science & Education*, *31*(1), 93-122.

Schlegel, E. C., Kalvas, L. B., Sherman, J. P., Holod, A. F., Ko, E., Cistone, N., ... & Nowak, A. L. (2022). PhD student perspectives on maintaining and formalizing peer mentorship during the COVID-9 pandemic. *Journal of Professional Nursing*, *41*, 65-74.

Shpigelman, C. (2014). Electronic mentoring and media. *The handbook of youth mentoring*, 259-272.

Sipe, C.L., & Roder, A.E. (1999). *Mentoring school-age children: A classification of programs.* Philadelphia: Public/Private Ventures.

Smailes, J., & Gannon-Leary, P. (2011). Peer mentoring–is a virtual form of support a viable alternative?. *Research in Learning Technology*, *19*(2).

Smith-Jentsch, K. A., Scielzo, S. A., Yarbrough, C. S., & Rosopa, P. J. (2008). A comparison of face-to-face and electronic peer-mentoring: Interactions with mentor gender. *Journal of Vocational Behavior*, *72*(2), 193-206.

Snowden, M., & Hardy, T. (2012). Peer mentorship and positive effects on student mentor and mentee retention and academic success. *Widening Participation and Lifelong Learning*, *14*, 76-92.

Soria, K. M., & Stebleton, M. J. (2012). First-generation students' academic engagement and retention. *Teaching in higher education*, *17*(6), 673-685.

Stockkamp, M., & Godshalk, V. M. (2022). Mutual learning in peer mentoring: Effects on mentors and protégés. *Mentoring & Tutoring: Partnership in Learning*, 30(2), 164-183.

Taylor, A., Mitchell, Dennis., Phillips, K., Roberts, S., & Gonzalez Jr, R. (2016, August). Guide to Best Practices in Faculty Mentoring. Retrieved from https://provost.columbia.edu/content/faculty-mentoring

Taylor, C., & Zeng, H. (2008). Developing online peer-to-peer mentoring programs for distance degree programs. In *TCC* (pp. 81-105). TCCHawaii.

Owusu-Agyeman, Y. (2022). Student transition experiences and the agency of supportive campus environment in higher education. *Student Engagement in Higher Education Journal*, *4*(1), 128-155.

Parker, D. A. (2018). *Mentoring Student Engagement: The Effect of a College, Peer Mentoring Program on Student Engagement*. Indiana State University.

Peer Mentoring Toolkit for Faculty. (2019). Office of Faculty Affairs & Faculty Development. Retrieved from https://faculty.medicine.umich.edu/faculty-career-development/resources/mentoring-coaching

Terrion, J., Philion, R., & Leonard, D. (2007). An Evaluation of a University Peer-Mentoring Training Programme. *International journal of evidence based coaching and mentoring*, 5, 42-57.

Trowler, V. (2010). Student engagement literature review. *The higher education academy*, 11(1), 1-15.

Topping, K. J. (1996). The effectiveness of peer tutoring in further and higher education: A typology and review of the literature. *Higher education*, *32*(3), 321-345.

Üstünlüoğlu, E. (2024). Can Peer-Mentoring be a Model for Retention in Higher Education?. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, (59), 747-464.

Vaughan, N., Clampitt, K., & Park, N. (2016). To teach is to learn twice: The power of a blended peer mentoring approach. *Teaching and Learning Inquiry*, *4*(2), 64-80.

Venegas-Muggli, J. I., Barrientos, C., & Álvarez, F. (2023). The impact of peer-mentoring on the academic success of underrepresented college students. *Journal of College Student Retention: Research, Theory & Practice*, *25*(3), 554-571

Walters, G., & Kanak, A. (2016). Effects of Peer Mentorship on Student Leadership. *Honors in Practice*, *12*, 59-76.

Wang, M. T., & Eccles, J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and instruction*, *28*, 12-23.

Wester, E. R., Walsh, L. L., Arango-Caro, S., & Callis-Duehl, K. L. (2021). Student engagement declines in STEM undergraduates during COVID-19–driven remote learning. *Journal of microbiology & biology education*, 22(1), 10-1128.

Willis, P., Bland, R., Manka, L., & Craft, C. (2012). The ABC of peer mentoring–what secondary students have to say about cross-age peer mentoring in a regional Australian school. *Educational Research and Evaluat*ion, 18(2), 173-185.

Xerri, M. J., Radford, K., & Shacklock, K. (2018). Student engagement in academic activities: a social support perspective. *Higher education*, 75, 589-605.

Yin, R. K. (2009). *Case study research: Design and methods*. Thousand Oaks,

CA: Sage.

Yomtov, D., Plunkett, S. W., Efrat, R., & Marin, A. G. (2017). Can peer mentors improve first-year experiences of university students?. *Journal of College Student Retention: Research, Theory & Practice*, *19*(1), 25-44.

Zachary, L. J. (2005). *Creating a mentoring culture: The organization s guide*. San Francisco: Jossey-Bass.

Zepke, N., & Leach, L. (2010). Improving student engagement: Ten proposals for action. *Active learning in higher education*, *11*(3), 167-177.