Developing an undergraduate learning approach to enhance *ijtihad* in graphic design education in Yemen

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DEDICATION

I dedicate this thesis to my mother (my essence), my queen Amatalmalek (the king [God] worshiper), my older brother Nashwan (delighted), who named me Nabil (noble), my older sister Amal (hope), and younger sister Elham (inspiration).

This thesis is submitted to Auckland University of Technology
in fulfilment of the degree of Doctor of Philosophy.

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Abstract

Bakry et al. (2019) note that critical thinking is an essential skill not only for educational achievement but also for enhancing one's quality of life. Because to date, Yemeni graphic design education has not formally engaged with critical thinking, this study has drawn on adult learning theories, Islamic pedagogies, and the reflections of six teacher practitioners to shape a learning approach that might assist Yemeni graphic design educators to exercise the potentials of *ijtihad* in their classrooms. The study employed an Appreciative Inquiry that involved the collaboration of practitioners teaching across eleven universities and colleges in Yemen.

The research is significant because it considers the potentials of a culturally specific mode of critical thinking and ways that it might be developed inside a Yemeni design education system, while advancing ways in which Appreciative Inquiry might operate in a non-Western context.

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- *Tafakkur* (reflecting and examining); 5
- *Tafkih* (the process of analysis that uses the heart (*al-Qalb*) as well as the mind (*al-Aqal*); and 5
- *Ta'qil* (gathering information before jumping to a conclusion). 5

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly acknowledged), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Nabil Sabra

September 30th, 2024

ETHICS APPROVAL AND CONSENTS

This research received its first phase approval from the Auckland University of Technology Ethics Committee (AUTEC) on the 8th of July 2021, for a period of three years until the 7th July 2024. The second phase approval was granted on the 29th of November 2022, for a period of three years until the 29th of November 2025.[1]

Ethics Approval Number: 21/129

All research was conducted in keeping with the regulations and guidelines of the approval.

1 Please see Appendix 1 for relevant documentation.

الفصل الاول: المقدمة

Chapter 1: Introduction

1.1 Chapter overview

This chapter provides a broad overview of the thesis. It briefly introduces the pedagogical thinking impacting on the inquiry in Section 1.2, then the research problem is discussed in Section 1.3. This is followed by a consideration of the research's significance in Section 1.4, and the aim and sub-objectives of the study are outlined in Section 1.5. Section 1.6 articulates the research's main question and sub-questions, and Section 1.7 clarifies key terms used in the study. In Section 1.8, I position myself as the researcher in relation to the study, and Section 1.9, outlines the structure of the thesis. The chapter closes with an outline of the thesis' journey in Section 1.10.

1.2 The Research Problem and its Context

The problem that the study seeks to address is a perceived need to rethink the graphic design educational system that has been practised in Yemen for undergraduate students, and to consider whether a set of strategies/techniques underpinned by the Arabic principle of *ijtihad* might be employed to deepen student's facilities for questioning, discernment, analysis, interpretation, evaluation, and care.

1.2.1 National Context

The Republic of Yemen is located in the southern Arab peninsula. Historically, it has faced ongoing battles against colonisation, civil unrest, and internal turmoil, and this is still a problem today (Jordan, 2022; Aguirresarobe, 2022). After the collapse of the Ottoman Islamic empire (1300–1923), most of the Islamic states were colonised, including Yemen. The southern part of the country was colonised by the British, and a new form of education was instituted. At this time, secular schools were introduced. These schools, no longer predicated on religion, adopted new curricula and teaching methods that differed markedly from what had hitherto been experienced by learners in *Kuttabs*,[2] mosques, and *madrasas*[3] (Kadi, 2006). As a consequence, although Yemen is a Muslim country, increasing familiarity with Western approaches meant that there was greater potential for the Yemeni education system to embrace Western pedagogical approaches (including new approaches to adult learning). However, Kadi (2006) notes that the emergence of Western education in Islamic states raised debates amongst Muslim intellectuals about how Islamic institutions might maintain relevance. Centred in Egypt, these debates impacted significantly on the education system in Yemen (given that the country's previous system had been modeled on Egyptian approaches).

Currently, the relationship between North and South Yemen remains complex, with tensions dating back to the country's unification in 1990, which resulted in a civil war in 1994.

In 2000, vom Bruck published an analysis of higher education in Yemen that considered the centralisation and control of education during three eras of rule: the Ottomans, Imams, and the Republic of Yemen. According to vom Bruck (2000), after the departure of the Ottomans, Imam Yahya (1904–1948), the supreme leader of the Zaydi Imamate in North Yemen, established Al-Madrasah al-Ilmiyyah. This institution's teaching style was dedicated to the training of senior government officials. Al-Madrasah's goal was to produce administrators rather than *Mujtahids* (vom Bruck, 2000). These administrators received an education designed to prepare them for government positions where they were expected to follow instructions.[4] In such learning environments, space for practicing critical thinking was limited.

Yemen has long been the poorest country in the Middle East and North Africa (MENA) region, and it is currently dealing with one of the world's worst humanitarian crises (UNICEF, 2023), owing in part to an ongoing conflict since March 2015. According to INTERSOS (2022), out of a total Yemeni population of 30.4 million, 24 million people (80% of the population) require humanitarian aid or protection. This situation affects different areas of life, including education. Save the Children (2021) reports that over 460 schools have been assaulted, and more than 2,500 have been damaged, utilised as communal shelters for displaced families, or occupied by armed groups. This has resulted in the expulsion of 400,000 students from school. INTERSOS (2022) notes that tuition fees have increased by approximately 33%, and this has resulted in diminishing access to tertiary education. In addition, Ballout (2023) notes the existence of a significant gender gap in Yemeni education. This can be discerned as far back as 2015, when Grande (2018) recorded a gender literacy gap of 30.1%, finding a discrepancy where 85.0% of males were assessed as literate, compared with only 54.9% of females. Due to the

2 Kuttabs were where Muslim students received a fundamental education, learning how to write and pronounce the Qur'an based on skills developed in memorisation and recitation.
3 Madrasas are schools attached to mosques.
4 A Mujtahid is a person with independent judgment who practices *ijtihad*.

continuous conflict in the country, such discepancies remain largely unaltered.

In terms of educational practice, Muthanna and Karaman (2014) note that in Yemeni institutions of higher education, the predominant teaching method is lecturing, with limited opportunities for active student participation in courses of learning. They observed that students took extensive notes during lectures (often verbatim records of a professor's speech), which they later transcribed into formats that they believed aided memorisation for test-taking purposes. However, the authors believed that this approach failed to promote critical thinking and creativity.

Al-haimi et al., (2018) note that although there is an increase in universities in Yemen, there is a "lack of national vision of government, leadership, financial support, research and development funding, autonomy, governance, academic staff development, ratio of student's enrollments in humanity studies and quality of academic programs" (p. 256). According to Muthanna (2016), the predominant teaching method in Yemen remains formal lecturing, where students are expected to strictly adhere to instructions and follow course materials provided by their teachers. He explains that in this approach, students who simply copy the teachers' materials are rewarded with higher grades, compared to those who attempt to be innovative. This behaviour, he suggests, promotes and rewards a memorisation-based learning style that may result in future plagiarism. Savin-Baden and Major (2004) suggest that such transmissional teaching can also impair the development of problem-solving skills in students.

Scholaro (2023) notes that, although Yemen currently has nine state-funded universities and a number of private universities and colleges, Western-style tertiary education only began to surface in the 1970s, when Sana'a University was established.

The current focus of education in Yemen is shaped by conflicting values. Abdu (2018) argues that the education system should prioritise job training and vocational skills to better prepare students for the workforce. Conversely, Al-Maqtri (2019) proposes that education should focus on critical thinking and problem-solving skills, with a broader emphasis placed on civic engagement and social responsibility. The World Bank has proposed that a National Strategy for the Development of Vocational and Technical Education (NSDVTE, 2004) should be a balance between these two priorities, recognising the need for both job training and broader educational goals.[5]

Yemen's education system has been largely influenced by broader Arabic approaches, and according to Al-Rashdan (2009), there is a discernible lack of emphasis on critical thinking in these educational institutions. There is also a lack of coordinated research between different specialisations.

5 Until recently, Yemeni education was overseen by diverse bodies. However, on August, 12th 2024, a decision was made to merge, the Ministry of Upbringing and Education, the Ministry of Technical Education and Vocational Training, and the Ministry of Education and Scientific Research into one entity - the Ministry of Upbringing, Education and Scientific Research. I have discussed this nomenclature with two Yemeni linguists, Dr. Mutahar Al-Murtadha and Dr. Hamed Al-Tairi. The order of the words 'upbringing' and 'education' is significant because in Arabic, the title is written: (wizarat altarbia waltaelim walbahth aleilmii, وزارة التربية والتعليم والبحث العلمي), with 'upbringing', تربية coming first because it is seen as more important than 'education' تعليم. https://26sep.net/index.php/local/85634-31-19-4-8

This may be likely to continue for as long as the education system in Yemen remains fragmented and draws pedagogical considerations from traditional Arabic approaches.

Recent analyses of Yemeni infrastructure highlight the intricate relationship between societal norms, armed conflict, and educational systems. Research by Suryani et al. (2023) and Ikhwan et al. (2019) underscores the significant role of familial and moral education in equipping individuals for life in an Islamic society. Familial and moral education by extension, influences an individual's ability to contribute to, and maintain national infrastructure. This social foundation is particularly important during times of conflict, when the degradation of infrastructure, including educational facilities, poses significant challenges. Both Alawadhi (2024) and Khaled (2024) have examined how the ongoing conflict in Yemen has severely impacted the quality of higher education, resulting in reduced academic standards and fewer educational opportunities.[6] Raad al-Raymi (2022) has also discussed the consequences of war on educational institutions, including notable decreases in student enrolments at some of Yemen's Universities. Considered in unison, these insights emphasise the necessity of safeguarding and reconstructing educational infrastructure as a fundamental component of Yemen's societal resilience.

It is inside this complexity that this thesis study is situated and it is towards Yemen's societal resilience that the study seeks to make a contribution.

6 Khaled (2024) describes Yemen's higher education system as a facility embroiled in a "War of Attrition" (para. 1). He argues that tertiary education is facing an ongoing deterioration of infrastructure that is compounding difficulties faced by both educators and students.

1.2.2 Graphic Design Education

Graphic design as a discrete discipline surfaced in Arabic education in the late 1990s, during the spread of computers and the internet (Abu-Awad, 2008). However, Alhajri (2013) observes that the broader Arabic educational system still depends largely on "methods of teaching, where knowledge is passively transferred from the teachers to the students" (p. 10). This 'knowledge transfer' model permeates Yemeni graphic design education, and one might attribute to it the lack of learner-centred pedagogies within graphic design departments and wider, higher educational practices. However, Seo (2010) notes that digital culture presents a challenge for educators who seek to convince students of the need to enrich conventional thinking practices. To do this requires a rethinking of traditional values and information transference pedagogies, so that advanced critical thinking might accompany not only design but also enable critical questioning, discernment, analysis, interpretation, and the evaluation of both information and creative potential. Indeed, Turnali argues that innovation within the discipline "demands critical thinking because we must understand the assumptions that frame our ideas and shape our designs" (2016, para. 1).

1.3 Significance and Contribution of the Research

Given this situation and the unique context of the issue, this study has proposed the principle of *ijtihad* as a culturally appropriate framing of critical thinking. In developing this idea, the thesis has adapted a form of Appreciative Inquiry to support six educators as they considered new teaching strategies, models of engagement, and professional support systems that might be introduced into a traditional Yemeni education environment.

To begin addressing this problem has required a cultural understanding of what critical thinking means to Yemeni lecturers in the graphic design discipline, the culture of Yemeni discourse, the current economic and social conditions of the country, and how one might best to support a group of educators who wish to consider critical thinking techniques that might have a positive impact on learning environments.

The study proposes four significant contributions.

1.3.1 Cultural Specificity

Firstly, the research explores relationships between existing educational contexts, adult learning approaches relating to graphic design education, and *ijtihad* as a culturally appropriate framing of critical thinking. In exploring the relationship between the Islamic concept of *ijtihad* (individual reasoning) and the Western notion of critical thinking, the study positions a lens on *ijtihad's* potential role in enhancing Islamic education. Drawing on reflections from a *Halakat Elm* (knowledge circle), the study provides insight into how critical thinking is established inside classrooms and might be extended through curricula, alongside adult learning strategies.[7]

1.3.2 Enhancing Educational Design

Currently, Yemeni graphic design education underemphasises the role of critical thinking in developing independent thinkers, and there is a shortage of student-centred programs that might enhance critical thinking skills. Focusing on Yemen, the study is significant because it has established a network of thinker/practitioners who are, as a result of the study, are developing potential strategies for enhancing pedagogical and curriculum approaches in graphic design education.

Thus, the study's process and outcomes have assisted in the establishment and enhancement of dialogue between educators who seek to provide graphic design students with skills in independent thinking that may enable them to function with greater dexterity in a world of evolving complexity.

1.3.3 Contributing to International Considerations

The thesis may also contribute to international debate in the discipline where creativity is understood "as a cultural production … strengthened by the problem-solving methods employed in all cultures" (Alhajri, 2017, p. 69). Thus, critical discussions, theories, and opinions surfacing through the study may not only benefit graphic design education in Yemen but, in an increasingly globalised world, also contribute to a culturally-specific consideration of how critical thinking might be approached in a non-Western cultural context. This proposition may be related to Abdulla et al.'s observation that,

> To date, mainstream design discourse has been dominated by a focus on Anglocentric/Eurocentric ways of seeing, knowing, and acting in the world, with little attention being paid to alternative and marginalised discourses from the non Anglo-European sphere, or the nature and consequences of design-as-politics today. (p. 130)

7 In the study the Halakat Elm constitiutes a culturally familiar Community of Practitice. This construct is discussed briefly in 1.7.1 and examined in greater detail in Chapter 3.

1.3.4 Reconsidering Appreciative Inquiry

Finally the thesis offers a contribution to methodology. It demonstrates how an Appreciative Inquiry can be adapted and extended within a non-Western context. Working with a community of Yemeni educators, in challenging conditions, the study documents and reflects on the cultural and technological adaptability of an Appreciative Inquiry and demonstrates how it can work in harmony with traditional cultural practices related to communal discourse and planning.

1.4 Research Aim

The primary aim of the study is to support a group of educators in developing a learning approach that can be utilised by graphic design lecturers to enhance the critical thinking of Yemeni graphic design students.

The following objectives resource this aim.

1. Work with Yemeni teachers to identify and develop learning approaches that can enhance critical thinking in graphic design students.
2. Support the examination of *ijtihad* (individual reasoning) in relation to graphic design education.

1.5 The Research Question

This research question asks,

How might approaches be developed to enhance *ijtihad* in undergraduate graphic design students in Yemen?

The sub-questions supporting this are:

1. How might critical thinking be defined in relation to Yemeni culture?
2. What approaches might be effective in supporting self-determined transformation among Yemeni graphic design educators as they seek to enhance critical thinking in tertiary education?
3. How might culturally specific concepts and processes be employed to build effective learning classrooms and professional communities in Yemeni graphic design education?

1.6 Key Terms in the Study

This study bridges cultures, so certain words have culturally significant meanings. Given this situation, it is useful to define eight terms used in the thesis.

1.6.1 Halakat Elm

Halakat Elm (a circle of knowledge) refers to an educational approach traditionally used in the Islamic world. Here, students assemble around a scholar known as a *mualem* (teacher), in a circle. *Halakat Elm* represents the Islamic collaborative and egalitarian character of learning, in which students actively participate in the learning process by posing questions and interacting with the material (and one another) while the teacher facilitates discussions and conveys knowledge.

In the thesis study *Halakat Elm* was a key cultural archetype in the creation of the Virtual Community of Practice (VCoP). The use of a *Halakat Elm* honours collaborative and mentorship-driven learning modes that are central to Islamic pedagogical traditions.

1.6.2 Ijtihad

Ijtihad describes an Islamic form of critical thinking. While Western cultures consider critical thinking as a mental process, in Arabic thought, thinking includes the heart and soul. A person is understood as comprising a body, mind and heart, and soul or spirit. Thus, in the Qur'an, the 'mind' has five manifestations:

1. The heart (*qalb*, قَلْبٌ) "There truly is a reminder in this for whoever has a heart, whoever listens attentively." (*The Qur'an,* 2004, Surah Qaf 50:37)
2. The essence of a person that distinguishes a human being from other creatures (*lubb*, لب) "Can someone who knows that the revelation from your Lord is the Truth be equal to someone who is blind? Only those with understanding will take it to heart;" (*The Qur'an,* 2004, Surah Al-Ra'd 13:19)
3. Intelligence that prevents one from engaging in impulsive acts (*nuha*, النُّهَى) "... so eat, and graze your cattle. There are truly signs in all this for people of understanding." (*The Qur'an,* 2004, Surah Ta Ha 20:54)
4. Restraining oneself from anger (*helm*, حِلْم) "... does their reason really tell them to do this, or are they simply insolent people?" (*The Qur'an,* 2004, Surah Al-Tur 52:32)
5. Preventing oneself from engaging in inappropriate acts (*hejr*, حِجْرٍ) "... is this oath strong enough for a rational person?" (*The Qur'an,* 2004, Surah Al-Fajr 89:5).

Hashim and Hussein (2003) define *ijtihad* as a critical thinking conceptual model in Islamic education, and Nordin and Surajudeen (2015) propose that it has five elements:

- *Tadabbur* (learning and understanding before judging an idea);
- *Tadhakkur* (summarising to understand wisely);
- *Tafakkur* (reflecting and examining);
- *Tafkih* (the process of analysis that uses the heart (*al-Qalb*) as well as the mind (*al-Aqal*); and
- *Ta'qil* (gathering information before jumping to a conclusion).

1.6.3 Appreciative Inquiry (حسن الظن - Husn al-Dhann)

Appreciative Inquiry was first proposed by Cooperrider and Srivastva in 1987. It is a collaborative, strengths-based approach that can be employed when seeking to change human systems. When pursuing self-determined transformation, an Appreciative Inquiry places emphasis on what is working and the co-design of new outcomes (Moore, 2019). Although Appreciative Inquiry was not employed when designing the initial interview questions for this project, its ethos permeated the broader thesis because the study relied on identifying strengths and potentials through the highlighting of positive experiences that might foster positive change (Cooperrider & Whitney, 2001).

Given the context of the study, Appreciative Inquiry has been shaped by the Arabic principle of *Husn Al-Dhann.* This orientation may be defined as adopting and maintaining "positive regard, having a good opinion [and] encouraging people to avoid making assumptions so they can retain a balanced and realistic view" (Cucchi, 2022, p. 4857).

1.6.4 Graphic Design

In the thesis, I use the term graphic design to describe a specific curriculum in Yemen that seeks to develop visual communication skills, where an array of sight-related tools, including illustration, animation, photography, text, and graphic design are employed to communicate ideas or information (Zosimo, 2021).

Currently, most colleges in Yemen position the discipline of graphic design inside a faculty of Computer Science, alongside multimedia studies. However, in a few instances graphic design is located inside a Faculty of Fine Art, where there is a focus on design for print. This inconsistency occurs because the Ministry of Upbringing and Education and Scientific Research does not currently have a clear and comprehensive vision for the discipline.

In Yemeni graphic design education there is a difference between assignments (*wajebat,* واجبات) and projects (*masharea,* مشاريع). 'Assignments' are related to the routine weekly home work. Through such activities, a teacher endeavors to equip students with knowledge and skills that will prepare them for larger semester projects. These 'Projects' are summative, and in them students demonstrate the level of mastery they have over skills that have been accumulated during the programme of study.

1.6.5 Student-Centred/Adult Learning Approach

In this research, the student-centred approach describes a set of educational teaching methods utilised by graphic design lecturers to create suitable learning environments for developing students' critical thinking. The most significant among these in this study, is metagogy developed by Elazier & Strohschen (2009).

1.6.6 Transmissional Pedagogy

Goodson defines a transmission pedagogy as an approach that "sets the learning of knowledge *previously* planned or defined by the teacher as the basic objective" (2005, p. 272). Guzzetti (2002), Arends (2012), and Slavin (2006) describe a transmission instruction model as a traditional approach to teaching and learning that places the teacher at the centre of the process. In this model, the teacher's primary responsibility is to create lessons which align with preset goals and to present information and skills in a prescribed sequence. In response, students are generally expected to passively receive and absorb the teacher's instructions.

1.6.7 Virtual Communities of Practice

A virtual community of practice (CoP) is a group of "people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4). However, engagement is facilitated inside an online environment. In this study, because the researcher was in New Zealand, and the participants were in Yemen, the community was actualised using Zoom and Miro tools.

1.7 Pedagogical Thinking Supporting the Research

Because the study employs an Appreciative Inquiry to examine how tertiary teachers might enhance *ijtihad* (critical thinking) in undergraduate graphic design education in Yemen, a number of theoretical discourses have shaped the research question.[8]

1.7.1 Adult Learning

The work of Malcolm Knowles (1977), who established the concept of 'andragogy,' is noteworthy, as he stressed the idea that adults are self-directed and anticipate being accountable for their decisions. Moreover, Knowles (1977) argues that adults learn differently from children; accordingly, one needs to find different ways of conducting the learning process for older students. According to Knowles (1980), andragogy is the art and science of adult learning, and the term refers to any form of adult education. Knowles' perspective on andragogy is based on six assumptions: self-directedness; the need to know; the use of experience in learning; readiness to learn; orientation to learning; and internal motivation. In the study, I have also considered other learning theories, and in this regard I am reminded that both Merriam et al. (2006) and Alajlan (2015) have argued that "no single theory explains all of the human learning, so there is no single theory of adult learning" (Merriam et al., 2006, p. 83).

Seo (2010) notes that andragogical approaches such as self-directedness can improve students' outcomes, in addition to increasing their professional competence. Seo also suggests that they can lead to increasing interaction between students and teachers and an increase in the number of students who produce successful outcomes. He believes that an andragogical model can improve students' motivation to be self-guided, reduce misunderstandings between students and lecturers, and increase peer feedback.

Bolden (2008) also recommends an andragogical approach, which she believes can enhance cooperative teaching and assist students in shaping and examining feelings related to learning concepts. An andragogical approach to learning, Bolden suggests, can enhance students' critical thinking skills. She argues that the role of a teacher is to facilitate an environment where students can think, feel, problem solve, and reflect. She advocates for self-diagnosis and reflection on learner problems and suggests that andragogical methods can encourage student independence, enhance self-esteem, and increase critical thinking.

A number of other theories of adult learning, such as penandragogy (Samaroo et al., 2012), humanagogy (Knudson, 1979), heutagogy (Kenyon & Hase, 2001), and metagogy (Elazier & Strohschen, 2009), were also considered in the inquiry. Of these, metagogy has been the most influential because it aligns with certain Arabic cultural emphases that position spirituality and community responsibility as integral to learning and teaching. McCaslin and Scott (2012, p. 10) define metagogy as "the art and science of interdependent growth through teaching and learning, motivating and motivated by the creativity, spirituality and empowerment of the individual and the community." Etymologically, metagogy links to the word *meta,* meaning 'beyond' or 'through' (Epstein, 1999). Kenyon and Hase (2000) argue that metagogy allows learners, when they have a deeper understanding of a concept, to critically reflect on their learning.

1.7.2 Islamic Pedagogies

Islamic education seeks to advance moral development, intellectual engagement, and spiritual improvement through a deeply considered approach to instruction and learning (Al-Jahiz, 776–868 AD; Al-Ghazali, 1058–1111AD; Endut & Abdullah, 2009; Hashim, 2017; Hashim & Alias, 2020).

From an Islamic perspective, many Western educational strategies are perceived as being shaped by students' interests, with teachers serving primarily as catalysts and motivators (Fatima, 2022; Miriestahbanat et al., 2020; Rombepajung et al., 2023; Wang, 2023). In contrast, Islamic education approaches tend to be concerned with shaping the learner's attitude and personality (Tabroni & Rahmawati, 2021). Hai (2017) has suggested that in Islamic education a teacher's role is to help students develop moral character and a noble disposition, whereas in Western education teachers place less emphasis on students' developing personalities.

In this context, Smith (2016) notes that teaching critical thinking was traditionally considered an important aspect of Islamic education. This is discernible in the Qur'an and Sunnah of the prophet Muhammad, as evidenced in the following verse:

> [Prophet], call [people] to the way of your Lord with wisdom and good teaching. Argue with them in the most courteous way, for your Lord knows best who has strayed from His way and who is rightly guided. (*The Qur'an*, 2004, Surah Al-Nahl 16:125)

8 A more in-depth discussion of Appreciative Inquiry is provided later in the chapter and extended in Chapter 3.

This verse highlights three principles of Islamic education: *al-hikmah* (wisdom), *al-mau'izhah al-hasanah* (advice), and *al-Mujadalah* (debate). In the Qur'an, *hikmah* refers to wisdom, and it is associated with privileged and insightful reason. Thus:

> ... and He gives wisdom to whoever He will. Whoever is given wisdom has truly been given much good, but only those with insight bear this in mind. (*The Qur'an*, 2004, Surah Al-Baqarah 2:269)

Significant to this study is Hashim and Alias' (2020) assertion that an *al-hikmah* pedagogy is "a method used in teaching critical, creative and benevolent thinking based on philosophical inquiry" (p. 89). Hashim (2017) suggests that such a pedagogy is focused on inspiring students to ask insightful questions and think critically and creatively. Zulkifli et al. (2020) propose that the principle of *hikmah* supports the development of cognitive abilities, which include: defining seriation; identifying ambiguity; comparison against standards; creating comparison narratives; utilising model similes, metaphors, analogies, and arguments; applying rules; categorising and distinguishing between meaning, ends and means; and understanding relationships between parts and a constituent whole.

1.7.3 Storytelling

Islamic education often employs storytelling, discussion, question and answering, practice, warning, advice, and reward as methods for developing thinking (Achruh et al., 2021; Hai, 2017; Lungu, 2018; Rahman, 2018; Tofade et al., 2013).

Rahman (2018) notes that the role of storytelling is significant because it functions as a device from which students can access both content and deeper ethical or moral understandings. The connection between storytelling, content and insightful levels of understanding is discussed in the Qur'an:

> There is a lesson in the stories of such people for those who understand. This revelation is no fabrication: it is a confirmation of the truth of what was sent before it; an explanation of everything; a guide and a blessing for those who believe. (*The Qur'an,* 2004, Surah Yusuf 12:2)

> We tell you [Prophet] the best of stories in revealing this Qur'an to you. Before this you were one of those who knew nothing about them. (*The Qur'an,* 2004, Surah Yusuf 12:3)

1.7.4 Discussion

Achruh et al. (2021) note that Islamic education also relies heavily on discussion-based approaches to learning, where educators provide groups or individual students opportunities to engage in analytical, evaluative, or critical discussion to gather feedback, reach conclusions, or develop creative solutions to problems. Discussion or debate (*al-Mujadalah*) as a method of inquiry is mentioned in the Qur'an, in chapter Al-Nahl:

> [Prophet], call [people] to the way of your Lord with wisdom and good teaching. Argue with them in the most courteous way, for your Lord knows best who has strayed from His way and who is rightly guided. (*The Qur'an,* 2004, Surah Al-Nahl 16:125)

1.7.5 Questioning

Tofade et al. (2013) note that, in Islamic education, teachers use question-and-answer methods to pose queries to their students regarding the material under consideration; then they closely observe the exchange of ideas between them. This method is evidenced in questions contained in the Qur'an, as outlined in the word of Allah in chapter Al-Baqarah:

> And when Abraham said, 'My Lord, show me how You give life to the dead,' He said, 'Do you not believe, then?' 'Yes,' said Abraham, 'but just to put my heart at rest.' So God said, 'Take four birds and train them to come back to you. Then place them on separate hilltops'. call them back, and they will come flying to you: know that God is all powerful and wise. (*The Qur'an,* 2004, Surah Al-Baqarah 2:260)

1.7.6 Learning Through Practice

Practice-based learning also has a rich history in Islamic education, and it forms a significant substrate from which much design teaching and learning is developed in Yemen. In practice-based learning, what is learned is applied, and through this process deeper understanding is developed. This is evidenced in the Qur'an, chapter Al-Ankabut:

> [Prophet], recite what has been revealed to you of the Scripture; keep up the prayer: prayer restrains outrageous and unacceptable behaviour. Remembering God is greater: God knows everything you are doing. (*The Qur'an,* 2004, Surah Al-Ankabut 29:45)

1.7.7 Advice, Reward and Punishment

The role of advice, reward, and punishment are also deeply woven through Islamic pedagogies. Hai (2017) discusses advice (*al-mau'izhah al-hasanah*) and reward as ways that teachers invite and remind students to do good and to act with kindness. These qualities are evidenced in the Qur'an, and the following verses are indicative:

Advice (*al-mau'izhah al-hasanah*):

[Prophet], call [people] to the way of your Lord with wisdom and good teaching. Argue with them in the most courteous way, for your Lord knows best who has strayed from His way and who is rightly guided. (*The Qur'an,* 2004, Surah Al-Nahl 16:125)

Reward

Their reward with their Lord is everlasting Gardens graced with flowing streams, where they will stay forever. God is well pleased with them and they with Him. All this is for those who stand in awe of their Lord. (The Qur'an, 2004, Surah Al-Bayyina 98:8).

Punishment

Abraham said, 'My Lord, make this land secure and provide with produce those of its people who believe in God and the Last Day.' God said, 'As for those who disbelieve, I will grant them enjoyment for a short while and then subject them to the torment of the Fire– an evil destination.' (*The Qur'an,* 2004, Surah Al-Baqara 2:126)

Lungu (2018) has observed that reward is a device often used in the education of Islamic students, and Hai (2017) has noted that punishment is an action that follows a warning and advice (*al-mau'izhah al-hasanah*). In Islamic thought, one's attitudes and behaviours are modified through a process of reward and punishment, and the dynamic is evidenced in the Qur'an. Indicative of this is Allah's word in chapter Al-An'am:

> Whoever has done a good deed will have it ten times to his credit, but whoever has done a bad deed will be repaid only with its equivalent – they will not be wronged. (*The Qur'an,* 2004, Surah Al-An'am 6:160)

1.7.8 Critical Thinking

Although, later in the thesis, correlations and differences will be drawn between critical thinking and the culturally located concept of *ijtihad,* it is useful at the outset of the study to briefly consider critical thinking (as a non-Islamic construct) in relation to graphic design education.

The intellectual foundations of critical thinking can be traced back through a complex tapestry of philosophical enquiry and educational history. Although the formal recognition of critical thinking in modern Western education dates back to the 20th century, specifically to the work of John Dewey (1910), fundamental components of this idea can be found in earlier intellectual history.

According to Florence (2014), a range of historical figures and educational theories, including Aristotle (384–322 BC) and more recent thinkers like Ennis (1962) and Brookfield (1987), have impacted on Western constructs of critical thinking as a movement. Best (2021) notes that Socrates (470–399 BC), who is frequently credited with founding the critical thinking approach, offers a seminal example of valuing critical enquiry and the use of rational discussion in the gaining of knowledge. He argues that, with its focus on thorough investigation and the pursuit of understanding via questioning, the Socratic method established fundamental ideas that continue to guide and motivate the growth of critical thinking abilities in diverse situations. The terms 'critique' and 'critic' have their roots in two Greek words: *kritikos* (being able to make judgements) and *krinein* (sifting or separating), and the later Latin term *criticus* (a judge). These terms have a considerable history of use, particularly in relation to literary criticism.

Lau (2024) argues that in addition to Socratic methods, during the nineteenth century, Kant's ideas associated with critique and critical thought laid the groundwork for Dewey's use of two terms: 'reflective' and 'critical' thinking.

Ennis (2015) argues that progressive educators transformed Dewey's (1910) 'reflective thinking' into what is today known as 'critical thinking,' and the latter has become a phrase that has endured in educational discourse.

However, Gilderdale (2024) notes that Dewey always prioritised the term 'reflective thinking' over 'critical thinking,' and by the 1930s he had come to regard 'critical' thought as a subset of 'reflective thinking.' From the 1940s to the 1960s, the concept of critical thinking in Western education underwent significant change, and by the 1970s and 1980s, an increase in interest was reflected in the rapid increase in courses offered by universities on informal logic (or reasoning alternatives to standard symbolic logic courses) (Hitchcock, 2017).

In 1981, the first international conference on critical thinking and educational reform was held at Sonoma State University in the United States. Paul (1985) describes the

critical thinking movement as a group of educators calling for a shift from one of 'right-answer' indoctrination to one of Socratic, critically reflective understanding. Since the 1980s, critical thinking has evolved in the West from a pedagogical concept introduced at a seminal conference to a comprehensive educational approach that seeks to foster analytical skills for navigating modern complexities (Kalbaeva, 2023).

However, definitions of critical thinking have remained protean, with different researchers offering differing interpretations (Facione, 1990). A noteworthy attempt to condense the wide range of definitions is David Hitchcock's synthesis in the Stanford Encyclopaedia of Philosophy, which summarises and defines critical thinking as "careful" and "goal-directed" (Hitchcock, 2020).

1.7.9 Ethical Aspects of Critical Thinking

Paul and Elder (2009) stress the significance of combining critical thinking and ethical reasoning. They contend that ethical reasoning challenges the egocentrism and self-deception that frequently obstruct impartial ethical judgements, and they argue that such reasoning is crucial for both individual integrity and the wellbeing of society. They advocate for a thorough educational strategy that produces people who can navigate difficult moral decisions with a keen sense of moral responsibility and profound care for other people's well-being. This, they argue will ultimately lead to a more morally upright world.

1.7.10 Critical Thinking in Graphic Design Education

Tippey (2008) proposes that for designers, critical thinking involves the ability to observe, learn, analyse, and make decisions. He acknowledges that the skill of critical thinking is not exclusive to any discipline but it is shared by all professional designers, and it can be taught to students. However, he argues that good decision-making and critical thinking extend beyond basic task solving and the primary role of a lecturer is to engage students in considerations of structure, intensity, voracious questioning, and the use of logic.

Giampietro (2015) notes that, although graphic design is known primarily as a creative field, in any creative community there must be time afforded to thinking about what has been made. Seo (2010) and Garrison et al. (2010), propose that as students move into advanced levels inquiry they should be required to enrich their design outcomes by enhancing skills in critical thinking.

However, more recently, the graphic design educator Peter Gilderdale (2024) has questioned whether critical thinking as a tool for dissecting truth might be intensifying ideological divides rather than bridging them. Gilderdale's (2024) critique of critical thinking relates to its connection to critical theory in some design education. This association, he argues, can result in dogmatic or judgemental viewpoints. He suggests that critical thinking might be more effectively renamed 'careful thinking.' Careful thinking he proposes, might combine ethical and caring considerations and help to bridge binary thinking and ideological opposition. By reframing 'critical' as 'careful,' he suggests that we might promote more respectful and inclusive discourses.

The idea that insightful analysis might contain a sense of 'care' has also been discussed by Stearns and Dasgupta (2018). They describe careful thinking as carefully and impartially reevaluating our perceptions before making a decision to better comprehend a given circumstance. Gilderdale (2024) argues that a change from conventional critical thinking, (which he argues is now linked to negativity, scepticism, and critique), to a more moral and compassionate strategy, might place greater emphasis on empathy and honest appraisal. His thinking aligns with Latour (2004) and Haraway (2011), who call for an alternative descriptive tool of critique that integrates protection and care.

A similar idea was discussed by de la Bellacasa (2012), in a concept she defined as "thinking with care." She described this process as "thinking with, dissenting within, and thinking for" (p. 197). Haraway (2008) and Van Dooren (2014) have also advocated for a redefined practice of care that incorporates a critical engagement with the conditions surrounding its production and practice. With the goal of transforming practice and research by incorporating care into critique these theorists highlights the need for a more profound, contextually aware, and ethical relationship.

Being prefigured by such discourses, this study considers relationships between care and critical thinking inside Arabic thinking, specifically within the practice of *ijtihad*.

1.8 Positioning the Researcher

Batty and Zalipour (2024) argue that for designers, their explicit positioning within a thesis,

> ... is not only about their professional identity [it] also involves their backgrounds – cultural, social, personal, and theoretical – and accordingly their assumptions, biases, values, and belief systems. All

> these things can profoundly shape the research aims, process and outcomes. The researcher's positioning can also have a bearing on the research subject matter – from social justice topics to industry policy matters – which brings different flavours to how the work is undertaken. (pp. 5-6)

I am a designer and lecturer who grew up and was educated in Yemen. Many of my values emanate from this experience and the broader Arabic culture that has shaped my epistemology. Although I have pursued postgraduate studies internationally, this trajectory has been focused on an overriding goal of enhancing education in my homeland. Accordingly, this research engages with the history and potentials of Yemeni design education, Yemeni ways of knowing critical thinking, and Appreciative Inquiry methods that might enable (with the support of Yemeni design lecturers) the co-creation of an enhanced form of graphic design education in my country. Because I identify as a design lecturer, the study bridges both design and education.

The genesis of the inquiry emerged from experiences I encountered when I began teaching graphic design at the University of Science and Technology (UST) in Yemen, in 2013 and 2014. At this time, the graphic design department did not have a syllabus. Like many tertiary education providers, the institution positioned the discipline inside computer technology studies because there was no clear vision from the Ministry of Upbringing and High Education and Scientific Research about the nature of graphic design as a discipline.

Having encountered limitations in the existing approach, I began working collaboratively with students to consider ways that we might improve knowledge and understanding, focusing on the things they wanted to know that might assist in accomplishing their projects. My observation of how students were engaged in class, and how they were able to negotiate and discuss how and what they wanted to learn, reminded me of the limitations of the largely transmissional system of education I had experienced. What I was encountering at this time was not an inquiry-based system; instead, learning was predicated on the teacher's preconceptions of what students needed to learn. Little cognisance was taken of students' perceptions, learning needs, and aspirations. The approach seemed to deprive learning of an encouraging, critically creative, exploratory atmosphere based on learner-centredness.

Accordingly, I began to explore other approaches to design education by inquiring into theories of adult learning (Knowles, 1977; Knudson, 1980; Hase & Kenyon, 2000; Samaroo et al., 2013; Elazier & Strohschen, 2009); as well as practice-led inquiry (Gray, 1998), learner-centredness (Dewey, 1938/1986; Shah, 2020), and international conceptions of graphic design that perceived the discipline as something beyond training for service provision (Burdick, 1992; Ings, 2015; Rock, 1996; Scrivener, 2000; Tavares & Ings, 2018; Wood, 2004).

In 2015, conflict broke out in Yemen which affected Yemeni' lives and impacted on graphic design education. Working with the International Committee of the Red Cross (ICRC) with my team of artists and graphic designers, we encountered varied audiences, including politicians, beneficiaries, fighters, and civilians (including both educated and uneducated people). As a communication field officer, I was responsible for diverse departments in the organisation that required a deep understandings of the nature and effectiveness of the communications we were designing. For example, given that, according to UNESCO Institute for Statistics (2021), the literacy rate of the population of Yemen is around 54%, graphic design plays a vital role in clarifying information by the judicious use of visual elements, including photographs, videos, and illustration. Many of the campaigns I was involved with focused on educating communities about issues such as how to deal with explosive remnants; Covid infection; hygiene; protection from airstrikes; and wellbeing. In addition, I produced designs that targeted colleagues within the ICRC organisation. As a consequence, it was necessary for me to constantly draw on critical discernment, analysis and judicious evaluation as we navigated (literally) life and death decision making.

In addition, critical thinking skills helped the graphic designers with whom I was working to participate positively in society as they sought to boost Yemeni resilience. Using successful stories and campaigns that I worked on at the ICRC, we tried to convey the positive message that regardless of adversity, there is hope and the possibility of success. We designed campaigns to show communities that they had the ability to overcome difficulties. These communications often placed emphasis on the beauty and history of the country and the strength of Yemeni people. These 'success' campaigns were communicated through the ICRC platforms and had a positive impact. Being able to employ high levels of critical thinking in the design of such campaigns became imperative,

because we were operating in environments where targeted disinformation was being strategically employed to break the spirit of endangered communities.

1.9 Structure of the Thesis

This thesis consists of six chapters (Figure 1.1). Chapter One provides an introduction that offers an overview of the study, defines key terms, and articulates the research position.

Chapter Two presents a review of literature relating to *ijtihad* and critical thinking - and their relationship to graphic design.

Chapter Three outlines the study's research design. It includes a discussion of the research's paradigm, methodology, and methods (including interviews and the *Halakat Elm*). It then unpacks the study's phases, before concluding with a consideration of trustworthiness and a discussion of the ethical aspects of the approach.

Chapters Four and Five present the key findings gathered from the four phases of the inquiry.

Chapter Six offers a contextualisation and discussion of these findings. The thesis closes with a seventh chapter that discusses contributions to the field, limitations of the study, and potential trajectories for further research.

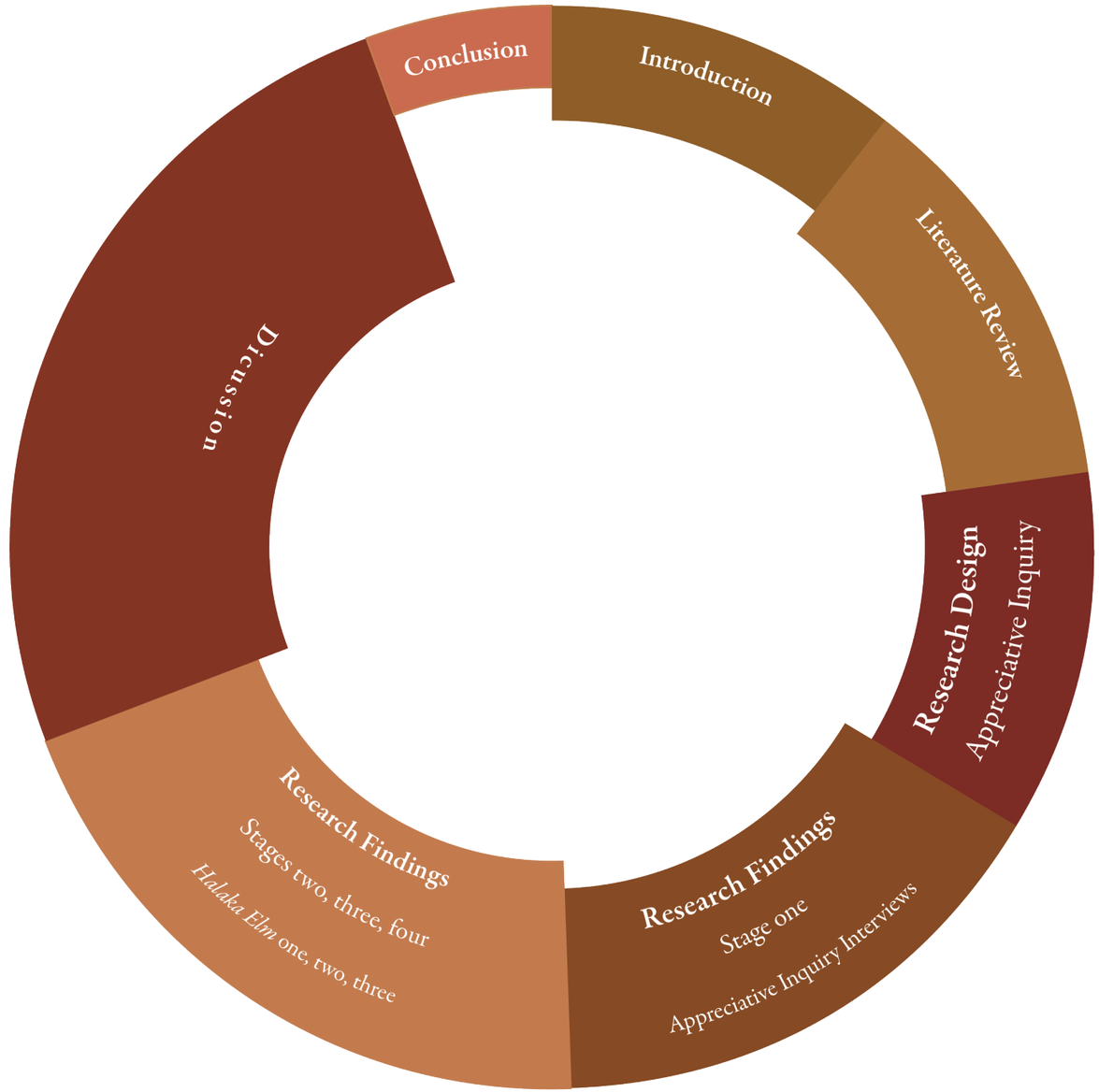


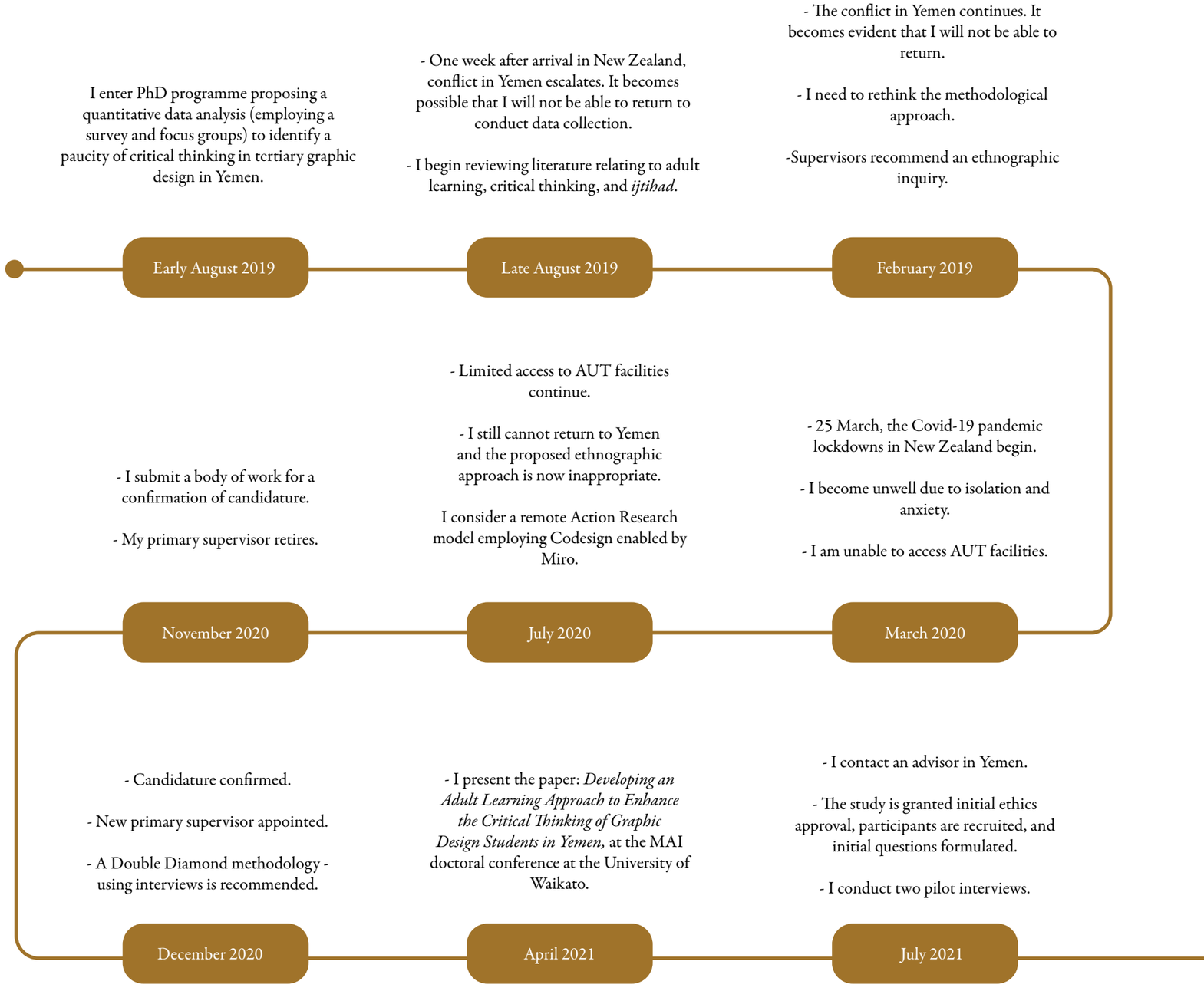
Figure 1.1 Proportional structure of the thesis.

1.10 The Thesis Journey

Because the thesis had to become so responsive to changes in circumstances, it is useful to summarise its journey.

I began the study in August 2019 after arriving in New Zealand. Although Yemen had been at war for four years, I had assumed that I would be able to draw on and locate the study within my teaching practice that had begun two years before significant conflict broke out in the country. My intention was to return to Yemen after a year of reviewing literature in the field and to work in situ with students and graphic design educators in a range of tertiary institutions. While in Yemen I intended to draw on observations and interviews, to construct an educational model that might serve to increase the application of critical thinking inside the discipline.

However, because of escalations in the war I was unable to return to the country and the study had to be renegotiated. While the impact of the war and my inability to return to Yemen is discussed in 3.3 'Metamorphosis of the Research Design', the journey map below serves as an outline of how the thesis responded to changing events, limitations and the burgeoning needs of participants who contributed to the inquiry (Figure 1.2).



- Conflict continues.

- I begin conducting individual, online interviews.

September 2021

- I outsource the translation of interview data.

- I begin reflexive thematic data analysis.

May 2022

- I publish the paper *Exploring critical thinking in graphic design education in Yemen* in the journal Revista GEMInIS, 13(3), 35–43. https://doi.org/10.53450/2179-1465.RG.2022v13i3p35-43

July 2022

- I apply for revised ethics approval to develop focus group interviews utilising an Action Research methodology.

December 2022

- Primary supervisor leaves.

- I am still unable to return to Yemen.

- Third primary supervisor appointed.

February 2023

- I rewrite the introduction chapter.

- I expand the literature review to embrace knowledge relating to Yemeni culture and Islamic thought.

March 2023

- Given the ongoing crisis, I reconsider the research project as a form of enablement.

- I redesign methodology as an Appreciative Inquiry based on the principles of *Halakat Elm* and *Husn Al-Dhann*.

June 2023

- I modify ethics approval to enable an Appreciative Inquiry.

August 2023

- Conflict continues.

- Individual interview data becomes Stage 1 (Discovery), of an Appreciative Inquiry.

– Data used to formulate orienting questions for Stage 2.

September 2023

- Conflict continues.

- Stage 2 (Dream) conducted as a *Halakat Elm*.

- Discussion used to formulate orienting questions for Stage 3 (Design).

October 2023

- Conflict continues.

- Stage 3 (Design) conducted as a *Halakat Elm*.

- Discussion used to formulate orienting questions for Stage 4 (Destiny).

December 2023

- Conflict continues.

- Stage 4 (Destiny) conducted as a *Halakat Elm*.

- Participants develop and act on new initiatives.

March 2024

- Conflict continues.

- *Halakat Elm* becomes agent for knowledge sharing, restoration, and new initiatives relating to the development of *ijtihad*.

Ongoing

Figure 1.2 Journey map of the thesis.

الفصل الثاني: مراجعة الأدبيات

Chapter 2: Literature Review

2.1 Chapter Overview

The thesis study is positioned inside intersecting bodies of knowledge. Accordingly, a review of literature contextualising and positioning the study considers four broad areas. The chapter opens with a consideration of literature relating to traditional Islamic educational thinking. We then move to a review of discourses associated with transmissional pedagogy and Learner-Centred Teaching. The chapter then considers theories relating specifically to adult learning. It concludes with a review of literature relating to critical thinking in Western and Islamic traditions.

2.2 Origins of Islamic education

Given the Yemeni cultural context of the thesis, it is useful to consider material relating to origins of Islamic educational practices, because this literature has helped to illuminate emphases and potentials within the study.

Salsabila et al. (2022) note that, historically, the relationship between teachers and students was highly valued in Islamic education, with the teacher serving as a role model and guide to learning. Islam emerged in an illiterate society in the Arabian Peninsula, and Sabic-El-Rayess (2020) posits that "the oral transfer of knowledge was the pedagogical tool of the time" (p. 2). Kadi (2006) records that the first years of Islamic education developed inside formal institutions. These were the *Kuttab* (or *Me'lamah* in Yemen), where Muslim students received a fundamental education, learning how to write and pronounce the words of the Qur'an by memorisation and recitation. Study in the Kuttab also included essential religious duties, such as learning the rules of ablution and prayer. The second institution was the mosque (*masjid*, or place of prostration and worshiping God). Here, adult students learned about religion while sitting in a circle with their teacher. Kadi (2006) notes that in the mosque, they studied,

> ... the Qur'an and its ancillary disciplines, especially exegesis; hadith (the prophet statements), with its sub-disciplines; law and its sources; theology and dogma; the auxiliary disciplines connected with the Arabic language, including poetry and oratory; and later also some of the 'foreign' sciences, especially logic and later medicine. (p. 314)[9]

The third institution Kadi discusses is the *Madrasa*.[10] The curricula of the Madrasa was focused on the study of the Arabic language, Islamic jurisprudence, Qur'anic exegesis, hadith, theology, grammar, logic, medicine, poetry, and history. Again, the teaching methods here were largely based on memorisation and repetition, with students learning to recite Qur'anic verses and hadith by heart.

Kadi (2006) notes that memorisation-based Islamic education (where students are submissive to religious and political indoctrination) is often viewed negatively by the West. However, as Yates (1966) argues, memorisation has also held a significant position in historical Western philosophical and theological contexts. Boyle's (2006) ethnographic field research investigating the learning process in Islamic educational institutions in Morocco, Yemen, and Nigeria found that memorisation was only an initial step in the process of learning, and this formed part of a more lengthy, complex trajectory.[11]

In 2006, Günther provided an insightful overview of medieval Islamic educational thinking, discussing the impact of scholars on pedagogy and didactics. He asserts that "A lifelong pursuit of learning is a characteristic ideal of Islamic piety and underlies the concept of 'Islamic' education" (2006, p. 368). Significantly, Günther draws attention to conflicting currents within Islamic educational thinking, contrasting Ibn Sahnun's *Rules of Conduct for Teachers* (776–854 AD), which emphasised the importance of learning the Qur'an and the literature of the prophet, with Al-Jahiz's *The Book of Teachers* (776–868 AD), which considered learning from a literary-philosophical perspective, placing emphasis on deep questioning. Al-Jahiz believed that students should be familiar with a writer's arguments and have space to express themselves. He also proposed that "teachers should treat their students gently and in a most loving way and attempt to reach their students' hearts when it comes to the subject matter taught" (Günther, 2006, p. 372). Al-Jahiz contested the primacy of memorisation as a pedagogical approach, arguing that "the great independent thinkers and researchers of the past disliked memorisation, which makes 'the mind disregard distinction' and rely simply on what their predecessors achieved, without making attempts to reach conclusions of their own" (as cited in Günther, 2006, p. 372). Günther also discusses the Muslim scholar Al-Farabi (d. 950), who defined instruction as an interactive process between the student and the teacher and emphasised a form of student-centred learning where the teacher's role was concerned with facilitating a journey of discovery. Günther's work also considers the Muslim scholar Al-Ghazali (1058–1111AD) who, in concord with Al-Jahiz, argued that "true knowledge

9 Hadith are the sayings and actions of Prophet Muhammad.
10 A Madrasa is a school attached to a mosque.
11 It is interesting to note that in contemporary practice, Gent (2006) presents a case for the reconsideration of the role of memorisation as a distinct form of learning in Islamic education.

is not simply a memorised accumulation of facts but rather a light which floods the heart" (as cited in Günther, 2006, p. 382). Al-Gazali also proposed that education should provide guidance rather than correction. This focus on the student's positive experience of learning was also posited by Nasir Al-Din Al-Tusi (d. 1274), who placed emphasis on the pleasure of gaining knowledge inside an educational process that should involve parents working with the teacher and student.

Günther's work is significant because it exhumes a body of traditional Islamic educational thinking that is much deeper than Western assumptions about the ubiquitous practice of rote memorisation. He argues that 'classical Islamic' educational discourses can only be understood in relation to their context and development within the ancient Islamic and medieval Mediterranean world. However, he asserts that the richness, diversity and sophistication of these discourses have much to offer contemporary educational thinking. Of significance to this study is the attention he draws to scholars like Al-Jahiz, Al-Farabi, Al-Ghazali, and Nasir Al-Din Al-Tusi, and the emphasis they placed on discovery, creativity, originality and critical thinking.

While Islamic education has historically nominated memorisation as a distinct form of learning, contemporary pedagogical paradigms have gradually embraced approaches that encourage students to take an active role in their own educational development. This change is consistent with Learner-Centred Teaching approaches, which shift the emphasis from the teacher as the only source of knowledge to an active partnership between educators and students (Barr & Tagg, 1995). However, Al-Kadi (2022), Al-Sohbani (2013), and Al-Worafi (2014) all note that, in Yemen, rather than drawing from rich Islamic pedagogical traditions, Yemeni teachers' pedagogies have become largely transmissional.

The next section provides an overview of transmissional pedagogy before delving into the fundamental principles of Learner-Centred Teaching.

2.3 Transmissional pedagogy

Goodson (2005) defines transmission pedagogy as an approach that "sets the learning of knowledge *previously* planned or defined by the teacher as the basic objective" (p. 272). Green and Sammons (2014) describe this approach as one where the teacher places emphasis on the delivery of content rather than on student discovery. Transmission instructional models may be compared to Freire's (1970/2007) notion of a 'banking' approach, whereby educators deposit knowledge into students, who are treated as passive receptacles.

A transmission instructional model prioritises a teacher's role in delivering a fixed set of knowledge and skills that students passively or submissively acquire. Samaroo et al., (2013) suggest that a transmission pedagogical model assumes that children do not know what or how to learn. He argues that, in the West, this model developed in Europe's monastic schools between the 7th and 12th centuries, where monks taught students to be faithful servants to the church. Samaroo (2012) suggests that the reason for high dropout rates among adult students can be related to transmissional pedagogical models that position students in a submissive role and require obedience to the teacher as the instructor. Samaroo et al. (2013) argue that such approaches ignore the fact that adults commit to learning when they can express themselves and engage as active and critical thinkers.

In design education in Yemen, transmissional modes have become a predominant teaching approach, given that the discipline adopted a colonial (and now outdated) Western conception of education. While it could be argued that transmissional approaches to teaching may be appropriate for some forms of knowledge acquisition, it is detrimental to learning in graphic design, which, according to Ellmers (2014), traditionally relies on project and studio based learning approaches that are reliant on independent thinking.

The transition from transmissional pedagogy to learner-centred approaches, as a focus of this study, necessitated embarking on a journey that encapsulated a profound shift in educational dynamics. While traditional transmissional pedagogy relies on a regimented transfer of knowledge from teacher to student, learner-centred approaches open up opportunities for a more dynamic and participative dialogue that I suggest, is more reminiscent of original Islamic conceptions of learning.

2.4 Learner-Centred Teaching

As a counterpoint to transmissional pedagogical approaches, this section explores the applications and definitions of Learner-Centred Teaching, a pedagogical approach characterised by the tailoring of teaching methods to individual student needs and active participation (Tzenios, 2022). It considers the impact of Learner-Centred Teaching

on student learning outcomes and investigates challenges related to its implementation.

2.4.1 Applications and definitions

Learner Centred Teaching "is characterised by student participation and a focus on tailoring teaching methodologies to individual student needs, learning styles, skills, and goals" (Tzenios, 2022, p. 916). Learner-Centred Teaching is often considered a central approach of the Western progressive education movement, that became rooted in the late 19th and early 20th centuries as a response to authoritarianism and the view of knowledge as a series of facts to be memorised (Reese, 2001).

Progressive education places learners at the heart of the educational process. Learner-centred approaches that emphasise experiential learning, critical thinking, and the integration of real-world experiences into the curriculum were popularised by the likes of Dewey (1916), Montessori (1912), and Piaget (1928), largely based upon earlier works of Rousseau (1712–1778), Pestalozzi (1746–1827), and Comenius (1592–1670). Brough (2008) suggests that learner-centred approaches to teaching in the West can be traced back to Dewey's work at the Chicago Experimental School and his writings there (1916, 1936, 1938). Dewey conceived of schools as democratic communities where learning was associated with working collaboratively in order to solve real-world problems. He believed that, through active participation, learners could develop the skills necessary to become effectively functioning members of society.

While accepting that Learner-Centred Teaching has been defined using a variety of terms, including 'child-centred pedagogy', 'student-centred teaching', 'student-centred learning', 'learner-centred approaches', and 'learner-centredness', it's important to note that these terms have often been used interchangeably (Harmelen, 1998; Lall, 2010; O'Neill & McMahon, 2005). Mtika and Gates (2010) associate Learner-Centred Teaching with pedagogical approaches that seek to equip learners with heightened levels of creative intelligence, collective learning, problem solving, and critical thinking, and it is in this context that I use the term Learner-Centred Teaching in this review.

Tabulawa (2003) notes that Learner-Centred Teaching has also been used interchangeably with labels such as 'participatory', 'democratic', 'inquiry-' and 'discovery-based' learning, although he notes that these approaches may describe different forms of learner autonomy. Attard et al. (2010), Brough (2008), Lea et al. (2003), Shah (2020), and Feng and Wheatley (2007) all note a diverse variety of definitions of Learner-Centred Teaching but observe that, although the term is employed by a number of educational policy-makers, there is still no universally agreed definition.

Differences between Western and non-Western contexts warrant consideration when assessing the merits, nature, and appropriateness of Learner-Centred Teaching in developing countries (O'Donoghue, 1994; Tabulawa, 2003; O'Sullivan, 2004, 2006). Of particular relevance to this study, Brodie et al. (2002) and O'Sullivan (2006) have stressed the need for a careful consideration of cultural contexts when applying Learner-Centred Teaching approaches in contemporary Arabic and Far East education systems. Abdullah (1995), Ghazali (2001), Nanji (1991), and Tan and Abbas (2009) note that student-centred pedagogies of teaching found in the Islamic education are consistent with the principle of 'teach less, learn more,' namely reasoning and reflection, problem-solving, dialogue, discussion, application, observation, experimentation, and independent learning. Such approaches have historically been used by Islamic scholars, including al-Biruni (973–1048 AD), Abu Hanifah (699–767 AD), Imam Malik (711–795 AD), Abu Hasan al-Basri (641–728 AD), and Wasil Ibn 'Ata' (700–748 AD). However, such student-centred approaches have not been widely embraced in contemporary Yemeni graphic design education.

2.4.2 Learning outcomes and enhanced problem solving skills

Most studies that have considered the impact of Learner-Centred Teaching have reported positive student learning outcomes and enhancements in students' ability to think in a critical manner. According to research by Avdal (2012), Brydges et al. (2010), Cheng et al. (2013), Diefenbeck et al. (2011), Hoke and Robbins (2005), Semmar (2000), and Shah (2020), learner-centred teaching methods (including team-based learning, student directed learning, peer-based learning, and co-operative inquiries) generally report a correlation between learner-centred methods and enhanced problem-solving and analytical skills in students. Additional studies comparing Learner-Centred Teaching with conventional teacher-centred methods have reported enhanced critical thinking and clinical decision-making skills (Shah, 2020). Significantly, in 2007 Cornelius-White employed a meta-analysis of 119 studies from a variety of disciplines, conducted between 1948 and

2004. His investigation into correlations between learner-centred strategies and positive student results suggested that such strategies have a positive impact on critical and creative thinking abilities, in addition to students' affective and behavioural outcomes, such as enhanced levels of involvement, satisfaction, and motivation.

Three years after Cornelius-White's meta analysis, Tseng et al.'s (2010) comparison of peer-based learning and teacher-focused methods in an undergraduate nursing programme found that peer-based learning and concept mapping promoted critical thinking skills, as well as higher levels of personal accountability and clinical reasoning among students. Yoo et al.'s (2010) study (also in nursing) examined the nature and impact of case-based learning on problem-solving.[12] Their research found that case-based learning enhanced decision-making and curiosity and also increased participants' ability to problem-solve, in comparison to students in a control group.

Hao (2021) suggests that by employing case-based learning in art and design education, educational institutions can transform the conventional roles of teachers and students, leading to enhanced development of students' "enlightening thinking consciousness and design ability" (p. 2). In studies of Learner-Centred Teaching, researchers have also noted higher levels of motivation when students engage in self-directing leaning (Klunklin et al., 2010; Kocaman et al., 2009); increased confidence and self-esteem (Nicolo, 1993; Means & Olson, 1995; Stout, 2004; Wilkinson et al., 1988); and heightened levels of student satisfaction (Keller et al., 1999; Means & Olson, 1995; Rada, 1975; Rideout et al., 2002; Zhang et al., 2012).

Spurlock's (2001) research into the psychological impact of Learner-Centred Teaching indicated that high school students who engaged in this kind of learning experienced a heightened sense of autonomy, were less likely to cheat on exams, attained higher test scores, and consequently developed positive learning experiences, including increased motivation, a sense of competency, and progressively positive feelings towards their teachers and peers.

However, research findings relating to Learner-Centred Teaching effectiveness are not consistent. Both Jeffries et al. (2002) and Choi et al. (2014) have conducted research that challenges connections between learner-centred approaches and increased critical thinking, problem-solving, and self-directed learning. Specifically, Choi et al.'s (2014) study found no significant difference in learning outcomes between nursing students who engaged in peer based learning activities and those in a control group who received traditional teacher-directed methods.

Contextualising these studies, Yuan et al.'s (2008) review of empirical literature on the effects of peer based learning was unable to identify any significant evidence demonstrating improved critical thinking among students whose studies had been shaped by learner-centred approaches.

In a small sport education study by Wallhead (2004), which used six students to consider the impact of peer-teaching methods on the evolution of content knowledge, participants demonstrated high levels of engagement with the learning tasks, and the study observed that a peer teaching approach appeared to be effective in developing participants' knowledge of lower complexity content. However, Wallhead noted that the learner-centred strategy was not effective in developing higher order content knowledge, because students appeared to have difficulty elaborating content through demonstration, error diagnosis, and task modification.

An earlier, much larger study conducted in Brazil by Garret and Shortall in 2002 reported similar levels of motivation and enjoyment among 103 college students who were asked to evaluate their experiences of Learner-Centred Teaching (in comparison with teacher-centred approaches). However, in terms of perceived learning value, the majority of students argued that they found teacher-centred activities more effective than learner-centred activities.

Variance in research findings is also evident in literature that examines the level of responsibility that students in a learner-centred process (without direct teacher involvement) may take in their education. Some research suggests that they will take only limited responsibility and engage independently in learning activities (Chang, 1993; Ciaburri, 1975; Katz, 1981; Kuehnle, 1988; Rada, 1975; Semmar, 2000). However, other studies indicate much higher levels of independent engagement in a wide spectrum of self-managed activities (Deretchin, 1997; Luke, 2004; Ogawa, 2001; Passman, 2000; Seidenstricker, 1999; Stout, 2004; Watford, 1981; Wilkinson et al., 1988).

This inconsistency in the literature is noteworthy, and Shah (2020) suggests that it indicates a need for more research into proposed correlations between increased critical

12 Case-based learning is "a form of inquiry-based learning and fits on the continuum between structured and guided learning" (Thistlethwaite et al., 2012, p. 422).

thinking, enhanced problem-solving skills, and Learner-Centred Teaching. Specifically, he emphasises the need for studies that unpack, in greater detail, *how* Learner-Centred Teaching is implemented.

In summary, although research suggests that Learner-Centred Teaching may have positive effects on learners' psychosocial behaviours and may have a constructive impact on certain academic learning outcomes and critical thinking, these claims are not consistent across the literature. However, a considerable number of studies suggest positive impacts on students' autonomy, behaviour, attitude, motivation, and self-confidence (Deretchin, 1997; Feng & Wheatley, 2007; Harper, 1997; Haruta & Stevenson, 1999; Klunklin et al., 2010; Kocaman et al., 2009; Means & Olson, 1995; Nicolo, 1993; Rada, 1975; Rowe, 1996; Shah, 2020; Spurlock, 2001; Stout, 2004; Wallhead, 2004; Wilkinson et al., 1988; Wood, 1990). A smaller number of studies have also reported a positive improvement on the quality of students' learning (Chang, 1993; Katz, 1981; Semmar, 2000).

2.4.3 The challenges of implementation

Although Learner-Centred Teaching has been developed internationally over several decades (Massey, 1978), a useful body of research discusses factors that influence the effective implementation and use of such methods. Impediments to its implementation appear to be: a lack of understanding of basic principles informing learner-centred approaches (Greer et al., 2010); limited faculty perceptions, lack of commitment and preparation (Colley, 2012; Dearnley & Meddings, 2007; Lekalakala-Mokgele, 2010; Johnson-Farmer & Frenn, 2009); anxieties associated with adapting to change and the necessity of growing institutional support (Akers, 1999; Moore, 2009; Phillips & Vinten, 2010; Regan, 2003), and a paucity of research into how pre-service teachers might adopt Learner-Centred Teaching approaches (Mtika & Gates, 2010; Shah, 2020).

In addition to these issues, Cuban (1993), O'Sullivan (2004), Orafi and Borg (2009), and Yilmaz (2009) argue that teachers' existing beliefs and past educational experiences of largely teacher-directed learning can also impact on reluctance to implement Learner-Centred Teaching approaches.[13] Yilmaz (2009) and Schweisfurth (2011) suggest that teacher capacity, social and cultural factors, traditional institutional cultures, and learners' backgrounds may also serve as forms of resistance.

2.5 Adult learning

Learner-centred approaches to teaching can be considered within the broader context of adult learning theories. This section reviews two adult learning theories related to the study; Andragogy (Knowles, 1968) and Metagogy (Strohschen & Elazier, 2009).

2.5.1 Andragogy

Andragogy attempts to explain how adults learn differently from children; it arises from a proposition that these differences necessitate alternative ways of conducting a learning process. The model is important because the thesis seeks to understand how high-trust environments for adult learners are built in Yemeni design classrooms, so students become more actively engaged in their learning.

The term andragogy was first used by the German high school teacher Alexander Kapp, in 1833. According to Samaroo (2012), a Yugoslavian adult educator introduced the term in the mid-1960s to Malcolm Knowles (who was at this time a professor of adult education at Boston University). Having accrued over thirty years of experience in education, Knowles noticed that adults learn most effectively in informal, flexible, non-threatening environments. From this experience, in 1984 he posited five assumptions about adult learners, as differentiable from children, which can be summarised as follows (adapted from Knowles, 1984, p. 12):

1. **Self-concept**
   As people mature, their self-concept moves from being a dependent personality towards being self-directed human beings.
2. **Adult learner experience**
   As people mature, they accumulate a growing reservoir of experience that becomes an increasing resource for learning.
3. **Readiness to learn**
   As people mature, their readiness to learn becomes oriented increasingly to the developmental tasks of his/her social roles.

13 These findings may be associated with Burns (1992, 1996) studies noting that teachers' attitudes, practices and approaches are often guided by a complex network of beliefs and values that are largely shaped by their prior experiences as learners

4. **Orientation to learning**
   As people mature, their time perspective changes from one of postponed application of knowledge to immediacy of application. As a result their orientation toward learning shifts from subject-centredness to problem-centredness.

5. **Motivation to learn**
   As a person matures the motivation to learn is internal.

Defining andragogy as "the art and science of helping adults learn" (Knowles, 1980, p. 43), Knowles saw distinct differences between traditional transmissional pedagogical models and those associated with an andragogical approach (see Table 2.1).

Table 2.1 The differences between transmissional pedagogical models and andragogy (Knowles, 2005).

Aspect	Transmissional Pedagogical Model	Andragogical Model
1. Need to know	Learners need to know what the teacher requires.	Learners need to know why they need to learn something before commencing to learn it.
2. The learner's self-concept	Learner has a dependent personality.	Learners are responsible for their own decisions.
3. The role of the learner's experience	The learner's experience is of little worth.	The learner's experience has great importance.
4. Readiness to learn	Learners become ready to learn what the teacher tells them.	Learners become ready to learn something that copes effectively with their lives.
5. Orientation to learning	Learners expect subject-cantered content.	Learners expect real life-cantered content.
6. Motivation	Learners are motivated externally.	Learners are motivated primarily internally.

NOTE: The table is the researcher's synthesis of pp. 62-68 of Knowles et al.'s (2005) discussion of differences between transmissional pedagogy and andragogy.

While Hartree (1984) questions whether andragogy should be framed as a theory of learning or a theory of teaching, Joyce et al. (2003) argue that "models of teaching are really models of learning" (p. 7).

Seo (2010) proposes that an andragogical model is useful in exploring and applying problem-solving skills in design education, and its application is evidenced in Deveci and Tezcan's (2017) study of eight freshman engineering students at Khalifa University of Science and Technology in the United Arab Emirates (UAE). The outcomes of their study show a positive relationship between andragogical and lifelong learning tendencies of students (Deveci & Tezcan, 2017).

Bolden (2007) argues that andragogical methods encourage student independence, enhance self-esteem, and increase critical thinking. In a study based in Saudi Arabia, Alajlan (2015) applied andragogical theory in Photoshop training programs. He concluded that the approach was suitable for both adult trainees and trainers in programs where new versions were updated rapidly, because andragogy is able to work flexibly with change. He also noted that andragogy allowed the trainers to recognise trainees' psychological needs, and this served to maintain high levels of engagement. In another higher education graphic design teaching experiment, Seo (2010) applied an andragogical model and compared it to an interactive pedagogical model. Seo's findings suggested that adopting the andragogical model may lead to enhanced student outcomes. This improvement may be attributed to increased interaction between students and teachers and reduced misunderstandings. Seo argued that the model increased motivation for self-directed learning and encouraged more student-to-student feedback compared to transmissional pedagogical methods.

In 2014, Henschke considered how andragogy might prepare teachers to work successfully with adult learners. He suggested a set of physical and psychological determinants that might be actualised through techniques that include: combining lectures with discussing questions raised by learners in response to content; raising levels of self-directed learning; considering learning in a range of life perspectives, including, "being, knowing, doing, living together, changing, and developing sustainability" (para. 1); and demonstrating in practice what one believes and says.

Henschke (2014) emphasises physical configurations, such as de-centering lecterns, grouping students, and creating bright, visually stimulating environments. He also proposes attitudinal environments based on mutual respect (not being talked down to, ignored, or regarded as incapable); collaboration; mutual trust; support; openness and authenticity (when students feel free to say what they think and feel, examining new ideas and risking new behaviours); and generating a climate of pleasure and humanness (by providing a caring, accepting, respecting, and supportive social atmosphere). These physical and psychological climates resonate with the six principles of andragogy, described by Chan (2010) as self-directedness, the need to know, the use of experience in learning, readiness to learn, orientation to learning, and internal motivation. Henschke (2014) argues that when using an andragogy model, emphasis should be placed on the manner in which a facilitator engages with the participants in and throughout the learning process (rather than on subject content). He also argues that it is essential to involve learners in mutual planning, so they feel committed to decision making and the achievement of mutually agreed goals. In addition, he proposes that learners should be actively engaged in the process of assessing the extent to which learning outcomes have been achieved.

2.5.2 Metagogy

Metagogy is taken from the word *meta,* meaning 'beyond' or 'through' (Epstein, 1999). Formulated by Strohschen and Elazier in 2009, metagogy may be defined as "the art and science of interdependent growth through teaching and learning, motivating and motivated by the creativity, spirituality and empowerment of the individual and the community" (McCaslin & Scott, 2012, p. 10). Metagogy allows learners, when they have a deeper understanding of a concept, to critically reflect on their learning.

The emphasis in this model on creativity, spirituality, responsibility to one's learning community, and empowerment, resonates with Islamic understandings of critical thinking. Interestingly, McCaslin and Scott (2012, p. 4), note that in a metagogical model, "the teaching to creativity and potential, is spiritual."

McCaslin and Scott (2012) argue that neither traditional transmissional pedagogy nor andragogy, as independent education models, benefit the individual and community, and they propose metagogy as an interdependent framework, where teachers strive to potentiate independent learning in order to enhance a sense of community

that fosters the integration of individuals intellectually, personally, socially, and ethically.

Strohschen and Elazier (2020) frame successful adult educators in metagogy as those who "see the importance of the periodically, iteratively and recurrently accepted role of consultants" (p. 313). They argue that to facilitate learning, both teachers and students need to work collaboratively to find the most appropriate approach. They also stress that students' success and growth, and teachers' success depends upon teachers' ability to share their expertise.[14] Within the model, they propose a relationship of mutual trust and partnership, where learning and teaching effectivness occurs through the sharing of goals, ethics, attitudes, and orientations that lead to continuous growth. They call for teachers and students to be radical when testing values, beliefs, assumptions, needs, and when critiquing an education programs' designs, purpose, and curricula. They suggest that to attain a level of radicalism, educators must leave their ego outside, before entering the classroom. Like Knowles' (1980) emphasis on a high-trust environment in andragogy, metagogy proposes that trust is fundamental to the occurance of innovation in teaching and learning.

McCaslin and Scott (2012) note that while the goal of trasmissional pedagogy and conventional andragogical approaches is to set learning objectives and structure curriculum, metagogy begins with different assumptions:

14 However, metagogy, which uses catalytic teaching (a form of instructional practice that supports creativity and higher levels of self-motivation), does not work for everybody. McCaslin and Scott (2012) note that some graduate students in an adult education program in Russia complained that catalytic teaching was "too open, too free" (p. 5).

Firstly, learning that is predicated on teaching content to achieve objectives is considered suboptimal. Instead, in a metagogical approach, the focus is on optimising educational environments for learners.

Secondly, metagogy catalyses personal potential (for both the teacher and learner).

Thirdly, by elevating awareness and reflection, metagogy draws on a teacher's skills to focus on learning from, and about, the student's ecologies.

Fourthly, metagogy focuses on the growth of the student, the teacher, and the community of which they are part.

Finally, metagogy places emphasis on stimulating open-ended inquiry in a community of learners, such that the flow of learning encourages discovery and stimulates questions that help the learner to achieve insights or reach solutions that are useful, both for them and their learning community.

From these assumptions McCaslin & Scott (2012) extrapolate six principles:

- Learning should be pleasurable;
- Learning engages inspiration and intrinsic passion;
- Improving the community is not an objective in itself, but rather a result that arises naturally when striving for the highest potential of individuals in an interdependent manner;
- In order to enhance community potential one must enhance the learner's potential;
- Addressing personal capacity within community happens when one acknowledges learning as a dynamic and synergistic relationship; and
- Self-transformation is integral to the development of knowledge.

2.6 Critical thinking

Having now reviewed literature pertaining to Learner-Centred Teaching and models of adult learning, it is useful to consider research relating to critical thinking and its connection to the principles of *ijtihad*.

2.6.1 History and definitions of critical thinking

Although critical thinking was debated in broad terms by the Greek philosophers Plato and Aristotle in the fourth and fifth centuries B.C., educationally, it is normally considered a 20th century phenomenon.

Al-fadhli and Khalfan (2009), Alsaleh (2020), and Johnson and Hamby (2015) note that definitions of critical thinking within education are varied, and can serve different purposes. However, Atkinson (1997) suggests that critical thinking is more of a social than educational practice, and he proposes that what we refer to as critical thinking is often concerned with reaching admirable achievement rather than exercising rational, transparent, and teachable sets of behaviours.

As early as 1906, Sumner, in his sociological and anthropological study *Folkways*, recognised the importance of critical thinking in both life and education. A significant proponent of critical thinking was the American philosopher John Dewey, who used the term 'reflective thinking' to describe an "active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further

conclusions to which it tends" (Dewey, 1933/1997, p. 6). Dewey (1916), Kurfiss (1988), and Pithers and Soden (2000) have all characterised critical thinking as a personal thought process that seeks to resolve conflict or find a solution by logically weighing qualities and possibilities before making a decision.

2.6.2 Approaches to critical thinking

Broadly, literature on critical thinking may be divided into three categories: critical thinking as a philosophical approach, critical thinking as a psychological phenomenon, and critical thinking as an educational practice.

The philosophical approach to critical thinking emphasises a person's disposition and character as opposed to their behaviours (Bailin, 2002; Dewey, 1916; Ennis, 1985; Facione, 1990; Lipman, 1988; McPeck, 1990/2016; Paul & Elder, 1992; Thayer-Bacon, 2000). In 1981, McPeck defined critical thinking as "the propensity and skill to engage in an activity with reflective scepticism" (1990/2016, p. 8). According to Endut and Wan Abdullah (2009), critical thinking emerged across philosophy and psychology as a comprehensive and specific approach respectively. The comprehensive philosophical approach is reflected in Ennis's definition of critical thinking as "reflective and reasonable thinking that is focused on deciding what to believe or do" (Ennis, 1985, p. 45). From this position, Ennis argues that a critical thinker should make better decisions regarding what to believe and what actions should be conducted. The philosophical-specific approach to critical thinking is described by Scriven and Paul (2008) as "the intellectually disciplined process of actively and skilfully conceptualising, applying, analysing, synthesising, and/or evaluating information generated by observation, experience, reflection, reasoning, or communication, as a guide to belief and action" (pp. 10–11). In 1988, Lipman defined critical thinking as "skillful, responsible thinking that facilitates good judgment because it; (1) relies upon criteria, (2) is self-correcting, and (3) is sensitive to context" (p. 39).

In 1990 there was an attempt by the American Philosophical Association to create a general definition of critical thinking that sought to synthesise previous definitions. The resulting Delphi report summarised a discussion of 46 academics from philosophy, education, social sciences, and physical sciences (Facione, 1990). It proposed that critical thinking might be defined as "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as an explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (Facione, 1990, p. 3). However, Johnson and Hamby (2015) raised concerns that the definition "did not properly situate itself in relation to alternative definitions" (p. 240). In 1992, two years after the Delphi report, Paul (1990) defined critical thinking as "disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thought." (p. 379). Facione (2000) aligned critical thinking with a more contemplative approach, describing it as "judging in a reflective way what to do or what to believe" (p. 61).

Psychological considerations of critical thinking tend to focus on a person's ability to evaluate a thinking process that reflects on actions (Halpern, 1998; Lewis & Smith, 1993; Sternberg, 1986; Willingham, 2007). Although a number of philosophers have criticised the psychological approach as reductionist (Bailin, 2002; Facione, 1990), other writers see it as an appropriate lens through which to view the mental processes involved. For example, Sternberg (1986) describes critical thinking as "the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts" (p. 3), and Halpern (2013) defines it as "the use of those cognitive skills or strategies that increase the probability of a desirable outcome" (p. 4). Halpern argues that critical thinking can be applied to solving problems, formulating inferences, and making decisions. Willingham's (2007) definition of critical thinking differs from these in its emphasis on a dispassionate application of reasoning, such that critical thinking might describe "seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth" (p. 8).

The third, educational, approach often engages with Bloom's three levels of processing information (analysis, synthesis, and evaluation), first proposed in 1956 (Kennedy et al., 1991). This said, both Sternberg (1986) and Ennis (1985) have criticised the act of linking Bloom's taxonomy to evaluations of critical thinking because concepts within his taxonomy are too vague and lack the clarity necessary to effectively guide instruction and assessment. However, Sternberg (1986) has argued that educational considerations of critical thinking have the advantage of being based on extensive classroom experience and observations of student learning, unlike both philosophical and psychological discourses.

2.6.3 Consensus

Although there are different ways of defining critical thinking in philosophy, psychology and education, there is a discernible consensus around abilities, dispositions, and the importance of background knowledge (Lai, 2011).

First, a significant number of writers agree on specific abilities associated with critical thinking. These include: analysing arguments, claims, or evidence (Ennis, 1985; Facione, 1990; Halpern, 1998; Paul & Elder, 1992); making inferences by employing inductive or deductive reasoning (Ennis, 1985; Facione, 1990; Paul & Elder, 1992; Willingham, 2007); judging or evaluating (Case, 2005; Ennis, 1985; Facione, 1990; Lipman, 1988; Tindal & Nolet, 1995); and making decisions or solving problems (Ennis, 1985; Halpern, 1998; Willingham, 2007). In addition to these attributes, Ennis (1985) proposes asking and answering questions for clarification, defining terms, and identifying assumptions. Facione (1990) includes interpreting and explaining, Halpern (1998) proposes verbal reasoning, especially in relation to concepts of likelihood and uncertainty, Tindal and Nolet (1995) include predicting, and Willingham (2007) posits the ability to see both sides of an issue.

There is also broad agreement on dispositions, or what Facione (1990) defines as "consistent internal motivations to act toward or respond to persons, events, or circumstances in habitual, yet potentially malleable ways" (p. 64). In 2000, he recognised critical thinking abilities and dispositions as two distinct entities, claiming that empirical evidence supported his argument. This position was supported by Ennis (1985) when he noted that the ability to think critically is different from the disposition to do so. Across the literature, dispositions of critical thinking that are frequently mentioned include open-mindedness (Bailin et al., 1999; Ennis, 1985; Facione 1990, 2000; Halpern, 1998), fair-mindedness (Bailin et al., 1999; Facione, 1990), the propensity to seek reason (Bailin et al., 1999; Ennis, 1985; Paul, 1992), inquisitiveness (Bailin et al., 1999; Facione, 1990, 2000), the desire to be well-informed (Ennis, 1985; Facione, 1990), flexibility (Facione, 1990; Halpern, 1998), and respect for, and willingness to entertain, the viewpoints of others (Bailin et al., 1999; Facione, 1990).

The third area of broad agreement relates to the importance of background knowledge. Case (2005), Kennedy et al. (1991), and Willingham (2007) claim that most scholars believe previous knowledge is integral to students being able to exercise critical thinking. McPeck (1990) argues that students, in order to think critically, need something to think critically about. Likewise, Bailin et al. (1999) contend that critical thinking requires domain-specific knowledge, because the kind of explanations, assessments, and supporting data that are most highly appreciated vary from one area to another. According to Facione (1990),

> Although the identification and analysis of critical thinking skills transcend, in significant ways, specific subjects or disciplines, learning and applying these skills in many contexts requires domain-specific knowledge. This domain-specific knowledge includes understanding methodological principles and competence to engage in norm-regulated practices that are at the core of reasonable judgments in those specific contexts...Too much of value is lost if critical thinking is conceived of simply as a list of logical operations and domain-specific knowledge is conceived of simply as an aggregation of information. (p. 10)

2.6.4 The relationship between critical thinking and motivation

Andriani et al. (2020), León et al. (2015), Nur'azizah et al. (2021), Parejo-Jiménez et al. (2022), and Rini et al. (2020) all find a significant relationship between students' critical thinking skills and motivation; Facione (2000), Halonen (1995), Halpern (1998), and Paul and Elder (1992) argue that critical thinking has the agency to stimulate motivation. Halonen (1995) suggests that a person's inclination to exhibit higher-order thinking is connected to their level of motivation. Effort and perseverance, Halpern (1998) contends, are two of the key character traits that foster critical thinking. Paul and Elder (1992) also agree that perseverance is a "trait of mind" that impacts on a person's critical thinking (p. 13). Facione (2000) argues that critical thinking involves both abilities and dispositions. The disposition to think critically, he defines as a "consistent internal motivation to engage problems and make decisions by using critical thinking" (p. 65).

2.6.5 The relationship between critical thinking and creativity

A number of theorists have argued that connections exist between critical thinking and creativity (Bailin, 2002; Bonk & Smith, 1998; Hidayati et al., 2019; Paul & Elder, 2006b; Thayer-Bacon, 2000). Specifically, Bailin (2002) argues that critical thinking and creativity are not mutually exclusive and a degree of creativity is necessary for critical thought

to develop. As an extension of Bailin's assertion, Wechsler et al. (2018) suggest that the enhancement of problem solving skills is dependent on developing both critical and creative thinking. They argue that criticality is often linked to thinking that is open-minded and adaptable. Rosba et al. (2021) argue that "creativity is needed to generate new ideas and critical thinking plays an essential role in sorting out the most appropriate alternative solution to solve the problem" (p. 6). They add that to improve academic achievement, it is essential to foster creativity and critical thought. Lipman (2003) also proposes that thinking is both creative and critical, because it involves a process that alternates between generating creative ideas or strategies and evaluating and making decisions about them.

Hong and Choi (2015) note that in design, critical thinking is evidenced through reflection and flexibility, which they regard as essential in facilitating problem-solving. Baker et al. (2001) suggest that teachers can only improve their students' problem-solving skills if they comprehend the connection between creative and critical thinking. In addition, Fairweather and Cramond (2010) advocate that classroom settings that stimulate students to generate creative ideas should also assist them in being critical and assessing their solutions.

Paul and Elder (2006b) argue that both creative and critical thinking are required in generating 'good' intellectual products. They suggest that "critical thinking without creativity reduces to mere scepticism and negativity, and creativity without critical thought reduces to mere novelty" (p. 35). They argue that, in practice, the two modes develop in parallel and are inextricably linked. Significantly, Ulger demonstrated the necessity of both modes of thinking in a 2016 study that showed that "the use of non-routine problem-solving processes plays a vital role in the significant correlation between creative thinking and critical thinking skills of students." (p. 695). A similar relationship has been indicated by Eggers et al. (2017), who suggest that critical thinking is significant in fostering creativity because it offers a structure for assessing the utility of ideas and products.

2.6.6 Western teaching strategies for developing critical thinking

Facione (1990), Fisher (1998), Fuiks & Clark (2002), Gelder (2005), Halpern (1998, 1999), Kennedy et al. (1991), Kuhn (1999), Pithers and Soden (2000), Atay (2015), Kanbay and Okanli (2017), and Muin and Kurniati (2022) all propose that critical thinking is teachable. However, an overview of research indicates that there is divergence regarding what methods might be most effective in developing the skill. Broadly, the literature may be divided into four approaches.

Firstly, there are approaches where critical thinking is taught explicitly, as a stand-alone subject. Alwehaibi (2012), Case (2005), Gelder (2005), Glaser (1984), Halpern (1998), Hager et al. (2003), Hatcher (2006), Jones (2009). Kuhn (1999), MacKnight (2000), Turuk Kuek (2010), and Williams and Worth (2001) all propose that teaching critical thinking through dedicated courses can enhance students' critical thinking skills. However, Ortiz (2007) claims that there is insufficient evidence to prove the effectiveness of this approach.

The second method, advocated by Cheng and Yeh (2000) and Zohar et al. (1994), proposes an integrated approach, where critical thinking is embedded within course content. Thus, Duron et al. (2006), Moore (2004, 2011a, 2011b), Paul and Elder (2006a, 2020), Pauker (1987), and Resnick (1987) argue that critical thinking must be taught in accordance with a discipline's norms, vocabulary, and rubrics. Freire (1970/2007) asserted that critical thoughts are central to education.

The third method proposes a blended approach where the teaching of critical thinking combines the two methods previously discussed. Ennis (1989), Glasser (1984), McCarthy-Tucker (1998), McPeck (1990), and Perkins and Salomon (1989) all argue that a mixture of stand-alone and general approaches can be used to teach critical thinking.

The fourth method recommends a skills-based approach, where critical thinking is presented as a programme based on contexts outside of the classroom (Sternburg & Bhana, 1986; Swartz & Parks, 1994).

In addition to disagreement regarding what approaches might be most effective in developing critical thinking, there is also some divergence in the literature relating to the respective values of instruction or collaborative practice.

Abrami et al. (2008), Case (2005), Facione (1990), Halpern (1998), and Paul and Elder (1992), all argue that without explicit instruction, it is unlikely that individuals will develop critical thinking skills.

However, Bailin et al. (1999), Bonk & Smith (1998), Heyman (2008), Nelson (1994), Paul and Elder (1992), and Thayer-Bacon (2000) all propose that critical thinking is most effectively fostered through collaborative or cooperative processes. Specifically, Thayer-Bacon (2000)

stresses the significance of social interactions for students in developing their critical thinking abilities, and Bailin et al. (1999) argue that constructive responses to group discussions, encouraging and respecting the contributions of others, are crucial for critical thinking practice. Heyman (2008) also suggests that social experiences can influence how children assess the reliability of claims. To prompt cognitive development among university students through collaboration, Nelson (1994) proposed the implementation of three practices: firstly, students should experience similar groundwork (commonly, prescribed literature); secondly, they should be exposed to challenging issues or conceptual frameworks with which they are unfamiliar; and finally, group projects should be organised with roles delegated to students and rewards employed to motivate high levels of contribution.

As an extension of the proposition that critical thinking is most effectively fostered through collaborative or cooperative processes, Bonk and Smith (1998) and Paul and Elder (1992) argue that constructivist learning approaches, categorised as more learner-centred than teacher-centred, should be emphasised.

Grosser and Lombard (2008), Madondo (2018), and Schendel (2016) highlight the relationship between culture and critical thinking. While Western pedagogies use methods such as problem-based learning and collaborative activities to foster critical thinking, the Islamic tradition emphasises the idea of *ijtihad,* which encourages independent reasoning and thoughtful interpretation. Islamic teachings also emphasise the importance of seeking knowledge as a means of deepening faith and understanding the complexities of the world.

2.6.7 The Islamic understanding of critical thinking

King (2017) notes that after the Islamic Golden Age (between the 8th and 13th centuries), sciences, economy, and arts all flourished in Islamic civilisations. At this time, many Muslim scholars, including Ibn Khaldun (1332–1406 AD), Al-Ghazali (1058–1111 AD), Ibn Rushd (1126–1198 AD), Al-Biruni (973–after 1050 AD), and Ibn Sina (980–1037 AD) were recognised in Western cultures as critical thinkers (Baali & Wardī, 1981; Machouche & Bensaid, 2015). However, in the 14th century the golden era of Islam ended, when Muslims moved from cultures that encouraged freedom of speech to more restricted, authoritarian forms of governance.

Muslims consider God to be the source of ultimate knowledge; to partake of this knowledge one is expected to think critically about both the Qur'an (God's words) and life. A number of Muslim scholars, including Ahmad et al. (2017), Endut and Wan Abdullah (2009), Nordin and Surajudeen (2015), Nurullah (2006), and Rosnani and Suhailah (2003), note that critical quest is highlighted in many verses in the Qur'an.

Al-Ghazali (1058–1111 AD) developed an epistemological theory that divided knowledge and science into two: the everlasting, which comes from Allah, and the impermanent, which is human in origin (Nordin & Surajudeen, 2015). Thus, he suggested that knowledge and science came from God (Allah), and what is impermanent comes from an individual's investigation or prior experience.

AlQaness (2006) has shown that in parts of Yemen during the 17th and 18th centuries, imitative learning was rejected, and the practice of *ijtihad* was preserved at a time when the country was closed to others in the Arabic world. [15] AlQaness argues that human nature is an indivisible whole, and its development is an integrated process because nature consists of a soul, the mind, and the body. AlQaness also proposes that the intellect is the first and most important source of human knowledge because it is God's proof of his creation. He highlights the importance of critical thinking practice in the Islamic world in general, and in Yemen specifically, and he advocates for the reintroduction of critical thinking into contemporary education practice.

According to Endut and Wan Abdullah (2009), critical thinking emerged in Islamic history in philosophy and psychology. Viewing critical thinking as a comprehensive philosophical approach, Ennis (1985) defines it as "reflective and reasonable thinking that is focused on deciding what to believe or do" (p. 45). Thus, inside an Islamic epistemological framework, the authors argue that a critical thinker should be able to make better decisions on what to believe and what actions should be conducted.

Endut and Wan Abdullah (2009) highlight similarities and differences between Western and Islamic critical thinking. They note that both have similar features that include concerns with defining problems, examining evidence, analysing assumptions, and avoiding emotional reasoning and oversimplification. However, Western and Islamic concepts of critical thinking differ with regards

15 It was preceding this period that the scholar Muneccimbasi (1660) had emphasised the importance of teaching critical thinking.

to epistemological and revelational issues relating to *al-Yaqīn* (certainty), *al-Haqq* (absolute truth), and religious consciousness and values. Islamic critical thinking emphasises spiritual, epistemological, and ethical aspects of thought, as foundational elements. The nature of Islamic critical thinking is closely aligned with *tafakkur* (reflection and contemplation), *al-Yaqīn* (certainty), and *al-'adl* (objectivity). Endut and Wan Abdullah (2009) also assert that Qur'anic 'critical' contemplation rejects blind imitation and ignorance, emphasising instead the importance of intellectual satisfaction and solid faith: combining enlightenment, revealed wisdom, critical reasoning, and rationalism in the pursuit of truth. Junoh and Mohamad (2020) argue that Islamic critical thinking is not based on activities of the mind alone. They suggest that it is an attempt to think thoroughly and comprehensively about this universe and the relationship between a person and God, by *tafqih* (analysing), *ta'qil* (investigating and research), *tafakkur* (reflecting), *tafahhum* (understanding), *tadhakkur* (formulating), and *tadabbur* (evaluating).

Nordin and Surajudeen (2015) have suggested that, whereas critical thinking in Western cultures is aligned with understanding, in Islamic cultures it is associated with a closer understanding of Allah. In a religious society like Yemen, it is difficult to ignore religious values and beliefs. Nordin and Surajudeen note that the Holy Book of Qur'an talks about *Ulul al-Albab*, which means finding out the truth by using *aql* (the mind) and *qalb* (the heart). These dimensions enable a person to connect to the world in which they live. Thus, they conclude, Islamic education encourages Muslims to think about the world and to know more about Allah, (which is understood as ultimate knowledge). In concord with this observation, Endut and Wan Abdullah (2009) argue that critical thinking is essential for Muslims because it is part of the reasoning process that enables them to accept Islam without imitation.

Nordin and Surajudeen (2015) argue that a holistic, Islamic framework of critical thinking is evidenced in the concept of *ijtihad*. They note that *ijtihad* is a higher-order thinking skill that may reflect the *tawhid* of Allah (God's unification), and they support this claim with reference to the *hadith* (the prophet's statement):

> Those who know himself, he may know his God. (Nordin & Surajudeen, 2015, p. 37)

Broadly, then, Islamic culture regards critical thinking as a process of self-growth because it focuses on the process. The foundational aspects of thought (spiritual, epistemological, and ethical) are emphasised. Critical thinking is also associated with revelational issues relating to certainty, absolute truth, and religious consciousness. Conversely, Western cultures tend to frame critical thinking as a method of objective discernment, evaluation, and problem solving.

2.6.8 Ijtihad

For Muslims, performing *ijtihad* is a "religious duty" (Kamali, 1991, p. 322). Kamali (2002) defines *ijtihad* as a "creative but disciplined and comprehensive intellectual effort to derive juridical rulings on given issues from the sources of the Shari'ah in the context of the prevailing circumstances of the Muslim society" (p. 623).

Malik (2021) states that the core of Islamic critical thinking is knowledge that comes from revelation, the use of senses, the intellect (reason and the heart), historical experience or testimony, and meditation on the natural and physical world. He also adds to these, spiritual sources, including prophetic dreams, insight, illumination, and inspiration. Malik argues that a gifted person can have prophetic dreams, insight, illumination, and inspiration that contribute to being an extraordinarily critical thinker. He also notes that the Qur'an emphasises *al-tafakur* (contemplation), *at-tadabbur* (reflection), *at-tafaqquh* (understanding), and *at-taakul* (reasoning) as foundational aspects of critical thinking, which may be developed and elaborated in diverse ways.

2.6.9 Ijtihad and Graphic Design

Nordin and Surajudeen (2015) propose that *ijtihad* has five elements: *tadabbur, tafkih, tafakkur, ta'qil,* and *tadhakkur*. We might better understand the relationship of *ijtihad* to graphic design by relating each of these elements to examples from design practice.

Tadabbur means learning and understanding before judging an idea. "The development of *tadabbur* understanding is essential to critical thinking because critical thinking by definition involves reflecting on what is known and how that knowledge is justified" (Abd Rahim et al., 2019, p. 316). Applying this principle to design, a designer should show empathy and be aware of other people. He or she would understand their experiences and realities, pursue objectivity and respect other people's values when evaluating a situation.

Tafkih is a process of analysis that uses *al-Qalb* (the heart) as well as *al-Aqal* (the mind). Senova (2017) states that, by blocking our intention, we are limiting ourselves to linear

causal thinking. In a design process, empathy can be used as a tool that can transfer the emotional feelings to an attribute or provide insights about the audience's needs (Gasparini, 2015). Gasparini divides empathy into emotional and cognitive dimensions. Both dimensions work to better understand and gain insights about the audience experience.

Tafakkur means reflecting and examining. The importance of *tafaakkur* aligns with the emphasis that Dewey (1933, 1938) places on reflection within the process of learning. *Tafakkur* refers similarly to active intellectual observation and evaluation of an individual's formal learning and professional practice activities that lead to new knowledge and self-understanding.

Ta'qil means gathering information before jumping to a conclusion. Norman (2013) argues that, while engineers and business people are trained to solve problems, designers are trained to discover underlying issues. He explains that designers study people's needs and try to understand the real issues first, rather than starting by trying to solve the problem.

Tadhakkur means summarising to understand wisely. This form of condencing complexity can be evidenced in the ability to design effective infographics or succinct body copy that reduces large amounts of information into succinct, easily comprehended text.

2.7 Chapter Summary

This chapter has provided an overview of the literature that contextualises the thesis. It has divided its consideration into four areas. In orienting the review, the first section considers literature relating to traditional Islamic educational thinking. This indicates two historical models: one that is instructionally/transmission based (Imam al-Bukhari, 810–870); Imam Ahmad ibn Hanbal, 780–855), and another where the relationship between teachers and students is one of mentored questioning and guidance (Al-Farabi, d. 950; Al-Ghazali, 1058–1111; Al-Jahiz, ca. 776–868).

Given the focus of the thesis, the review then moved to a consideration of Learner-Centred Teaching. While this approach to learning has deep roots in Islamic thinking, it has also generated robust inquiry and debate among Western scholars, because Learner-Centred Teaching seeks to equip learners with heightened levels of creative intelligence, problem-solving, and critical thinking. The literature suggests that such approaches may have positive effects on learners' psychosocial behaviours and may have a constructive impact on certain academic learning outcomes. The review then segued into a consideration of theories relating specifically to adult learning. Of the models discussed, a metagogical approach to adult learning (Strohschen & Elazier, 2009) is of particular interest to the inquiry because its emphasis on creativity, spirituality, community, and empowerment resonates with Islamic understandings of critical thinking.

The chapter then reviewed literature relating to critical thinking and its application in both Islamic and Western contexts. Both Islamic and Western traditions emphasise the importance of questioning and inquiry as a means of promoting critical thinking. In the Islamic tradition, this is exemplified by the practice of *ijtihad*. While there are similarities between Islamic and Western approaches to critical thinking, including objective problem-solving, considering facts, assessing hypotheses, and avoiding emotive thinking and oversimplification, there are also important differences that reflect the unique cultural and historical contexts in which these traditions have developed. As such, it is important to develop context-specific approaches to promoting critical thinking that are tailored to the needs and values of different communities. With regards to this project, critical thinking (as *ijtihad*) in addition to the qualities discussed, also engages with suspending judgement, engaging in reflection and conscious awareness, intrinsic drive, ethical and moral reasoning, and social responsibility. These elements are conversant with the spiritual, epistemological, and ethical aspects of Islamic thought Endut (2013).

From this position next I will consider how the research project was designed to engage with and consider how critical thinking is approached and might be extended in Yemeni tertiary education.

الفصل الثالث: تصميم البحث

Chapter 3: Research Design

3.1 Chapter Overview

This chapter provides an overview of the thesis' research design, paradigm, methodology, and methods. Specifically, it details the development towards a culturally located Appreciative Inquiry and then unpacks the study's six phases. It concludes with a consideration of trustworthiness and a discussion of the ethical aspects of the approach.

3.2 Research Design

This was a qualitative study that sought to understand and support transformation in a phenomenon through perceptions of experience in a particular context (Stake, 2010). Specifically, it addressed a research question that asked: 'How might approaches be developed to enhance *ijtihad* in undergraduate graphic design students in Yemen?'

A qualitative approach was selected because the goal of the study was to analyse the perceptions and experiences of lecturers working in graphic design education in Yemen and to support their self-determined transformation as they sought to enhance critical thinking in tertiary education.

Central to this was the need to understand a culturally-resourced concept of critical thinking (*ijtihad*). The study adopted an Appreciative Inquiry that progressed the research question across four phases. This approach enabled a deeper understanding of Yemeni graphic design educators' experiences, and provided an environment that enabled them to consider learning approaches within their unique cultural context. Broadly, the study emanated from a constructivist paradigm (Lincoln & Guba, 1985), employed an Appreciative Inquiry methodology (Carter, 2006; Cooperrider & Whitney, 2005) and three methods: Appreciative Inquiry interviews, a *Halakat Elm*/ Virtual Community of Practice (VCoP), and Reflexive Thematic Analysis.

3.3 Metamorphosis of the Research Design

The initial proposal for this thesis was to conduct research into critical thinking and its manifestation amongst tertiary design educators currently working in Yemen. My plan had been to travel to New Zealand, acquaint myself with literature in the field and return to Yemen within a few months to conduct an action research inquiry. Action research would involve a process of simultaneously investigating and solving an issue. My intention was to research and take action *inside* Yemen. Using this situationally embodied approach, I would progress the inquiry through cycles of planning, taking action, analysis, and taking more action, before eventually reaching a conclusion. Inside this model I would be engaged in a dynamic that prioritised reflection while bridging the gap between theory and practice (George, 2024).

However, the escalation of the conflict in Yemen and the Covid-19 pandemic made it impossible for me to return to the country. Uncertain how long the war would last or the shape it might take, I was forced to conduct an initial set of interviews remotely. With the help of a colleague in Yemen I was able to recruit six design lecturers who were interested in the potential of growing critical thinking in Yemeni education. This became the first adaption of the thesis.

Although telecommunications were variable at this time, I was able to conduct all six interviews and (in New Zealand) undertake an initial Reflexive Thematic Analysis. These interviews revealed that critical thinking was a term with diverse associations amongst the participants. However, while interviewing them in Arabic, I could discern that the concept of critical thinking was deeply understood, albeit inside a different cultural framework. Accordingly, at this point I reoriented the project so it became more culturally cognisant and I began inquiring into the Islamic concept of *ijtihad*. This refocusing constituted the second change in the research design.

This realisation suggested that there might be more value in working inside the cultural constructs that we shared as Yemeni educators. So, still being unable to return to the country, I asked people if we might develop a bespoke way of working together where we could share ideas and, as a community, explore approaches to critical thinking that were currently working well in our programmes. My thought at this time was that this process might be facilitated through a conventional Appreciative Inquiry. Adjusting the research in this way changed the dynamic of the study so the researcher was more decentred and the solution to the question was sought inside an appreciative co-creative model that I felt might be more responsive to the cultural and social context of the teachers involved.

Logistically, we were all separated from each other (both nationally and internationally) and, given the potential for ongoing instability, we decided to a form a Virtual Community of Practice (VCoP). However, it quickly became evident, both culturally and logistically, that this could not be a Western transplant. Instead we designed an approach that reflected a *Halakat Elm* (knowledge circle) predicated on the principle of *sadakat al elm* (knowledge

charity). As a community, we agreed to use Zoom as a shared platform and that sessions would span a traditional 90-minute timeframe. At this time it was also agreed, for clarity and depth of discussion, that all organisational communication, discussion, and feedback would be in Arabic.

Data from each of these sessions helped participants to collectively reflect on *ijtihad,* to share and discover what existed, to co-creatively envision potential, design propositions, and initiate action that might improve the development of critical thinking in Yemeni graphic design programmes. It was envisaged that this process might be achieved by building on what was culturally familiar and already considered successful.

There was a strong commitment to this approach, arguably because the idea of community is very deep in Yemeni culture, and, once one agrees to help with such an undertaking, the principle of واذا دعاك فأجبه (the obligation to accept and support an invitation) ensures an ongoing involvement (even when logistics prove difficult).[16]

Within the *Halakat Elm* I initially took the role of a *mualem* (teacher), but increasingly this role began to dissipate and the study increasingly moved towards a culturally distinctive form of Appreciative Inquiry that was *by* the people, *with* the people, and *for* the people—rather than a model designed by a researcher, who asked questions and reflected responses back to a group. The new approach enabled self-determined transformation inside a community of practice where people shared common cultural understandings.

16 واذا دعاك فأجبه (the obligation to accept an invitation) is one of the five duties that one Muslim has to another. The other duties are to return greetings, to visit the sick, to accompany funeral processions, and to respond to one who sneezes by saying 'Yarhamuk-Allah' (may Allah bestow His Mercy on you).

3.4 Research Paradigm

A paradigm shapes how we view the world, and it provides investigators with a road map (Guba & Lincoln, 1994; Patton, 1990). Johnson and Christensen (2012) define a research paradigm as:

> a perspective about research held by a community of researchers that is based on a set of shared assumptions, concepts, values, and practices. More simply, it is an approach to thinking about and doing research. (p. 31)

The paradigm from which the study emanated can be described as constructivist (Lincoln & Guba, 1985; Schwandt, 1998). Its selection was influenced by epistemology (how one knows things), ontology (how one believes), and axiology (what one values) (Lincoln et al., 2011).

3.4.1 Constructivist Paradigm

Qualitative research methodologies are usually related to interpretivist or constructivist paradigms. According to a constructivist viewpoint, values should be considered in the context of how truth and reality are inextricably linked to social context and meaning (Allen, 1994). Constructivism offers a paradigm that emphasises the importance of culture and context in the process of knowledge construction and accumulation (Boyland, 2019). Boyland (2019) notes that in social constructivism, for example, participants add to and reshape their mental models of reality through social collaboration, building new understandings as they actively engage in learning experiences. Zuriff (1998) states that, in social constructivism, human interests are important for research purposes, and knowledge is constructed through social interaction. Such knowledge is shared rather than an individual experience (DeCarlo, 2018). According to constructivists, reality is a subjective creation. Research emanating from a constructivist paradigm often involves researching people to gain insight into social phenomena and solving social problems. Constructivists believe that in social science studies, knowledge is subjected to participants' experiences and beliefs, which cannot be viewed as absolute truth. In other words, the paradigm orients the researcher to understanding "how people define their contexts" (Marshall & Rossman, 1995, p. 40).

I chose the constructivist paradigm for this research because it represented my ontological position, which acknowledges that "realities [are] dependant for their form and content on the individual persons or groups holding the constructions" (Guba & Lincoln, 1994, pp. 110–111). As a consequence, the research process became a dialogue between the researcher and the participants (Usher et al., 1997). This orientation enabled me to construct an inquiry based on the premise that different realities are constructed through each participant's experience of examining the reality of *ijtihad* inside their graphic design lecturing practice. By working with diverse 'truths,' I hypothesised that the study might be able to negotiate and construct a holistic definition of critical thinking and enable self-determined forms of culturally sensitive transformation.

A constructivist research paradigm therefore dictated an epistemological approach to examining *ijtihad* as a form of critical thinking, where "the findings are literally created as the investigation proceeds" (Guba & Lincoln, 1994, p. 111). From an axiological standpoint, I understood that knowledge takes the form of propositions rooted in a transactional understanding that is seen as instrumentally valuable for achieving social liberation (Boyland, 2019).

As a researcher, I appreciate that different realities are constructed based on each participant's experiences of examining the nature of *ijtihad*. Given this position, I proposed that through dialogue located within a specific cultural context, a group of educators might be able to collectively negotiate and construct a holistic understanding of *ijtihad* and from this, develop strategies for strengthening and developing their current practice. In the study, the constructivist paradigm embraced two intersecting realms. The first was the world of the participants, teaching graphic design in Yemeni universities. Inside this, participants' perceptions of reality are understood to be shaped by their interactions with students. The second realm was mine, as a Yemeni researcher who has taught Graphic Design in a Yemeni education system, grew up inside the cultural context, and adopts the position of a reflective appreciator of what might emanate from his colleagues' experience. Using a *Halakat Elm* /VCoP supported by interviews, I sought to analyse data and reflect back what surfaced into a coevolutionary dynamic where critical subjectivity was embraced (Breu & Peppard, 2001), and all parties shared responsibility for putting the co-created aspirations and research findings into practice (Reason, 1998).

In the study, a constructivist approach enabled me to bridge the gap between theory and action because the Yemeni lecturers were involved in co-creatively developing learning approaches inside a familiar cultural context.

3.5 Methodology

Methodologically, the study may be described as an Appreciative Inquiry. Cooperrider and Whitney (2005) define Appreciative Inquiry as "the cooperative, coevolutionary search for the best in people, their organisations, and the world around them" (p. 15). Using this approach, notions of intervention are replaced by research, creativity, and innovation. Thus, 'discovery,' 'dreaming,' and 'design' become elevated above negation and criticism. Cooperrider and Whitney (2005) note that Appreciative Inquiry is concerned with asking unwaveringly optimistic questions that improve a system's ability to recognise, foresee, and maximise positive potential. It is useful to note that in this project, the Appreciative Inquiry has been enacted inside a culturally specific context (in Yemen during a protracted war). This is a time when both infrastructure and morale is suffering and there is a need for a constructive approach to educational change and enablement. This issue is expanded upon in the subsection dealing with methodological rationale (3.5.6).

I begin here with outlining Srivastva et al.'s (1999) five principles of Appreciative Inquiry, which were later refined in 2001 by Cooperrider and Whitney. These were the constructionist, simultaneity, poetic, anticipatory, and positive principles—and they shaped the nature of this project.

3.5.1 Appreciative Inquiry Principles

The Constructionist Principle. In alignment with the epistemological approach of this research, the constructionist approach shifts the focus of knowledge away from the individual and on to the relationship. It proposes that we might understand and analyse organisations as living, human constructions.

The Simultaneity Principle

This principle accepts that inquiry initiates reactions on diverse levels of our consciousness. Thus, the language, tone, and intention of a question will determine the direction of the conversation, shaping our discoveries and insights, and driving the process of constructing a future. Cooperrider and Whitney (2005) maintain, "It is not so much, 'Is my question leading to right or wrong answers?' but rather 'What effect is my question having on our lives together ... Is it strengthening our relationships?'" (p. 11).

The Anticipatory Principle

The anticipatory principle presupposes that our future is a constructed reality that is created by our present thinking and imagery. Thus, Appreciative Inquiry harnesses the power of positive images of the future to drive constructive organisational change that engages human collective imagination and discourse as a valued resource.

The Poetic Principle

Cooperrider and Whitney's poetic principle asserts that the things that we focus on grow. Accordingly, if we decide to study success rather than problems, we can identify new and useful resources and learning that may have been hitherto overlooked. They propose that human organisations can be viewed as 'open books,' where an ongoing co-authoring of

stories provides endless opportunities to learn, interpret, and explore aspects of human experience. This reflects the Greek root of the word 'poem': *poēma*, meaning to make or create.[17]

The Positive Principle

The positive principle argues that a positive focus achieved through the deliberate choice of affirmative language and questioning enables researchers to discover uplifting stories that inspire 'possibility thinking' and enhanced organisational health. Integral to this process is social bonding that builds and sustains a momentum for change and drives long-lasting and successful change efforts.

3.5.2 Appreciative Inquiry's Four Stages

In 2005, Cooperrider and Whitney proposed four stages for an Appreciative Inquiry: Discovery, Dream, Design, and Destiny. In the Discovery stage, strengths and best practices (both past and present) are identified by working with stakeholders. In the Dream stage, emphasis is placed on developing a clear, results-driven vision based on identified potential. The Design stage is concerned with constructing hypothetical scenarios for an improved organisation and outlining an organisational structure that people believe can utilise and amplify what is positive at the existing core of the organisation. The Destiny stage is concerned with increasing an organisation's ability to develop optimism and sustain momentum for positive change and high performance by strengthening its affirmative capability.

17 See Online Etymology Dictionary. (n.d.). Poem. Retrieved May 30, 2024, from https://www.etymonline.com/word/poem#etymonline_v_17526.

Significantly, Cooperrider and Whitney (2005) propose that an Appreciative Inquiry is an ongoing, constantly evolving, cyclic approach to improvement (Figure 3.1).

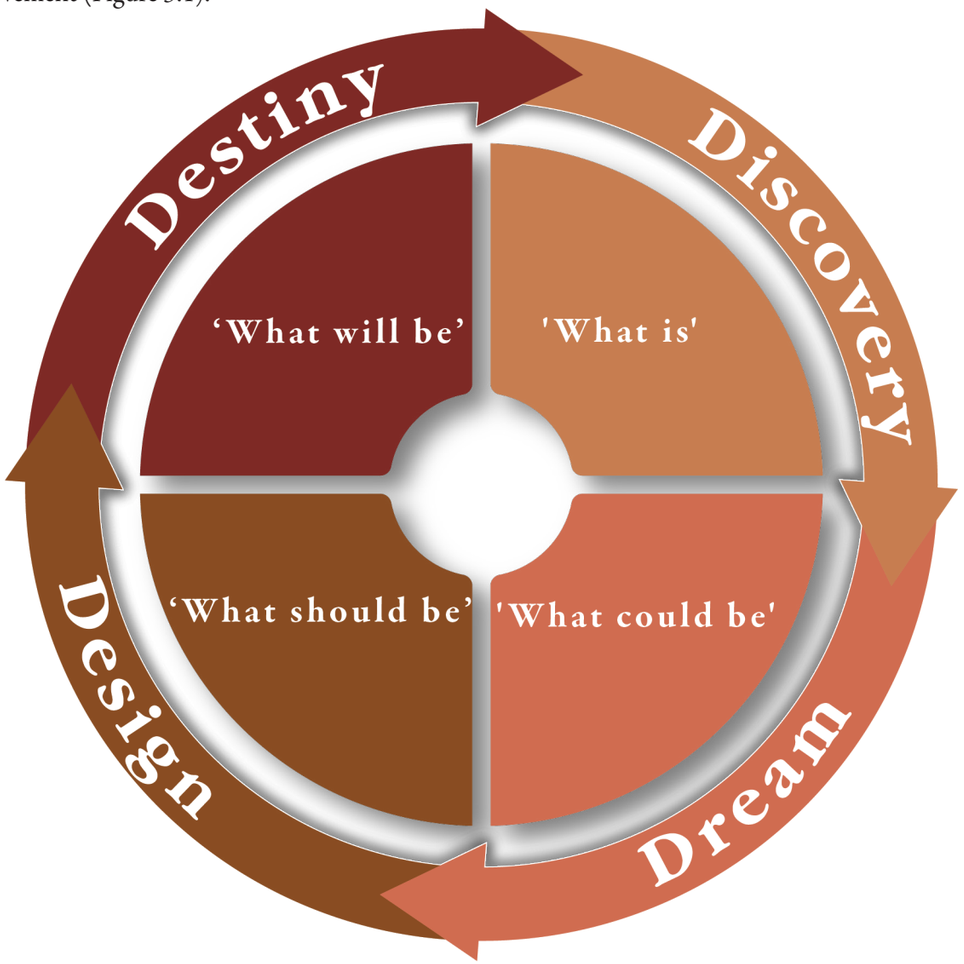


Figure 3.1. An overview of how the research project was structured inside Cooperrider and Whitney's (2005) stages of an Appreciative Inquiry.

Cooperrider and Whitney's (2005) steps in an Appreciative Inquiry may be translated into four corresponding descriptions [*Table 3.1*].

Research Design Stages	Descriptions
Discovery	Mobilise a systemic or systemwide inquiry into the positive core of graphic design teachers' experiences teaching critical thinking in Yemeni universities.
Dream	Envision these organisations' greatest potential for positive influence and effect.
Design	Craft a set of propositions in which the positive core is boldly alive in all strategies, processes, systems, decisions, and collaborations.
Destiny	Invite action inspired by the Discovery, Dream, and Design stages that can be applied to improving teaching critical thinking in Yemeni universities.

NOTE: Adapted from Cooperrider and Whitney's (2005) table flow through an Appreciative Inquiry's 4-D cycle.

3.5.3 Strengths of Appreciative Inquiry

Barge and Oliver (2003), Fitzgerald et al. (2010), and Oliver (2005) offer persuasive arguments for expanding the definition of Appreciative Inquiry beyond researching 'the best of' a system or organisation. Boyatzis and Jack (2018) and Bushe (2013) note that the methodology can rekindle inspiration, resilience, and a sense of pride, leading to heightened levels of creativity, the fostering of trust, and more resilient relationships. Egan and Lancaster (2005) also suggest that sharing previously untold success stories can make accomplishments more tangible, empowering people to approach future challenges with greater confidence and vigour. Arnold et al. (2022) observe that Appreciative Inquiry can assist individuals to think differently about their role, team, and the way that things are done. In addition, Egan and Lancaster (2005) emphasise the inclusive nature of Appreciative Inquiry, noting that it is capable of drawing on a wider spectrum of voices (including those which can often go unheard). By extension, Hung et al. (2018) suggest that this can enhance co-creation and lead to better engagement, meaningful changes, and a sense of liberation and empowerment.

3.5.4 Limitations of Appreciative Inquiry

However, Appreciative Inquiry has certain limitations, and Arnold et al. (2022) suggest that it may lack the ability to address complex situations. Significantly, Bushe (2012) expresses concerns about its potential to neglect important discussions because of its limited emphasis on negative experiences and problems. Specifically, it has been criticised for emphasising positive stories and experiences during its discovery phase, and arguments have been made that this bias may undermine the significance of negative experiences and inhibit meaningful conversations that should be occurring (Egan & Lancaster, 2005; Miller et al., 2005; Pratt, 2002; Reason, 2000). Oliver (2005) also notes Appreciative Inquiry's tendency to oversimplify and polarise positive and negative aspects without recognising that what is considered positive for some may be experienced as negative for others. Because of this, writers such as Watkins et al. (2016) report that the 4D Cycle of Appreciative Inquiry is becoming increasingly critiqued as overly reductionist and goal-oriented, proposing that this rigidity can actually become a barrier to good outcomes.

3.5.5 Rationale for Employing Appreciative Inquiry

These concerns acknowledged, I adopted an Appreciative Inquiry for this study because the project was concerned with drawing to the surface instances and illustrations of

effective practice that may not have hitherto been shared in graphic design education contexts in Yemen, given the paucity of formal discussion around *ijtihad* in undergraduate graphic education (Egan & Lancaster, 2005).

I was aware that, currently, critical thinking does not hold a heightened position of value in Yemeni pedagogical discourse, and by employing Appreciative Inquiry with a group of educators who were beginning to share positive, culturally contextualised experiences and analyses (often for the first time), I believed that the approach might help to strengthen a sense of shared purpose, surface inspiration, strengthen resilience, and reinforce a sense of pride and shared identity (Boyatzis & Jack, 2018; Bushe, 2013). Given that the approach is contextualised inside practice that participants share as 'experienced' situations, as well as being culturally framed, I considered that an Appreciative Inquiry might be helpful in rendering accomplishments and insights more tangible, thereby empowering educators in the project to approach future challenges with greater confidence and a strengthened sense of belonging to a positively-oriented, pedagogical community (Egan & Lancaster, 2005). The approach also afforded higher levels of ownership because situated experience shaped observations and approaches that were specific to the Yemeni experience of education.

Appreciative Inquiry as a methodological approach has strong resonance with Islamic thought because it relates to the cultural principle of حسن الظن (*Husn al-Dhann*). *Husn al-Dhann* means to adopt an appreciative outlook; thinking well of others. It emphasises the necessity of viewing situations and others positively, focusing on strengths, virtues, and potential for improvement. The principle is often associated with the Qur'an:

> Believers, avoid making too many assumptions – some assumptions are sinful. Do not spy on one another or speak ill of people behind their backs: would any of you like to eat the flesh of your dead brother? No, you would hate it. So be mindful of God: God is ever relenting, most merciful. (The Qur'an, 2004, Surah Al-Hujurat 49:12)

Husn al-Dhann in an Islamic context, is the principle that underpins appreciative pursuits. It represents the propensity to find a pathway forward through positive belief, whether one is negotiating adverse or favourable conditions.

3.6 Methods

In the research, three distinctive methods were used: Initial interviews, a *Halakat Elm* /VCoP, and Reflexive Thematic Analysis.

3.6.1 Initial Interviews

The initial interviews were conducted before it became impossible for me to return to Yemen. Their purpose was to discover the experience and understandings of critical thinking inside the participants' teaching practices. Although the interviews opened the research project, they were not originally envisaged as part of an Appreciative Inquiry. However, when the need for a methodological change occurred (the inappropriateness of instituting an Action Research methodology), the data was integrated into the first stage of the Appreciative Inquiry. The interviews are discussed inside this context under 3.7.2.[18]

18 I am aware that this is contrary to how the first stage of an Appreciative Inquiry is conducted, but the decision was shaped by the circumstances of war and the limitations placed on the study by the COVID pandemic. Participants saw their initial contributions as useful and even though we were forced to reconfigure the research design, they wanted to share their initial, individual thinking as a collective. They suggested that their individual contributions should be analysed and used to resource a more co-creative process.

The interviews were conducted with six graphic design lecturers who work in different Yemeni private and governmental design institutions and colleges (Table 3.2).[19] They were designed to reveal individual insights, experience, and meanings from individual participants. They provided initial "insight into individuals' constructed social worlds" (Freebody, 2002, p. 137), and they enabled participants to define critical thinking in their specific cultural context, tie the discussion to embodied experience, and reflect on critical thinking techniques that they had personally experienced as effective.

Participant	Age	Gender	Years of Experience	Educational institutions[20]	Subjects Taught
P1	44	Male	+2 years	A	Computer Interaction, Introduction in Graphics and Multimedia, and Computer Graphics, and Adobe Photoshop
P2	30	Male	Since 2016	A1, A2, & A3	Brands and Visual Identity, Typography, and Package Design
P3	50	Male	Since 2004	A & B	Colour Theory, Adobe Illustrator, Autodesk 3ds Max, and History of Art
P4	30	Female	Since 2018	A1 & A2	Montage (movie makers), Portfolio Design, Adobe After Effects (Visual effects), Adobe InDesign, and Visual Identity.
P5	33	Male	Since 2012	A1, A2, A3, & B	Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Motion Graphics, Adobe After Effects, Introduction to Graphics, Branding, Infographic Design, and Publishing. and Photography
P6	32	Male	Since 2015	A1, A2, A3, A4, A5 & B	Package Design, Autodesk 3ds Max (modeling and animation, character design), Motion Graphic and Video Editing, Typography, Colour Theory, Introduction to Illustration, Visual Effects, Zbrush, and Multimedia Design

Table 3.2 Profiles of the six participants

19 Prior to the interviews, a comprehensive approach was taken to shaping focus questions that underwent scrutiny by my supervisors and the University Ethics Committee.

20 The letter A in the educational institution column in Table 3.2 represents a Bachelor's degree being the highest awardable qualification. The letter B represents a diploma being the highest awardable qualification.

The sample size for the study was small but reflective of the distinctive circumstances under which the project was conducted. Since September 2014, Yemen has been involved in a civil war (Orkaby, 2021), so conditions, including a lack of access to participants and unstable communications, precluded securing a large number of consistently available collaborators. After my arrival in New Zealand, the government left Yemen for Saudi Arabia due to the unstable situation in the country (Al Jazeera, 2019), and this made it impossible for me to return to the country. Thus, I had to change my methodology and methods to conduct the research remotely. Despite these difficulties, participants were deeply committed to the interviews, arguably because of the principle of واذا دعاك فأجبه (*wa'adeuk fa'ajbuh*), the Islamic obligation to accept and support an invitation). This meant that even though the sample size was small, the information gathered was rich and insightful.

As part of the ethics approval from Auckland University of Technology, the names of participants and the institutions where they work remain confidential.

Each interview participant was allocated ninety minutes. I designed this time allocation based on my and the participants' shared familiarity with Mosque and Madrasa learning circles, which often have a similar duration. The duration afforded each teacher a substantial period of time to delve into the questions I asked.

The interviews employed broad focusing questions that were expanded through prompt[21] and probe questioning.[22]

Participants were encouraged to answer freely without interruption. Given the context of the study and the researcher and participants' shared cultural and linguistic backgrounds (as Yemeni and Arabic speakers), the interviews were conducted in Arabic. Data was video and audio recorded, transcribed, then translated into English for the thesis report. Given that I also work inside the discipline of graphic design and I was familiar with its cultural contexts in Yemen, I was able to employ specific language and framings in the questions that helped to reinforce a sense of community and shared understanding. As an extension of this, I provided the study's information sheet and consent forms in Arabic, so pre-elicitation was as clear as possible. This was because, as Gonzales and Leroy (2011) note, clearly written pre-elicitation allows for the explanation of key terms, an "opportunity to understand what type of information is needed, and clarification of inconsistencies which can help to minimise biases" (p. 735).

3.6.2 Reflexive Thematic Analysis (RTA)

Data from the interviews was processed using Reflexive Thematic Analysis (RTA). Braun and Clarke (2021) describe Reflexive Thematic Analysis as a flexible method for "developing, analysing and interpreting patterns across a qualitative dataset" (p. 4). Campbell et al. (2021) note that although thematic analysis approaches can be suitable for some positivist research, Reflexive Thematic Analysis expands on the way data is considered because it involves a critical reflection on the research's process, practice, and the researcher's role within the inquiry.

3.6.3 Halakat Elm as a Virtual Community of Practice (VCoP)

The next three stages of the research moved towards a more co-creative process realised inside *Halakat Elm* (knowledge circles). Given physical remoteness these constituted a form of Virtual Community of Practice (VCoP).[23]

The design of the circles was drawn from the fact that the participants and researcher had all received their early education in the mosque. In this setting, we would form circles that included a *mualem* (teacher). This circle paralleled the circles of discourse that students subsequently created for themselves. In these knowledge circles we traditionally discuss and practice what is learned from the *mualem*.

The essence of these circles lies in sharing and transferring knowledge, and they manifest the principle of *sadakat al*

21 Unscripted prompt questions are commonly used when a participant fails to understand a question (Leech, 2002). Gonzales and Leroy (2011) note that "prompting techniques allow questions to improve recall, reduce satisficing, and address faulty reasoning including cognitive biases" (p. 735).

22 Probe questions are response or follow-up questions that help one to gain more detailed understandings of a participant's experiences, background and knowledge, and to "encourage further thought on a specific topic" (Estudio, 2022, para. 4).

23 A Virtual Community of Practice (VCoP) is maintained using the Internet. Wenger-Trayner (2015) proposes that such communities contain active practitioners who share a specific domain of interest. They participate virtually in collective learning within this domain and create social structures to assist in the sharing and creation of knowledge. Inside these communities participants may engage in instruction-based learning or group discourse. To facilitate this, structures are introduced to support and facilitate the long-term management and enablement of synchronous interaction.

elm (knowledge charity). In Yemeni culture, 'knowledge charity' extends beyond materiality, to encompass acts such as offering advice, spreading joy, and enhancing community well-being. The principle of *sadakat al elm* is an expression of Islamic teaching that stresses the necessity to share rather than conceal knowledge.[24] Thus the *Halakat Elm* as a Virtual Community of Practice constituted a culturally familiar (yet virtually facilitated) structure inside which a gathering of generous thinkers considered an idea and its potential to enhance the quality of learning for others.

By establishing a climate of exchange, I was able to position myself inside the knowledge circle as a researcher/connoisseur who supported the participant lecturers. Eisner (2002) describes 'connoisseurship' as "the art of appreciation," and in an educational context he uses the word to describe the ability of an individual "to read a classroom or read school work" (p. 187). Barone and Eisner (2006) suggest that "connoisseurship is developed when an individual has so refined his or her understanding of a domain that the meanings the individual is able to secure are both complex and subtle" (p. 289). In a research context, we might consider this term as a description of a researcher who, inside a Virtual Community of Practice, is supportive of participants but remains functionally discrete from them. In this state, the connoisseur exercises an informed appreciation of discussion because they are part of the same culture and profession. They listen; appreciate ideas, value and insight; and ask questions, but they do not offer proposals or solutions. Outside of the *Halakat Elm*, they analyse and reflect on data and use this process as a catalyst for further discussion.

The state of connoisseurship within the *Halakat Elm* has no direct translation in English. In Arabic, the word that describes this is مدرك, which may be broadly translated as '*mudrik*' or perceptive consciousness. In this state, the traditional *mualem* (teacher) or contemporary connoisseur adopts the role of the conscious and informed appreciator/listener/reflector, who functions as a catalyst for discussion and co-creative thinking.

The *Halakat Elm*/VCoP enabled the study to circumvent constraints on travel and subsequent increased costs. While one might, at another time and in different circumstances, have preferred face-to-face methods that more closely aligned with the Mosque and Madrasa physical learning circles, by using a Zoom platform and Miro,[25] and by constructing knowledge circles, we were able to pursue an Appreciative Inquiry into the nature and potentials of *ijtihad* in a culturally familiar manner.[26]

3.7 This Research's Structure

Structurally, the study was divided into four Appreciative Inquiry stages that progressed across six phases (Figure 3.2).

THE DISCOVERY STAGE:

Phase 1. Formulating the study

Phase 2. Interviewing

Phase 3. Data processing

THE DREAM IMAGINE STAGE:

Phase 4. Envisioning the potential for developing *ijtihad*

THE DESIGN STAGE:

Phase 5. Crafting propositions, strategies, and collaborations

THE DESTINY STAGE:

Phase 6. Planning actions to improve the development of *ijtihad* in Yemeni universities.

24 Concealing knowledge is considered Mathoum man yaktom al elm (a sin).

25 Miro is an interactive online workspace for innovation known as a 'real-time board.' It is a digital collaboration platform designed to facilitate remote team communication. I used Miro during the VCoP sessions to help us document our progress and mind-map ideas, with written input from the participants.

26 I addressed the ten-hour time zone difference between New Zealand and Yemen by scheduling the interviews and the Halakat Elm at times that were during the day for the Yemeni participants.

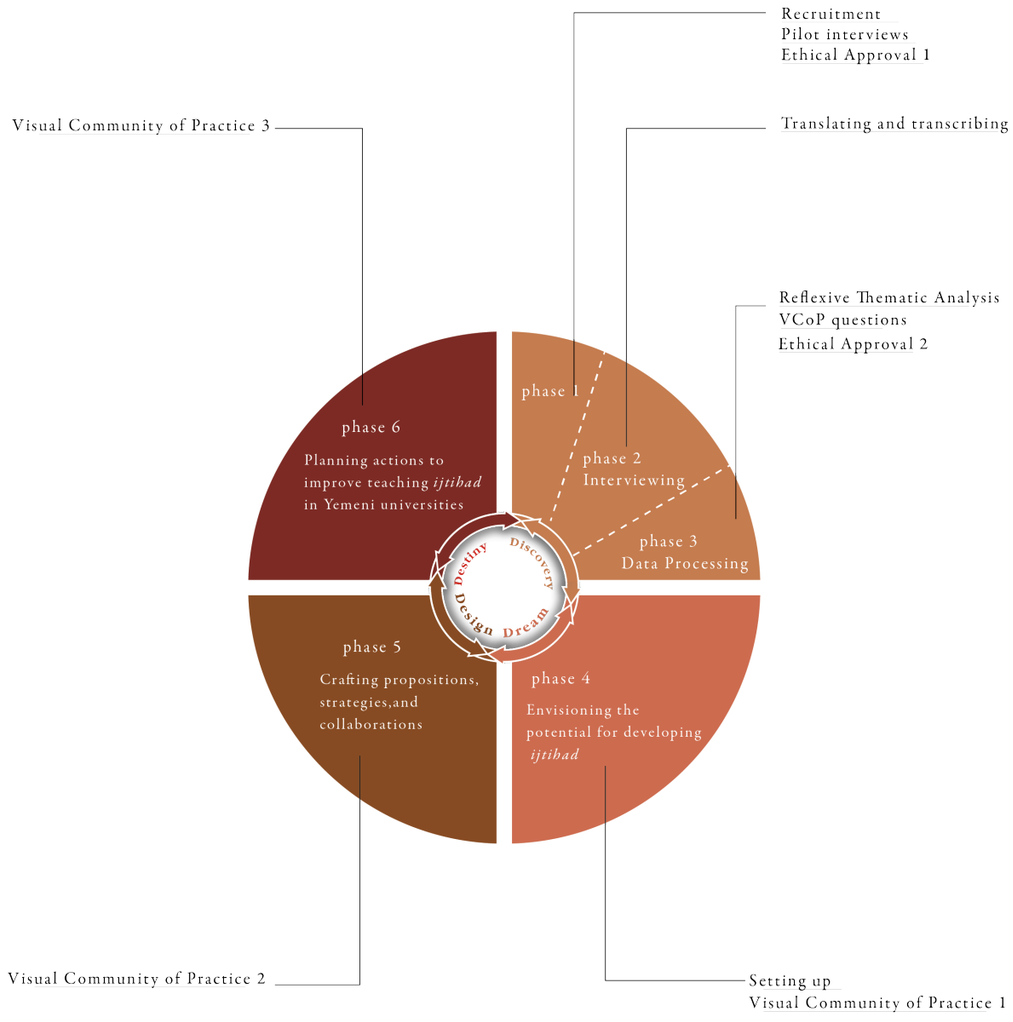


Figure 3.2 Research structure

THE DISCOVERY STAGE [Phases 1, 2 and 3]

The Discovery stage involved three phases: Formulating the study, interviewing participants, and data processing.

3.7.1 Phase 1. Formulating the Study

Reviewing Discourses

Having established a research aim (supporting the development of an undergraduate learning approach to enhance *ijtihad* in tertiary graphic design education in Yemen), I began by contextualising the inquiry: reviewing existing literature that enabled me to identify critical thinking techniques and teaching approaches, establish a gap in the field, and draw Western and Arabic writing into a broad consideration of divergent and convergent discourse. From this reading and my experience of teaching graphic design in Yemen, I drafted an initial set of interview questions.

Recruitment

At this point I began discussions with Dr Gawed Nagi, who became an advisor and mentor for the study. Dr Nagi is a senior lecturer and head of the programme of graphic design and multimedia at the University of Science and Technology (UST). He has over sixteen years of experience in teaching graphic design, and he currently lives in Yemen. Significantly, he was connected through universities to a broad range of graphic design educators.[27] For the project, he located potential participants and recruited six who had

27 Given that I was unable to return to Yemen to conduct the study because of restrictions, the appointment of a mentor in Yemen was a requirement of the university's Ethics Committee. The independent approach to participant selection was also deemed useful in reducing any bias on my behalf, as a prior educator in the field.

a minimum of two years of graphic design teaching and industrial experience.[28]

Pilot Interviews

Before working with participants in the study I conducted two pilot interviews with non-participants. This enabled me to refine my questioning, address ambiguities, and consider approaches and framings that might work effectively within the cultural environment of the study.[29] The process involved a Yemeni English teacher in New Zealand (with an interview conducted in English) and a graphic design educator (the researcher's advisor) in Yemen (using an interview conducted in Arabic).

Ethical Approval

Having formulated and processed the interview questions, I sought ethics approval through the Auckland University of Technology Ethics Committee (AUTEC). Approval was granted on 22nd August 2023 (see Appendix A for documentation).

3.7.2 Phase 2. Interviewing

This phase involved engaging the six Yemeni graphic design teachers in individual interviews that inquired into each participant's understandings of *ijtihad* and sought accounts and reflection on positive core experiences in teaching critical thinking within their university.

The interviews were conducted between the 29th of August and the 2nd of December 2021, using Zoom as an audio-visual recording system. Interviews ranged in duration between 30 and 90 minutes and were conducted virtually, either in the participant's home or in a private space at their place of work.

These interviews enabled the establishment of a dialogue between the researcher and each participant. They also provided rich data that focused on understandings of *ijtihad* and how it was evidenced in each teacher's practice.

Translating and Transcribing

The interviews were video recorded in Arabic, transcribed, and then translated into English for analysis. Although the language of the original questions was in English, they were posed by the researcher in each interview in Arabic. In the process of 'question translation' attentive consideration had to be given to Arabic words like *ijtihad* that have no exact equivalence in English. Given the challenge of cross-cultural, bilingual research, translating and transcribing the resulting data took a considerable amount of time. Although initially independently translated,[30] all text was carefully reviewed by the researcher, because there were numerous discipline-specific terms and a variety of culturally loaded connotations about which the external translator was unaware.[31] Collected data from the interviews are outlined and reported in Chapter Four: Research Findings.

28 After potential participants were identified, the advisor outlined the aim of the project, and participants contacted the researcher online to express their interest in being involved in the study. After ethics approval was gained, they were provided with a participant information sheet and consent form.

29 These were conducted online between 29 April and May 2021 via Zoom and Ms Duo. Ms Duo was only used with one of the initial pilot interviews, because this was the only platform that the participant had available at the time. All interviews in the formal study were conducted using Zoom.

30 To ensure accurate translation and minimise bias, I chose to outsource the translation process through an office known as Nizar. This translation office is officially recognised by the Yemeni government, and this status provided an added level of confidence in their ability to ensure a high-quality, accurate translation. The decision to outsource was taken in an effort to ensure that translated material accurately reflected the original content, including dialectal nuance, while also lowering potential language-related biases that might arise with a non-Yemeni service.

31 After the initial interview translations by an external translator, I decided to translate all data from the VCoP sessions myself. There were three reasons for this. Firstly, interview material contained much discipline-specific terminology with which the translator was unfamiliar. Secondly, some participants used regional dialects and translating them had proven problematic. Finally, the translator took a considerable amount of time to work through the material, so, being proficient in Yemenis and familiar with both disciplinary language and regional dialects, I determined that it would be more efficient to translate all material myself.

3.7.3 Phase 3. Data Processing

Reflexive Thematic Analysis

Having translated the interviews, I applied once again Braun and Clarke's (2021) six steps of Reflexive Thematic Analysis to develop, analyse, and interpret patterns across the dataset (Table 3.3).

	Step	Action description
1	The researcher familiarised himself with the data set.	• Listening to the audio of the data • Reading the interviews • Summarizing the primary insights
2	Main codes were identified.	• Identifying interesting, relevant, and meaningful data • Compiling the relevant data to code labels
3	Initial themes were generated.	• Searching for themes • Matching codes with themes
4	Themes were reviewed and developed.	• Checking the initial fit of the themes to data
5	Themes were refined, defined, and named.	• Refining the themes in relation to the overall research • Naming themes
6	Discussion and finding were written up.	• Producing a body of writing that reveals a coherent and persuasive story about the data

Table 3.3 Application of Braun and Clarke's (2021, pp. 35, 36) six steps of Reflexive Thematic Analysis.

Rationale for Using Reflexive Thematic Analysis

Reflexive Thematic Analysis has been previously employed by Dorn and Guzdial (2010) to analyse data in graphic design education; it was an especially appropriate choice for this project, because the method accepts that the researcher's subjectivity (including his cultural position) needs to be an acknowledged part of how data is considered. The culturally shaped nature of data in the study required careful interpretation by the researcher, and therefore analysis was undertaken manually so I could consider concealed meanings in the text that could not be easily identified by NVivo. The time spent doing this enabled me to consider explanations of participants' behaviours, actions, and thoughts. The flexibility of the method enabled both deductive and inductive approaches, including being able to consider "observational data that was collected throughout the study" (Alhojailan, 2012, p. 41). The reflexivity and depth of the method meant that it was useful for thematic analysis of both interview data and later audio/visual material surfacing inside the *Halakat Elm*.

THE DREAM STAGE (Asking What Can Be):

3.7.4 Phase 4. Envisioning the Potential for Developing Ijtihad

Setting Up

The Dream stage (Phase 4) moved into an Appreciative Inquiry. Before working with the participants, insights from the interviews were employed to shape focus questions related to potential applications of *ijtihad*, as it might be experienced and enabled inside Yemeni graphic design tertiary environments.

Having identified significant themes that shaped a series of focus questions, I gained additional ethical approval from the university to develop a *Halakat Elm* with the six participants.

In this Dream stage we were seeking joint consideration of the nature and potential development of *ijtihad* inside participant's learning/teaching worlds. The *Halakat Elm* were designed to disclose rich information based on discussion, storytelling, and responsive questioning. This approach encouraged a personal and collective vision of the future and sought to mitigate the impact of anxiety as an obstruction to change (Mantel & Ludema, 2000; Michael, 2005; Wright & Baker, 2005). I chose this method because positive questions tend to elicit more details and build greater levels of rapport between participants (Bushe, 2012).

Halakat Elm 1

This was established using Zoom as a shared platform and the gathering was afforded a 90-minute timeframe. The purpose of the *Halakat Elm* had been provided in advance (in the form of an information sheet). In addition, time was taken at the beginning of the session for introductions and for the researcher to outline the process and nature of Appreciative Inquiry. This was followed by a description of the process we could adopt.

The *Halakat Elm* enabled participants to work collaboratively as they considered the culturally distinct nature of *ijtihad* in relation to adult learning approaches.

While focus questions were used to orient discussion, these were supplemented by probe questioning, where a response or follow-up might enable a more detailed understanding of experiences, context, or knowledge (Estudio, 2022). What distinguished the *Halakat Elm* from the interviews was in this environment ideas and experiences were shared and discussed. Thus, rather than being a binary process of questioning and answering, thinking progressed into a co-creative environment that became a manifestation of *sadaqat al elm* (knowledge charity).

Data was recorded via Zoom for later Reflexive Thematic Analysis. However, in this phase of the inquiry and in those that followed, Reflexive Thematic Analysis was not employed to identify themes; but rather to contextualise the resonance of lived experiences and help shape future questions and understandings.

THE DESIGN STAGE: (Determining What Should Be)

3.7.5 Phase 5. Crafting Propositions, Strategies, and Collaborations

Halakat Elm 2

Given the complexity of the discussion, a decision was made to separate the processes of envisioning *ijtihad* (Dreaming), from crafting propositions for how it might be effectively embedded as a skill (Designing). Accordingly, the two *Halakat Elm* sessions were separated by two weeks. This afforded time for participants to reflect on what they had discussed and orient themselves towards designing propositions, strategies, and collaborations for embedding and developing *ijtihad* inside adult learning approaches in Yemeni tertiary graphic design education.

THE DESTINY STAGE: (Creating What Will Be)

3.7.6 Phase 6. Planning Actions to Improve the Development of ijtihad in Yemeni Graphic Design Education

Halakat Elm 3

The final stage in the study involved planning actions to improve the development of *ijtihad* in graphic design education. Here, we considered actions inspired by the Discovery, Dream, and Design stages that might be applied to improving teaching critical thinking. We formulated a consensus on our understanding of *ijtihad* and identified techniques that might foster students' *ijtihad*, as well as a learning approach that encourages *ijtihad* as a broader principle across undergraduate graphic design programmes in Yemen.

3.8 Credibility, Transferability, Dependability and Confirmability

Due to the subjective experience of the participants and their attitudes, the trustworthiness and validity of the study cannot be viewed as absolute (Tavakoli, 2012). Accordingly, attention was focused on the principles of credibility, transferability, dependability, and confirmability in order to ensure the validity and reliability of the study (Lincoln & Guba, 1985).

3.8.1 Credibility

Credibility relates to the degree to which a researcher feels certain about the results of a study; this is sometimes known as a truth value (Tavakoli, 2012). According to Fraenkel and Wallen (2003), there are two ways to increase credibility.

The first method involves long-term involvement in the field to build rapport with the participants and encourage as much natural behaviour as possible. The second method is triangulation, or gathering information from as many instruments and sources as one can. For this research, two data sets were collected. The first data was collected using semi-structured interviews, and the second data set was gathered via three *Halakat Elm*. This said, it is acknowdged that the study draws on subjective accounts of experience to shape change. As such, an Appreciative Inquiry accepts that what is credible for one participant may not be for another and an overall measure of crediability is impossible. However, participants views may work in unison towards agreed insights and actions.

3.8.2 Transferability

Transferability describes how well the results of qualitative research can be applied to different situations, or generalised to other populations. Creswell (2007) proposes that transferability is the equivalent of external validity in quantitative research. The degree to which the research setting and other contexts are comparable determines how transferrable a concept is (Mackey & Gass, 2005). Creswell (2007) and Lincoln and Guba (1985) argue that attentive description can enable other researchers to compare a study's research circumstance to their own, and from this, choose which findings may apply to their settings. Davis (1995) posits three elements of 'thick' description that hold some relevance to this study: (a) a specific description that focuses on describing representative data samples; (b) a broad description, which provides details on the data samples; and (c) an interpretative commentary, which involves explaining results and connecting them to earlier studies. It is not possible or appropriatee, given the context-specific nature of the Appreciative Inquiry, to assert transferability. Instead, in the study, a detailed outline of the research background, settings, and process are illustrated, including the six phases of the research inside the four stages of the Appreciative Inquiry. While the research findings are context-dependent, material surfacing from each stage was used to create continuity and inform subsequent considerations within the inquiry.

3.8.3 Dependability

The qualitative equivalent of reliability in quantitative research is dependability. According to Merriam (1998), dependability encompasses honesty, authenticity, depth of response and significance to the respondents, as well as fidelity to actual life. Dependability relates to the extent to which a study's conclusions may be trusted. Dependability can be increased by consistent results from various investigators, environments, or participants. In this study, a detailed explanation of the methodology and the methods have been provided to the reader, including the *Halakat Elm* sessions in Miro, quotes from participants, and examples of results surfacing from analysis.

3.8.4 Confirmability

Confirmability fulfils a similar function as replicability in quantitative inquiry. Replicability presupposes that a second researcher investigating the same problem should be able to support or refute the first researcher's interpretations (Mackey & Gass, 2005). However, in contrast to quantitative studies, objectivity in qualitative investigations is challenging. Confirmability is therefore concerned with the degree to which the research is devoid of the inquirer's prejudices (Lincoln & Guba, 1985). It is not possible, given the nature of an Appreciative Inquiry, to assert an absolute claim to conformability. However, certain steps were taken reduce the researcher's bias. Firstly, I employed an external audit trail strategy by engaging an advisor from Yemen to select the participants. I also involved my supervisors in the analysis development, via Miro.

3.9 Ethical Considerations

The study followed the ethical guidelines approved by the Auckland University of Technology Ethics Committee (AUTEC), and privacy and confidentiality were respected throughout the research.

In the Discovery stage of the inquiry, the Yemeni advisor selected potential participants and sent me their email contacts. Then, I sent the teachers consent forms and information sheets that included a brief about the study. Following this, I conducted individual interviews via Zoom, and during data gathering I tried to remain respectful of the educators' culture (given the armed conflict and political sensitivity within Yemen). While both focus and probe questions were employed, care was taken to avoid culturally insensitive language or framings.

In stages two (Imagine), three (Design), and four (Destiny), *Halakat Elm* sessions were employed, so participants could envision the potential for developing *ijtihad* and craft propositions, strategies, and collaborations for affecting change. In the first of these *Halakat Elm,* the researcher provided an information sheet, introduced participants to

each other, and provided written consent forms. Participants were then informed that they could withdraw at any time from the research process without any consequences. They were also assured that any identifying information would not be included in the study.[32]

In addition, they were informed that their personal information would be deleted after the project ended, and only the researcher and his thesis supervisors would have access to this material. They were also informed that every effort would be made to make any electronic data and communication private. However, it was explained that the overall results of the thesis would be included in the researcher's PhD thesis, publications, and might resource potential postdoctoral study.[33]

3.10 Chapter Summary

Emanating from a constructivist paradigm, the study employed an Appreciative Inquiry to investigate the question: 'How might approaches be developed to enhance *ijtihad* in undergraduate graphic design students in Yemen?'

Using Cooperrider and Whitney's (2005) structure, the inquiry was divided into four stages: Discovery, Dream, Design, and Destiny. In the first stage, individual interviews with the researcher were conducted using Zoom. Themes surfacing from this data were considered using Reflexive Thematic Analysis.

Stages Two, Three, and Four were developed based on the Yemeni practice of *Halakat Elm* and formatted as virtual knowledge circles. The group comprised the same six participants who were interviewed in Stage One. In the *Halakat Elm*, the co-creative sharing of knowledge drew on the principle of *sadakat al elm* (knowledge charity), as participants planned renegotiations of learning environments so they that might further enhance students' engagement with *ijtihad*.

Video and audio data from Stages Two and Three was updated and cross referenced to material surfacing in the Stage One interviews. As data accumulated it resourced questioning and contextual understandings of subsequent *Halakat Elm.* During Stage Four, participants began implementing their visions and practical propositions established in the Dream and Design Stages.

An Appreciative Inquiry provided a range of opportunities to engage with participants and record their understandings, contexts, aspirations, and proposed solutions. The methodology afforded me the ability to shift emphasis when working with the group. Within the *Halakat Elm* I adopted a state of مدرك (*mudrik*), 'perceptive consciousness' and functioned as a form of 'connoisseur' (Eisner, 2002; Barone & Eisner, 2006), whose contextual understanding enabled insightful listening, questioning, reflection, and appreciation.

32 In writing up the thesis, when presenting and discussing qualitative data, the researcher used numbers such as P1 (Participant one) to refer to the participants, to preserve their anonymity.
33 The project's ethics approval letters can be found in Appendix 1 and the Information sheets in Appendix 2.

الفصل الرابع: نتائج البحث (المرحلة الأولى)

Chapter 4: Research Findings: Stage One

4.1 Chapter Overview

Having discussed the research design as an Appreciative Inquiry emanating from a constructivist paradigm, and how culturally distinctive methods were employed to access data and support co-creative processes, I now present the findings from the study.

The findings are distributed across in two chapters. Chapter Four presents themes identified in collected data from Stage One, and findings are summarised at the end of each theme. Chapter Five presents findings from the project as it formally transitioned into an Appreciative Inquiry facilitated through three *Halakat Elm*.

In Stage One (Discovery), concern focused on defining the central topic of the investigation so I could establish the perimeters and goals of the inquiry. Findings from this stage were sourced from discrete, semi-structured interviews. These interviews consisted of seventeen questions that were expanded by open-ended prompt questioning.[34] Responses to these questions indicated similarities and differences in opinion.

It is important to note that Stage One of the process was shaped by external forces beyond the researcher's control. The ongoing war in Yemen meant that I was unable to return to conduct face to face interviews, and communication facilities had become unstable. A logistical decision was made, after refining questions through a process of pilot interviews, to approach each of the six participants separately, conduct the interviews, and then apply a thematic analysis to the findings.

34 The interview questions were posed then answers recorded via Zoom. This material was then transcribed and translated from Arabic to English. The translation was from video data to a text format. They are available in Appendix D.

4.2 Research Findings: Discovery Stage (One)

Initially, participants were asked to define *ijtihad* and to reflect on what they saw as currently effective about the learning environments they facilitated. Thus, questions focused on understandings of critical thinking, techniques for its implementation, and effective learning practices (in the context of Yemeni graphic design higher education). The answers to these questions were initially coded, then categorised into themes and sub-themes. Findings from this section are structured into three themes. At the end of each theme a summary is provided. At the conclusion of the chapter, I present a broad review of the overall findings for this stage of the inquiry (Figure 4.1).

Figure 4.1 Structure of the discussion of findings for Stage One: Discovery.

4.2.1 Theme 1: Critical thinking understanding

Two initial questions asked participants to define critical thinking and Islamic understandings of *ijtihad*. Although one participant was unable to define critical thinking, others associated the term with criticism and critique.

Only one participant described the term in relation to a thinking process.

By contrast, participants provided very similar definitions of *ijtihad*. Their responses are discussed under seven sub-themes:

- Critical thinking interpreted as criticism
- Critical thinking as a cognitive ability
- Critical thinking as *ijtihad*
- Critical thinking as a personal characteristic
- Critical thinking as a religious obligation
- Critical thinking requiring specific conditions to exist
- Cultural impacts on independent thinking (*altafkir almustaqilu* التفكير المستقل)

Critical thinking interpreted as criticism

The most dominant definition of 'critical thinking' offered by the participants related the term to criticism (Participants 1, 3, 5, and 6).

Participant 1 noted:

> As we learn we know that critical thinking is positive, not a negative thing. When I get criticism from others, I do not think it is a criticism on me as a person, but criticism of work is for its improvement.

Similarly, Participant 3 stated:

> In order to define critical thinking correctly I must define the concept of criticism ... in order to criticise something perfectly, you need to understand it perfectly.

The same conflation of criticism with critical thinking was posited by Participant 5. He explained:

> As long as I am criticising everything, and linking criticism with thinking, that means that I am looking for the development process to search for perfection as the simplest form, although there is nothing called perfection, but it is to achieve the highest goal of the element that I criticise.

The response of Participant 6 demonstrated a similar understanding. He noted that "critical thinking in general to me means criticising a design positively or negatively."

Although these participants connected critical thinking to criticism, Participant 2 was unable to define the term, stating "I have not heard about it."

This unfamiliarity with the term 'critical thinking' may be because, as a Western construct, it is not formally taught in Yemeni schools or higher education graphic design programmes. The unfamiliarity and confusion about the definition may also be related to cultural factors: in conservative Yemeni society, regulations limit the practice of questioning and thinking critically (Muthanna & Karaman, 2014).

However, of the people interviewed Participant 4 demonstrated some understanding of the concept. She stated that "critical thinking means analysing thoughts, thinking deeply, raising specific questions, and correcting specific things."

Unfamiliarity with or confusion over the meaning of the term 'critical thinking' may support the researcher's initial perception that there is a gap in understanding related to the formal use of critical thinking in Yemeni graphic design education.

Critical thinking as a cognitive ability

The ability to think critically was perceived by five out of the six participants as a cognitive trait or process.

Participant 1 stated, "Critical thinking describes our ability to think outside the frame."

Participant 3 related critical thinking to deductive thinking, which he said was manifested in

> the ability to analyse information, not just memorising ... After analysing information and rationalising it, a thinker has to compare it so new information can be developed ... Thinking deductively is deeply embedded in Islamic thought.[35] An example can be found in the story of the Bedouin who was asked about a camel that people were seeking. He described the camel as one-eyed and lame, so they said: Have you seen it? He said: No, I have not seen it, but I knew that because it ate from one side, it was also carrying a specific weight on its back, and the lightness of the weight had been printed on the ground. The Bedouin concluded all of this even though he did not see the camel.

35 The Arabic word used here was الاستنباط

> However, he was able to deduce information by analysing the animal's tracks. Here we see illustrated the idea that an independent thinker can analyse and access additional knowledge.

In the interviews, half of the participants related critical thinking to analysis. According to Participant 4, "Critical thinking is like analysing thoughts. It means to think deeply, raising specific questions and correcting specific things." Participant 5 also drew associations between critical thinking and analysis. He said:

> In this field [graphic design], you have to be able to think and analyse everything ... Critical thinking is a process of analysing and developing thoughts. So long as I am criticising everything and linking criticism with thinking, that means that I am pursuing a developmental process in a search for perfection.

Participant 5 stated, "Critical thinking is a process of analysing and developing thoughts," and Participant 6 noted, "Critical thinking means that beyond positive or negative criticism, we analyse content from artistic, cultural, or social points of view."

The association of critical thinking with analysis was also evident in Participant 6's response. He said, "Critical thinking in general means ... analysing a design's content artistic, cultural and social perspectives."

Critical thinking as *ijtihad*

The first stage of the study also sought to discover how participants understood the Islamic term *ijtihad* as a culturally shaped manifestation of critical thinking (Nordin & Surajudin, 2015).

Three participants related *ijtihad* to making an effort. This interpretation aligns with the definition in *Al-Qamus Al-Muhit*.[36] This dictionary defines *ijtihad* as "striving one's utmost in any matter" (Al-Firuzabadi, 1977/1350). Similarly, the *Oxford Encyclopaedia of the Islamic World* defines *ijtihad* as "utmost effort, physical or mental" (Esposito, 2009).

This understanding was evident in the responses of Participants 1, 2, and 3.

Participant 1 said:

> *Ijtihad* happens from competition for grades that incentivises students. The more you make an effort and become creative, the more likely the job market will need you because you have the willingness to do so. For instance, you (Nabil) are working to conduct this interview after midnight. This effort is *ijtihad*.

Participant 2 stated:

> It is making an extra effort on something. I mean, when a task is assigned to you and your colleagues and others accomplish it as instructed, but you make an extra effort and add something to it, that is *ijtihad*. *Ijtihad* means that you add substantial effort to attain a better result.

Participant 3 defined *ijtihad* as "the effort that is exerted to gain knowledge."

36 This is the most widely used dictionary of the Arabic language.

Interestingly, in considering the nature of *ijtihad,* Participants 3 and 5 both proposed that commercial graphic design practices in Yemen currently limit critical thinking by either preestablishing a solution for the design problem or by preferring to employ designers who do what they are told.

Participant 3 stated:

> This is a huge problem because the requirements of the labour market need implementers of design rather than designers who think critically. [...] I used to face companies that, when I worked in the market or even with employers, always said, 'Society is unconscious; it does not understand the message that you want to send in your design.' People want something clear and monotonously detailed, and what you propose will not be achieved.

However, Participants 4 and 5 described *ijtihad* as a personal trait that extends beyond ideas of exerted effort.

Participant 4 described *ijtihad* as "a feature of an aware and conscious person, who realises their surroundings."

Participant 5 defined *ijtihad* as a form of self-motivation, or "having a self-desire to link your feelings with everything you seek. ... *Ijtihad* requires you to understand the human mind, how it works and how you think."[37]

Critical thinking as a personal characteristic

All participants identified either critical thinking or *ijtihad* as a conscious, personal characteristic. They proposed that such skills can be developed by an individual and they assist

37 Participant 6 did not respond to the question.

in their evolution. Most of the participants also associated *ijtihad* with independent thinking.[38]

Participant 4 described *ijtihad* as "a feature of an aware and conscious person, who realises their surroundings." Participant 5 associated independent thinking with *ijtihad*, describing it as "having a self-desire to link your feelings to what you seek." Participant 1 described critical, independent thinking as "the freedom to think and make decisions [and] to take criticism positively, rather than negatively." Participant 2 saw an independent thinker as someone who "is not a follower [and] does not intellectually belong to anyone."

The concept of independent thinking and its significance as a personal characteristic was also discussed by Participants 3, 5, and 6.

Participant 3 asserted, "An independent thinker who exercises *ijtihad* must have culture and extensive knowledge ... The more knowledge the thinker has, the deeper and stronger intellectual he will be."[39] Participant 3 linked independent thinking to "the love of knowledge [and] the effort that is exerted to acquire knowledge."

Participant 5 described an independent thinker as one

> who raises questions [and is] able to analyse the information received while being capable of analysing this information, which he considers as axiomatic. Then, he has to consider if this information is connected according to the values and parameters that he follows.

However, Participant 6 associated independent thought with effort, innovation, and progression. He stated, "The [independent thinker] is not only hardworking but likes to move to the next point ... He may not be the best student in the class, but you notice that he always asks about a point that I have made, before using it for something else that no one else has thought about."

Touching on the same idea, Participant 6 noted that "an independent thinker always asks about a point they have studied and they will use it for something that no one else has thought about."

Participant 3 drew a correlation between independent thinking and *ijtihad*, saying that both relate to "the effort expended in the process of deductive thinking."

Critical thinking as a religious obligation

Interestingly, Participant 3 referred to Islam's emphasis on *ijtihad* as a culturally specific form of critical thinking.[40] He explained:

> Islam pushes the person to think, and I often ask my students to think of many verses of Qur'an that command us to think and meditate 'Tafakur and Tadabur'. We should not take things as a template and use them as they are without thinking. ... There are several aesthetic standards in Islam, so when I hear someone say that Islam does not care about aestheticism, I disagree and prove the opposite by noting that Allah commanded us to meditate on what is between the sky and earth, and in ourselves. Moreover, when we discuss the golden ratio,[41] we talk about how our bodies are designed using the golden and diamond ratios. These apply not only to the human body but also to flowers, roses, animals, and insects. Islam shows us the essence of beauty in the relationship of the planet and all of Allah's creations.

Critical thinking requires specific conditions to exist

Four participants thought that *ijtihad* - as a form of critical thinking requires specific conditions to exist. Participant 1 stated, "*Ijtihad* happens as a consequence of competition for grades that incentive students." Participant 3 proposed that the designer's environment must be conducive to fostering creativity and the ability to think in critical ways. He observed, "Many companies have been closed. For example, Nokia closed because the staff of the company did not develop by thinking out of the box, and they did not perceptively criticise their work."

Participant 5 argued that critical thinking can only exist in an environment of heightened analysis. He noted that "to think critically I must be in an environment where I can ask, what this work is about? Can you explain it to me?"

38 The Arabic word used here was (*altafkir almustaqilu,* التفكير المستقل).

39 A distinctive feature of the participants' reflections is the consistent use of the male personal pronoun 'he'. I have preserved this in translating their responses to questions because it is a Yeminis convention. For a discussion of this feature see 5.1.

40 From this point onwards in Chapters Four and Five my use of the term 'critical thinking' is not associated with the Western construct but with the Arabic term (altafkir alnaqdiu, التفكير النقدي), which describes the ability to think about things in a discerning and analytical manner.

41 The golden ratio, denoted by the Greek letter ϕ, is a structural and aesthetic formula used by Arabian and Western designers, artists and mathematicians, when considering both natural and built environments (Abiola et al., 2024). The formula is believed to aid in the creation of balance that is both dynamic and serene.

However, Participant 6, building on his earlier comments that associated independent thought with effort, innovation, and progression, argued that critical thinking relies on an environment that encourages tenacity, stating:

> The young child has determination because he cannot see barriers and obstacles, but when you fall, you stop. The important thing is that you are encouraged to get up after you fall. If you know how to do this, you can continue your journey and you will get to something better.

Cultural impacts on independent thinking (*altafkir almustaqilu,* التفكير المستقل)

Significantly, most of the participants believed that environmental and cultural factors influence a person's ability to be an independent thinker. For instance, Participant 4 said of a student:

> I think it depends on the environment where he lives. He could be independent if the environment gives him liberty. I mean, the parents, from the beginning, need to provide him with the freedom to think and make decisions, not just accept everything that they choose for him, such as clothes, things he loves, the major that he will study. So, if he has the freedom of choice and thinking, he won't be a dependent person at all. Freedom is the most important thing.

Participant 3 talked about cultural restraints regarding nudity or religion.

> It is difficult to ask a student to do a sculpture of Venus or David because parents will go crazy at home ... Islamic values and beliefs force you to skip some aspects of knowledge ... Even when I display sculptures, I try to display only a part of the sculpture, not the whole one, for example, the breast from a sculpture of David or the head of Venus.

Participant 1 made a similar observation, stating, "In the end, there are specific things that no one can cross." Participant 5 observed that cultural traditions can cause students to develop fixed mindsets, so "asking questions, in general, can make students feel that you are criticising them [at the level of belief]."

Summary

Although the interviews were independent of each other, there were both convergences and divergences in how people framed the ability to think critically. A significant divergence was in the understanding of the Western term 'critical thinking.' Over half of the participants aligned this term with critique, although one associated it with deep analysis, questioning, revising, and correcting. However, when the concept of *ijtihad* was raised, participants understood critical thinking in a wider Arabic context where discernment was more closely aligned with effort and analysis. Other understandings of *ijtihad* were described as a personal characteristic, a form of critically conscious awareness, independent thinking (*altafkir almustaqilu*, التفكير المستقل), or an intrinsically motivational process where critical thinking is associated with the desire to seek insight.

Most participants identified critical thinking as a cognitive process associated with either deductive or divergent thinking. There was also significant consideration of such thinking as a religious obligation which requires sensitive navigation inside cultural bounds. Participants also suggested that *ijtihad* as a form of critical thinking requires specific conditions, such as an understanding of subject matter, the integration of creative and analytical skills, and an understanding of cultural and environmental contexts. Broadly, interviews suggested that independent thinking (*altafkir almustaqilu*, التفكير المستقل) and *ijtihad* are valued cognitive processes, and their practice is moderated by cultural and contextual parameters.

However, the participants did not clearly differentiate between critical thinking (*altafkir alnaqdiu*, التفكير النقدي), the practice of independent thinking (*altafkir almustaqilu*, التفكير المستقل), and *ijtihad* at this point of the study.

4.2.2 Theme 2: Promoting critical thinking

Although the focus of the initial interviews was to discover knowledge and attitudes relating to critical thinking, questions also sought to discover the kinds of teaching practices participants used in their classrooms to develop such thinking. These inquiries took the form of questions such as:

> What practices do you use in your class to support students in improving their thinking?
>
> How much space do you give students to ask questions in the class?
>
> How do you teach your students to distinguish between effective and ineffective work?

These questions were designed to discover what techniques might already be being practised, and responses were categorised into themes and sub-themes. Broadly, these suggested that the techniques for developing the ability to think critically may differ from Western adult learning approaches.

Because the questions in these initial interviews did not refer directly to the teaching of critical thinking, responses were often scattered and sometimes indirect. This meant that it was challenging in subthemes to discern which techniques were prioritised over others. Data relating to how teachers develop the ability to think critically is discussed across four identified sub-themes:

> The role of questioning in student learning
>
> Techniques used by teachers to develop critical thinking
>
> Techniques for developing critical thinking related to graphic design
>
> Critical thinking techniques employed by students.

The role of questioning in student learning

Five of the participants saw questioning as integral to their teaching, although some noted limitations on its use.

Participant 1 mentioned that "during lectures, the time to ask questions is always open but we don't talk about the beliefs of either the teacher or the students."

Participant 2 also discussed an openness to questions. He noted, "Questions are allowed to be asked during the lecture, from the beginning to the end."

Participant 3 stated:

> I present a design and explain the tools necessary for resolving the problem. ... Then I try to motivate students by raising questions. I inculcate questioning. This causes them to begin looking for answers within themselves. So, when they come back to me asking questions, the moment I suggest an answer, they receive it more responsively than if I had told them an answer without motivating them to think about it.

Participant 5 explained:

> I ask questions ... I try to keep questioning fresh by asking something new every two minutes. This guarantees that that the students interact with me ... I also usually give them a quarter, to half an hour at the end of a lecture to ask questions.

However, Participant 6 noted:

> Students can feel awkward to ask questions because they are embarrassed about being thought of as weak because they have to constantly seek clarification. I always tell students it's okay to ask once, two or three times, ... but the fourth one, 'No,' you need to manage it yourself.

The issue of student anxiety about asking questions was also raised by Participant 3. He believed that it can limit the practice of critical thinking. However he noted, "Although there may be a student who feels embarrassed asking the professor more than one time, it is normal to ask colleagues something more than once."

Finally, Participant 4 stated, "I don't make time for questions. I don't know, maybe this is a mistake."

Techniques employed by lecturers to develop critical thinking

In addition to questioning, five out of six lecturers described other techniques that they employ to develop what was considered to be critical, analytical or independent thinking in their classrooms.

Participant 3 mentioned, "I often discuss philosophical and aesthetic thoughts with students ... I encourage them to apply analytical logic."

Participant 5 encouraged students to find answers by testing their assumptions. He then asked would then ask them to critique these in terms of their effectiveness. He argued that this approach deepened their level of understanding. In reference to a specific paper he noted:

> In a photography paper, when a student says, 'Teacher, I want to take a photo of the galaxy with certain camera settings,' I already know the problems that they will encounter. Later the student will say, 'I could not take the picture from using the camera's automatic functions.' At this point, I will ask him what settings he did not understand. Only then will I explain. This approach allows the student to encounter a challenge but also memorise my answer better than if I provided it before they attempted to solve the problem.

Participants 1 and 4 both discussed the role of teacher observation inside student practice when developing an assessment of iterative learning.

Participant 1 stated, "I give students issues to work on practically while I observe them. This way I can see the idea and discern whether they can work with it or not."

Participant 4 said:

> Sometimes I give students things and ask them what they think of a certain view. I treat any answer as correct. I don't tell them it's wrong to create new ideas … I also give them sketches and ask them to build something from them. … I am not the kind of a teacher who specifies a limited time for questions. When someone interrupts me while I am talking about a subject, I let them ask and I respond directly.

Participant 5 discussed how he strategically unsettles student assumptions as a way of developing critical thinking.

> In the first lecture, I aim at a complete intellectual re-sifting, so students realise that they do not understand everything in life, and they must rethink what they know … If I simply presented an integrated design, discussing its psychological aspects that covered all possibilities and ensured that the design was understood in a certain way, it would not encourage them to think in critical ways.

Techniques for developing critical thinking, related to graphic design

Two participants provided examples that related specifically to graphic design practices. Participant 4 tied critical thinking to the necessity for design lecturers to constantly update their knowledge. She explained:

> I use something I call 'visual nutrition.' A designer must remain updated. So, he must watch a lot. Design practice must be visually feeding itself, or it will not be successful.

Participant 6 employed questioning processes associated with unpacking specific types of graphic design. He stated, "Often when I present design work, I pose questions. For instance, if there are posters, I ask what kinds of techniques were used or how ideas in the work could be transferred to other projects."

Critical thinking techniques employed by students

There was very little reflection on techniques students employ in the activation of critical thinking. Only three participants were able to provide examples. Participant 1 talked about critical thinking being practised by students independently, both inside and outside of the classroom. He noted, "I encourage them to connect themselves with the world and life as a way of thinking about what they are creating." He also encouraged students to discuss why they elect certain papers to study. However, he added that "there are boundaries when some students speak about certain subjects."

Participant 5 stated, "I do not teach the student everything, but I prepare the thinking process for them, so they use their minds in every subject they study."

Participant 6 mentioned that "self-evaluation is rare and mostly I depend on students to ask questions … Students should be able to learn from exercises and reflect their ideas in new creative designs."

Summary

In considering techniques teachers used to develop questioning, participants tended to focus on their role as a teacher who provides activities, and there was very little reflection on approaches students employ in developing their own critical thinking. Examples of self-evaluation were not evident and one participant noted that the technique was rarely used. There was also no discussion of students questioning each other's work.

The richest descriptions related to specific techniques that teachers employed to grow critical thinking. Again the use of teacher directed questioning was a reoccurring practice. Examples covered questioning about what was being studied, questioning about philosophical or aesthetic principles underpinning designs, and questioning as an approach to analysis. Other approaches to growing critical thinking included asking students to connect ideas to real-life experiences, reflecting on reasons for choosing to study certain subjects, asking students to develop alternative approaches to historically resolved problems, unsettling their previously held opinions, and heavily resourcing classes with examples (what one participant called 'visual nutrition').

Positioned against these strategies were concerns surrounding student embarrassment associated with asking too many questions and caution relating to cultural sensitivities.

4.2.3 Theme 3: Issues related to teacher experience and adult learning

This theme relates to participants' reflections on practices relating to adult learning strategies, including resourcing,

trust, agency, motivation, and enjoyment. Seven subthemes are considered:

> Approaches to learning and teaching
>
> Learning resources
>
> Building trusting relationships between teachers and students
>
> Enjoyment of learning
>
> Students' agency, motivation, and engagement
>
> Teachers' satisfaction
>
> Teachers reflections on personal qualities, values, and characteristics (including personal beliefs and self-perceptions).

Approaches to learning and teaching

Participants' feedback reflected a perceived need to connect students with the real world and job market, learning by doing, and providing them with relatable experiences. The teachers also described classroom preparations and teaching methods.

Participant 3 discussed an approach, where his students are encouraged to explore and improve their work based on theoretical principles. He stated, "I show students the basic theories and principles from which we create, like the golden ratio. Then I ask why they chose to bring certain ideas forward."

He also stressed the importance of practical application following theoretical understanding to ensure that there is knowledge retention.

> I start from theory and move towards the practical because some students are anxious and they want to say 'We understood.' But then what is discussed as theory has to be reflected in their practice ... As an extension of this, I often use activities that enable theoretical ideas to be understood through practice. If a paper is purely theoretical, I will ask students to bring with them a concrete example of an idea, and in a seminar, analyse it in relation to existing philosophy and theory ... For example, when we talk about aesthetics, we will discuss the definition of beauty by thinking about questions like: What is beauty? Is beauty relative or standard?
>
> The students who maintain that beauty is standard, I will put in one group, and those who say beauty is relative, I will place in another. Then, all of the students are asked to display artworks that support their point of view. The ones who maintain that beauty is standardised will also provide examples. For instance, they might say that these glasses are beautiful because their measurements are standardised. Those who say beauty is relative, might argue that these glasses suit you because they are in harmony with your face. So, this is a relative matter.

In contextualising his approach, Participant 3 often related his thinking back to Islamic aesthetics and values that acknowledge the philosophical and inner beauty of things.

He explained:

> Islam took art to another level. Absolute abstraction can be seen in use of the aesthetics of calligraphy to build paintings. Nowadays, people say 'The painter who paints even the hair above an eye of a person is not an artist, he is only a painterly craftsman.' You can visit contemporary exhibitions and see a green-coloured painting with a red circle in it. Art is thought to be pondered on. This is philosophy. These standards have been created by Islam for a long time. The prophet Mohammed stated 'Allah does not look at your faces and forms but at your hearts.' So, beauty, as defined by Islam, is a deep intellectual beauty and we can draw our aesthetic standards from it.

Participant 3 also mentioned cultural storytelling as an important technique because it can be used to illustrate or clarify an idea. He provided an example from Arabic history when he noted:

> I give students the example of the poet who compliments the Khalifa[42] by saying: 'You are like a dog in loyalty, and you are like a saint in reading speeches.' The poet lived in the desert, so his imagination was limited to his immediate environment (for example, his dog). So, the poet was complementing the Khalifa using a limited spectrum of knowledge. However, the Khalifa's assistant, when he heard the poem, was outraged and he wanted to end poet's life. He said: You have compared the Khalifa to a dog!

42 Khalifa (خليفة) is commonly translated as a Caliph in English. The title means ruler or leader.

The story of the poet shows how a limited environment can limit one's imagination. Because of this, it is vital that we expand our experience of the world so our imagination can develop to more advanced levels.

Participant 2 emphasised the shift from passive learning to active engagement through practical activities. He explained:

> I create activities and deliver information through experiences ... I let students work across the full spectrum of the project. This means starting from the stage of predesign and ending with field visits ... Here, students are primarily involved with hands-on activities not theory ... In branding design, there is a book called *Fifty Pieces of Advice from the Best Logo Designers in the World*. We were reading this book in the lectures, but the students soon became bored. So, I changed the way they explored the ideas by embedding them inside activities. Everyone discovered the relevance of the advice and practiced it inside their logo designs ... The learning was achieved with more relevance and less effort.

Participant 3 tied effective teaching and learning to the importance of thorough preparation and curriculum development. He stated, "80% of the success of a lesson relies on its preparation by the teacher ... Planning a paper well means that students are less likely to be confused or fail to understand the ideas." He also underscored the need to simplify complex concepts, make learning enjoyable, and expanding the realms of exposure brought to a study.

> The first thing I do is explain the importance of the paper ... I link other subjects with the paper and

I provide students with exercises that they do in the classroom to develop their imagination. I may ask them to integrate two unfamiliar objects like: You have a cup and a laptop, now combine these two things together. This encourages students to question things and use their imagination. I also encourage them to expand their knowledge base because visual arts and the arts in general, depend on imagination. Imagination involves dismantling and re-composing.

I also advise my students to read in several fields; to read about physics, astronomy atomics, physics, geology, psychology, skin and teeth, even if they find an anatomy book, I suggest that they read it ... Freedom of discussion is resourced by subjects that motivate inquiry—even things that might seem irrelevant on the surface can be useful. As an example, I explain colour theory and one student asked me why foreigners don't like green, so I provided an explanation that the nature of the environment, that they live in, may affect their preferences. ... When I teach colour theory my approach is more practical than theoretical. I explain a colour theory to them, for example, the complementary colour system. I can explain the principle and then they start to practice it. For example, you can tell them to imagine a blue rose, and inside petals are orange. Inside this example I can assess the extent to which they understand the colour process. Using such a practical approach, they are more motivated and less easily bored.

Using a second example he explained:

> Instead of explaining the lives of artists and when they were born, I transform the theoretical subject into a practical one by explaining an art movement's philosophies (the philosophy of the school with which they are associated), and I let the students try to delve into this philosophy and produce their own artwork according to these principles ... To support this, I provide them with contextual background knowledge. ... Thus, my approach is to integrate practical activities with learning theoretical ideas. When we design things, I feel that students are more attracted to real-life learning than to simply reading requited texts.

This participant also discussed the importance of research.

> A new concept has emerged which is called Academic Quality Control. We have been working on it in Yemen for about five or six years now. I teach the students how to make standards to measure the quality of their project. The first thing is to start with researching. I tell students if your research is very good, this will guarantee 90% of the success of any project. If you do the research well, you will produce good results, but if your research is not accurate, your project results will not be guaranteed. Your research allows you to measure the quality of your work. In the arts there is no absolute success. All success is relative. Initially, students may succeed to a certain extent but after a while, they will need expand their knowledge.

Participant 4 emphasised the necessity for thorough planning and justification in design work. She affirmed, "The first thing is the paper plan because if the teacher doesn't prepare well, the students will be confused and they will not understand."

Participant 5 saw his role primarily as a facilitator, guiding students through their research by providing strategic support. He stated, "When a student is searching for something I try to facilitate information for him. As he researches a topic to find what he needs, I may supply him with a strategically shared word or guiding piece of information."

He described his described his teaching process as one where theoretical knowledge is connected to practical applications, and this he suggested can foster deeper levels of understanding. He stated:

> I explain a lesson in the first half of a lecture to the class then we go down to the courtyard and begin practicing in the second half. This part of the lesson deals with the practical side of the photographic process. I try to link the practical and the theoretical sides of the lesson. For example, I ask the students to go down in a group of two. I ask them to explain the photographs that they took and show me why they chose a certain photograph. I ask, 'What is its idea? How did you choose the angle?' Why did you use this particular lighting? What is the concept behind your image? What will the viewer's perception of the photograph be?' I link the theory and practice but it is the practice that drives inquiry. So, the students practice the technical practical aspect which is the use of the camera and this calls to itself the intellectual aspect which is the thinking behind the photograph that they will submit. ... The way I will teach is dependent on asking questions.

Participant 5 places heavy emphasis on the professional context of design thinking and draws examples from industry to illustrate his lessons.

> There is a clash between me and the other teachers, in our department. I have developed a methodological approach that draws on real-life stories related to the topic. When shared, these make learning more relatable and engaging. Sometimes, for example, I tell students a story about the situations we face in the market related to a subject that I have just explained to them ... I make the lessons interesting by raising questions. For instance, I have the ability to evoke a sense of distress by positioning myself strategically within the classroom. For example, while lecturing at the blackboard, I my walk toward a student seated at the far end of the room and say, 'Imagine if, while discussing this topic, I was to sit close to you in this confined corner.' This action prompts the student to psychologically question why they have positioned themself in such a restricted space. By using a living, spatial example like this, I can cause students to think more deeply because I use their immediate physical world as a way of teaching. Such approaches help to stimulate questions. However, I may also ask questions about the reflections of light. For example, I may see this colour. If there is a curtain inside the lecture hall, the colour may be beige or blue. So, I ask, 'Why does the reflected light become blue on the surface of the wall?' 'How does this white become into a part of blue?' Such questioning is not giving answers, it is used to activate wondering and to stimulate questions.

This participant also discussed his commitment to encouraging critical thinking, intellectual discourse, and promoting open-mindedness. He said:

> These are visual subjects. That means we review videos or pictures, and we think about them ... I try to make the students discuss ideas with others in an intellectual way that draws them away from fanaticism.

Participant 6 also emphasised the importance of thorough class preparation to ensure a smooth flow of information delivery. He stated, "Foremost is the necessity for the paper to be prepared in advance so ideas can be prioritised in hierarchical order. This makes it easier for students to understand what will be taught right from the beginning."

He also emphasised the use of competition as a motivational tool. He asserted,

> I divide teams and each team does something that challenges the other team ... All of the students participate. It is a condition of the competition that any student I ask must answer my question. If they cannot, then it means that something is wrong and I

will not reward them with marks. Whoever answers correctly will get five marks._

This participant also recognised the value of peer learning and trust-building within groups, and he stressed the need for students to learn from each other.

> It is normal for a student to ask his colleague how they did something or accessed certain information. By doing this, he is not embarrassed by asking the teacher. Group activities focus on students cooperating with each other. Such activities generally provoke enthusiasm, especially when the rewards are associated with grades ... I notice that when there is an activity in the class like packaging design that involves cutting and folding paper, students will generally interact better than when there are only computer based activities.

Learning resources

All participants referred the impact of unstable infrastructure in Yemen as a consequence of ongoing conflict in the country. The war has affected everything from unreliable access to electricity, the rise of political and social secrecy, and limited access to resources. The extent to which the war has eroded the fundamental infrastructure of the nation cannot be understated. Its influence was summed up by Participant 2, who commented, "As the Dean of Graphic Design and Multimedia, I constantly observe how the impact of the war has made it extremely challenging for educational institutions to provide sufficient resources for students.". In discussing resources employed in their teaching, participants referred to two broad kinds. The first were physical classroom resources like stationary, videos, PowerPoint projectors, and learning spaces. The second were nonphysical resources, including software programmes, assignments (واجبات), and projects (مشاريع).[43]

Participant 1 discussed a variety of resources including PowerPoint, videos, and 'real world' examples of designs. He employed the latter as a way of connecting technology and practice. He also made an effort to enrich students' experiences by providing material examples of designs that they might find relevant.

Participant 2 described using "materials including videos and other things that can motivate students to improve their thinking." He mentioned that the most used materials included colouring sets (such as pencils or paints), movies, paper, scissors, paper stickers, cartoons, sticker shapes, and bags.

When discussing resources, Participant 3 referred to long term projects and short term assignment that he designs to engage students and connect them with new concepts. Physical materials he uses include "colouring sets (such as pencils or paints), paper, special ores, mud, and clay." However, he also discussed the challenge of maintaining currency with updated software and hardware. He stated, "I try to make the students keep up to date by downloading Adobe 2020 software, but they face problems because some programs require a modern computer and ours are ten years old."

43 Assignments (واجبات) are weekly tasks that focus on applying the skills students have learned throughout the week, while projects (مشاريع) are designed to be worked on throughout the entire semester.

Participant 4 discussed the internet as her primary resource. She uses it to gather information and to enrich a paper's content through the addition of videos, infographics, and other multimedia content. These resources are the conduits for what she describes as "visual nutrition" that she uses to engage students, expand their interest, and create lasting design memories.

Participant 5 also uses programs like *Brain Games Comps* to explore the brain's workings.[44] In addition he utilises a range of institutional spaces (such as the university's courtyard) for practical aspects of his teaching. His assessments take the form of multiple choice questions but he emphasised that "they also have intellectual questions." Significantly, he prefers not to use text books. He says, "I tell students that they can record my explanations in a lecture. I don't mind if you record me and summarise what I have said at home."

Participant 6 faced challenges finding online resources, and he relies heavily on YouTube videos that he uses to supplement physical teaching materials. He explained:

> I sometimes show them videos so they at least get the benefit of seeing something they might not see in real life. ... In every lecture I also present work samples by other designers that relate to the topic under discussion. If I don't have samples, sometimes I will use things like short movies, posters ... etc. These show students how to use design tools that might be used as an alternative way of generating the same content.

44 https://www.natgeotv.com/me/brain-games-comps/about

In practical sessions, he uses available physical resources to demonstrate design concepts. He said:

> When working on 3 dimensional projects I will often bring materials from home and model using them and if it is inexpensive, I will buy multiples and distribute them to the students. Then I explain how to use the resource. This often applies to pens which are cheap, and also cups. In packaging design, I will bring in publications and cut them up or buy boxes and unpack them in front of the class, take measurements, and we will see how we can construct similar designs in the classroom.

Building trusting relationships between teachers and students

The interviews also inquired into how teachers gain students' trust to create safe learning environments that might encourage participation and confidence.

Participant 1 emphasised the importance of teachers sharing knowledge. He said, "You have knowledge that you want to teach to others and you should not confine knowledge to a specific student." He noted this was important because often lecturers are chosen as project supervisors because of the level of trust and respect students have for their "expertise, monitoring ability and commitment." He described his approach to teaching as predicated on fostering mutual trust and respect. He said, "I treat students as brothers with a friendly manner more than a master and slave ... Friendliness and brotherhood sometimes reaches a level where I invite the newly graduated student to teach." He believed that the commitment to trust contributes to a positive classroom atmosphere, where students show respect for each other and cooperate effectively. He said, "Interaction occurs in a respectful and quiet manner that enables students to listen and gain new knowledge." He also saw empathy and a commitment to care as part of trust building. He added, "When I feel a student's tiredness or disappointment, I stay with him until he has worked through his anxiety or problems."

Participant 2 related the growth of trust to the diminishment of hierarchical authority between staff and students. Like Participant 1, he described his relationship with his students as "a colleague and brother." Inside such a relationship he believed students became more comfortable sharing ideas. He also highlighted the importance of building relationships outside the classroom, saying, "Outside of the university, we talk and create a different informal atmosphere rather than the formal one that is developed by other teachers."

Participant 3 described his role as reaching beyond content provision. He said, "I try to be like their father and guide them rather than simply provide information." He saw his role as a benevolent guide and supporter both inside and beyond the confines of the classroom.

Participant 4 emphasised the trust students have in her. She said:

> I help them by consulting. Many students seek my help outside of class by calling me outside of class time using WhatsApp. In these instances, I try to help them or refer them to potentially useful websites. Sometimes I will share with them resources that I personally found beneficial and I will forward on to them job opportunity announcements. I recommend the ambitious students who are willing to work, and there are a lot of them.

She also suggested that trust is built because she sometimes helps her students financially. This includes "asking for donations from certain people I know."

Participant 5 saw trust as something related to his role as a facilitator who provides support and guidance. He acknowledged that often this reaches beyond the confines of a classroom. He stated, "I answer questions from students about photography, because I am a specialist in this field, irrespective of whether they are inside of outside of formal learning environments."

Participant 6 did not address the question of trust directly but he spoke of his satisfaction in seeing students appreciate his efforts. He said, "Often a student will see me long after they have graduated and remember the effort that I put in to their education and they thank me for this." Such appreciation he saw as a reward for his teaching. He tends to tailor his teaching empathetically. He said, "I often give students simple exercises based on their abilities. Often these are simpler than the ones I might give to other students."

Enjoyment of learning

Although the interviews did not pose questions about enjoying learning and connecting humour or positivity to learning experiences, half of the respondents raised these factors when discussing how trusting relationships between teachers and students were built.

Participant 1 highlighted the pleasure students derive from exhibiting their work. He also saw enjoyment related to "interaction while studying."

Participant 2 emphasised the integration of humour in his teaching methods. He said, "in most of the lectures we laugh and the most engaging teacher makes you laugh … Inside the class the atmosphere is always funny even though it is loaded with information."

Participant 5 also saw a connection between humour, entertainment, and learning.

> When I play a video clip to students it might only feature a few minutes of animated thought, but it is entertaining and engaging. Because of this students learn and the video opens opportunities to discuss ideas and ask questions.

Participant 6 emphasised the importance of creating a fun and engaging atmosphere in his classroom while incorporating interactive activities. This combination, he suggests, generates high levels of student interest and participation. He explained:

> I balance humour and respect in my teaching. I mean there is no problem laughing with each other a little bit because we are of a similar age (especially at the beginning of my teaching career). My lectures do not have high level of intensity. From the first time I enter a lecture I let my students know that it will be fun … There is a high level of engagement and students enjoy the papers.

He also saw interactivity as related to enjoyment.

> Even when working with a formal paper, I try to make things engaging by importing other materials into the study … There is also a lot of interaction, to the extent that students often don't want to leave the room for a break. They say 'We want to sit and watch, and talk about things that are being shown to us.'

Participant 6 also suggested that enjoyment is intrinsic to learning about the functioning and potentials of new software. He said, "I show students how to present a design from 2D to 3D using Adobe Dimension programs. I explain these techniques over a day or two and they appear to enjoy it."

Students' agency, motivation and engagement

In reflecting on student agency and involvement in learning, Participant 1 underscored the importance of a collaborative learning environment, where both teachers and students actively contribute to the learning process. He stated, "When I deliver an interactive lecture, the work comes from both sides (the lecturer and the students) … In my classes I try not to create boundaries between students and myself." He proposed that in such environments students work better because they feel more comfortable and engaged.

He also related motivation and engagement to the potentials of healthy competition among students. He noted, "Students will work competitively, the one who solves a problem first will get more grades than the other students." He also believes that "when you connect students with the realities of the job market, the practical interaction motivates them to continue with their studies." As an extension of this, he sees self-motivation as an important quality to develop when preparing students for future employment, noting, "The more you make an effort and become creative, the more likely the job market will need you because you will be willing to commit and extend yourself."

Finally, he said, "I tell students that they aren't students but researchers." This sense of learning autonomy he tied to the necessity for designers to spread moral principles and alleviate societal discord through their work. He stated, "A graphic designer must be able to able communicate good principles, affinity, and cooperation between people."

Participant 2 also saw value in providing students with agency and autonomy in their learning, but he associated this with creating an environment where they take responsibility for their engagement and outcomes. He stated, "I leave it to the student. If they engage with me, they will get the benefit. If they become lazy and ignore the paper, it will be their loss. I don't punish students who don't want to attend."

That said, he emphasised the importance of creating a positive and interactive classroom atmosphere. He stated, "Students interact because of the kind of subjects and the positive atmosphere that I create in the class." He also mentioned, "The energy of interactivity in my classes is high for students because they are passionate … for them, it is a hobby that involves creativity and sustained effort."

Participant 3 linked motivation and engagement to teaching that involves practical activities. He noted, "In the hands-on papers, you can feel the students working more intensively."

However, he also suggested that for graphic design students, some motivation must be intrinsic. To illustrate this he gave the example of a potential employer.

> I tell the students that if we brought Steve Jobs in to teach them the IOS system and design Apple applications, and they did not exhibit sufficient desire or motivation to study, they would receive no benefit from the opportunity.

He also observed that students' motivation can be related to what type of educational institution they select to undertake their studies.

> I prefer to teach software at an institute more than teaching at a university because the institute students have a specific and expected commitment to study in this field, while university students will often say to the teacher: 'Oh, it is imposed on us.'

Like Participant 1, this teacher saw a connection between motivation and wider purpose, stating that "graphic designers are dedicated to making a valued contribution to raising artistic taste and aesthetic sense in society."

Participant 4 aligned motivation and engagement with students having a clear understanding of the relevance and purpose of their studies. She said, "I think that the first lecture when you explain the paper and the scope of the program, (what it does, what will you do) is important."

Like Participants 1 and 3, this teacher also considered that motivation was inherent in the role of a graphic designer. She noted, "Designers may help communities to raise the awareness of the problems people face. They don't just create solutions, they can also educate."

She also saw value of creating an encouraging classroom environment that focuses on constructive feedback rather than criticism. She recalled:

> I once witnessed a teacher who gave feedback using comments that didn't suggest to the student that they were no good or a failure, or that they had made a mistake. The teacher tried to consistently compliment them, even if the work wasn't very good.

This participant also recognised the challenges of fatigue. She noted, "In the beginning of the term usually students are very enthusiastic, even I encourage them, but by the end they become tired because of the volume of assignments and projects."

Participant 5 noted the importance of engaging students through discussion and interactive teaching methods, but he also emphasised inherent motivation and interest inside the study of graphic design, because its purpose is socially significant. He explained:

> The graphic designer and the media in general have the capacity to change thinking in a society … This means that students have to understand how thought occurs in society and comprehend how ideas are shaped and manipulated. Knowing these things, they can avoid intellectual exploitation when it occurs.

He also believed that motivation, agency, and engagement occur when students are treated as adults and an environment is developed that is predicated on mutual respect. Of his teaching he said, "There is no authoritarianism between me and the student … we respect each other and ideas. This means we work together and I support their creative thinking."

Participant 6 saw motivation occurring through inspiration when students needed to be re-engaged with their learning. He noted, "I try to connect them into the topic again, whether it's with questions, grades, new videos, other forms of inspiration or competitions."

Additionally, he advocated for personalised support and encouragement to develop students' confidence, noting, "I give students the chance to learn a new skill, and I then encourage them constantly, assuring them that they can do it." As an extension of this, he saw teachers as integral to effective student motivation and engagement. He stated, "When a teacher is not motivated, students will not be motivated, and they will not be enthusiastic about a lecture. It is the teacher's responsibility to motivate students and to lift their engagement and thinking." To achieve this in long lectures he employs a range of techniques, including "introducing examples and embedding a student-focused activity every 15 minutes."

Finally, Participant 6 also acknowledged the intrinsic motivation of being a designer because of societal influence that can be generated. He stated, "Designers play a significant role in societal issues, like smoking or drugs. They have the potential to contribute to society by heightening awareness and educating people … to do this they achieve a balance of practical skills and personal attributes." He maintained, "The significant things are creativity,

imagination, skill, and then the practice. Practice is the most important thing; you have to be creative, you have to have a good imagination, but without practice, you can't influence anything."

Teachers' satisfaction

Participants expressed teacher satisfaction when a constructive exchange of information with students occurred or when they saw learning constructively applied to students' projects.

Participant 1 discussed the satisfaction he gained when students associated the successful completion of a paper with his teaching. He noted, "I receive a level of satisfaction when I am able to build a connection between me and my students." He also emphasised the fulfilment he derives from effectively delivering course content. He said, "You feel satisfied at the end when you deliver the ideas and information you want, to the students."

Participant 2 had a similar reaction. He stated, "I feel very satisfied if I provide an experience that I was hoping to deliver." He also noted the significance of positive relationships between teaching staff and administration in contributing to an overall sense of satisfaction. He noted, "I get satisfaction knowing that the head of the department has positive interactions with me."

Participant 3 also echoed the sentiment that knowledge exchange and the application of learning are key sources of teacher satisfaction. He explained:

> Teachers' satisfaction is heightened when knowledge exchange happens with students ... As a result, the teacher feels satisfied when he sees the reflection of the information that he gives to the student evident in their work.

Emphasising the reciprocal nature of learning. he noted, "When you feel that you are benefiting students and getting benefit from them, this is the maximum pleasure that a teacher can experience."

However, Participant 4 highlighted the satisfaction she experiences when she sees students discover that they can apply their learning to real-life situations. She observed, "Students feel happy when they learn something and are able to do it."

Participant 5 emphasised the connection between effective teaching methods and student performance, expressing a sense of satisfaction when students achieve good results. He said:

> When I see the experience and the result, I feel that I am teaching the right way ... So, when a student can demonstrate understanding in his work, I feel he has fulfilled the purpose of the study and this shows in his creativity.

He also derives satisfaction from professional autonomy. "One of the privileges I have is freedom. I am able to present material in my own, unique way." The teacher also gained satisfaction from watching his diploma students achieve higher standards than equivalent students studying in universities. He noted, "Diploma students' projects were generally stronger than those of university students' projects I taught, and this has become strong motivation for me."

Participant 6 focused on the developmental aspect of teaching, expressing satisfaction when his teaching positively impacted a student's growth. He stated, "It's about students—when you feel that you have reached, benefited and developed them in one way or another." Aligning with this idea, he stated, "In the end I need to satisfy my conscience which is the most important."

Teachers' reflections on personal values and professional emphases

Given the status, nature, and responsibility of a teacher in Arabic culture, it was interesting to note the prevalence of comments relating to professional focus, beliefs, and their impact on teacher self-valuation and motivation.

Participant 1 saw a direct relationship between "our profession, new creative things, and ethical commitment."

Participant 2 underscored the value of educators focusing on industry knowledge. He said, "I have to work knowing the nature of the market in Yemen. This is because I have to serve more than a university course, when I work with students. They know that I work in the market and I know the nature of problems and challenges that exist there. They trust me to provide insight into that."

Participant 3 saw value in teacher commitment and inspiration. He said, "The most inspiring experiences come from interesting subjects, and this inspiration is the agent that causes students to interact with the teacher. If it is boring, it is the ethical role of the teacher to make the students like it. ... My effectiveness relies on me having a really inspiring personality." He also emphasised the importance of tying content to the real world contexts,

stating, "I have to relate as many details as possible to the professional design environment, including societal beliefs, ideas, ideals, and subject matter."

Participant 4 expressed concern about maintaining a balance between providing information and allowing time for practice. She noted, "The reason why students don't practice that much is because I am trying to give them so much of information. However, proportionally I know that this is wrong because they need more time to practice—to discover through practice. So, professionally, I feel conflicted—I feel as if I am making a mistake."

Participant 5 described his commitment to changing the design education system. He said, "What motivated me the most to become a design teacher was a desire to change the teaching process in this field." Implicit in this goal was the necessity he saw to emphasise the value and practice of critical thinking in both religious and educational contexts. He declared, "Islam requests us to ask questions, so you must be a thinker ... The main goal of the educational process is to educate students so they are able to think."

Participant 6 emphasised commitment stating, "in the end what we are talking about are human values ... what is valuable is to do your best, to apply effort, to think critically, and to be dedicated." He argued, "Beliefs have nothing to do with this, whether in an Islamic or a religious place, what is important is commitment."

Summary

Teacher's Approaches to Learning and Teaching

In summary, responses from the six participants relating to approaches they adopt to learning and teaching emphasised the significance of effective knowledge transmission, experiential learning, thorough preparation, practical application of theoretical concepts, and the role of creativity, humour, and critical thinking as adult learning practices.

The most commonly reoccurring teaching approach related to a learning dynamic that moves between practice and theory [Participants 1, 2, 3, 5]. In most instances emphasis was placed on practice leading theory, although Participant 1 gave instances of theory also leading practice. A second reoccurring approach was the use of group work, focused either on discovering or critiquing ideas [Participants 3, 5, 6]. Half of the participants also provided examples of approaches they employ to exercise imagination, creativity, and open mindedness [Participants 3, 4, 5]. Three of the participants discussed approaches they take to expanding knowledge bases [Participants 1 and 3 through references to theory and literature, and Participant 5 through references to professional contexts].

Interestingly, despite participants stressing the importance of critical questioning earlier in their interviews, only Participants 1 and 5 provided examples of this in their teaching. In addition, inquiry learning approaches that were non-teacher directed were only discussed by two participants [Participants 3 and 5].

None of the participants discussed approaches to self- or peer-evaluation.

Learning Resources

Discussions relating to learning resources were variable. All but one of the lecturers employed pre-recorded video material in their teaching [Participants 1, 2, 4, 5, 6]. A significant feature among these teachers was the employment of physical resources such as colouring sets (e.g., pencils or paints), paper, and construction materials [Participants 1, 2, 3, 6]. Across the group, there appeared to be some variance in software and hardware currency and availability [c.f., participants 3 and 4]. There was considerable emphasis placed on resourcing teaching with 'real world' examples, whether video related or physical samples of existing design solutions [Participants 1, 2, 4, 5, 6]. Two of the teachers [Participants 3 and 6] mentioned that they privately purchased resources for their students.

None of the lecturers made specific reference to books or libraries but Participant 1 referred to students recording his lectures.

Strategies for Building Trusting Relationships

Responses to questions related to inquiring into the building of high trust relationships between the participants and students revealed distinctive cultural features. The lecturers often used family-based metaphors to describe a form of benevolent guidance (either brotherhood or fatherhood) [Participants 1, 2, 3]. Over half of the teachers related trust relationships to their preparedness to engage with students outside the classroom [Participants 2, 3, 4, 5]. Participants 1 and 4 saw trust as related to the provision of emotional support, and the same two participants associated it with helping students financially, either with outside contracts or with opportunities for future work in teaching.

The Role of Enjoyment in Learning

Considerations of the nature and role of enjoyment in were diverse. Participants 1 and 6 associated enjoyment as a feature of adult learning, with entertainment and humour

generated by resources. Others associated enjoyment with the lecturer's personality [Participants 2, 5, 6]. Participants 1 and 6 also associated enjoyment with student interactivity. Half of the teachers offered no thoughts on the issue, and only Participant 1 (in his discussion of students' engagement with exhibiting their work) related enjoyment to students' experience of something self-generated (away from the direct influence of the teacher).

Student Agency, Motivation and Engagement

In responding to questions about students' agency, motivation, and engagement, the majority of the participants saw graphic design as inherently motivational because it has the agency to inform and influence society [Participants 1, 3, 4, 5]. Participants 1, 2, and 5 linked student agency, motivation, and engagement to student autonomy, and Participants 1, 2, 4, and 5 highlighted the significance of interactivity in the classroom when seeking to increase student agency, motivation, and engagement.

Participants 2 and 5 stressed the importance of treating students as adults, which included acknowledging their choices and fostering mutual respect in the classroom.

Participant 4 raised the importance of providing constructive feedback rather than simply critiquing students' performance, and Participant 3 linked boredom with poor teaching strategies, but also suggested that student engagement might vary depending on the paper content and the learning cultures of institutions in which they choose to study. Participant 6 emphasised the importance of teacher motivation and its effect on student engagement, implying that an unmotivated teacher can deter student enthusiasm and learning.

Teacher Satisfaction and Self-Perception

When reflecting on teacher satisfaction, half of the participants linked a sense of professional fulfilment to a sense of successful knowledge exchange and connection [Participants 1, 2, 3]; others associated it with witnessing student performance and growth [Participants 5 and 6], or the realisation that students were able to make practical applications of knowledge to real world situations [Participant 4]. Futhermore, one teacher gained additional satisfaction from the degree of professional autonomy he was afforded in developing distinctive approaches to teaching [Participant 5].

Responses related to teachers' self-perceptions, values, and emphases were diverse, although a small number of commonalities were evident. Participants 1 and 3 connected teaching with ethical commitment. Participants 5 and 6 saw the development of critical thinking as integral to creating value in education (although one attributed critical thinking to a religious context and the other proposed a more humanist perspective). Participants 2 and 3 placed value on their role as teachers who must bridge professional and academic worlds, and the resulting necessity to bring industry insight and contexts into their teaching. Participant 4 worried about the balance she needed to develop between information provision and student discovery through applied design practice.

4.3 Review of The Initial Interviews: Stage one: Discovery

Following findings from initial interview questions concerning the state of critical thinking and understandings of the principle of *ijtihad* among the participants, this section concludes with an overview of findings related to the teachers' engagements with adult learning practices.

While it is impossible to draw transferable conclusions from interview data elicited from such a small sample, there are distinctive insights evident in the participant's responses that illustrate not only features of their cultural and social context, but also perceptions about teaching, learning, and values related to developing more effective approaches to tertiary design education in Yemen.

With the provision that there was a limited number of teachers involved in the interviews, and the purpose of the initial questions was to gain some insight into context and current practice, the following findings were helpful in shaping questions that progressed the study into the 'Dream' stage of an appreciative inquiry.

Broadly, responses to questions surfaced the following features.

Pedagogically, there appeared to be an emphasis placed on the practical application of theoretical concepts. The practical nature of learning appeared to be embedded in both assignments and projects. In overview, it appears that most learning is practice-led rather than theory-led. The participants' responses suggest that theory and examples tend to be used to either contextualise or orient learning. Teaching practice, despite aspirational and ideological statements, tended to suggest a conception of a classroom as a collective of students who worked individually or in discussion with a teacher but rarely engaged in peer based discourse or assessment.

Preparation and provision of materials appeared to generally be teacher-initiated and actualised. There was a discernible sense of uneven resource provision and quality (including software and hardware provisions) across work environments. In many instances it appeared that participants gathered teaching materials themselves, including video and online resources and physical art-making equipment. Some resources were independently purchased by teachers for their students. None of the teachers made specific reference to books or libraries and there was no evidence of resources being shared between institutions. There was no significant discussion of student work being employed as a teaching and learning resource.

A significant proportion of the participants emphasised the necessity of both creative and critical thinking. There was also importance placed on expanding students' knowledge bases through references to theory, literature, storytelling, and examples of design practices drawn from professional contexts.

Although some teachers linked motivation and engagement to student autonomy or interactivity in the classroom, there were few examples provided of inquiry learning approaches that were non-teacher directed. Broadly, the interviews suggested practices that might be closely aligned with teacher directed learning (transmission pedagogy, as discussed in Goodson, 2005), although there were some instances cited of small group work and collaborative student exhibition preparation. There were no examples offered of self- or peer-evaluation.

There was evidence of the teachers' cultural belief that they should engage in both the moral and intellectual growth of their students. Indicative of this were participants using family-based metaphors to describe approaches to benevolent guidance, teachers engaging with students outside the classroom, and instances where participants discussed providing emotional and financial support for individual students.

Effective teaching was often associated with personal commitment, personality, clarity, and professionally contextualised credibility. Teacher satisfaction appeared to be associated with a sense of successful knowledge exchange and through witnessing student growth and successful performance. This included students' ability to apply learning to 'real world' contexts.

A distinctive finding was the widely held belief that graphic design is inherently motivational because it is associated with positive social agency and the propensity for realising benevolent moral practice.

Aspirational values discussed by the teachers included treating students as adults, acknowledging their choices, providing constructive feedback, developing relevant programme content, creating active, experiential learning, and fostering mutual respect in the classroom.

Having reported on findings from the initial 'Discovery' interviews, we will now turn to the three subsequent stages of the appreciative inquiry (Dream, Design, Destiny) that were actualised through *Halakat Elm* (knowledge circles).

الفصل الخامس: نتائج البحث (المراحل الثانية، الثالثة، والرابعة)

Chapter 5: Research Findings: Stages Two, Three, and Four

5.1 Chapter Overview

This chapter presents considerations identified in collected data from Stages Two, Three, and Four. These stages occurred after the project morphed into an Appreciative Inquiry shaped around the cultural principle of حسن الظن (*Husn al-Dhann*: to progress initiatives in a positive, constructive, and appreciative manner).

Given the potential to enhance the study and increase its usefulness,, it was decided to employ *Halakat Elm* sessions for Cooperrider and Whitney's (2005) remaining three stages of an Appreciative Inquiry (Dream, Design, and Destiny). Their initial Discovery Phase (which seeks to identify existing practices, insights, and strengths) became a reconstitution of the initial interviews. Material collected from participants in this Stage was provided as a catalyst for Stage Two.[45] Although this was not ideal (because the group had not progressed this material collectively), the compromise was considered the most appropriate way forward given the circumstances of the conflict and the limitations suddenly facing the project. A decision was also made at this time to adapt and progress the study inside the culturally familiar structure of a *Halakat Elm*.

Given the war and the impossibility of gathering participants and the researcher together in the same physical space for these sessions, the project adapted a Virtual Community of Practice (VCoP) (Wenger-Trayner, 2015). This enabled three knowledge sharing and planning circles that were supported by a Miro board (that was used to help us to document our ideas and progress by mind-map relationships between written notes) and, later, the social media platform WhatsApp. As the community gathered agency and momentum, participants also began contacting each other and the researcher by email and phone when technological stability made this possible.

Like the interviews, the *Halakat Elm* (knowledge circles) were conducted in Arabic, so in this chapter quotes from participants have again been translated by the researcher. Given this circumstance, there is a feature evident in their responses that warrants discussion. It is the use of the masculine pronoun. In Arabic, this is a default or generic term that can refer to both genders. When translating I have preserved this feature when quoting, but I use the feminine pronoun 'she/her' when referring to a research participant who is a woman. In translating participants' statements, if there is no exact equivalent for an Arabic term, I have used the original word and I provide an English approximation in brackets.

The first *Halakat Elm*, Stage 2 (Dream), considered how one might envision *ijtihad* inside a Yemeni graphic design programme, through an appreciative understanding of what was currently working well inside the teachers' professional practice.[46]

This virtual knowledge circle brought together six lecturers. There was a sense of anticipation among the participants, who, due to socio-political tensions in the region, had hitherto had no opportunity to meet in groups to exchange ideas. During this initial session, I was concerned about power outages and about how I might be perceived by my design lecturer colleagues, given that I was interviewing them from the safety of a Western country. What became important was that the *Halakat Elm* provided us with a culturally familiar, safe place to speak openly and critically about our practice as design lecturers. This is because the facility of our circle was able to manifest the principle of *sadakat al elm* (knowledge charity) and give structure to the principle of واذا دعاك فأجبه (*wa'adeuk fa'ajbuh*, the obligation to accept and support an invitation) even in times of instability.

Having outlined the findings of Stage 2, the chapter turns to Stage 3 (Design), drawing from the second knowledge circle, where discussion focused on the crafting of propositions, strategies, and collaborations that might enhance the growth of *ijtihad* inside Yemeni graphic design programmes.[47]

Finally, in Stage 4 (Destiny), the third *Halakat Elm* was employed to consider how we might empower, enlighten, and adjust the development of *ijtihad* for graphic design students studying in higher education in Yemen. Again, catalyst questions for this session were formed from an analysis of opinion and insight generated in the preceding sessions.

5.2 Research Findings: Dream Stage (Two):

The decision to progress the project into an Appreciative Inquiry was taken (Cooperrider & Whitney, 2005) was taken because such an approach placed greater emphasis on the community of teacher practitioners and a co-creative approach (Hung et al., 2018), was seen to have more relevance and benefit for the participants (Egan & Lancaster, 2005), and had the potential to heighten inspiration,

45 This material took the form of catalysing questions.

46 This knowledge circle was conducted on Friday 27th of October, 2023.

47 This session was conducted on Friday 24th of November, 2023.

resilience, and a sense of pride (Boyatzis & Jack, 2018; Bushe, 2013).

The Dream Stage of the inquiry focused on "the creation of a vision that brings to light the collective aspirations of stakeholders" (Sullivan, 2004, p. 224). This stage was prefigured by data gathered and synthesised from the individual interviews. This overview of existing experience and thinking served as the orienting Discovery stage.

The aim of the Dream stage was to envision the teachers' greatest potential for positive influence and effect by placing emphasis on inclusivity and empowerment through *sadakat al elm* (knowledge charity). This process enabled the project to draw on a diverse spectrum of voices (Egan & Lancaster, 2005). The belief was that the process of 'Dreaming,' as an aspirational, culturally contextualised undertaking, might enable a process for collectively imagining something in advance of the participants' current experience and produce outcomes of bespoke benefit to Yemeni tertiary graphic design education.

In this Dream stage, five of the six participants were able to interact directly in the session, while another participant faced technical issues with their audio. However, this teacher was able to engage in the session using the Miro board.

The *Halakat Elm* session was conducted over 90 minutes, using Zoom as a shared platform and a Miro board for documentation.

Participants were initially allocated three minutes in 'discrete' breakout rooms, each housing two randomly selected teachers. These rooms were used to brainstorm ideas related to each question before the teachers entered the *Halakat Elm* to engage in wider, shared discussion.[48]

Initially, the Dream *Halakat Elm* was guided by three questions.

- What is our understanding of *ijtihad* within Yemeni graphic design education?
- What are the implications of *ijtihad* if we use it in our classrooms?
- How might adult learning practices facilitate this?

However, as the knowledge circle developed, these four questions were reformatted as three considerations.

5.2.1 Results of the Halakat Elm: Dream

In discussing findings from this session, thinking is grouped under these three considerations, and each is followed by a summary. Then a broader overview is provided at the end of the section (Figure 5.1).

Figure 5.1 Structure of the discussion of findings for Stage Two: Dream.

48 However, after the first question was approached this way, the group decided that the technique was not as effective as engaging with questions in the traditional manner (all questions and thinking raised and processed as considerations within the knowledge circle).

5.2.2 DREAM CONSIDERATION 1: Understandings of ijtihad

Because in the initial interviews there was a considerable diversity of understanding of critical thinking as a Western construct, the *Halakat Elm* decided to focus on the principle of *ijtihad* because it was more contextually appropriate and understood within a Yemeni education environment. As evident in the Discovery phase, the most common understandings of *ijtihad* associated the principle with with effort applied to continuous, critical examination in new situations.

Participant 1 described *ijtihad* as "the practice of using past experiences to inform decision-making in new situations that involve comparison and reflection."

Participant 2 defined it as "the ability to research, develop, and transfer knowledge and experience to students so they are able to solve problems."

In the discussions, participants emphasised the association of *ijtihad* with engaging in continuous examination, research, and analysis, as well as the discerning application of academic principles in design.

Thus, Participant 6 described *ijtihad* as "continuous research, an examination, visual nutrition, an exposure to studies, reading, and a critical analysis of design principles."

Discussion about 'What could be?' focused on the need for students to be self-motivated, open-minded, and able to ask the right questions as a way of expanding their knowledge and understanding. Thus, Participant 5 saw a greater emphasis on *ijtihad* as potentially changing how students and teachers approach graphic design education. He explained:

> *Ijtihad* describes the ability to analyse and discuss by embedding psychology and philosophy in one's thinking. It involves the judicious use of visual materials and an inquiry teaching approach that opens students' minds to different possibilities. At the base of this is the value of students sometimes changing their ways of thinking. But *ijtihad* also emphasises the lecturer's responsibility to teach students how to think and to encourage them to consider ideas including *why* they want to know something and *how* they might enrich their intellectual skills. This approach is the opposite of memorising and indoctrination.

5.2.3 DREAM CONSIDERATION 2: The implications of ijtihad as a form of critical thinking

Engagement and Interactivity

Arising from these discussions, the lecturers began to consider how the principle of *ijtihad* might profile in tertiary graphic design classes. Participants 1, 5, and 6 emphasised the need for more interactive classrooms.

Participant 1 noted:

> If we applied *ijtihad* the classroom there would be more interactivity and understanding. We would plan lectures so there was enough time and the right number of students for deep analysis and discussion. This would necessitate more time apportioned to discussion, reflection and questioning so students explore ideas rather than simply receive and implement them.

Participant 5 noted, "We would have to guide the way that discussion occurs so it improves students thinking." Participant 6 stated, "If we applied *ijtihad* students would be more likely to enjoy and love what they learn."

Participants 1, 5, and 6 emphasised that it would be important for teachers to shape students' education in such a way that there would be a stronger emphasis on learner involvement and priority given to engagement, students' ability to think critically, and idea exploration.

The Student Profile and Portfolio

There was considerable discussion over the role of the student profile and portfolio.[49] In current practice, the portfolio demonstrates the attributes, skills, and knowledge of each student. These include their problem-solving abilities, areas of expertise, and applicability to business requirements.

Participant 3 proposed that if a programme was shaped by the principle of *ijtihad*, the student's portfolio should demonstrate three things. First, it would need to reflect both the technical skills and their ability to think critically. Second, it would be rich with independent inquiry, so it would contain designs that reflect both what the student has studied and also work that they have generated outside of formal classes. Finally, the portfolio would reflect a level of distinctive, masterful specialisation rather than generic solutions that display generic skills or knowledge.

49 A graphic design student's portfolio is a document that profiles a collection of their work accumulated across the three years of their undergraduate degree. It demonstrates what they have learned and profiles their character as a visual communicator. The portfolio is used for displaying their abilities to potential employers or clients.

Characteristics of the *mujtahid*/independent thinker

Through discussions of *ijtihad* the concept of the *mujtahid* (independent thinker) arose. This was broadly described as someone who possesses the qualities of self-motivation, critical thinking, and effective communication.

Participant 1 noted, "In my current practice I try to make the students self-motivated, so they are *mujtahid* ... I emphasise that they should think *with* and *beyond* the market needs."

Participant 2 defined *mujtahid* as "the one who depends on self-learning."

Participant 3 saw the *mujtahid* as a significant aspiration for Yemeni design education. He explained:

> The *mujtahid* is an independent thinker who has three characteristics. First, he makes an effort to acquire knowledge of major and related ideas. Second, he has the ability to maintain currency with improvements, constantly updating his knowledge. Finally, he has the ability to communicate effectively with others. In short, *mujtahid* describes a person who communicates well, broadens his thinking, and updates his knowledge.

Participant 5 stated a "*mujtahid* is a student who asks many questions," and Participant 6 believed that such questions would be focused on "*why* rather than *how*."

5.2.4 Dream Consideration 3: Adult learning Practices and facilitation

Learner-Centered Approaches

Participants 1 and 3 argued that *ijtihad* could only surface in rich ways if students were empowered to take ownership of their learning process and develop the ability to think critically. Participant 1 noted, "I want to teach students how to hunt instead of depending on me ... They need to be more open-minded, not restricted or limited to certain beliefs or ideas." Participant 3 reiterated, "A more learner-centred approach would produce a portfolio that would not just demonstrate technical skills but also the student's critical thinking skills."

The teaching and Learning Environment

Participants 2 and 3 considered changes to both the physical nature of learning environments and teacher roles, so both would be more configured to enhance *ijtihad.* Participant 2 noted, "Teaching graphic design needs a suitable environment ... Classrooms are not currently designed for interactive graphic design learning."[50]

Participant 3 explained:

> If I redesign the classroom I would need to distribute the furniture in a circle around a table like we see in meetings of professional designers. I would design the classroom in such a way that I would be able to see all of the students and they could see me all of the time.

50 This issue was considered in more detail in the next phase of the research.

Curriculum Design and Delivery

If *ijtihad* is to flourish as an approach to research, examination, visual nutrition, and exposure to current and emerging thinking about design, the teachers thought certain changes would need to reshape how curricula was shaped and delivered.

Participants 1 and 3 emphasised the importance of well-designed curricula and effective delivery that emphasised relevant, current, and engaging content. Participant 1 noted, "The most important thing is the curriculum and the planning of lectures" and Participant 3 added,

> The content of the curricula needs to be up to date ... We ought to place emphasis on visual resources because adult learners need to analyse, rather than process and memorise text for exams.

Given the necessity for *ijtihad* to engage with relevance, Participant 3 also highlighted the importance of teachers maintaining high levels of professional currency. He argued that academic institutions and lecturers need to consistently improve the ways that they teach and learn. He argued that, if the ability to think critically is to be developed in a relevant way to contemporary design education, then "lecturers will need the ability to improve their knowledge ... The lecturer and the university are responsible for constantly updating and improving of the content of the curricula."

Departmental Support and Awareness

As an extension of deliberations on teacher currency and institutional responsibility there was also discussion in the *Halakat Elm* relating to the need for educational institutions to be aware of and support the requirements of graphic

design education, especially if there are shifts towards new pedagogical approaches. Participant 2 emphasised that "Heads of design departments need to be cognisant of the distinctive nature of graphic design teaching." Participant 6 also noted that if criticality was to be increased in design education, then pedagogical currency and teacher training also need investment.[51]

He stated:

> If a student has recently graduated then begun teaching, the university is supposed to seize the opportunity and look at the challenges he is facing. They will need to think beyond simply assessing if he should secure permanent employment. This is a university issue. Currently teachers are only evaluated in terms of continued tenure, rather than diagnostically to see what their strengths and weaknesses are, and how they might be supported.

Review of the *Halakat Elm* - Stage two: Dream

With the study more culturally contextualised, the *Halakat Elm* surfaced two nuanced, aspirational concepts. The first was *ijtihad* in the context of Yemeni graphic design education, and the second was the principle of *mujtahid* (the independent thinker).

Broadly, *ijtihad* was associated with effort applied to the critical application of accrued knowledge in new situations. The teachers saw that this quality might prioritise skills like comparison, transference, reflection, analysis, and insightful understandings of design principles.

Teachers believed that inculcating *ijtihad* as a principle in their programmes would result in more interactive approaches to learning and teaching, but this would also involve restructuring approaches to accommodate more time for discussion, reflection, questioning, and the exploration of ideas. However, it was suggested that such an approach might be more enjoyable for students. It was believed that student portfolios shaped by experiences of *ijtihad* were likely to demonstrate higher levels of critical thinking, independent inquiry, and masterful specialisation.

In addition, discussions surfaced the phenomenon of *mujtahid* (the independent thinker). As an aspirational outcome, it was maintained that this quality would describe a student who understands market needs but also projects their thinking beyond this. Such students would also demonstrate self-motivation, independent learning, critical thinking, effective communication, and the ability to maintain currency in a technologically and socially evolving environment.

It was agreed that embracing *ijtihad* has considerable potential to heighten student centredness, independence, empowerment, and ownership over learning. It was imagined that this might necessitate reconfigurations of physical learning spaces so they lend themselves to higher levels of discursiveness, diminished distraction, and effective teacher overview. There was also a strong sense that elevating the principle of *ijtihad* will necessitate teachers maintaining high levels of social and professional currency. As a consequence of this, departments and wider institutional systems will require greater insight and response to resourcing and teacher training.

51 This issue was considered in more detail in subsequent phases of the inquiry.

5.3 Research Findings: Design Stage (Three)

The Design stage of the inquiry focused on teachers collaborating to provide a framework, or social architecture (Cram, 2010), that contained propositions, strategies, processes, systems, and decisions, in which the positive core of the Dream session is resonant (Cooperrider & Whitney, 2005).

This session occurred four weeks after *Halakat Elm* One,[52] and five of the six participants were able to interact directly in the session, while one participant was unable to take part because of an emergency.[53] The *Halakat Elm* was conducted over 90 minutes, using Zoom as a shared platform and a Miro board for documentation and visualising notes.

In presenting this section, a summary of the findings follows the discussion of each of five considerations. A broader review is provided at the end of the section (Figure 5.2).

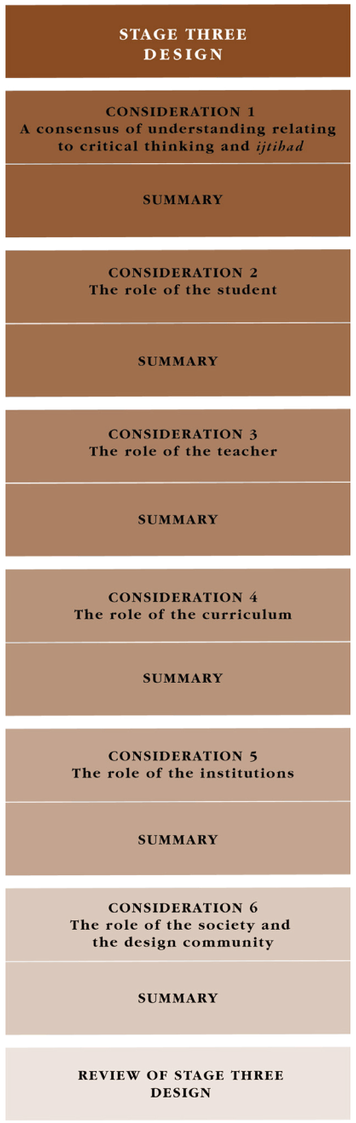


Figure 5.2 Structure of the discussion of findings for Stage Three: Design

5.3.1 Results of the Halakat Elm: Design

In the Design stage participants worked together to apply a structure to the Dream considerations discussed in the preceding *Halakat Elm.* The beginning of the session was devoted to refining an agreed understanding of *ijtihad* as it is used inside Yemeni graphic design education. Following this, the focus shifted to a consideration of how the teachers might 'design' approaches to address the aspirations that surfaced from the previous Dream knowledge circle. The *Halakat Elm* considered six ideas::

> Reaching a consensus of understanding relating to *ijtihad* as a form of critical thinking
>
> The role of the student
>
> The role of the teacher
>
> The role of the curriculum
>
> The role of the institution
>
> The role of society and the design community

5.3.2 Design consideration 1: A consensus of understanding relating to ijtihad as a form of critical thinking

Building on discussions in the Dream *Halakat Elm,* participants reached an agreed definition of *ijtihad* in the context of Yemeni graphic design education. The journey to their consensus involved reflecting on earlier shared definitions.

Participant 1 now described *ijtihad* as "the practice of using past experiences to inform decision-making in new

52 I required four weeks to analyse the recorded data and plan for the second Halakat Elm.
53 However, this teacher was able to engage in Halakat Elm 3.

situations, involving comparison and reflection." Participant 2 defined it as "the ability to research, develop, and transfer knowledge and experience to students so they are able to independently solve problems." Participant 3 felt it described "making an effort in a dedicated fashion that enables an expansion of rational thinking, and the ability to keep pace with developments in the field, the diligent design of, vocabulary, and academic content." He also saw *ijtihad* as integral to "developing, training, and qualifying academic staff through the critical application of intellectual, philosophical, logical, and aesthetic knowledge outside the university." Participant 6 observed that, when considered in the context of graphic design education, *ijtihad* can describe

> a continuous research, examination, visual nutrition, exposure to studies, reading, diversification of teaching methods, information delivery, communication and interaction that would enrich discussion, the exchange of ideas, comprehensive evaluation of knowledge, and a constant updating, and analysis of principles in design.

Participant 5 noted that *ijtihad* would also describe:

> the ability to analyse and discuss ideas by embedding psychology, visual nutrition and philosophy. This would involve using visual materials and inquiry-based teaching approaches that open students' minds to different possibilities. This openness would enable them to change their way of thinking and also grow the ability to think about *how* they think, so they know why they want to learn something.

Summary

After considerable discussion, the group summarised *ijtihad* as:

> The mental, psychological, and emotional effort made to acquire knowledge so that a person can function effectively as a *mujtahid* (independent thinker).

In reaching this consensus, emphasis was drawn to the fact that in Arabic thought it is the soul's desire to connect feelings to everything it seeks. This state enables one to pursue goals, motivated by love.

In expanded form, the teachers defined *ijtihad* as an approach to thinking that involves:

> the ability to research, examine and analyse principles in design from technical, cultural, and social perspectives. This necessitates comparing, thinking rationally, behaving morally and asking specific questions in the pursuit of effective connection. Such a pursuit involves the inclusion of psychology, visual nutrition, and philosophy. *Ijtihad* also involves a process of correction and distinguishing between different ideas and concepts. This leads to students being able evaluate ideas systematically and logically based on specific criteria, methodologies and relevant studies. This analysis leads to the development and transfer knowledge and experience via the use of practice supported by an inquiry teaching approach that open students' minds to different possibilities, that changes the way they think and encourages them to think about 'how' they think.

> In addition, the group argued that *ijtihad* draws on previous experience to guide decision-making processes in new situations. It was seen as a positive practice that can be used to improve weaknesses and solve problems to obtain better results or, to come to know something. As a characteristic of a conscious person who is aware of their surroundings, *ijtihad* was conceptualised as the opposite of memorisation.

5.3.3 Design consideration 2: The role of the student

In designing approaches that will enable students to apply *ijtihad* more effectively in their learning, the teachers considered two ideas: independent self-motivation, and shifting pedagogical emphases.

Participant 2 argued that the design of any change in pedagogical approach requires an acceptance that students are "self-learners who must work inside certain time constraints as they exercise their desire for knowledge, that is judiciously fed by resources, repeated questioning, and the need to extract useful information." Participant 4 argued that, as 'self-learners,' student thinking needs to move from content acquisition to a process of "learning and reflecting on what they learn in other projects, not only the project that they are being taught. This will enable them to make judicious improvements in their projects."

Independence and self-motivation

To integrate *ijtihad* more effectively inside graphic design education, Participant 1 stressed the need to adopt teaching approaches that heighten agency, so "students become more self-motivated." He believed that this agency should be tied to "student need and desire to compete with others and

gain knowledge from the teacher." He also maintained that learning environments will need to change, so emphasis can be focused on "students becoming more connected to the world by increasing their visual nutrition and becoming self-motivated to follow up on new trends in design. This self-exposure will generate new ideas."

Both Participants 4 and 6 argued that effective motivation is student initiated rather than teacher generated. Participant 4 stated, "The student has the greatest responsibility to pursue critical thinking because it is something intrinsic ... it does not matter how hard the teacher motivates, *ijtihad* cannot take root in a student who is not willing to learn." Participant 6 agreed: "*Ijtihad* is not taught. It's learned, therefore it is the student's initiative and responsibility to improve his ability to think critically." Discussion suggested that teachers can consciously shape environments that are conducive to *ijtihad* as a form of critical thinking but, unlike fixed skills and prescribed content, *ijtihad* is an attitude, an orientation and a personal commitment. Students may see it role-modeled, they may see it reinforced and named, but because *ijtihad* describes the ability to analyse, discern, and commit to high levels of effort in pursuit of insight, the eventual commitment lies with the learner.

Participant 3 argued for a redesign of pedagogical approaches so that all students are reimagined as *mujtahid* (independent thinkers). This, he noted, will involve changes which emphasise

> the ability for self-improvement ... the acquisition of knowledge through the pursuit of academic and practical references, including independently following the market to recognise emerging needs, fields and specialisations. This trajectory will be driven by students continuously and intrinsically seeking knowledge and reflecting on their work.

Participant 6 saw this agency requiring shifts in classroom culture that will heighten "self-motivation ... intrinsic enjoyment and love for what was being learned, through new types of project that emphasise application and discovery."

Shifting pedagogical emphases to enhance *ijtihad*

All participants felt that if *ijtihad* is to become more influential in students' learning, there will need to be a shift that emphasises students exercising greater levels of agency and motivation.

Participant 1 argued that this will require "ethical commitment that will enable students to more actively educate themselves and learn from the experiences of their peers." He suggested that this might be realised by a different kind of "artistic major where students present and discuss ideas that have a higher purpose than simple materialistic realisation of a brief. ... By involving 'thinking about thinking' alongside practice the students' outcomes will be deeper, more critical and substantially different."

Participant 3 agreed, stating that such changes will involve "students not only reflecting on technical design skills but also developing skills in critical thinking, including improving and refining creative and philosophical capabilities." He also suggested that programmes can be redesigned so they emphasise and reward "enriched portfolios with designs that reflect both what has been formally studied and also things that have been self-motivated and were not part of the formal curriculum."

Participant 6 proposed that any pedagogical re-design will need to embrace and activate environments which encourage "group discussions, research and reading, and attending exhibitions and conferences." Such broadening, he suggested, will enable students "to actively expand their knowledge beyond the design discipline."

Summary

Participants proposed that the design of a learning environment for heightening *ijtihad* will require higher levels of self-motivation that is enabled through changes in traditional emphases [Participants 1, 2, 3, 4, 6].[54] This will require designing approaches to learning and teaching where a stronger focus is placed on learning environments beyond the classroom [Participants 1, 3, 4, 6].

Participants 1 and 6 also emphasised the importance of peer knowledge exchange systems that will require greater emphasis on group discussions, research, and cultural activities like exhibitions.

There was also some discission about the role of 'thinking about thinking,' where students will become increasingly able to critically reflect on their own decision making [Participants 1 & 3].

5.3.4 Design consideration 4: The role of curriculum

Currency

All participants emphasised the importance of an up-to-date curriculum that keeps pace with changes in the design field and global market needs. Participant 1 tied the assertion

54 Some teachers saw this as intrinsic [Participants 3 & 6] while another saw it as something that might be connected to competition [Participant 1].

to the fact that "science and the world are in a constant state of change." He maintained that "these changes cause transitions inside modernisation. However, understanding and critiquing change relies on understanding fundamental design principles." As a consequence, he believed that any curriculum redesign "has to include increasing critical thinking skills, cognitive abilities and students' ability to analyse what they encounter so they can produce quality outcomes."

Participant 6 agreed, arguing that curriculum currency also needs to include "up to date design software." He noted, "redesigning a curriculum for graphic designers will need to rethink what is relevant, so irrelevant material like programming languages like C++, and similar content, is replaced with emphases on thinking, analysing, and discerning."

However, Participants 2, 3 and 4 saw curriculum content as less important than changes that will need to be made to existing student, teacher, institution, and community roles. Participant 3 maintained that a redesign of curricula that could support greater *ijtihad* will require "exercising intellectual, aesthetic, philosophical, technical, and practical content. These dimensions of knowledge will have to serve societal, cultural and cognitive expansions."

Summary

The *Halakat Elm* saw curriculum design as needing to balance two things. On the one hand, it has to be constructed in such a way that it will remain flexible enough to stay abreast of evolving technologies, design issues, and markets [Participants 1 & 6]. However, curriculum was not seen as the only driver of change. Instead factors that will enhance critical thinking were also associated with the students, their teachers, institutions, and wider society. This is because critical thinking was seen as a dynamic that reaches beyond content to serve individual, societal, and cultural expansion [Participants 2, 3, 4].

5.3.5 Design consideration 5: The role of institutions

Resource Allocation

All of the participants discussed the challenge of redesigning learning and teaching environments without dedicated and insightful institutional support. Resourcing was experienced as uneven, and some frustration with this surfaced when proposals for redesigning were considered against a wider educational vision.

Participant 1 noted that increasing *ijtihad* requires redesigning both pedagogical approaches and physical environments. He said, "To grow criticality you need enough time and the right number of students in a classroom. Institutions that seek money and forget competence, compromise attempts to improve learning."

Participant 3 stressed the need for institutional

> bureaucracy to provide financial support and allocate more insightful budgets to departments so they are able to strategically allocate money that enabeles actualises the purchase of programs, updates, and equipment ... this equipment includes fundamental teaching tools like computers and stationery, academic reference material, books, electronic libraries, videos, audio books, magazines, pamphlets and periodicals. Inside the university, effective resourcing includes more effective access to printing facilities, and on a national level, it includes access and networking with, and between, other universities.

Building on this idea, Participant 2 maintained that emphasis needs to be placed on institutional collaboration and support for events like the 'Yemeni Designer.'

Participant 6 agreed, also noting the need for the "presence of an infrastructure for computer laboratories and other facilities that is advanced and keeps pace with technological development."

Enhancing Quality

The concept of institutional quality and commitment permeated much discussion in the *Halakat Elm.* Participant 1 complained that, often, "institutions are seeking money and forgetting competence. They pursue quantity, not quality and this undermines both innovation and excellence."

Participant 3 argued that, if graphic design education seeks to expand and deepen its approaches to learning by heightening agencies such as *ijtihad* and *mujtahid,* then "institutions need to more effectively meet learning and teaching needs. These needs can be material, moral, personal, and environmental."

To this argument, Participant 6 added the need for institutions to also ensure "the presence and development of experienced staff who have the skill to deliver information to students and shape the conceptual environment in which they study."

Participants 3 and 4 agreed, and Participant 3 added that institutions also need to think about the "aesthetic quality of learning spaces where educators can create effective environments that spatially support student-centered learning and a sense of teacher value."

In response to this, Participant 2 explained,

> Heads of design departments should be aware of the specific needs of graphic design teaching and how integral to these are suitable environments, including study halls and flexible spaces where student-centred and independent learning can flourish and teachers can move from transmission -based teaching towards more fulfilling approaches that emphasise sharing exercises and diverse ways of practicing and exploring graphic design.

Summary

In considering the nature of institutional support for graphic design education, and specifically moves within it towards more student-centred teaching and the growth *ijtihad* and *mujtahid,* participants in the *Halakat Elm* were very specific.

The teachers complained of under-resourcing and a broader institutional lack of understanding of the distinctive needs of graphic design education. Specifically, it was felt that, if tertiary education in Yemen aspires to pedagogical innovation, then greater physical resourcing (including time, class numbers, and technological currency) needs to be invested in change [Participants 1, 2, 3, 4, 6]. There was also considerable discussion surrounding institutional support for effective learning spaces that enhance self-directed approaches to education [Participants 1, 2, 3, 4, 6].

Although discussion centred around the need for institutions to physically resource the discipline, it was felt that support also needed to embrace personal, professional, ethical, and moral enhancement [Participants 1, 2, 3].

There was also considerable discussion around the need for wider, inter-institutional networking in the discipline [Participants 2, 3] and greater investment in teacher training and professional development [Participant 6].

5.3.6 Design consideration 6: The role of society and the design community

The Influence of Cultural and Societal Values

Broadly, there were two strains of thought in the *Halakat Elm* concerning the influence and place of societal and cultural values.

The first was expressed by Participant 4, who believed that "The community should provide a liberal environment for students to discuss and negotiate their ideas, not restrict them to certain ideas or political ideologies." She added, "The contribution of designers is so important for society, and student designers should have the freedom to express their ideas while still respecting the culture and religion of Islam."

The second strain of thought drew closer relationships between Islam, the family, and values in graphic design education. Participant 1 stated, "Students' work should reflect the Yemeni and Islamic culture ... for example, if the project is about culture, then the student will utilise the aesthetics of the culture in designing the project." Participant 2 agreed that a student's cultural environment is a key determinant in shaping both how they think and how their thinking is reflected in their work. He also noted that a student's geographic location influences their work, noting that, "work produced by rural students is often very different to what is produced by students who live in the city."

Participant 3 added, "I believe that the biggest influence on graphic design students comes from the family, because the family is able to plant certain ways of thinking and ideas in their minds when they are growing up."

Participant 6 expressed a similar opinion, proposing that "it is societal conditioning that ensures the exercise of *ijtihad* in graphic design. Society provide a supportive environment, promoting creative culture, establishing educational values, encouraging cooperation and participation, and supporting training are valued."

The influence of the Design Community and Market

Finally, there was some discussion about the influence of external bodies like the wider Yemeni design community and market. However, in general, participants felt that neither currently had any significant, positive impact on students' learning. The consensus was best articulated by Participant 3, who said, "I believe the design community has minimal influence on graphic design students' journey because it is not really educative. However, society in general does impact on graphic design students thinking because it shapes values and attitudes."

Participant 6 agreed, pointing out that sometimes the commercial environment can have a negative effect. He recalled recently applying for a job with the government: "They still look at art—like sculpture—as idol making." He also noted that, "some students, regardless of their excellence

in photography, leave the design discipline because they are told that religion forbids the taking of photos."

However, Participant 2 argued that the design market, especially clients, can have a negative impact on design education because clients often project values and aesthetics onto solutions that damage the quality of a design. Because of this, lecturers know that students will face a commercial environment where design autonomy and quality is likely to be compromised. Offering a recent example from his own experience, he recalled, "When I created a logo for a company they insisted on adding elements to the design that did not fit with the principles and effectiveness of the solution."

Participant 1 agreed that clients can affect the quality of design outcomes, noting that this is a common situation and difficult to deal with if you have thought critically about design principles underpinning your solution.

Summary

In considering the role of the community in developing critical thinking, the *Halakat Elm* considered two influences: cultural/societal values and the impact of the professional community.

On the first issue, there was considerable discussion around how teaching and learning need to navigate a balance between critical, independent thinking and respect for Islamic culture and religion. There was concern expressed about some limiting ideologies and their impact. However, there was also an acknowledgement that Yemeni society (especially at a family level) can provide a supportive environment that actively promotes creative culture through values. There was also acknowledgement that families actively encourage students in their pursuit of advanced education.

With regards to the wider design community, there was little positive response, and it was thought that the professional graphic design environment currently has little impact on student' critical thinking. There was also considerable discussion about the negative encounters graduates and professional designers can face in the marketplace because clients often assume an understanding of design and then project requirements onto already critically considered proposals. It was believed that this can pose a challenge to graduating students who have developed high levels of critical thinking about their work because it can undermine their independent, analytical, and refined approaches to design.

Review of the *Halakat Elm* - Stage Three: Design

The third Design Stage of the Appreciative Inquiry addressed two issues. Firstly, the group worked together to refine a definition of *ijtihad* that could be understood in the context of Yemeni graphic design education. They then reflected on and proposed emphases and guides for educational approaches that might positively influence the development of critical thinking inside tertiary graphic design education.

The Design Stage of the inquiry did not establish a final, resolved intention, but deep consideration was afforded to the values and circumstances that will shape change. This may be understood when we consider the wider context of the inquiry and current unstable circumstances that the country is navigating. This includes the fact that the participants come from different institutions and within these there is considerable unevenness in resourcing, different departmental structures, and diverse understandings of the nature and requirements of graphic design education.

The group summarised *ijtihad* as:

> The mental, psychological, and emotional effort made to acquire knowledge so that a person can function effectively as a *mujtahid* (independent thinker).

In expanded form, the teachers defined it as an approach to thinking that involves:

> the ability to research, examine and analyse principles in design from technical, cultural, and social perspectives. This necessitates comparing, thinking rationally, behaving morally and asking specific questions in the pursuit of effective connection. Such a pursuit involves the inclusion of psychology, visual nutrition, and philosophy. *Ijtihad* also involves a process of correction and distinguishing between different ideas and concepts. This leads to students being able evaluate ideas systematically and logically based on specific criteria, methodologies and relevant studies. This analysis leads to the development and transfer knowledge and experience via the use of practice supported by an inquiry teaching approach that open students' minds to different possibilities, that changes the way they think and encourages them to think about 'how' they think.

In considering factors that might resource *ijtihad,* the *Halakat Elm* employed five lenses: the student, the teacher, curriculum, institutions, and community.

With regards to students, it was seen that a learning environment for heightening *ijtihad* requires higher levels of self-motivation than what is currently being experienced. This will necessitate a stronger emphasis on learning environments that draw richness from beyond the classroom and the exercising of peer exchange systems, including group discussions, questioning, research, and collaborative cultural activities.

It was agreed that increasing *ijtihad* in teaching practice will also require greater emphasis on student independence and increased levels of classroom interactivity. These changes will necessitate a shift towards an inquiry-based learning culture that engages both learning diagnosis and cognitive dexterity. It was felt that such an approach will require teachers to actively pursue knowledge because this can be used to resource richer, more discursive learning environments.

Curriculum redesign will have to become more flexible so teachers can remain abreast of, and responsive to, evolving technologies, design issues, and markets. This said, curriculum redesign was seen as less important than the development of new forms of learning environment because critical thinking is a dynamic that reaches beyond content provision.

However, the teachers are aware of difficulties inside institutions. Currently, there is systemic under-resourcing and often an institutional lack of understanding about the nature and needs of graphic design education. Resourcing issues currently impact on time, class numbers, technological currency, and the provision of effective learning spaces that enhance self-directed approaches. There was also a recognised need for wider, inter-institutional networking in the graphic design discipline and greater investment in teacher training and professional development.

It was acknowledged that the wider community is an important influence on student learning and the development of *ijtihad* in tertiary education. The consensus was that teaching and learning need to navigate a balance between critical, independent thinking and respect for Islamic culture and religion. However, despite concerns about the negative impact of certain political ideologies, there was an acknowledgement that Yemeni society (especially students' families) often provide supportive environments that promote creative culture through values and their commitment to the advancement of their children's education.

> Finally, there was little optimism that change will be led by the wider professional design community. This suggests that it will be educators who will need to facilitate the development of critical thinking. It was also acknowledged that this may initially result in a disjunction between analytical, independent graduates and a work environment that still tend to elevate service provision over critical thinking.

5.4 **Research Findings: Destiny Stage (Four):**
The Destiny Stage (the last phase of an appreciative inquiry) focused on teachers' individual and collective commitment to realising their goals. During this stage, participants produced suggestions for action (Cram, 2010). This session occurred four months after the 'Design' *Halakat Elm*. Ten days prior to the session, three focusing questions were sent to the participants.

In this *Halakat Elm,* four of the six participants were able to remain directly involved throughout the session. Unfortunately, one participant's technology failed a few minutes after offering his first idea and he was unable to remain on the platform. However he fed into the process via a social platform that had been created to keep the conversation about critical thinking and professional support active.[55] The other participant was unable to attend because of an unexpected emergency. However, he shared suggestions for, and accounts of, action via a separate interview.

The third *Halakat Elm* was conducted over 90 minutes, using Zoom as a shared platform and a Miro board for documentation and visualising notes. Configured as the Destiny stage of an Appreciative Inquiry, the knowledge circle progressed from the earlier focus on 'designing potential solutions,' and now concerned itself with 'planning actions to improve' the development of *ijtihad* in Yemeni tertiary graphic design education.

Although circumstances disabled full attendance by two participants, the teachers present appreciated the

55 The social media platform that worked best for the Yemeni participants' community (due to its ease of access via phone) was WhatsApp. The WhatsApp group was created after the Design stage of the inquiry. Using this platform, I was able to send potential orienting questions for the Destiny stage of the inquiry. Some of the participants preferred to respond to questions using the platform's audio feature, which made the use of WhatsApp preferable to discussion over email.

difficulty of drawing together six people who teach in eleven universities and colleges across the country, given the circumstances of the war. Being Yemeni, they also understood that commitment was shaped by the principle of واذا دعاك فأجبه (the obligation to accept and support an invitation), and knew that input would be navigated in other ways, as soon as opportunities arose. There was also a shared understanding that, for the group, the appreciative inquiry was no longer a discrete series of encounters that would 'lock off' after the Destiny stage of the research project. Rather, because participants had been in communication with each other between the *Halakat Elm* and they had been developing and trialling ideas, the project was morphing into a community that accommodated flexible commitment and had begun operating as a supportive group who were collectively concerned with organisational improvement (Cooperrider & Whitney, 2005)

5.4.1 Results of the Halakat Elm – Destiny

In the Destiny *Halakat Elm,* participants focused their attention on four considerations:

- Sharing examples or practical activities that are being (or will be) implemented to enhance students' critical thinking or *ijtihad*.
- Sharing and planning practical changes made to curricula and programmes that support improving *ijtihad*.
- Sharing insight into how student's design processes may change to heighten the application of *ijtihad*.
- Sharing and planning initiatives that can reinforce collectivity, connectivity, and ongoing support for pedagogical and professional change.

In this section, a summary of findings follows the discussion of each of these considerations. A broader review is provided at the end of the section (Figure 5.3).

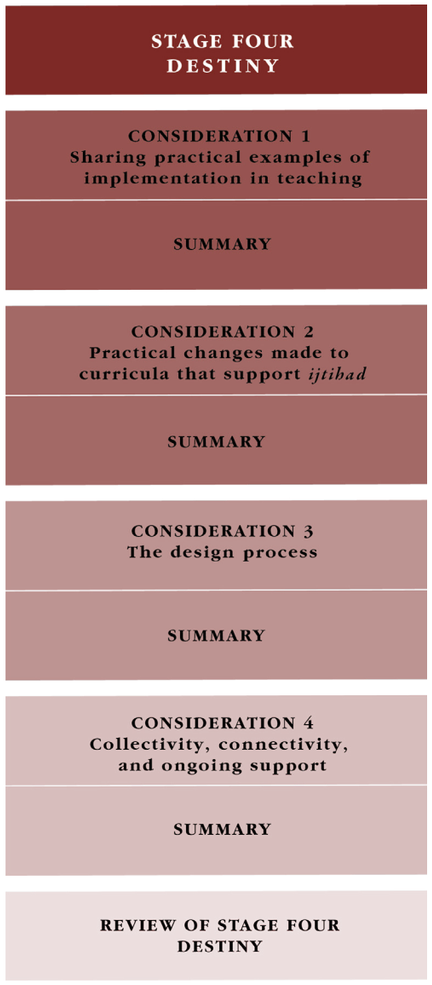


Figure 5.3 Structure of the discussion of findings for Stage Four: Destiny.

5.4.2 Destiny consideration one: Sharing practical examples of implementation in teaching

Before this session was convened, some participants had already begun trialling approaches to enhancing the application of *ijtihad*. Experiments included changes to a classroom's physical structure and social learning environments.

Re-conceptualising physical space

Participant 6 had begun creating physical displays of student work from the assignments he set. He stated, "I have begun presenting students projects by putting them up on classroom walls and in the corridors so everybody can see how their peers are thinking. This is creating a richer physical and cognitive environment."

Participant 1 agreed:

> I am also displaying students' work on the walls of the classrooms. In addition I am encouraging them to have deep, critical discussions with their peers. The displays mean that the students are also receiving questions from designers and visitors. This sharing of their design solutions not only creates a rich creative environment, it also encourages and motivates students to take more risks—to push their thinking. The class environment makes explicit the nature of *ijtihad*, independent thinking and commitment to excellence, because these things are now on display for everybody to see. In my Photoshop labs I also intend to cover walls with student work so at a glance they can understand the nature and content of the paper. I have found that the students feel

proud of their work, and it encourages them and gives them confidence.

Participant 5 said:

> I am planning to arrange the classroom using moveable tables without chairs so students are able to move freely in the space. They will be able to gather in flexible groups. I am also thinking about providing a creative board where they can draw and share their ideas … Although I prefer a spacious classroom, I don't limit myself to this. I continue to use the university campus for certain activities because having trees on the campus increases students' well-being and comfort. I believe that reconfiguring both interior and exterior learning spaces enhances students' ability to think in critical ways because it encourages movement so they are not static, they will be interacting and more likely to engage in discussion and encounter other student's thinking. I am also introducing refreshable imagery on the walls of learning spaces that are updated every week. This will keep the environment stimulating. The creative board for students will be a space where students can post formative thinking on their projects. I anticipate that this might build confidence and raise critical feedback about their work from their peers as their studies progress inside the paper.

In terms of seating, Participant 1 reported:

> I am organising my classroom in circles. The students move their chairs, grouping and regrouping for discussions. In terms of teaching, this decentres me, and the environment has become less teacher dominated, less authoritarian. Importantly, the students are thinking and discussing ideas and learning without the pressure of long hours of lectures.

Participant 5 noted, "I get students to group in a U shape. This allows them to discuss freely, to see everybody, to ask questions and watch reactions instead of just sitting isolated in rows."

However, he added:

> Getting students to sit in knowledge circles is also good. But I consciously construct these circles so there are students of different abilities in each one. This way they learn from one another and they can hear different kinds of critical thinking during discussions.

Teaching approaches

Participant 6 had begun to move his instructional-transmission teaching to a more experiential learning style through real-life object modelling. He stated:

> In the 3D Max modelling paper, instead of asking students to follow my steps for modelling an object, I ask them to identify objects from their environment that they can't find on the Internet. Discreetly, I check to see if these objects are good examples that reflect knowledge about using 3D Max tools … After I conducted this exercise with students, I noticed that the approach was inherently more motivating, it improved the students' thinking and lifted the quality of creativity in their graduation projects.

I also increased the amount of grouping and discussion I am using. I divide students into two groups and conduct competitions … The important thing is that students discuss things a lot more, they explain ideas and this helps them to clarify their thinking and communication skills. They share diverse ways of solving problems and people can listen to a diverse range of thinking approaches. This encourages them to exchange ideas. These exercises also increase students' motivation and engagement in the classroom … I have also noticed that involving students with the development of each other's design thinking (including design software) helps considerably with broadening thinking around the final production of their work. This is because they are collectively examining, analysing and asking questions.

Participant 2 stressed the significance of developing an interactive inquiry-based learning approach in his visual identity paper. He said:

> I ask students to conduct research and to mind map. I also ask them to go to the field to conduct interviews so they can develop a deeper understanding of the matter under consideration. This approach helps them to generate questions. These questions are at the heart of *ijtihad*. They are mental and emotional and they arise from an effort

made to acquire knowledge rather than just receive it. The students inquire into visual identity and what it means, rather than simply pursuing an easy answer. Using questioning I discuss the students thinking with them as they endeavour to find answers.

Participant 4 highlighted five practical activities that she is instituting in her classes as a way of enhancing critical thinking (*ijtihad*).

First, she is developing group peer review sessions between students. Here, she says,

> design work is organised in such a way that each student's work is discussed and critiqued in a constructive manner. Other professors, advanced students, or even professional designers may participate in these sessions. I think that this activity will help students to understand the strengths and weaknesses of their work, as well as develop critical thinking and self-evaluation skills.

Her second strategy is to emphasise analytical learning through real-life design case studies. Here, students will evaluate strategies, audience engagement, and assess outcomes. She noted:

> Students will be given case studies of real design projects, both successful and unsuccessful, and asked to analyse and critically evaluate them. These analyses will initially be guided until they begin to learn to critique things like design strategies, target audiences, messages, and results achieved.

Her third strategy is in development. It will employ group-based design problem solving by promoting critical evaluation and the use of diverse perspectives activated inside systems of peer review. She stated:

> Students will be divided into groups and given the same design problem to work on. Each team will then present their design solution, which will be discussed and critiqued by other students and professors. This activity will help to promote critical thinking because students won't just be criticising a single design, they will be evaluating diverse solutions and understanding the strengths and weaknesses of each.

Her fourth initiative she sees as useful in bridging the divide between design education and professional practice. She is intending to broaden the range of perspectives brought to the evaluation of student work by engaging professionals to talk about real-life contexts and the role of critical analysis within this. She noted:

> I am inviting professional designers or experts in the field of graphic design to give lectures about their experiences and projects. Students can then ask critical questions and analyse the works they present. Rather than just critiquing a decontextualised design, they will learn to evaluate it from the perspective of the world it was created for … Students can also be given marketing campaigns to analyse from a professional design perspective. They can evaluate the design strategy, messages sent, target audience, and the impact of design on the success or failure of the campaign.

Her fifth initiative relates to interactivity and its role in developing *ijtihad:*

> I am decentring the process of evaluating homework assignments (واجبات). While I will still discuss their projects (مشاريع) in the classroom, I will also share them with the rest of the students, and we will consider improvements. All students in the classroom will be involved in a constructive discussion. This exercise should improve their thinking and deepen their insight into learning inherent in the assignment. They will also be able to learn from other student's mistakes and appreciate diverse approaches to solving the same problem.

Finally, Participant 4 reported the adoption of an interactive approach to critiquing learning values, that she believes will lead to the strengthening of assignments which students have just completed. This initiative, she feels, will shift their analysis away from content and cause them to think more deeply about their own learning. They will be applying their critical thinking skills to pedagogy and learning design. She explained:

> I have started to adopt this approach after participating in this research project. Our discussions made me think about the student's own learning and how they could be part of shaping it. I began to involve them in discussions about their actual projects rather than simply explaining the interface of the software and providing them with examples that they might uncritically follow through steps that I assumed would be effective. I am asking

> the students to think about the weaknesses and the strengths of the projects they have completed and to come up with improvements that we might make to strengthen the briefs and learning environment surrounding them.

Participant 1 is promoting reflection and collaboration by integrating meditation breaks and facilitating ongoing discussions. He noted:

> After our knowledge circles I began to ask students to discuss their work, not just with me but also with each other. I realise that, if we are to grow *ijtihad* I have to increase the levels of collaboration between students in the classroom. I have also begun to embed meditation breaks because these might help them to organise their thoughts.

Participant 5 also discussed meditation. He stated:

> I also encourage students who are losing focus in the classroom to have a break so they can leave the classroom to practice meditation or pray. This is essential for the person to refresh their emotions and thinking …

> In addition I have begun asking students questions to increase their curiosity. This motivates them to research for answers and present them in a discussion. At the beginning of every paper, I share its objectives with them. This helps both clarity and engagement during the semester. In my lectures I prioritise visuals over text. So, the knowledge I provide in the paper is not fully written, instead students can make notes or record the lectures then analyse and revise them. I think this emphasis on looking and listening improves their analytical skills. I use only visuals and keywords in my slides—so I don't provide students with a textbox. I am trying to find ways that encourage students to research, rather just absorb and memorise written material that limits their thinking processes because it is received as something authoritative and absolute.

In terms of growing motivation, this teacher is also trialling a strategy that places emphasis on objective analysis and cultivating confidence.

> My feedback as a lecturer is more positive, but I also try to push the students to improve their skills. I am trying to craft an approach that will increase their courage to accept criticism and be brave when facing questions while distancing themselves temporarily from their work. I want to help them to learn to talk objectively about what they create. I am hoping that this approach will build trust between us and also give them practice in critically analysing work.

Summary

In considering reconfigurations of space and its impact on learning Participants 1, 5 and 6, all saw the display of student work as a catalyst for critical discussion. They also linked this approach to motivation and the encouragement of risk taking. In one instance, the display of work was seen as a method for illustrating the structure and nature of a paper being studied [Participant 1].

All participants had been experimenting with learning spaces in an effort to actualise higher levels of discussion. In some instances this was through formal reconfiguring of seating arrangements [Participants 1, 5 & 6]; and in another, through the use of flexible regrouping and student mobility [Participant 5]. Participant 5 was also developing a 'creative board' that enabled students to discuss ideas that they were developing.

Growing out of discussions about space there was consideration given to teaching approaches. Participants 6 and 4 had adopted strategies that encouraged students to connect learning activities to wider, lived environments. This included interviewing people and a teacher bringing design professionals in to lessons [Participant 4].

Participants 1 and 5 discussed the inclusion of periods for meditation and/or prayer in their classes, as a strategy for supporting student focus.

Participant 4 was developing a range of decentring strategies where students became involved in peer review. These included solving design problems in groups, reviewing each other's work in development and on completion, and a group critique of completed papers.

5.4.3 Destiny consideration two: Practical changes made to curricula that support ijtihad

Internationally, there is a growing awareness of the significance of incorporating critical thinking into the curriculum for students, if they are going to function effectively in contemporary society (Cáceres et al., 2020; Dwyer et al., 2014). This issue was also raised by participants

across the two preceding *Halakat Elm,* and it became an issue for consideration in this Destiny session.

Participant 4 suggested that several changes can be made to the curriculum that will result in heightened engagement with *ijtihad*. From the outset she saw it as necessary that curricula embraces problem-based learning. Such approaches, she believed, would involve

> students being presented with real problems that they will need to analyse to provide solutions … Such real-world problems are well oriented towards developing critical thinking because they relate directly to scenarios that stimulate students to think in more diverse contexts and engage in deep, ongoing, reflective learning.

As a development of problem-based learning, she also saw it as necessary for curricula to activate collaborative learning. She described such approaches as "encouraging students to work in small groups, where they share ideas and discuss different concepts and perspectives so they can develop critical thinking and effective communication skills." She is also integrating higher-order thinking tasks into assessments. She stated, "Instead of traditional tests that focus on retrieving information, tasks can be included that require students to analyse, apply, and critically evaluate information." She recommended that critical thinking should be integrated into the content of all graphic design papers, rather than trying to teach it as a stand-alone paper. This would mean, "the curriculum of each design paper would need to have *ijtihad* woven into its fabric." She also advocated the use of "active learning methods, such as class discussions, brainstorming, simulations, and project-based learning." These methods, she argued, "encourage students to actively participate and think critically rather than passively receive information." She also suggested that *ijtihad* has wider application across disciplines and that critical thinking should be part of all academic subjects, so students can apply skills in diverse fields.

She emphasised the use of a variety of sources, "including books, magazines, websites, and experts [because] this will encourage students to search for information independently, while critically evaluating the credibility of what they encounter rather than relying on the teacher as the adjudicator of value."

As an extension of this concept, she stressed on the importance of integrating technology in the curriculum design:

> Using modern technology like online educational platforms, blended learning, and virtual reality can help enhance critical thinking because it provides active and interactive educational experiences … these stimulate curiosity and exploration because they encourage students to experiment with ideas and enhance skills through hands-on engagement. This kind of experience locates thinking in a different context where emphasis is placed on analytical and evaluative skills, cooperative learning, drawing conclusions, articulating arguments and applying critical analysis to what surfaces around them.

Although she advocated for an integrated approach to teaching critical thinking, she believed that, in certain instances, "skills like identifying assumptions, evaluating arguments, and discovering biases and logical errors can be taught." As an illustration, she suggested the following:

> To enable *ijtihad* and encourage students to function effectively as a *mujtahid* (independent thinker), I might give them activities like asking them to analyse and evaluate an advertising poster design that contains no contextual information. I might then ask students to identify assumptions embedded in the design, by asking: 'What is the target group? What is the key message? What values are intended to be promoted?' Following this, we might engage in a discussion about the efficacy of the visual reasoning used in the design, questioning whether the images, symbols and colours are convincing—and identifying inconsistencies or biases. I might also ask students to identify design elements that could be considered misleading, unethical, or capable of perpetuating negative stereotypes. Students could also explore alternative approaches and potential enhancements that might make the design more effective or ethical.

She added,

> In addition to such critical reading of a design artefact, I might incorporate higher-order thinking tasks into how I frame questions for assessment. For instance, instead of traditional examinations that focus on retrieving information, I am thinking

of including tasks that require students to analyse, apply, and critically evaluate information. So, instead of asking 'What are the causes of the war in Yemen?'—a question that merely requires recalling learned information, I might ask students to 'Analyse the main causes of the war in Yemen and discuss how this conflict could have been avoided, using evidence from historical sources to support your argument.' Such a question requires students to analyse causes more deeply, evaluate the effectiveness of alternative solutions, and connect different ideas to build an argument supported by evidence. This type of question can elicit higher-order thinking, including the ability to as analyse, evaluate, and synthesise, rather than simply memorise content.

We might also avoid questions like, 'What are the basic design elements?' (which requires simply retrieving information), and reframe the question as:

'You are a graphic designer who has been tasked with creating a new logo for a cosmetics company. Discuss how you might use basic design elements (line, colour, shape, space) to create a solution that reflects the brand's identity and attracts the attention of the target audience. Justify your design choices using principles related to graphic design.' Such a question requires students to do more than simply enumerate the basic design elements. They would need to apply this knowledge in a specific context and analyse how to use these elements serve in achieving a specific goal (creating an effective logo).

In his consideration of practical changes that can be made to curricula so it more effectively supports *ijtihad,* Participant 5 recommended empowering lecturers to consciously embed critical thinking through documents. He argued that, rather than making tweaks to what exists:

> Critical thinking should be explicitly stated in the outcomes of the curriculum. The focus of the curriculum shouldn't be on memorising concepts but on unpacking and analysing visual examples so students increase discussion and critical thinking. For example, I use visual examples to move students beyond simply discussing what they see. I get them to evaluate different visual design options for a campaign, like billboards, flyers, and brochures. We will discuss what is effective and why. For instance, billboards are designed to convey information quickly, catching the attention of drivers in just a few seconds, whereas brochures are suitable for detailed information. This understanding of the specific purposes of various design mediums is raised in discussion and prompted by questions. To ensure this, curriculum would need to explicitly reinforce inquiry-based learning as a device that enhances students' analytical skills, enabling them to critically evaluate a design text in relation to its purpose. If *ijtihad* is to become more than a token aspiration, we have to shape curricula so it elevates critical thinking beyond students just working hard and being independent. We need to shape activities so they devise questions and develop their investigations to find answers. We also need to create interdisciplinary assignments that enable students to make connections between various fields. This will enable them to recontextualise their thinking and evaluate the value of ideas beyond the confines of the discipline.

Summary

Two participants contributed expansively to a consideration of curriculum. Participant 5 argued that reshaping curricula should be targeted and purposeful, and Participant 4 proposed that an emphasis on *ijtihad* should reach across all disciplines in tertiary education.

Both argued that curriculum design had to move its emphasis from memorisation towards higher levels of critical engagement, and both saw that embedding inquiry-based approaches to learning would help to achieve this. Both also argued for the elevation of student analysis, application, and critical evaluation.

Participant 4 saw these things being strengthened when curricula required students to identify assumptions and evaluate arguments and biases. As a reflection of this, assessment would then need to focus on analysis, synthesis, and evaluation.

Participant 4 also argued that curriculum change will need to be supported by a widening of resourcing, including available and emerging technologies, so the role of the teacher as the primary provider of information shifts, and students begin to import a greater variety of thinking into their problem solving.

5.4.4 Destiny consideration three: The design process

Inside the *Halakat Elm,* teachers (initiated by Participant 5) formulated a potential design process that could be adapted across diverse institutions but would have the potential to integrate *ijtihad* at all phases. The process would begin with writing and discussing a brief, then involve conducting research, brainstorming and mind-mapping ideas, creating a design, soliciting feedback, and then delivering the design in an environment that also actualised reflecting critically on outcomes (see Figure 5.4).

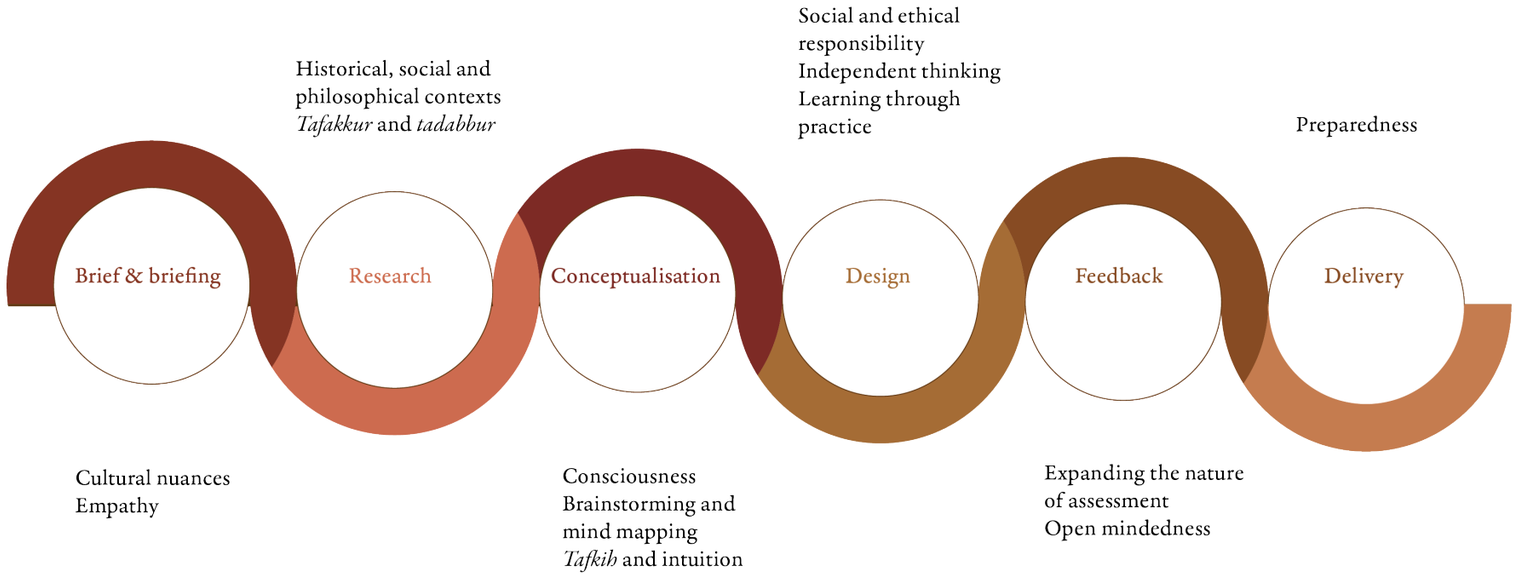


Figure 5.4 How *ijtihad* would manifested in different phases of a design process.

1. **Writing and discussing a brief**: An *ijtihad*-influenced approach would entail a deeper investigation of the brief, pushing designers to examine and explore the project's fundamental goals, cultural nuances and empathy. Students would consider the requirements and seek a deeper emotional and psychological connection with the design project's goals. This would open space at the outset for more insightful and responsive assignment design.
2. **Conducting research**: In addition to a market analysis, research would also take into account the design problem and its context. Research would involve a combination of rational thinking and historical, social and philosophical contexts to understand how a design might influence and be influenced by broader societal, historical, and philosophical contexts. Therefore, research would be framed in relation to context. This wider viewpoint would support solutions becoming more ethically and culturally sensitive, while maintaining high levels of creativity.
3. **Conceptualisation**: *Ijtihad* would make the conceptualisation stage more exploratory because it would emphasise designers relying more on their personal insights, intuition, and comprehension of design principles. Since the focus would be on individual insight and creativity rather than on adherence to existing rules, this approach has the potential to expand consideration and result in greater variations of thinking. Students would be leveraging their consciousness to generate ideas that are innovative and more personally resonant.

4. **Creating the design**: During the development phase, designers would engage in a more contemplative and iterative approach, regularly assessing their work in light of social and ethical responsibility, independent thinking, and learning through practice. This would relate to the larger objectives and the growth of *ijtihad* within the assignment.
5. **Soliciting feedback**: In addition to requesting approval, feedback sessions would involve discussion about the design's implications expanding the nature of assessment that aligns with larger goals. We would approach revisions with an open mind, constantly looking for ways to better integrate the design into its context.
6. **Design delivery**: In addition to satisfying the client's needs, if we develop a process of wider group involvement and an emphasis on context and broader considerations of diverse perspectives, then the final designs should be more refined and more reflective of critical thinking and social awareness (including considerations of moral and cultural integrity). If we map this back onto our definition of *ijtihad* as "the mental, psychological, and emotional effort made to acquire knowledge so that a person can function effectively as a *mujtahid* (independent thinker)," then these qualities permeate the process, from initial design to realisation. In the delivery stage, students would present their work in the classroom, then receive questions from the students, guests (other teachers and design experts), and the lecturer in charge of the paper. This collective form of verbal, discursive critique would inform the lecturer when they were making a final summative assessment but also enrich students learning, because they would formulate critique on work other than their own and listen to how others discern and express value and analysis.

The consensus of the *Halakat Elm* was that integrating *ijtihad* into the design process would encourage a more thoughtful, ethical, and personalised approach to design. This is likely to result in student solutions that are not just considered but also more meaningful and situationally appropriate.

Summary

In response to discussions in the preceding *Halakat Elm,* Participant 5 synthesised the group's thinking into a potential design process that would have the potential to integrate *ijtihad* at all phases. This model was discussed and refined inside the group. The collective proposal aimed to make a student's experience of graphic design more thoughtful, ethical, personalised, and culturally and situationally appropriate.

The model involves an initial consideration of each brief, where, beyond a concentration on content and meeting client requirements, emphasis is also placed on cultural nuances, empathy, engagement (emotional, intellectual, and philosophical), and impact. Research and initial brainstorming focuses on widening cognitive thinking, including the engagement of higher levels of creativity, personal insight, comprehension, and ethical and cultural sensitivity. The design process (including the solicitation of feedback) encourages a more open minded, contemplative, iterative approach, that again reflects on ethical considerations, personal interpretations, cultural understanding, and social responsibility. The final submission of work involves a process of wider group involvement and an emphasis on context and broader considerations of diverse perspectives. Here, rather than simply submitting work, students are required to present it in the classroom while they engage in critical discourse with peers, teachers, and invited design experts.

5.4.5 Destiny consideration four: Collectivity, connectivity and ongoing support

Prior to the Destiny *Halakat Elm,* participants had already begun examining ways that, despite current circumstances, tertiary educators in graphic design might be able to begin building or rebuilding connections, collaborations, exchanges and cooperative endeavours with other academic institutions, professions, and entities that are not part of the immediate academic setting. This was seen as important if *ijtihad* is to become established inside graphic design education, because such connections will reinforce recognition, implementation, and growth.

Participants discussed three initiatives.

The first was the development of a national student conference.

The second was the reestablishment of professional and educative infrastructure that has been disrupted as a consequence of the war. This included the revival of, and investment in, the Yemeni Designer Forum; the Yemeni Association of Art & Design; and support for the 'Behance' initiative.

The third was the development of professional support systems, achieved initially through co-authoring research papers on Yemeni graphic design and its pedagogical approaches.

Student Conference

In previous *Halakat Elm,* discussion had focused on the relationship between *ijtihad* and broadening knowledge bases. It was recognised that students and teachers are enriched by being exposed to a wider spectrum of ideas. While resources like videos and online presentations are already being used, there is currently very little available to students or teachers that enables them to engage and exchange in dialogue with experts (rather than simply watching recorded information online). A potential solution to this was a proposed annual or biannual graphic design student conference that might connect institutions, students, and staff.

Participant 1 proposed that

> Creating a conference for students and initiating networking with designers will encourage and enrich both creative thinking and criticality. Such an event might interface with a curated exhibition of student work from across universities. This will provide students and staff with a national overview and motivate all parties to pursue excellence. As an alternative, we might instead have a national award where students submit work and take part in a creative, celebratory competition.

Participant 5 agreed. He said, "Conducting conferences is helpful for students, but we need the emphasis to be placed on *their* social and educational concerns. So, a conference will need to focus on them, not only professional designers." He added, "Exhibiting work encourages students to challenge themselves and their peers. If well-facilitated, exhibitions can be resourced by workshops or activities that show how constructive questioning rather than giving compliments can lead to higher levels of critical thinking."

Reestablishment and devolution of professional and educative infrastructure

Because the war has impacted negatively on professional and educative discourses (and the resulting community building), the *Halakat Elm* proposed three areas of restorative focus.

The Yemeni Association of Art & Design

This Association was established in 2014, but it ceased operations when the war began in March 2015.[56] The organisation focused on general artistic design and creative work by professional Yemeni designers. It had begun showcasing a variety of professional designs, and it sought to inspire and spark creativity. The Association also offered valuable resources, including poetry, articles, applications, and advice.

The goals of the Association were to enhance creative standards in the design field among Yemeni and Arab communities, and to provide a sense of unity for Yemeni and Arab designers. As part of this, it sought to foster connections between Yemeni designers and the international design community.

Participant 6 suggested:

> The revived Association could function like a union or accrediting agency that requires designers to obtain work licenses, like architects, so we can prevent those with minimal knowledge of design culture from producing low-quality work. Accredited members would then hold specific qualifications, and the Association would have authoritative power.

He also suggested that

> The Association could also collaborate with the Yemeni Ministry Social Affairs and Labour to establish laws and regulations that protect designers. This would enable them to address social norms in their work. To do this the Association would need to register members and verify their qualifications. As an organisation it could also control design pricing so fair standards are established for both designers and clients, and they could also serve as a mediator in conflict between clients and designers. In addition, the Association could liaise with educational institutions, providing internship opportunities, and become involved in defining job descriptions for designers based on their specialities, such as calligraphy or animation design. That way people would easily be able to discern specific services offered by different companies.

56 Although the rebels' entry to the capital Sanaa was in 2014, it was when the Arab coalition started the war against Yemen in 2015 that much of the infrastructure was disabled, including the Yemeni Association of Art and Design.

Participant 6 also saw the Association playing a role in enhancing students' critical thinking. He explained:

> If the Association could increase market stability this would in turn motivate students to develop skills like critical thinking to improve their design quality. However, if the market continues to undervalue designers' work, students might restrict their skills and simply develop basic skills that are required to meet market demands. *Ijtihad* requires a context for practising leadership, which the Association could fulfil. It might also initiate a design award. This competition would level up the design work and inspire students to open conversations about the nature and strengths of the winning designs. The Association might also advise the educational sector regarding which design majors are required in society so they can tailor learning to address these needs. However, the Association's purpose would be advisory rather than educative and I would caution against them organising design training courses as they originally planned to do in 2014.

'BEHANCE' Yemen (A meeting with creative minds)

The inaugural 'Behance' initiative took place in 2013 at the Lebanese University in Sana'a, and this was followed by two events in 2014, one in Sana'a, at Hams House, and another in the city of Hadramout in southern Yemen. However, the event ceased operations when the war began in March 2015. The original events had begun with lectures by professional designers on topics including visual identity and branding. Here, professionals often shared personal experiences. Invited designers also showcased their work for an audience vote, and the organisers distributed awards based on the results.

Participant 6 proposed that the initiative could be improved if

> the organisers implement specific criteria for participants, ensuring that the work evidences critical thinking. This approach would demonstrate how a respected event like Behance can encourage designers to work beyond aesthetics and consider philosophical implications and societal impact. To actualise this, a panel of professional designers could evaluate designs in terms of higher order values like the psychological, emotional, and philosophical dimensions of the work, rather than relying solely on audience votes, which tend to prioritise aesthetics. Such a method of assessment would promote *ijtihad*, and elevate critical thinking into professional discourse.

The Yemeni Designer Forum

The Yemeni Designer Forum is a new initiative that was inaugurated in 2024, in Sana'a and Marib city. It also occurred in Saudi Arabia (a neighbouring country where many Yemeni designers now live). The forum focuses on sharing knowledge, making art, and professional expansion. Its objectives are introducing creative people to each other, the presentation of projects, sharing inspiration, information, and tools, pursuing new developments, and offering professional guidance.

Participant 6 noted, "The Yemeni Designer Forum is similar to Behance because it promotes Yemeni designers—including juniors, seniors, and students. It offers lectures by design experts that offer valuable insights for educators and students to consider and reflect upon."

The event has the potential to strengthen an environment where design students can ask questions of professionals with whom they currently don't come into contact during their studies. Because of this, the forum can broaden students' perspectives and encourage them to build skills that will be needed after graduation. Events like Behance and the Yemeni Designer Forum also provide opportunities for students to build professional networks that will assist them in their future endeavours. Exhibiting their designs alongside the work of professionals will motivate students to strive. It will also make tangible the gaps in quality between what they are currently producing and what will be expected once they graduate. They will see how in the design profession they will need to actively promote themselves and their work and become active in building a design community.

Professional expansion through collaborative research and co-authorship

Beyond the revival, reconstitution, or development of wider professional design support infrastructure, there was also some discussion about ways in which academics working in the field of graphic design education might enhance or resource our own professional development.

Participant 1 believed that, as educators, we can professionally elevate critical thinking associated design pedagogy through strategic co-authoring of research articles. Because research and its dissemination has not been part of the Yemeni design education (or the professional development of lecturers), he proposed:

Writing journal articles will help lecturers to build research capacity, craft critical thinking, refine arguments, share ideas and help with potential promotion to higher levels of influence. Co-authoring will also help our educational institutions ... Initially we might consider writing research papers that examine how as educators we enhance graphic design outcomes and improve educational outcomes using *ijtihad*. If we initially develop co-authoring skills this will encourage lecturers to examine diverse perspectives, enhance research quality, and foster a supportive research community. By implementing such an initiative, we could be an inspiration for a new generation of design lecturers, and provide incentives for expanding their knowledge and seeking opportunities to study abroad.

Summary

Given the dissolution of much professional infrastructure and institutional atomising in Yemen, participants developed strategies, re-visionings, and initiatives that might help to develop collectivity, connectivity, and support across the design sector and within tertiary education.

Participants 1 and 5 recommended the development of a national tertiary design student conference that would enable networking, the sharing of work through joint exhibition, workshops, and an emphasis being placed on students being able to discuss social concerns.

Two existing initiatives that dissolved as a result of the war (The Yemeni Association of Art & Design, and Behance) were both proposed for revival, with alterations. Participant 6 proposed that the Yemeni Association of Art & Design's initial concerns with showcasing professional work and offering resources and advice could be extended if it became an accrediting organisation that could also regulate and advocate. Behance could become an agent for deepening design thinking if it employed judging panels of professional designers who could evaluate designs in terms of higher order values. Finally, the Yemeni Designer Forum (which is a new initiative that is similar to Behance in that it promotes Yemeni designers), was seen as a hopeful initiative, because it includes professional designers and students in its purview. Like Behance, it offers opportunities for students to build professional networks, but, in addition, the event enables students to exhibit their designs alongside the work of professionals. This not only exposes them to national standards and professional forms of engagement but also has the potential to actively engage them in building a national design community.

The *Halakat Elm's* final consideration was with a professional development initiative that would involve collaborative research and co-authorship. Currently there is no academic research surfacing from graphic design education in Yemen, and it was proposed that, building on the knowledge circle initiative of this study, participants might work together or in small groups to co-author articles that will contribute to building stronger critical discourse while contributing thinking associated with cultural distinctiveness to the international design education community.

Review of the *Halakat Elm* - Stage Four: Destiny

As the last stage in the Appreciative Inquiry, the Destiny *Halakat Elm* focused on teachers' individual commitment to realising their goals by producing collective suggestions for action (Cram, 2010). However, given the agency of the research, many participants had already begun making changes to their teaching strategies, so the discussion moved between sharing what was already underway to refinements: approaches to what might now occur. The group shared practical examples of implementation in teaching, proposed changes to curricula, considered how student design processes might be reconceptualised to heighten the application of *ijtihad*, and planned initiatives that might reinforce collectively, connectivity, and ongoing support for pedagogical and professional change.

In their consideration of space, similar views were shared by all participants regarding the importance of transforming the physical learning environment to enhance *ijtihad*. There was a consensus that displaying student work within the classroom and in common areas not only creates a stimulating environment but also motivates students, because they know that their efforts will be visible and open to peer review. The teachers felt that such exposure would build confidence and encourage deeper levels of critical engagement. Reconfigurations of space included more discursive seating arrangements, flexible regrouping, and higher levels of student mobility.

In discussing teaching methods, there was shared agreement that learning is more enabled if there is a move from traditional transmission/instructional methods to more experiential and collaborative learning. This approach is seen

to increase motivation and to enhance student creativity and critical thinking, because it generates deeper questioning, discussion, and the sharing of thought (both developmental and in submitted outcomes). Specifically, peer review sessions and real-life design case studies were seen as integral to developing critical evaluation skills and bridging the gap between academic learning and professional practice. There was also discussion about the value of meditation, and the propensity to critique learning.

In considering curricula, it was seen that it is important to integrate problem-based and collaborative learning and to include higher-order thinking tasks in assessments across all academic subjects. This moves the emphasis from memorisation towards higher levels of critical engagement, including analysis, synthesis, application, and critical evaluation. It was felt that, by ensuring skills are developed in diverse fields, *ijtihad* would become more formally enabled in the curriculum. The *Halakat Elm* also synthesised and refined a structural model for a design process that integrates *ijtihad* at all phases, from the creation and delivery of the design brief to realisation and submission of outcomes. The model was distinguished by its emphasis on cultural nuance, empathy, emotional, intellectual and philosophical engagement, and iterative critical review.

Finally, it was agreed that the group would begin rebuilding and then maintain connections between tertiary providers and the wider professional environment (despite the fact that this must occur in the challenging context of the ongoing conflict). The creation of a national student conference and awards was proposed to foster a culture of excellence and critical engagement among students and educators. Reviving the Yemeni Association of Art & Design was seen as important because it has the potential to move beyond its former role as a support and networking system, to become an accrediting organisation that can also regulate and advocate for designers during a time of quality variance and low national visibility. Two showcasing events were also discussed (Behance and the Yemeni Designer Forum). While the former is still in abeyance, it was seen that concentrated support for these initiatives could provide platforms for dialogue and the recognition of professional standards of excellence.

Finally, concerns expressed in earlier *Halakat Elm* about the paucity of professional development in graphic design in Yemen were partially addressed with a proposal that the knowledge circle might become a teaching and research catalyst that, while remaining supportive, could also help participants to co-author articles that would build critical writing skills and contribute thinking to wider international design education discourses.

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Having now presented findings from the initial interviews and subsequent stages of the appreciative inquiry, it is useful to discuss these in terms of the thesis' research question: 'How might approaches be developed to enhance *ijtihad* in undergraduate graphic design students in Yemen?'

الفصل السادس: المناقشة

Chapter 6: Discussion

6.1 Chapter Overview

This chapter draws into correlation findings from the study's initial interviews, considerations and outcomes from the three *Halakat Elm,* and contextualising literature. In addressing the main research question, 'How might approaches be developed to enhance *ijtihad* in undergraduate graphic design students in Yemen?' the discussion is divided into six areas.

The first section discusses historical and contemporary influences that impact on critical thinking. The next three sections consider the nature of *ijtihad.* We then turn to the participants' proposed approach to exercising *ijtihad* inside a design process. The chapter concludes with discussion of the nature of the Appreciative Inquiry (reframed within a Yemeni context) that underpins the project (Figure 6.1).

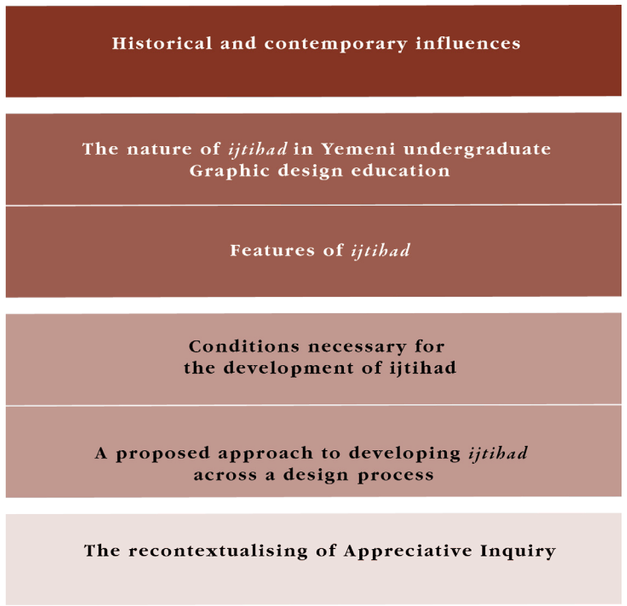

Figure 6.1 Structure of the discussion chapter

6.2 Historical and Contemporary Influences on Critical Thinking in Yemen

6.2.1 The Historical Context

Although Muthanna and Karaman (2014) note that Yemen is a conservative society and regulations limit the practice of open questioning and critical thinking (as discussed in Chapters 1 and 2) the role of critical thinking has a long history in Islamic education. Historically, thinkers like Al-Jahiz (776–868 AD) emphasised the importance of an individual's ability to critically acquire, develop, and reflect on what is learned.[57] His emphasis on the interconnectedness of secular and religious fields of knowledge, the importance of critical reflection, and its significance in the development of a 'bettered self' may be aligned with more recent studies (Endut & Wan Abdullah, 2009; Paul, 1990). In the seventeenth century, the scholar Muneccimbasi dedicated a substantial body of consideration to critical thinking in his book *Adabul-mutala* (*The Art of Reading*). In this text he proposed that critical thinking was not a skill naturally possessed by students and as a consequence, it needed to be learned and incrementally mastered (Muneccimbasi, 1660).

I. Smith (2016) notes that, historically, instruction in critical thinking and analysis were desired objectives of Islamic education. He argues that evidence of this can be found in the work of the nineth century scholar Hāmid ibn Burhān ibn Abī Dharr al-Ghifārī who, in the introduction to his work *Treaties in the Method of Studying* (869), stated "Everything that one reads will be either a statement or a propositional claim. The reader must consider if the requirements of a definition are met, if the definition is adequate, is it circular..." (Ghaffari, 869, p. 12). In his closing advice to readers he warned:

> Be careful that you don't restrict yourself to merely rote memorisation of words without understanding the inner meanings of those words. This can create stupidity and mental lethargy; in fact, such memorization has the propensity to completely take away one ability to understand deeply. (Cited in and translated by I. Smith, 2016, para. 15).

El-Rouayheb (2015) argues that Ghifari's work had a significant influence on seventeenth century Ottoman culture, because it caused scholars to concentrate on methods of verification and critique, rather than focus entirely on ethical aspects of learning. As a historical observation, this is significant, because both Diallo (2012) and Gunther (2006) have argued that within the broader practice of Islamic education, memorisation is the basis upon which learning is predicated. Yet Diallo (2012) has proposed that such approaches to learning limit learners' creativity and critical thinking skills, eventually leading to a form of intellectual passivity.

Interestingly, Al-Jahiz (869) also discussed problems inherent in memorisation-based pedagogies. Although he acknowledged that a good memory is valuable in the learning process, he proposed that it can also inhibit the intellect. Instead, he posited that it is deductive reasoning that draws a learner towards certainty and confidence. This noted, he argued for a reasoned balance between the rational

57 Al-Jahiz was an eighth century Muslim scholar who developed a unified Islamic pedagogical system, inside which he proposed that students should be taught writing, grammar, prosody, poetry, arithmetic, law, the pillars of religion, and the Qur'an (I. Smith, 2016).

reflection that draws thinking forward and memorisation, which enables retention of what has been learned.

However, in considering Islamic education, writers like Imam Mikaeel Smith argue that critical thinking "is clearly a skill which is developed *after* a student has obtained some fundamental level of information [and] ... a pedagogy which places over emphasis on critical thinking can run the risk of destroying a student's ability to learn" (I. Smith, 2016, para. 23).

However, teachers in this thesis study clearly saw critical thinking as an integrated part of an evolving process that involves skill acquisition and questioning at all stages. They noted the importance of providing information and technical skills, but they felt that the acquisition of these things was resourced and deepened by a concurrent process of critical questioning. Participant 3 described this when she said,

> I present a design and explain the tools necessary for resolving the problem. [...] Then I try to motivate students by raising questions. I inculcate questioning. This causes them to begin looking for answers within themselves.

All of the participants in the thesis study saw critical thinking as something that ties together knowledge acquisition and questioning. Participant 4 described this as "visual nutrition," but she positioned this within a dynamic of constant questioning and reanalysis. Participant 5 stated, "I do not teach the student everything, but I prepare the thinking process for them, so they use their minds in every subject they study." Critical questioning was used to build and expand on knowledge. Teachers gave examples from their practice of integrated critical questioning that covered what was studied, philosophical and aesthetic principles in design work, reasons for choosing to study certain subjects, and the impact of unsettling previously held opinions.

While opponents of critical thinking-based pedagogy like Imam Mikaeel Smith and David Hayes question the value of critical thinking because "ordinary" students "begin with neither comprehension of, nor investment in, a text or work of art" (Hayes, 2015, p. 321), their positions ignore the fact that design and exposure to designed texts is cumulative. No student comes to tertiary design education as an empty vessel. They live and communicate in a communicating world. In contrast to Hayes' argument that a critical thinking-based pedagogy "reinforces the vague belief that no beliefs are true" (2015, p. 318), the participants in this study suggest that design education can be predicated on the potential of multiple truths, which require a "breadth of consideration so the teacher can deliver the subject and link it with diverse perspectives" (Participant 3). This, the participants suggest, may cause students to "evaluate diverse solutions, understanding the strengths and weaknesses of each" (Participant 4) and "share diverse ways of solving problems [through] the exchange of ideas" (Participant 6).

6.2.2 Contemporary Contexts

Having outlined the current debate around the nature of critical thinking within Islamic thought, it is helpful to consider four contemporary contexts that impact upon Yemeni tertiary design education:

> The family and close community;
>
> Student-teacher relationships;
>
> The nature of academic institutions; and
>
> Interfacing professional societies.

This discussion helps to position the project's findings within a social context that is significantly different to many Western design education environments.

The Family and Close Community

Yemeni families play a significant role in fostering critical thinking skills in children because they serve as a student's initial site of education. Through daily interactions and religious practices, families instil values and ethical principles from an early age, including ethical behaviour and moral principles. Thus, Suryani et al. (2023) note that in Yemen, families contribute to moral education by teaching children about honesty, justice, patience, and respect. In addition to instilling these values, wider Yemeni society often expects families, through religious teachings, to ensure that children develop well-rounded perspectives that enable them to navigate intricate social and ethical dilemmas (Ikhwan et al., 2019).

In reference to this, Participant 3 stated "I believe that the biggest influence on graphic design students comes from the family, because the family is able to plant certain ways of thinking and ideas in their minds when they are growing up."

In Yemen, the family structure is generally characterised by its extended nature, with cultural values, Islamic fundamentalism, and economic factors contributing to

this prevalence (Stevenson, 1997). Yemeni families are typically large, with children residing with their parents, grandparents, and occasionally aunts and uncles. On average, a Yemeni family comprises about 6.7 members (DHS Program, 2013).

Recent statistics from the World Bank (2023) indicate that Yemen's literacy rate is 54%, which, although a significant improvement from the 66% illiteracy rate in 2004, suggests that a substantial number of design students' parents may not have had access to basic education. According to World Vision (2023), ongoing war and factionalism have reversed Yemen's human development by over 20 years. Even before the conflict, Yemen was a poor country, with 47% of its population living in poverty (U.N. Development Program Report, 2014). Currently, an estimated 80% of the population live below the poverty line (Alawadhi, 2024).

In Yemen, families and teachers typically maintain strong relationships, with teachers occasionally visiting students' homes and vice versa. Thus, the demarcation of institutional and familial education is often more intimate than it is in the West. However, in Yemen there is a still considerable lack of understanding about what graphic design is and how it operates, both professionally and socially. This may be partly attributed to design's relatively recent emergence as a discipline.

Because so few Yemeni people have had access to tertiary education, younger children often rely on their older siblings for academic assistance. In my experience, growing up in a close-knit neighbourhood, older individuals pursuing undergraduate studies were expected to teach younger children subjects in which they had excelled. It is still common practice for community members to provide instruction in subjects like Math, English, and Arabic literature. These individuals, known as *austadh* (استاذ) within our communities, maintain close relationships with families, extending their teaching beyond academic subjects to include moral behaviour. Outside of the formal schooling that only a few people can access, free education sessions conducted by *austadh* often take place in Mosques, or on occasions when the Mosques are closed, in spaces where a street light is available. Alternatively, often some community members like me, who gain access the privilege of a higher education, will work with groups of up to ten students in an evening in one of our houses, sharing what we have learned. This folding of learning back into the wider community is an expectation because education is understood as a gift to something more than individual advancement.

Because of tradition, one can still encounter significant differences between family values and the aspirations of higher education. Families can rarely afford to send a child to university, and the new realms that these students navigate can look very different to the ones that have shaped their home and community values. Thus, students can often encounter community resistance. This is because families may question whether certain artworks, such as photographs or statues, might prevent angels from entering the house, or parents may question if it is acceptable for their children to be exposed to explicit artworks from classical schools because they reveal details of the human body. Participant 3 noted the challenges associated with incorporating such artistic elements into graphic design education:

> It can be difficult to ask students to create sculptures of figures like Venus or David, as parents may react negatively to such assignments. The constraints imposed by Islamic values and beliefs can limit the scope of knowledge that can be explored in the classroom. As a result, instructors may choose to display only parts of sculptures, rather than the entire piece, such as showing only the breast of David's sculpture or the head of Venus.

Student-Teacher Relationships

While the family and local community have a significant influence on Yemeni tertiary design education, so too does the relationship developed between students and their teachers. Significant in building an effective environment for *ijtihad* to function are three distinctive features: building trust, students' perceptions of lecturers' experience, and the degree to which teachers demonstrate an openness to questioning.

Trust

In Yemen, the relationship established between families, students, and teachers is crucial for effective education, and trust is a key component of this relationship. Watson (2018) maintains that constant displays of concern and assistance can foster trust, and participants in the study suggest that trust is reinforced through consistent demonstrations of teachers' care and support that reach beyond providing information. Such care includes helping students with personal issues and spending time discussing their interests and aspirations.

Trust is also developed through teachers' dedication to their pupils' achievement. Henschke (2014) argues that students perform better and are more motivated as a result of such dedication. He also suggests that mutual trust builds when students feel free to say what they think and feel, examining new ideas and risking new behaviours in a supportive learning environment. For Yemeni teachers in this study, investing extra time in students' after-school lives (helping them with both personal and academic issues) directly related to the building of trusting educational relationships. Thus, Participant 2 said, "Outside of the university, we talk and create a different informal atmosphere rather than the formal one that is developed by other teachers." Informal teacher support discussed by the teachers included accessing or providing financial aid, finding employment, and dedication to students' personal welfare. Participant 4 illustrated this by her practice of "asking certain people I know for donations to students who are having financial difficulties" and Participants 1, 4, and 6 described spending personal money to purchase equipment for students who were unable to afford materials.

Barnett et al. (2010) suggest that trust is strengthened when educators are seen as transparent, sincere, and committed to their students' welfare. Participants in this study often referred to a teacher's role that is widely accepted in Yemen. Culturally, teachers are respected and trusted, to the extent that they form part of a broader construct of brotherhood that exercises paternal responsibility.[58] Thus, Participant 1 stated, "I treat students as brothers with a friendly manner more than a master and slave ... this friendliness and brotherhood sometimes reaches a level where I invite the newly graduated student to teach." Participant 2 described his relationship with his students as "a colleague and brother." Participant 3 described himself as trying "to be like their father and guide them rather than simply provide information." Participant 4 referred to many students seeking her help by calling her outside of class time, using WhatsApp. As an extension of this close relationship between the teacher and student in Yemeni culture, a number of teachers referred to relationships that extend beyond graduation, either because they help to secure their students' employment (Participants 1 & 4) or they maintain ongoing, appreciative social contact (Participant 6). In the educational process, the relationship between students' trust and teachers' experience is significant. Teachers hold a distinguished place in Yemeni society, to the extent that Salsabila et al. (2022) note that their role of imparting knowledge to others is equated with riches.

Wooten and McCroskey (1996) suggest that teachers who are perceived to be experienced have a greater ability to build trust, because students respond positively to openness and informed responsiveness. In addition, research by Kurnianingsih et al. (2012) suggests that students value experienced educators who they perceive as competent, dependable, and capable of effectively imparting knowledge. These studies align with the opinions of a number of participants in the study, who noted that lecturers are generally chosen by students as project supervisors because of the level of respect students have for their "expertise, monitoring ability, and commitment" (Participant 1).

Adopting a Non-Judgmental Attitude and Openness to Questions

Participants in the study argued that building effective teacher-student relationships was predicated on establishing a secure learning environment wherein teachers adopt a nonjudgmental stance and value the opinions of individuals in their classes. In aspects of Islamic thought, students are encouraged to engage and question as a way of coming to know and understand what they are learning (Al-Jahiz, 776–868 AD; Al-Farabi, d. 950 AD; Al-Ghazali, 1058–111; Samaroo et al., 2013). Henschke (2014) notes that in addition to fostering critical thinking and a greater comprehension of subject matter, engagement in a learning environment that encourages questioning also fosters higher levels of trust. Thus, in the study, teachers recalled, "during lectures, the time to ask questions is always open" (Participant 1), "Questions are encouraged during the lecture, from the beginning to the end" (Participant 2), and "I give students time at the end of a lecture to ask questions" (Participant 5).

In the study, teachers' openness and ability to foster courageous questioning based on professional and personal experience appeared to be valued qualities. Participants believed that by broadening students' comprehension of design, its principles and contexts, by role modelling openness and importing new information, they were more effectively growing "real-world" perspectives (Suryani et al., 2023), and generating more active and engaging student-teacher relationships.

58 In using this term, I am not referring to pejorative use of paternalism to describe "the interference of a state or an individual with another person, against their will, and defended or motivated by a claim that the person interfered with will be better off or protected from harm" (Dworkin, 2020, para. 1). Instead, I use the word in reference to its etymological origin in the Old French paternal, meaning 'of, or behaving in the manner of a father.'

The Nature of Academic Institutions

In a holistic consideration of Yemeni tertiary design education it is useful to consider how participants in the study perceived the nature of the academic institutions in which they work. In the study they discussed the impact of limited resourcing, bureaucratic delays in updating curricula and technology, collaboration between institutions, ethical conflicts related to assessment, and the advantages of cross-institutional teaching.

Restricted Resources

Despite the focus of Appreciative Inquiry on strengths-based analyses and development, it is impossible to ignore the fact that a major obstacle faced by educational institutions in Yemen is the scarcity of resources. This impedes teachers' ability to fulfil the expectations and demands of students and families. This situation may be understood when one considers the impact of the last decade of conflict on the country's educational infrastructure.

Currently Yemen's higher education system is negotiating significant resource issues that include unpaid salaries (Khaled, 2024).[59] Khaled notes that "Academics are struggling to cope with the basic costs of living without regular salary payments, and some have been forced to seek alternative employment not considered commensurate with their educational background and social status" (2024, para. 1). He also notes that,

> Full salaries have not been regularly paid since 2016 in areas under Houthi control and living conditions for professors and lecturers have deteriorated significantly. Some have been evicted from their homes, while others have had lawsuits brought against them by their landlords, or face legal action from debt collectors or even grocery stores where they have outstanding bills. (Khaled, 2024, para. 6)

Khaled's research found that in real terms, the value of tertiary teacher salaries has decreased, due to the depreciation of local currency. He notes, "a professor's salary, equivalent to around US$1,000 at the outset of the conflict, is worth approximately US$140 now. A lecturer's salary, previously valued at around US$350, is now worth around US$45" (2024, para. 6).

Currently, financial challenges to infrastructure in Yemen have interfaced with diminishing enrolment and graduation numbers in tertiary education.[60] In 2022, Aden University's Dean of the College of Education, Dr. Nasser Salem Lajda, noted that declining enrolment levels are "a huge problem faced by education departments in all Yemeni universities." He attributed the decline to families not encouraging their children "to study education for years, only to graduate and not be able to find a job. Even if they do find a job, the salaries are very low" (Al-Raymi, 2022, para. 6). In Khaled's (2024) study of Yemeni tertiary education he noted that, currently, female students generally make up the majority of the student body, "because male students prefer to join military groups, where the salary is double that of a university professor."[61]

In addition to decreasing numbers of students enrolling in tertiary education, research indicates increasingly uneven levels of prior learning. UNICEF's 2022-3 report on education in Yemen noted that students currently engaged in tertiary study have received a primary and secondary schooling from a system marked by

> fragmentation of a nearly collapsing education system [that has] had a profound impact on the learning and overall cognitive and emotional development, and the mental health of all the 10.6 million school-age boys and girls in Yemen. Here structured learning has been hindered by two-thirds of teachers – nearly 172,0000 – who have been irregularly paid since 2016 or have dropped out, seeking other income generation activities. (UNICEF Yemen, 2023, para. 4)

59 Khaled's research into these issues drew on interviews conducted across four public Yemeni universities (Sana'a city, Dhamar, Hudaydah, and Shabwa). In his study he interviewed academics, other university staff, and students. His analysis also drew on articles on higher education from news sites and social media discourses occurring between November 2022 and March 2023. Because Yemeni higher education institutions and the Ministry of Upbringing and Education and Scientific Research do not publish enrolment statistics, data for his study was collected from employees and academics at universities, in an effort to estimate declines in enrolment since the outbreak of the conflict.

60 This decline is evidenced in statical analyses of Sana'a University, Dhamar University, the College of Education at Shabwa University, and the College of Education at Aden University. In 2014, the Arabic Department at Sana'a University had over 300 students. As of 2023, there were only 26 students enrolled across four years (personal communication with a professor at Sana'a University, March 12, 2023). In Dhamar University's Faculty of Arts, for the 2022–2023 academic year, there were 280 students enrolled, compared to more than 1,300 students in 2014-15 (personal communication with a professor at Dhamar University, March 13, 2023). The College of Education at Shabwa University had 200 students enrolled for the 2022-23 academic year, compared to 2,100 in 2014-15, and at Aden University's College of Education, enrolment has fallen from 2,276 students in 2009-10 to 99 students in 2022-23 (Al-Raymi, 2022).

61 The quote is from the author's interview with a professor at Shabwa University, March 16, 2023.

Khaled adds that

> over the past eight years of war, eight classes have graduated from Yemeni universities, and each should have produced tens of thousands of graduates to enter the workforce. Instead, these classes have been miniscule, and many graduates have not been properly taught fundamental skills. (2024, para. 2)

Ongoing financial restrictions have also impacted significantly on the ability of academic institutions to support research development in disciplines (including design). Khaled observes that, across the tertiary education sector,

> research has stopped almost completely; most scholars now view it as an unobtainable luxury as they cannot even put food on the table. In Yemen, peer review and tenure require fees to be paid by scholars, and most are now unable to afford these costs. Sana'a University added an additional hurdle for academics seeking academic promotion in 2022, saying it would only consider research published in scholarly journals listed in the Scopus database, many of which have prohibitively high publication fees. (2024, para. 18)

Participant 2 explained the situation like this: "As the Dean of Graphic Design and Multimedia, I constantly observe how the impact of the war has made it extremely challenging for educational institutions to provide sufficient resources for students." The paucity of funding and inadequate facilities restricts teachers and students' access to advanced technology, software, and materials that are necessary for a comprehensive graphic design education. As a result, students often grapple with outdated equipment and limited library resources that impede their ability to maintain currency with industry developments. This manifests in instances where, although students are able to download current software, it won't function on obsolete institutional hardware (Participant 3).

Bureaucratic Delays in Curriculum Development

Participants in the study discussed their frustration with institutional bureaucracy, especially as it relates to curriculum design and software changes. They often referred to the need to maintain high levels of technological and professional currency. However, when they request curriculum modifications, they frequently find themselves encountering protracted delays. Specifically, Participant 3 stressed the need for institutional bureaucracy to provide more attentive financial support and to

> allocate more insightful budgets to departments so they are able to strategically allocate money that actualises the purchase of programs, updates, and equipment … this equipment includes fundamental teaching tools like computers and stationery, academic reference material, books, electronic libraries, videos, audio books, magazines, pamphlets and periodicals. Inside the university, effective resourcing includes more effective access to printing facilities, and on a national level, it includes access and networking with, and between, other universities.

Ethical Conflicts Related to Assessment

In Yemen, ongoing conflict has impacted on enrolment numbers in higher education programmes, and Khaled notes that, "the humanities in particular are under-enrolled, with many programs only instructing one or two students per department" (2024, para. 17). In addition to concerns surrounding decreasing enrolments and low or absent salaries, Khaled's study notes that "dignity in the workplace came up repeatedly as a factor driving the exodus of educators from universities in Yemen" (2024, para. 11). In illustrating this concern he cited the instance of a lecturer who was allegedly fired from a University post because he refused to inflate students' grades. In a Facebook post the lecturer stated,

> If a university professor is not respected in their work and treated appropriately for the knowledge that they have, then it is a thousand times more honourable for them to stay at home rather than teach. It is morally better to wash the dishes and children's clothes than work with people who do not respect knowledge and studies. (Muammar al-Hakimi, as cited in Khaled, 2024, para. 11)

Collaboration Between Yemeni Design Programmes

It is against this backdrop of difficulty that the teachers in this research project have chosen to maintain a dedicated commitment to developing graphic design education, and within this, strengthening the agency of critical thinking. Although Khaled (2024) observes that the war has made travel difficult and this has had an isolating effect on tertiary educators, he also notes that "some scholars have participated in virtual conferences and in-person

participation that provides networking opportunities and potential for collaboration" (para. 16). In graphic design education, some programmes have organised exhibitions where a diverse audience, including students, lecturers, government officials, families, and professional designers are invited. These events are seen as fostering a holistic educational environment where students can exhibit their work, receive feedback from various stakeholders, and gain exposure to real-world applications of their skills. This collaborative atmosphere, participants believed, encourages networking, inspires innovation, and bridges the gap between academia and industry, providing students with invaluable insights and opportunities.

Building on such initiatives, participants in the study proposed creating design education conferences that may reinforce opportunities for inter-institutional networking. Such events, they suggest, might

> provide students and staff with a national overview and motivate all parties to pursue excellence. As an alternative, we might also have a national award where students submit work and take part in creative, celebratory competitions. (Participant 1)

If well-facilitated, Participant 5 suggested such conference-related exhibitions "can be resourced by workshops or activities that show how constructive questioning rather than giving compliments can lead to higher levels of critical thinking."

Cross-Institutional Teaching

A distinctive feature of the study was the number of participants who split portfolios of teaching between more than one institution. Despite financial limitations, they believe this occurrence enables the sharing of knowledge and best practices across different campuses. In their opinion, this practice results in a more cohesive and enriched educational experience for students and staff. In addition, this flexibility is also seen to function as a form of professional development for lecturers, because they are able to engage with diverse academic cultures and student demographics. Exposure to different institutional infrastructures and populations, the teachers believe, also broadens opportunities to meet with other design educators. As a consequence, they often invite colleagues from different institutions to provide guest lectures or evaluate student projects on presentation days. On such occasions,

> design work is organised in such a way that each student's work is discussed and critiqued in a constructive manner. Other professors, advanced students, or even professional designers may participate in these sessions. I think that this activity helps students to understand the strengths and weaknesses of their work, as well as develop critical thinking and self-evaluation skills. (Participant 4)

Thus, cross-institutional teaching was seen as exposing pupils to diverse approaches and opposing points of view, bringing new perspectives to the assessment process and enabling lecturers to discuss learning and teaching strategies through a consideration of other institutional approaches, standards, and shared insights.

Interfacing with Professional Societies

The fourth context of tertiary graphic design education in Yemen focused on ways in which teaching might interface with professional associations. Participants saw that numerous advantages are provided by these societies, including workshops, inspiration, and networking possibilities. However, the teachers also criticised the associations for placing too little emphasis on critical thinking and for giving service industry perspectives precedence over other design considerations.

Networking and Expansion

These concerns aside, an appreciative consideration of professional societies suggested that relationships built between peers, mentors, and industry leaders have the potential to result in cooperative projects, employment prospects, and the exchange of concepts and materials (Theodosiou et al., 2020). Participant 1 discussed the significance of this when he noted that "Initiating networking with designers can encourage and enrich both creative thinking and criticality." In best practice, it was noted that this enriching of creativity in the sector occurs through professional associations frequently hosting conferences, workshops, and seminars that introduce members to emerging design trends, technologies, and approaches.

Participant 5 believed that while such initiatives are of value, they need to be expanded conceptually so they "emphasise social and educational concerns." He suggested that professional conferences, to be truly effective, need to supplement presentations by guest speakers (professional designers) with opportunities for students to feature

their work alongside these discourses. Such initiatives, he proposed, have the potential to bridge gaps between tertiary graphic design education and the profession, while providing opportunities to challenge students and professional designers with deeper opportunities for astute questioning and critical thinking.

Siu (2003) suggests that such cross-fertilisation is important because a limited, "industry-oriented" focus can restrict designers' capacity for creative and critical problem-solving. Within tertiary education, Cicalò (2020) argues that prioritising industry emphases in graphic design can also marginalise significant but less commercially driven concerns. This issue was noted by Participant 2, who argued that commercially driven concerns can have a detrimental effect on design education because they frequently promote commercially 'successful' aesthetics and values, instead of considering deeper issues such as ethics, design principles, and efficacy.

Participant 6 noted that in Yemen, a carefully reconfigured organisations can be reuilt to collaborate with the Ministry Social Affairs and Labour to establish laws and regulations that protect designers, control design pricing and establish fair standards for the profession and its clients. He saw such organisations serving as potential mediators in conflict between clients and designers [and] as liaising bodies with educational institutions, providing internship opportunities, while becoming involved in defining job descriptions for designers.

Indicative of such change would be the revival of the Yemeni Association of Art and Design that was founded in 2014 by the Yemeni professional design society (a representative from the Yemeni Labor Union), art and design educators, and students. Unfortunately, the association had to cease operations in March 2015 due to the ongoing war, and it remains inactive to this day. However, its agency and potential were valued, and Participant 6 proposed that a reformed Association might usefully play a future role in enhancing students' critical thinking, because "*Ijtihad* requires a context for practising leadership, which the Association would be able to fulfil."

6.3 The Nature of *Ijtihad* in Yemeni Undergraduate Graphic Design Education

The first objective of the study was to establish an understanding of critical thinking within graphic design undergraduate education in Yemen. This necessitated distinguishing Yemeni constructions from Western conceptualisations of critical thinking.

The findings of the study show that, for Yemeni participants, critical thinking is closely aligned with the Islamic understanding of *ijtihad* (Nordin & Surajudeen, 2015). However, there are variations that appear to be shaped by the teachers' cultural context and the nature of graphic design education.

6.3.1 The Evolving Concept of Ijtihad

Traditionally, *ijtihad* referred to the act of exerting oneself in order to develop an independent conclusion on a legal or theological subject. After the Qur'an, the Sunnah, and the consensus (*ijma*), *ijtihad* is regarded as one of the main sources of Islamic law (Kamali, 2002).

During the early Islamic era, when the practice of *ijtihad* first emerged, the Prophet Muhammad's companions were entrusted with rendering legal judgments when there was a lack of clear directive from the Qur'an or Sunnah (Kamali, 1991). This approach developed through subsequent generations of scholars. *Ijtihad* was employed to negotiate novel circumstances and settings, ensuring that Islamic law continued to be applicable and flexible. Consequently, the purpose of *ijtihad* was to strike a balance between upholding fundamental religious precepts and attending to current societal demands.

In contemporary Muslim communities, Malik (2021) suggests that the resurgence of *ijtihad* is necessary to the continued advancement of Islamic jurisprudence, as well as to the promotion of a critical and thoughtful attitude towards Islamic philosophy.

Both Kamali, (1991, 2002) and Malik, (2021) note that increasingly, Muslim teachers who seek to foster critical engagement are reviving the role of *ijtihad* in modern educational settings in an effort to create learning environments that emphasise independent thinking, analysis, effort, and critique. However, this has yet to be applied as a pedagogy in design education in Yemen.

6.3.2 Similarities and Differences

When comparing *ijtihad* and Western concepts of critical thinking, there are discernible similarities and differences. Both understandings embrace analytical and evaluative skills, and the ability to synthesise, reflect, and evaluate information (Ennis, 2011; Facione, 1990; Paul & Elder, 2006a). Both Western and Yemeni understandings embrace

the need to foster independent thinking that can lead to questioning established norms and assumptions (Facione, 1990). This independence is related to developing skills in personal discernment and the growth of critical awareness.

In this study, the teachers understanding of *ijtihad* as a cognitive function shared similarities with the descriptions of Western critical thinking espoused by Halpern (2013) and Sternberg (1986), as a process that enables problem solving, strategy creation, decision making, and the ability to learn new concepts. However, *ijtihad* differs from Willingham's (2007) concept of critical thinking, which emphasises dispassionate reasoning and evidence-based conclusions, drawn from available facts.

Broadly, critical thinking in many Western educational contexts places an emphasis on logical analysis, reasoning, and scientific objectivity (Ennis, 2011). However, Yemeni educators in this study, however, perceived critical thinking as also encompassing effort and personal characteristics such as conscious awareness, intrinsic drive, ethical behaviour, and social responsibility. This may be because Western conceptions of critical thinking tend to separate religious considerations from cognitive processing, placing greater emphasis on secular and objective reasoning (Paul & Elder, 2006b). Conversely, the Yemeni educators in the study placed greater emphasis on ethical and moral reasoning, and on religious obligations that require sensitive navigation within cultural bounds.

Given that Yemen is a Muslim country, it is not surprising to find the participants' framings of *ijtihad* aligning with broader Arabic ideals of the phenomenon, including an appreciation that *ijtihad* is a comprehensive approach which integrates psychological and philosophical thinking, emphasises emotional dimensions, and engages with ethical and moral reasoning and the judicious application of knowledge in order to gain new insights into an existing context. In line with Arabic conceptions, the Yemeni educators also saw *ijtihad* as a process of fostering personal development that guides individuals to act and make decisions with integrity and moral consideration.

These commonalities noted, participants in the study offered diverse opinions about how *ijtihad* might be applied. Traditionally, Islamic *ijtihad* tends to focus on theological and legal scholarship, whereas the Yemeni educators saw it as having practical applications in contemporary graphic design. In this context, they saw *ijtihad* as an approach that included the ability to research, examine, and analyse contemporary design principles from technical, cultural, and social perspectives. They also placed emphasis on intrinsic motivation driven by love and the soul's desire to connect emotionally with the learning process.[62] These qualities may be contrasted with traditional, Islamic understandings of *ijtihad* that are more concerned with the intellectual and ethical dimensions of thinking.

The findings of the study support the proposition that Islamic and Western understandings of critical thinking differ. This finding is not surprising, given that Nordin and Surajudeen's (2015) research also identified differences between the Islamic understanding of critical thinking (*ijtihad*) and Western conceptions. However, the thesis contributes to Nordin and Surajudeen's findings by unpacking specific qualities of critical thinking in the context of Yemeni graphic design education.

6.3.3 The Evolution and Context of Participants' Thinking

In the study the participants' comprehension of critical thinking evolved progressively across the four stages of the inquiry. The teachers' initial understanding of the concept as 'criticism' may have occurred because they were initially unfamiliar with the English term 'critical thinking' or its translation in Arabic. The principle of critical thinking is rarely articulated in Yemeni tertiary education and it is not formally taught. Unfamiliarity and confusion about the definition may also be related to cultural factors. In conservative Yemeni society, regulations limit the practice of open questioning and critical thinking (Muthanna & Karaman, 2014), and such thinking, when discussed, is normally associated with the specific, advanced, scholarly process of making a legal decision by an independent interpretation of legal sources, or "the effort a jurist makes in order to deduce the law, which is not self-evident, from its sources" (Kamali, 1991, p. 405).

As the study progressed, it reinforced findings from previous research that suggest it is very difficult to reach a unified, agreed definition of critical thinking, given its complexity and application across diverse disciplines and cultures (Facione, 1990; Grosser & Lombard, 2008; Madondo, 2018; Schendel, 2016).

When overviewing the inquiry, we see that the concept of critical thinking was shaped by a specific cultural context, a contemporary disciplinary application, and a distinctive environment where limited resourcing and connectivity

62 These ideas are encapsulated in the Arabic concept, 'The love of learning' (حب التعلم).

were exacerbated by conflict. As the teachers progressed their considerations of critical thinking, a pedagogically distinctive form of *ijtihad* surfaced that profiled distinctive features. These included the application of effort (جهد), reflection and examination (التأمل والفحص), learning and understanding before judging an idea (الحكم على فكرة), consciousness (الوعي), intrinsic drive (محرك جوهري), and independent thinking (التفكير المستقل).

6.4 Features of *Ijtihad*

6.4.1 The Application of Effort (*Juhd*, جهد)

In relation to *ijtihad*, effort *(juhd,* جهد *)* refers to the consistent and diligent application of intellectual and analytical skills that foster critical thinking (Halpern, 1998; Kamali, 2002). The concept of effort is integral to *ijtihad* through association with its etymological root (the Arabic *jahada* – to struggle or apply effort). Kamali (1991) notes that *ijtihad* has the same root as the word *jihad,* "but the letter 't' is inserted because the word is a form VIII verb" (p. 405). Both *jihad* and *ijtihad* relate to expended effort. In the case of *ijtihad*, effort describes a "struggle with oneself, through a process of deep thinking" (Kamali, 1991, p. 405).

All participants in the study framed effort as an integral characteristic of *ijtihad* and something that permeates intellectual, philosophical, logical, and aesthetic knowledge, both inside and outside of the university. Across the interviews and *Halakat Elm*, they equated effort with a variety of manifestations. Participant 3 related it to *ijtihad* to the commitment expended to "expand thought, keep pace with developments in the field, apply diligence in developing curricula, vocabulary, and academic content, and developing effective training." He also associated it with the effort one exerts to "gaining knowledge and pursuing independent thought." In a similar manner, Participant 6 saw *ijtihad* as a

> continuous effort expended through research, examination, visual nutrition, exposure to studies, reading, diversification of teaching methods, information delivery, communication and interaction, enriching discussions and exchanging ideas, comprehensive evaluation of theoretical and practical knowledge, updating, and analysing academic principles in design.

Participants 1 and 2 saw effort as a feature of *ijtihad* that is associated with a sustained, positive practice that is reliant on applied determination to address weaknesses, solve problems, and attain better outcomes.

*6.4.2 Tafakur (*تفكر*) and Tadabbur (*تدبر*)*

Interestingly, one participant was able to articulate two elements of what Nordin and Surajudin (2015) describe as *ijtihad*'s modality. Participant 3 stated,

> Islam pushes the person to think, and I often ask my students to think of many verses of Qur'an that command us to think and meditate 'Tafakur and Tadabbur'. We should not take things as a template and use them as they are without thinking.

He associated *tafakkur* with reflecting, examining, active intellectual observation and evaluation that leads to new knowledge and self-understanding. Thus, Participant 3 saw *tafakkur* expanding the Western construct of contemplation to include considering and examining.[63] Conversely, he associated *tadabbur* with a process of learning and understanding that one engages in before passing judgement on an idea, (or a form of cautious deliberation). Abd Rahim et al. propose that the development of tadabbur is an essential aspect of critical thinking because "critical thinking by definition involves reflecting on what is known and how that knowledge is justified" (2019, p. 316). Thus, within design education, we might associate tadabbur with one's ability to demonstrate critical caution while simultaneously showing empathy and an awareness of people's needs, realities, and motivations when evaluating a given situation.

6.4.3 Consciousness (***Alwaey,*** الوعي)

Consciousness (*alwaey*, الوعي) refers to being attentive to one's thoughts and surrounding environment (Faruque, 2024). It is through consciousness that Fenigstein et al. (1975) suggest we are able to achieve self-awareness. To this concept of environmental consciousness, *ijtihad* adds ethical and moral consciousness. Thus, in Islamic understanding, consciousness (الوعي) is a holistic concept that integrates awareness of Allah (تقوى) (Ali & bin Sulam, 2018; Faruque, 2024), self-awareness (نفس) (Chittick, 2010; Faruque, 2024), moral and ethical awareness (Afwa, 2023; Faruque, 2024), social and environmental awareness (Faruque, 2024; Emari et al., 2017) and an appreciation of the spiritual realm (Faruque, 2024). This idea was articulated by Participant 4, who noted, "*Ijtihad* is a characteristic of a conscious person who realises their surroundings. This consciousness embraces the ability to analyse, think deeply, raise questions, and morally correct oneself."

63 As such, we might associate it with Dewey's (1933, 1938) emphasis on reflection within Western learning processes.

Kim and Lee (2019) and R. Smith (2016) have argued that consciousness as a form of self-awareness is significant because it provides a necessary cognitive foundation for critical thinking: it facilitates the integration of information, rational analysis, and evaluation. Without self-awareness, the design process can become an externalised styling exercise where technical and aesthetic problem solving is divorced from deeper levels of introspective, critical reflection.

6.4.4 Intrinsic Drive (Muharik Jawhariu, محرك جوهري)

Intrinsic drive may be described as "having a self-determination to link your feelings with everything you seek and to pursue knowledge and individual betterment" (Participant 5). In association with *ijtihad,* intrinsic drive is more than being motivated. It is a quality that unites love and the soul's desire (*shaghaf alruwh*, شغف الروح) to connect emotionally with the learning process. Thus, intrinsic drive includes the capacity to develop critical thinking abilities but also the necessity to constantly evaluate oneself, while considering one's objectives and accomplishments (Jafari et al., 2015; Facione, 2000).

A number of studies of critical thinking note the necessity of some form of intrinsic motivation (Andriani et al., 2020; Facione, 1990, 2000; León et al., 2015; Nur'azizah et al., 2021; Parejo-Jiménez et al., 2022; Rini et al., 2020). Participants in this study believed that intrinsic drive is resourced by designers' ethical commitments to improving the quality of communities inside which they work (Participants 1, 3, & 4). Thus, participants saw design as inherently motivating *because* it serves a benevolent social function.

I would argue that intrinsic drive is particularly important within the context of a fractured education system, because it is the wellspring of tenacity and resilience.

6.4.5 Independent Thinking (altafkir almustaqilu, التفكير المستقل)

Ijtihad also requires a deep commitment to independent thinking (*altafkir almustaqilu*, التفكير المستقل). This is characterised by the ability to evaluate information objectively and thus form well-reasoned conclusions and make informed decisions.

Most participants in the study discussed the need to find a balance between encouraging critical, independent thinking and upholding respect for Islamic culture and religion. However, it was noted by the teachers that in certain instances, the pursuit of independent thinking can result in cultural tension. Like Muthanna and Karaman (2014), participants noted that Yemeni society is comparatively conservative, and regulations and belief may limit the practice of independent thinking. Across the study, they expressed concern about certain ideologies and their impact (both inside families and wider institutions). Thus, Participant 5 observed that cultural traditions can cause students to develop fixed mindsets, so "asking questions can make them feel that you are criticising them [at the level of belief]." A number of the teachers also acknowledged cultural restraints relating to nudity and religion, yet they saw critically engaged, graphic design education as something that has the potential to lead to individual, societal, and cultural expansion.

In discussing the significance of independent thinking, Participant 4 argued that

> the community should provide a liberal environment for students to discuss and negotiate their ideas, not restrict them to certain ideas or political ideologies [because] the contribution of designers is so important for society and student designers should have the freedom to express their ideas while still respecting the culture and religion of Islam.

6.5 Conditions Necessary for the Effective Development of *Ijtihad*

The teachers in the study suggest that in graphic design education, *ijtihad* requires specific conditions in order to exist. These include an environment that recognises and supports creativity, the encouragement of questioning, the appreciation and integration of practical experience, embracing the Islamic concept of 'thinking from the heart' (*tafkih,* تفقيه), the provision of spaces for meditation, the pursuit of personal development, and a willingness to engage in collaborative processes.

6.5.1 Supported Creativity

A significant body of research suggests correlations between creativity and critical thinking (Bailin, 2002; Bonk & Smith, 1998; Hidayati et al., 2019; Paul & Elder, 2006b; Rosba et al., 2021; Thayer-Bacon, 2000). In this study teachers associated the ability to think critically with the courage to create, or to think outside of the frame (التفكير خارج الصندوق).

Participants emphasised relationships between creative inquiry, experiential learning, and critical questioning. They associated creative processes with exercising imagination and an open mindedness which enables an expansion of thinking and expression.

Participant 3 suggested that an effective environment for design education must encourage thinking creativity *and* critically as a related dynamic. Participant 5 proposed that, to encourage creativity, teachers need to construct learning environments that are not dependent on teacher authorisation, and, along with Participant 1, he suggested that "sharing design solutions can expand the potential for creative ideation." In the Destiny *Halakat Elm,* participants argued that to develop creativity, design briefs needed to be constructed in such a way that they focus students on seeking deeper emotional and psychological connections with what they are exploring.

6.5.2 Encouraging Questioning

Traditional Islamic scholars have argued that the ability to question perceptively is necessary for critical thinking to exist (Al-Farabi, d. 950 AD; Al-Ghazali, 1058–1111; Al-Jahiz, 776–868 AD, Ennis, 1985). This is because perceptive questioning can drive exploration and the validation of new ideas, dismantle unfounded beliefs, and encourage a rigorous examination of evidence and arguments (Lihui et al., 2015).

All participants in the study saw questioning as integral to developing critical thinking in their students, although some noted a degree of caution surrounding how this was approached. Thus, Participant 1 said, "During lectures, the time to ask questions is always open but we don`t talk about the beliefs of either the teacher or the students." This issue of student anxiety around asking questions was seen as a potential limit to the growth of critical thinking (Participant 3).

However, questioning was seen as an active agent in developing critical reflection, and this ability was linked to higher levels of independence and students' ability to make judicious improvements in their design work (Participant 4). As the study progressed, teachers increasingly constructed environments that used questioning to focus analysis, motivate students to find answers within themselves, activate wondering, and stimulate detailed thinking. Increasing the range and frequency of questioning was seen as integral to exercising *ijtihad* because it was believed that students needed to become "self-learners who must … exercise their desire for knowledge that is judiciously fed by resources, repeated questioning, and the need to extract useful information" (Participant 2).

6.5.3 Integrating Meditation

In discussing conditions necessary for the effective development of *ijtihad*, a number of teachers considered the significance of meditation. Meditation may be defined as a "contemplative practice that allows one to develop concentration, to deepen understanding and insight, and to cultivate awareness" (Holland et al., 2017, p. 170). Malik (2021) draws a direct link between meditation and critical thinking, arguing that it helps to clear the mind and enhance mindful focusing (Imamoğlu & Dilek, 2016), which leads to enhanced critical thinking (Chiesa et al., 2011). In addition, Ritchhart and Perkins (2000) suggest that meditation may promote creativity and enhance the transfer of skills and knowledge to new contexts.

Meditation is fundamental to Muslim culture, and prayers are offered five times daily.[64] These prayers include reciting passages from the Qur'an and adopting particular physical positions. Asfar (2005) notes that this technique offers inner serenity and psychological comfort. Sholeh (2017) proposes that Islamic prayer has multiple purposes, including safety, integration, and communication. Prayer also reinforces connectivity because it is believed to foster togetherness and societal cooperation. Prayer constitutes an act of surrendering, being completely still and submitting to the will of Allah in a conscious state of mind. Kugle argues that this state enables one to "uncover the delusion of the ego, and purify the heart" (2021, p. 181).

In Yemeni tertiary institutions, prayer is formally integrated into the daily schedule, with designated spaces on campuses and times set aside for students and staff to engage in the practice. Participants in the study saw prayer as an important way of enabling reflection, refreshment and focus. Thus, Participant 1 stated, "I realise that, if we are to grow *ijtihad* I have to embed meditation breaks because these help students to organise their thoughts" and Participant 5 asserted, "the practice of meditation/prayer … is essential for the person to refresh their emotions and thinking."

6.5.4 Learning Through Experience

Teachers in this study proposed that the experience of learning through practice was fundamental to the development of critical thinking in tertiary design education. Thus, a direct association was drawn between experiencing knowledge through making and the

64 In this discussion I adopt the Islamic association between meditation and prayer.

development of practical and social skills. Malik (2021), Paul and Elder (2008), and Sternberg (1986) all suggest that experience is needed for critical thinking to exist, because it facilitates the successful application of theoretical knowledge and the making of well-informed decisions.

The concept of experiencing and processing critical and creative thinking through practice has a rich discourse in Western tertiary design education, where it is sometimes referred to as 'practice-led' or 'practice-based' inquiry (Candy, 2006; Gray, 1996; Malins & Gray, 2000).[65] More recently it has been described as 'research-enabled practice' (Batty & Zalipour, 2024, p. 3).

Candy (2006) argues that experiential, practice-led inquiry is critically concerned "with the nature of practice [that] leads to new knowledge that has operational significance for that practice" (p. 3), while Gray (1996) argues that practice-led inquiry is critically discerning "research initiated in practice and carried out through practice" (p. 1).

In their consideration of Western tertiary design education, Ho et al. (2013) argue that practice-led inquiry can aid students in developing self-awareness, the critical ability to evaluate the significance and worth of their work, and their creativity. Similar claims have been asserted by Gannon (2022), Falin (2022), Faumunia (2022), Najafi (2023), and Mortesen Steagall (2019). Bolt (2004), Thomas (2018), Hope (2016), and Ventling (2018) all suggest that experience through practice can enhance independent discovery and reflexivity, and Bolt and Barrett (2007) propose that experience in making can enable levels of artistic revelation that other methods are incapable of realising.

In Yemeni tertiary design education, discussions surrounding the role of experiencing learning through practice did not begin to surface until design's formal introduction as a discrete subject in 2002. Since that time, learning and teaching have employed learning 'about' design and learning 'through' designing. Currently, teaching approaches are still often predicated on a transmission system, where lectures provide information, and students listen and seek to understand content and processes. This might be compared to Freire's (1970) description of a 'banking' style of education, where the teacher deposits knowledge and the students passively receive. Currently, in Yemenis graphic design education, what is considered worthy of learning is decided by the teacher rather than revealed through a student experiencing discovery through practice (Sabra, 2022).

This said, the thesis study has identified instances in Yemeni design teachers' practice where practice-led approaches are evident. Participants argued that, in their classes, practice is used by students to make decisions, and it assists in processes of comparison and critical reflection. Teachers noted that experiencing through practice (often resourced by 'visual nutrition') becomes part of a continuous process that integrates examination, research, and analysis (Endut & Wan Abdullah, 2009). Thus, Participant 6 observed that, when *ijtihad* is embedded inside students' experiences of practice, they are able to "analyse content from artistic, cultural and social points of view [and] *ijtihad* functions as a form of critical commitment."

6.5.5 Appreciating Thinking from the Heart (Tafkih)

A significant characteristic of *ijtihad* is engagement with one's feelings. This is sometimes expressed as 'thinking from the heart' (*tafkih,* تفقيه). The Islamic construct of the thinking/feeling heart integrates emotional intelligence and intuition with rational analysis (Malik, 2021; Nordin & Surajudeen, 2015). While the idea that feeling can generate thought may appear distinctive to non-Islamic theories of learning, in the last decade, it is significant that some Western studies also consider its agency (Gasparini, 2015; Senova, 2017).

In Islamic thought, the heart is integral to insight and understanding. The Qur'an emphasises its importance in reasoning:

> Have these people [of Mecca] not travelled through the land with hearts to understand and ears to hear? It is not people's eyes that are blind, but their hearts within their breasts. (*The Qur'an*, 2004, Surah Al-Hajj 22:46)

This verse highlights the fact that true blindness, rather than being the physical absence of sight, relates to a loss of insight and understanding in the heart.

Abdullah et al. (2021) argues that the heart's ability to understand and reflect truth is influenced by its purity and spiritual state. Thus, the heart is understood as necessary for truth perception and introspection. Islamic thought relies heavily on this integrative method of understanding because

65 Thomas (2018) notes that terms like practice research, practice-based, practice-led, practice-as-research, arts-based, research-creation, and artistic research are all currently in use in art and design practices, including music, dance, and creative writing.

it recognises that, in addition to reason, human cognition is influenced by emotional and spiritual factors.

The concept of the thinking heart was extensively studied in the writings of the Islamic philosopher and theologians including Al-Jahiz (776–868 AD) and Al-Ghazali (1058–1111 AD). In his seminal text *Ihya Ulum al-Din* (*The Revival of Religious Sciences*) Al-Ghazali expounded upon the significance of the heart in spiritual and cognitive functioning. In this work he asserted that inner sight and comprehension, which are necessary for genuine knowledge and a relationship with the divine, are found in the heart.

In contrast to much Western design discourse, which frequently places emphasis on factual data and logical analysis, Islamic principles relate to the concept of *Qulbun Ya'aqiloon* (the heart understands). *Qulbun Ya'aqiloon* proposes that "the Heart can Think, the Heart can Reason, the Heart can learn wisdom, and the Heart can understand or comprehend" (Syed, 2012, para. 6).

The relationship between the heart that understands and critical thinking was expressed by Participant 5, who defined *ijtihad* as "having a self-desire to link your feelings with everything you seek using love to achieve a goal."

The principle of the thinking heart permeates approaches to design education developed across the three *Halakat Elm*. Although the thinking heart (*tafkih,* تفقيه) is not explicitly worded in the final definition of *ijtihad* created by the teachers (see 5.3.2), it may be argued that it is inherent and encapsulated in the idea of 'cultural perspectives.'

6.5.6 Pursuing Personal Development

In the study, many of the practices participants described focused on personal development. These can be associated with both the tenets of *ijtihad* and certain learner-centred approaches. In particular there was a discernible resonance between the Yemeni teachers' thinking and the metagogy model developed by Strohschen and Elazier (2009) and McCaslin and Scott (2012). This model of adult, collaborative learning is significant, because unlike Andragogy (Knowles, 1968), it places emphasis on "the creativity, spirituality and the empowerment of an individual and their community" (McCaslin & Scott, 2012, p. 10).

This dual emphasis on the spiritual and responsibility to one's community is remarkable in its correlation with aspects of Islamic understanding of education (discussed in 6.5). In Strohschen and Elazier's (2009) metagogical model, while an adult learner is understood as independent, their growth is acknowledged as dependent on (and responsible to) relationships with the teacher and community of which they are part. In this model, an individual is also understood as having intellectual, personal, social, and ethical dimensions. These dimensions draw on qualties like intrinsic passion and inspiration in the pursuit of self-transformation (McCaslin & Scott, 2012). Thus, in a metagogical model, adult learning is closely associated with personal development and relationships between the self and the spirit, and the self and the wider community, that are fundamental to both *ijtihad* and wider Islamic thinking.

Ijtihad proposes the value of personal development in line with the fostering of cognitive criticality, social responsibility, and spiritual refinement. Personal development includes increasing willingness to expend effort (discussed in 6.4.1), the growth of self-awareness or consciousness (discussed in 6.4.3), increasing levels of intrinsic drive (discussed in 6.4.4), the propensity to think in independent ways (discussed in 6.4.5), the development of *tafkih* (the ability to think with the heart) (discussed in 6.5.5), the growth of self-confidence, and willingness to engage in competition.

Self-Confidence

Learner-centred pedagogies are widely discussed in Islamic education (Abdullah, 1995; Ghazali, 2001; Nanji, 1991; Tan & Abbas, 2009), and, internationally, they are often associated with building students' confidence (Altinyelken, 2010; Bremner et al., 2022; Le, 2018; Niesz & Ryan, 2018; Roberts et al., 2015). This recognition was evident among the participants in this study, who associated their students' confidence with enhanced intrinsic motivation and increased levels of engagement.

The association between learner-centred pedagogies and increasing self-confidence is noted in a number of international studies that discuss student's propensities to take risks. Burner et al. (2017) cites an example in Iraqi Kurdistan, where, with increased self-confidence (as a consequence of engaging with learner-centred approaches) students took more 'risks' in the classroom, increasing the number of questions they asked, and they were able to discuss and answer questions without fear of being wrong. A study in Palestine by Al-Ramahi and Davies (2002) also noted a correlation between learner-centred pedagogies, self-confidence, and risk taking. These qualities, the researchers argued, were evidenced in students no longer being scared to

speak to their teachers. One teacher in this study described their students' personalities as having become stronger, noting that they were more willing to express their opinions and feelings.

In addition to increased risk taking, participants in this thesis study drew associations between students' self-confidence and curiosity. Literature suggests that curiosity plays an essential role in developing critical thinking, because it drives the quest for knowledge and deeper understanding (Stern, 2018; Thistlethwaite et al., 2012; Yoo et al., 2010). As a consequence, curiosity, being a personal attribute, requires a teaching dynamic that reaches beyond the potentials of transmission pedagogies. Studies show that students and teachers who possess a high degree of curiosity are more likely to use critical thinking skills because curiosity encourages them to challenge presumptions and consider different viewpoints (Bailin et al., 1999; Nurdiana et al., 2023; Permanawati et al., 2018).

Competition (Musabaqa, مسابقة)

In discussing practices that teachers used to enhance personal development, it is useful to consider an issue raised in the *Halakt Elm* that has distinctive roots within Yemeni culture. This is the idea that competition in life is a positive quality, and, within educational settings, one's personal development may be enhanced by engaging with it.

In broad terms, competition between students is often seen as incompatible with Western learner-centred pedagogies, where an emphasis is placed on collaboration and participation (Haddad et al., 1990; Munson, 2020). Indeed Knowles (1980) has argued that building "relationships of mutual trust and helpfulness among the learners [relies on] encouraging cooperative activities and refraining from inducing competitiveness" (p. 57).

However, such attitudes can be problematic if proponents of learner-centred pedagogies fail to comprehend cultural nuance when suggesting universal values. An increasing number of studies have examined the application of learner-centred pedagogies in low- and middle-income countries (Bremner et al., 2022); and among these, Guthrie (2021) has noted diverse examples of unsuccessful implementation, especially when assumptions are made about what constitutes learner-centred values in Western education systems, and these are uncritically translated into other countries, especially where there are deferring cultural expectations (Bremner et al., 2022; Schweisfurth, 2011).[66]

Although studies have asserted that the use of extrinsic reward in education needs to be carefully considered because competition can decrease internal motivation (Cameron et al., 2005; Deci et al., 1999; Houlfort et al., 2022), research conducted by Hill (2002) and Othman et al. (2015) suggests positive influences of competitive activities in the classroom on students' critical thinking. As an example of such competition, they describe the technique of competitive debating, which involves argumentation, reasoning, questioning, and explanation.

In Yemeni and Islamic cultures, academic excellence and personal development are often assisted by competition in the classroom. The Islamic concept of competition may be explained in reference to a Qur'anic verse that describes the blessings of paradise in relation to the pure and uncontaminated drink that will be offered to the righteous:

> its seal [perfumed with] a fragrant herb (musk, مسك)—let those who strive, strive for this. (*The Qur'an,* 2004, Surah al-Mutaffifin 83:26)

The term "seal" (ختم) signifies attained perfection of high quality, and the fragrant herb (musk, مسك) represents the most delightful scent, indicating that the blessings in paradise surpass anything that one can imagine on Earth.[67] In Islamic thought, competition is against circumstances rather than other people, so that at that at the end of our lives we have risen through adversity and temptation and to attain a better self.

Classical Islamic scholars like Ibn Kathir (1300-1373 AD) and Al-Tabari (839-923 AD) explain in their Qur'an *tafseer* (exegeses) that this verse emphasises the supreme quality and divine origin of the rewards in the afterlife. The verse encourages believers to strive in their faith and righteous deeds, because the rewards of paradise are worth an abiding commitment to effort.

In the Yemeni educational context, competition among students is associated with motivating and encouraging a commitment to academic excellence. The Qur'anic verse's emphasis on competing for the highest and purest rewards can be translated as having a focus, less on winning or achieving the highest grades, and more on striving for personal excellence, integrity, and character development.

66 These researchers also note that a lack of understanding of cultural context can be exacerbated by additional obstacles, including scarcity of resources and low numbers of qualified teachers.

67 The Islamic concept of paradise (which is beyond comprehension), is associated with rewards based on how individuals conduct themselves during their lives.

Yemeni educators in this study saw themselves as having an obligation to guide students to understand that the true value of competition lies in gaining accolades *and* in the personal growth, learning, and ethical development that results from sustained effort. Thus, their discussions embraced both competition as both intrinsic drive (محرك جوهري), and constructive, extrinsic rivalry with others who are also pursuing excellence.

In the study, Participants 1 and 6 stressed that intrinsic and extrinsic competition can promote critical thinking because they motivate students to perform at their best and this motivation provides energy for solving problems. While competition can take the extrinsic form of teachers sometimes rewarding students with extra marks where they have excelled in progress or understanding [Participants 3 and 6], in the *Halakt Elm* we also encounter examples of teachers dividing students into teams, with each team competing against the other in an effort to increase understanding of a topic under consideration [Participant 6].

In Yemeni education, competition is designed to cultivate values like collaboration, perseverance, integrity, teamwork, honesty, and the application of knowledge in ways that benefit others, rather than focusing solely on the outcome of individual winning. This form of competition encourages students to pursue their best selves, both academically and morally.

6.5.7 Engaging in Collaborative Processes

Finally, in considering conditions necessary for the effective development of *ijtihad* in Yemeni graphic design education, it is useful to consider the nature of collaboration. Bailin et al. (1999), Bonk and Smith (1998), Heyman (2008), Nelson (1994), Paul and Elder (1992), and Thayer-Bacon (2000) all argue that fostering critical thinking requires collaborative or cooperative processes. Participants in the study believed that increased levels of collaborative engagement were necessary for the effective development of *ijtihad* in Yemeni design education, and, in relation to this, they discussed a range of practices including peer learning, class discussion, and the development of collaborative groups and communities.

Peer Learning

Tseng et al. (2010) argue that peer learning is integral to promoting students' critical thinking through practices like group discussions (with a view to multiple solutions) and team-based challenges that encourage participation and collaborative problem-solving.

In this study, Participants 1 and 6 discussed the value of peer learning through practices that included inviting students to "actively educate themselves and learn from the experiences of their peers" and "encouraging them to have deep, critical discussions with their peers" (Participant 1).

Class Discussion

Participants 1, 3, 4, 5, and 6 acknowledged that discussion as a collaborative process is integral to fostering *ijtihad*. Participant 1 facilitated this by organising his "classroom into circles. Here, the students moved their chairs, grouping and regrouping for discussions." Kadi, in his (2006) study of education in Islam noted similar arrangements in classrooms outside of the design discipline. Participant 5 discussed a related approach to configuration where he arranged students into U shaped groups so they were more able to "discuss freely."[68]

Discussion that extends critical thinking was also associated with freedom (Participant 3) and the ability to reach beyond indoctrination and authority-based learning (Participant 4).[69] Collaborative environments where students critically discuss ideas were mentioned by a number of the teachers, including Participant 3, who discussed arranging students with different views into opposing groups and having them debate the merits of their positions, and Participant 5, who asked students to work in pairs to explain and debate the merits of photographs they had taken.

Collaborative Groups and Communities

The association between critical thinking and collaborative learning was explored extensively by Nelson (1994). Nelson proposed that, in addition to students being exposed to challenging issues and conceptual frameworks, group projects should be organised with roles which motivate high levels of collaborative contribution. This collaboration might take various forms, including the creation of discourse communities. The concept of discourse communities in developing critical thinking among students was discussed by Participants 3, 5, and 6, all of whom increasingly encouraged collaborative group work because they believed that it enables higher levels of discovery and deeper critique of ideas.

68 Similar classroom arrangements were mentioned in Knowles (1984).
69 These arguments align with both Freire (1970/2007) and Knowles (1980, 1984).

If we consider Nelson's (1994) argued association between critical thinking and collaborative learning, Dewey's (1916, 1936, 1938) conception of schools as democratic communities where learning is associated with working collaboratively, and Strohschen and Elazier's (2020) metalogical concept of teachers and students working collaboratively to find appropriate approaches, we can discern a number of frequently discussed requirements that participants in the study associate with the effective development of critical thinking in Yemeni tertiary design education. These include the willingness to share learning and expertise, the generation of mutual trust that supports open discussion, the acknowledgement and nurturing of personal attributes, and concerns with ethical beaviour, attitudes, and cultural values.

6.5.8 Overview

Participants collectively defined *ijtihad* (in the context of Yemeni tertiary design education), as:

> researching, examining and analysing principles in design from technical, cultural, and social perspectives. This involves comparing, thinking rationally, behaving morally and asking specific questions in the pursuit of effective connection. Such a pursuit involves the inclusion of psychology, visual nutrition, and philosophy. *Ijtihad* also involves a process of correction and distinguishing between different ideas and concepts. This leads to students being able evaluate ideas systematically and logically based on specific criteria, methodologies and relevant studies. This analysis leads to the development and transfer knowledge and experience via the use of practice supported by an inquiry teaching approach that open students' minds to different possibilities, that changes the way they think and encourages them to think about 'how' they think.

Participants associated *ijtihad* with the application of effort and the ability to apply discerning analysis to new situations. *Ijtihad* was discussed as a form of critically conscious awareness and an independent desire to seek insight that involves rational and comparative analysis. This association aligns with findings from studies by other Muslim scholars (Ahmad et al., 2017; Endut & Wan Abdullah, 2009; Nordin & Surajudeen, 2015; Nurullah, 2006; Rosnani & Suhailah, 2003). However, *ijtihad* was also considered a moral behaviour that, when integrated into the critical thinking process, incorporates ethical and social considerations. This insight has been noted in studies by Endut (2013) and Endut and Wan Abdullah (2009). The connection between critical thinking and moral behaviour is understandable when one appreciates that *ijtihad* is located inside an Islamic epistemological context (Endut & Wan Abdullah, 2009). Accordingly, while *ijtihad* has similarities to Western framings of critical thinking, including features related to defining problems, examining evidence, analysing assumptions, and avoiding oversimplification (Endut & Wan Abdullah, 2009; Sabra, 2022), it also emphasises spiritual, epistemological, emotional, and ethical aspects of critical thinking.

Although an agreed description of *ijtihad* was developed by the teachers, they appreciated that the word is nuanced and they emphasised that *ijtihad* may have varying emphases in different contexts (both now and in the future).

Participants believed that inculcating *ijtihad* as a principle in their programmes will give rise to more interactive approaches to learning and teaching, but it will also necessitate restructuring classroom and institutional approaches to accommodate greater emphasis on discussion, reflection, questioning, and the exploration of ideas.

6.6 A Proposed Approach to Developing *Ijtihad* across a Design Process

In the third (Destiny) *Halakat Elm* the participants in the thesis study integrated their shared understandings of *ijtihad* to develop a generic design process that might be adapted across diverse institutions (see Figure 6.2). They believed that such an approach might encourage a more thoughtful, ethical, and personalised strategy that would result in student solutions that were more critically considered, meaningful, and situationally appropriate.

In discussing their approach I will focus on each of the six phases of the process:

Phase one: Writing and discussing a brief

Phase two: Conducting research

Phase three: Conceptualisation

Phase four: Designing solutions

Phase five: Soliciting feedback

Phase six: Design delivery

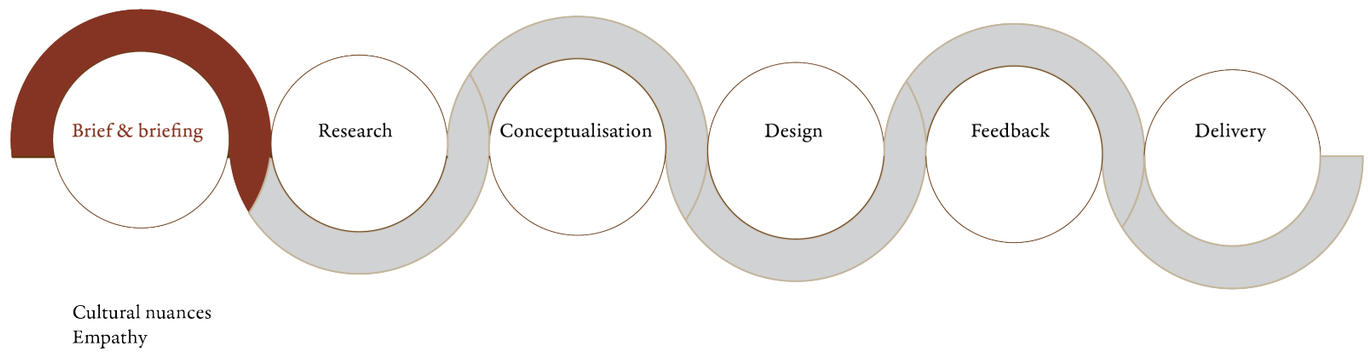

Figure 6.2 The participants' generic design process showing principles relating to the creation of a design brief.

6.6.1 Phase 1: Writing and discussing a brief

In comparison to existing practice where the design process is more transactional, the teachers' *ijtihad*-influenced approach need to encourage a deeper investigation of the brief, including an exploration of the project's cultural nuances and potential for developing empathy.

Cultural Nuances

Cultural nuance refers to intricate variations in ideologies, ethics, customs, and social conventions that exist between different cultural groups (Hall, 1976). Given that tertiary graphic design education was largely developed in the West, the participants saw it as important that Yemeni students are self-reflexive and consider their culture when engaging with a design brief. In this regard, a design brief and its subsequent 'briefing process' were seen as more than reading

"a document that outlines the core details and expectations of a design project for a brand [and] sets the tone for a successful design project by outlining the goals, quality, and deliverables." (Asana, 2024, para. 1). Instead, both the design of a brief and the student briefing were framed as intellectual, creative, cultural (and sometimes technological) undertakings, based on rigorous thinking and discussion. Participants proposed that such discussion might be in groups or a knowledge circle, where the emphasis would be on sharing insights, knowledge, and opinions.[70]

The teachers felt that an *ijtihad*-influenced approach that emphasises critical engagement and cultural sensitivity would help students from the outset to move beyond receiving a brief as a task with a set of guidelines, because they would be critically unpacking it as an activity, exploring cultural dimensions that might resource their solution with cultural insight.

In a briefing, participants recommended that students investigate, scrutinise, and evaluate design principles and requirements from diverse perspectives (Sabra, 2022). To ensure cultural contexts are considered and design principles are relevant, they would be encouraged to discuss the cultural values and knowledge that have shaped the brief.[71] A carefully constructed brief and its accompanying briefing would support students to exercise independent thinking (التفكير المستقل). It is within this balance that they would find ways of giving voice to ideas in culturally respectful but innovative ways (Participant 4).

70 The participants' emphasis on cultural nuance at the outset of an ijtihad-influenced design process is significant when we note that studies by Grosser and Lombard (2008), Madondo (2018), and Schendel (2016) all highlight the relationship between culture and critical thinking.

71 Thus, Participant 3 asserted, "An independent thinker who exercises ijtihad must have culture and extensive knowledge."

Empathy

As an extension of appreciating cultural nuances, a briefing would also involve the establishment of empathy. An *ijtihad*-inspired approach to a design briefing would be guided by the concept of *tadabbur* (تدبر) (learning and understanding before judging an idea). Thus, emphasis would be placed on contextual understandings in a space of reserved judgement. Here discussion would guide students to empathise with both the context of the brief and its potential outcomes. This approach would help them to explore beyond surface-level understandings and promote a design orientation that considers the situation that gave rise to a problem and the people for whom the design solution is intended (Gasparini, 2015).

Although Brown (2009) notes that empathy is the foundation of human-centered design, in a *ijtihad*-inspired approach, student designers would, from the outset, be seeking an empathetic relationship with the context of the problem..

Accordingly, a briefing would seek to engage deep emotional and psychological connection with the design project's goals. This connection would involve discussing the emotional responses the design is meant to evoke and considering psychological factors that might impact on how users interact with a potential design. An approach influenced by *ijtihad* would encourage designers to explore these empathetic and psychological aspects early in the design process. This deeper, early connection with the project relates to the diligent application of intellectual and analytical skills that Halpern (1998) and Kamali (2002) suggest are integral to the fostering of critical thinking.

6.6.2 Phase 2: Conducting Research

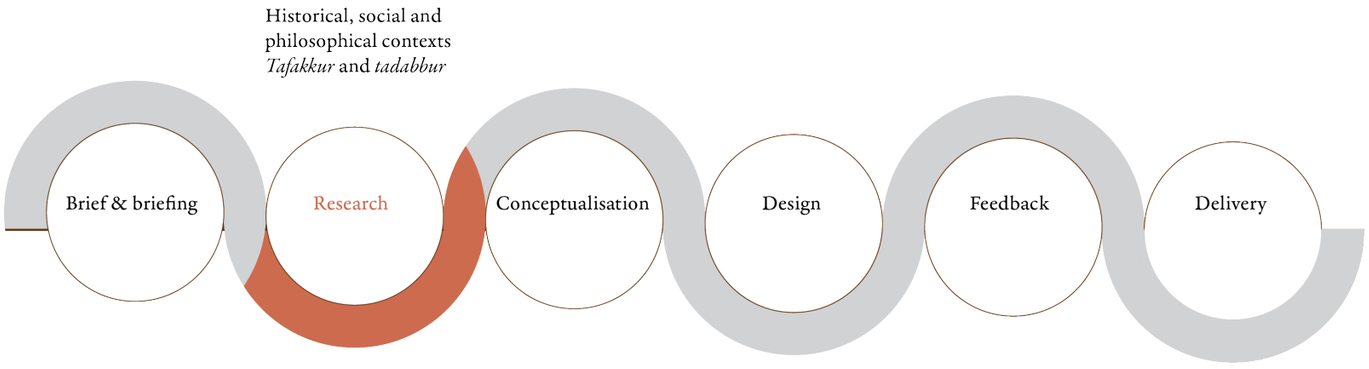

Figure 6.3 The participants' generic design process showing principles relating to researching a design problem.

Although in figure 6.3, research is positioned in a linear sequence and it precedes conceptualisation and design, it also permeates them. In an *ijtihad* approach, gathering knowledge would not terminate when the student begins to solve a design problem through practice. As Julian Klein notes in his discussion of artistic inquiry, research occurs:

> first, in the methods (such as search, archive, collection, interpretation and explanation, modeling, experimentation, intervention, petition … but also in the motivation, inspiration, in reflection, discussion, in the formulation of research questions, in conception and composition, in the implementation, in the publication, in the evaluation, and in the manner of discourse. (Klein, 2017, para. 14)

Given that *ijtihad* enables individuals to think critically and interpret what they encounter in an Islamic context, when applied to the process of researching, graphic design students would be required to apply mental and physical effort (Rabb, 2009) to independent thinking that includes an analysis of "literature … personal experiences and practice [that] offer fresh perspectives that challenge and expand the existing corpus of knowledge" (Batty & Zalipour, 2024, para. 17).

Shaping research in an *ijtihad* influenced design process would involve two considerations: understanding the brief's historical, social, and philosophical contexts; and applying the principles of *tafakkur* and *tadabbur*.

Historical, Social and Philosophical Contexts

Understanding customs and occurrences that have influenced the present-day setting of a design problem is necessary in order to gain insight into how historical and cultural legacies have shaped contemporary needs and preferences. In the context of *ijtihad*, having a thorough understanding of the past enables designers to produce work that addresses modern issues while respecting tradition, and assist in building on prior successes and preventing mistakes from being repeated.

In addition to historical and social contexts, philosophical foundations play an important role because they can shape the ethical and conceptual framework of a design

(*Buchanan, 2001)*. Philosophical inquiry encourages designers to think critically about the broader implications of their work and to consider how their designs align with or challenge existing moral and ethical norms.[72] This idea is rooted in the Islamic pedagogy *al-hikmah* (Hashim, 2017; Hashim & Alias, 2020; Zulkifli et al., 2020).[73]

Tafakkur and *Tadabbur*

Participant 6 observed that, when considered in the context of graphic design education, *ijtihad* can describe "a continuous research, examination, visual nutrition, exposure to studies, reading … the exchange of ideas, comprehensive evaluation of knowledge, and a constant updating, and analysis of principles in design." His consideration is significant because he notes that, in Islamic thought, research is not necessarily singular. It involves more than tracking down information. Research is also associated with sharing (often in knowledge circles). Here research is a contribution to greater understanding that is processed through questioning, analysis, and reflection. Thus, research develops inside a discursive, analytical community of thinkers. Within this concept, active intellectual observation and evaluation leads to new knowledge and self-understanding [*tafakkur* (تفكر)], and learning and comprehension occurs in intellectually considered environments that are predicated on suspending early judgement [*tadabbur* (تدبر)]. Because of this, researching a design problem is reliant on knowledge charity [*sadakat al elm* (صدقة العلم)], discussion, and collaborative (rather than singular) processing.

72 Participants 1, 3, and 6 all described philosophical discussions with their students. Participant 1 often referred to Islamic aesthetics and values relating to the philosophical and inner beauty of things. Participant 3, in his initial interview, stated, "I often discuss philosophical and aesthetic thinking with my students," and Participant 6 noted, "In my classes I consider the philosophical implications of a design."

73 Al-hikmah is an Islamic approach to learning and teaching that emphasises the application of wisdom, understanding, philosophy, rationale thinking, and underlying reason.

6.6.3 Phase 3: Conceptualisation

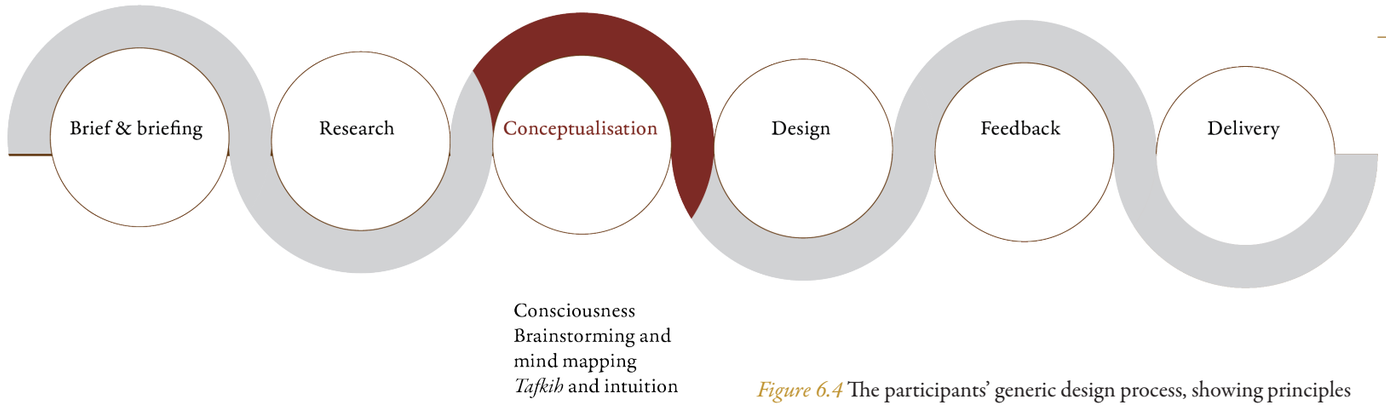

Figure 6.4 The participants' generic design process, showing principles relating to conceptualising a design solution.

Conceptualisation refers to an early phase of the design process where one considers the potentials of ideas. Conceptualisation also involves an appreciation of people's needs and how they might be met with products, services, and processes (Purdue University, n.d.).

Consciousness

Within an *ijtihad*-influenced approach, conceptualisation relates to consciousness (الوعي), or being attentive to one's thoughts in a way that integrates awareness of Allah (*taqwa*, تقوى), self- awareness (*nafs*, نفس), and moral, ethical, spiritual, and social awareness (Faruque, 2024). This consciousness is not limited to rational cognition and logic. It also relates to the ability to resource ideation with feelings and 'knowing' through thinking with the heart (*tafkih,* تفقيه). Thinking with the heart integrates emotional intelligence, intuition, and rational analysis (Malik, 2021; Nordin & Surajudeen, 2015), and it embraces 'emotional knowing' as a crucial part of the creative process. The participants' belief is that when students conceptualise and develop design solutions through 'knowing with the heart' they may be able to make conscious choices that speak to people in empathetic ways.

Brainstorming and Mind Mapping

Procedurally, conceptualisation is often associated with concept sketching and model generation, and these approaches may be supported by ideation methods like brainstorming and mind mapping. Most of the teachers in the study employed these techniques. Brainstorming is broadly concerned with generating divergent and convergent thinking without judgement before a process of reviewing and reevaluating is embarked upon (Furnham, 2000).[74] This method is sometimes used in conjunction with mind mapping, a collaborative process that involves a group or people creating diagrams to visually organise information into hierarchies and suggest relationships between pieces within the whole (Hopper, 2007).

Tafkih and Intuition

In both the conceptualisation and design phases of an *ijtihad*-influenced approach, *tafkih,* (thinking with the heart) may be aligned with emotional effort (جهد عاطفي). Participant 2 drew correlations between these ideas when he noted that thinking in the design process is both "mental and emotional and it arises from an effort made to acquire knowledge rather than just receive it."

Thinking with the heart elevates the value of intuition (or the innate inclinations that guide decision-making when generating inventive ideas). During conceptualisation, intuition may assist designers to explore unconventional solutions that might not surface inside a more structured mindset.

An *ijtihad*-influenced approach to conceptualisation elevates tacit or implicit knowing (as opposed to formalised or explicit knowledge). Such knowing originates from a designer's experiences and unique perspectives. In contrast to methods that rely heavily on explicit knowledge, an insight-driven, heart-felt approach associated with feeling 'rightness' can enable designers to reach beyond the formulaic and expected and explore novel possibilities.

It is interesting to note that in recent literature associated with Indigenous approaches to design (specifically those associated with New Zealand and Pacific scholarship), the concept of thinking with the heart and the pursuit of 'intuitive rightness' have become increasingly theorised. The Māori scholar Toiroa Williams describes feeling his way through design problems using an "inexplicit, a sense of 'rightness', a sense of 'knowing' when to respectfully circumvent discordance" (2024, p. 33). Tangaroa Paora describes this approach as feeling "the inherent kupu (rightness) of what is emerging" (2023, p. 64), and Samoan and Tongan scholar-designers relate knowing with the heart to *mafana* (gravitating towards the warmth of rightness) (Faumuina, 2022; Ete, 2021; Toluta'u, 2015).

Among the Yemeni teachers, it is believed that a focus on personal insight and a 'heart felt' sense of 'rightness' can foster a more expansive thinking process that may result in the generation of creative ideas that are not only innovative but also more personally connected with the student designer's sensibilities and values.

74 Gladwell (2010) suggests that rapid, seemingly instinctual decisions based on quick thinking and accrued knowledge can frequently be as effective as deliberation and analysis. The approach of withholding judgement while a diverse range of options are considered resonates with the principle of tadabbur (تدبر)—thinking about ideas while suspending early judgement.

6.6.4 Phase 4: Designing Solutions

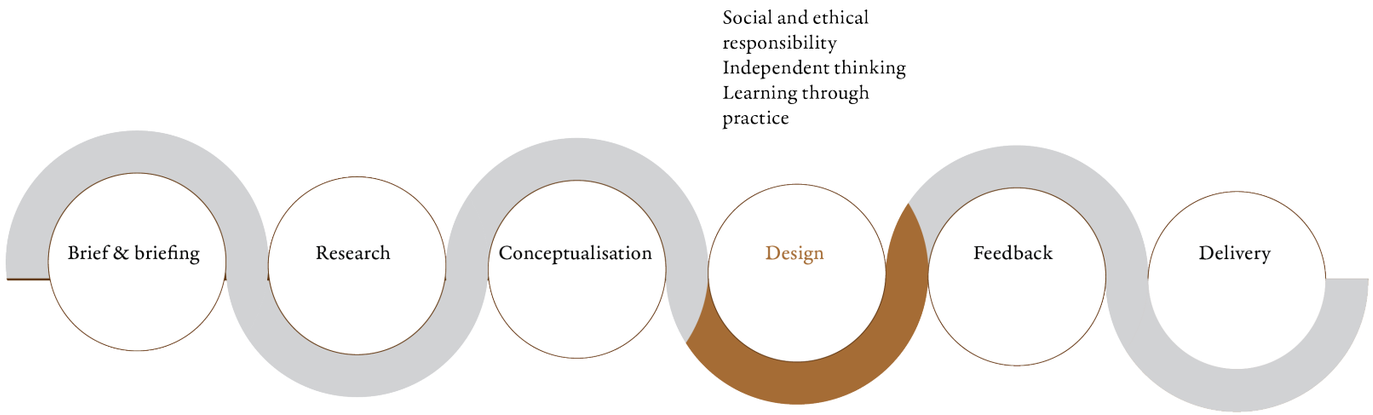

Figure 6.5 The participants' process, showing principles relating to design development.

The fourth phase of the proposed approach to developing *ijtihad* across a design process concerns the development and resolution of a student's design. Impacting on this phase are three ideas: a consideration of the designers' social and ethical responsibilities; the exercising of independent thought; and the process of learning through practice.

Social and Ethical Responsibility

According to Niedderer et al. (2017), design has a profound impact on society, and designers have a moral obligation to use their skills to improve the human condition. Among the participants there was a strong sense that designers are required to actively practice social responsibility (see 6.2.2). This obligation, they believed, involves addressing issues like sustainability, social justice, and community well-being. An approach influenced by *ijtihad* would urge designers to look beyond the immediate needs of their clients and to consider how their work will affect various stakeholders, including marginalised groups and future generations. This thinking resonates somewhat with Western concepts of 'socially responsible' design that aim to minimise harm, contribute to improving human well-being and livelihood, and promote ethical practices (Holm, 2006).

Because an *ijtihad*-influenced approach to design education sees responsibility as both a social and moral commitment, teaching it will necessitate a consideration of diverse perspectives and discussions related to proposed approaches and solutions. This will include an integrated consideration of ethics that Endut and Wan Abdullah (2009) argue is

fundamental to *ijtihad*.[75] The Yemeni teachers believed that designers must ensure that their work aligns with ethical principles like honesty, fairness, and respect for human rights. This includes ensuring transparency in the design process, respecting the rights and dignity of individuals involved, and avoiding designs that may cause harm. As Atak and Şık (2019) note, ethical design involves making responsible choices that reflect the designer's commitment to doing what is right, even when it may not be the most convenient or profitable option.[76]

Rather than social and ethical responsibility being taught as discrete subjects (or abstractions), in an *ijtihad*-influenced approach, the teachers saw these values having their deepest learning potential inside students' practice. Growing and critically thinking about these responsibilities will be linked to discussion about work in progress and (where available) to related visual resourcing, such as parallel ideas developed in national or international campaigns. This means that, instead of simply supplying a brief prefaced by a lecture, an *ijtihad*-influenced approach would involve an ongoing discourse with emerging student solutions and critical discussions about outcomes from each project.

75 It is interesting that, in Western discourse, Schön (2017) proposes that reflective practice can enable designers to critically evaluate their interpretations and decisions to ensure that they align with ethical and cultural standards.

76 In line with this, we encounter Participant 4 discussing challenges that she brings to her classes. She says, "I might ask students to identify design elements that could be considered misleading, unethical, or capable of perpetuating negative stereotypes. Students can also explore alternative approaches and potential enhancements that might make the design more effective or ethical."

Independent Thinking (التفكير المستقل)

As already established in the study, in Yemen there can sometimes be a tension between what is considered ethical or socially responsible design and the pursuit of independent thinking (see 6.4.5). In an *ijtihad*-influenced approach, rather than polarising this tension, the dichotomy would be embraced through ongoing discussions that become most active during the conceptualisation, designing, and feedback phases of the process. This engagement is important, because embracing tensions between independent thought and respect for traditional framings of culture permeate both tertiary education and the wider world through which students will have to navigate their personal and professional futures (Muthanna & Karaman, 2014). Although Participant 1 said "In the end, there are specific things that no one can cross," independent thought is a significant catalyst for discovery, creativity, and critical thinking (Bailin, 2002; Bonk & Smith, 1998; Ennis, 1985; Facione, 1990; Halpern, 1998; Hidayati et al., 2019; Paul & Elder, 2006b; Rosba et al., 2021; Thayer-Bacon, 2000). Without it being exercised with a degree of courage, design education will be unable to elevate itself above the facilitation of skills training and rudimentary service provision.

In an *ijtihad*-influenced approach, developing independent thinking requires support, questioning, risk taking, intrinsic drive (محرك جوهري), and emotional effort (جهد عاطفي) (Ennis, 1985; Facione, 1990; Halpern, 1998). Because this is recognised by the participants, their *ijtihad*-influenced design process contains facilities for meditation and personal support from teachers whose relationships with their students often reach beyond the prescribed hours of classroom engagement (see 4.2.3, 6.5.3).

Learning Through Practice

Tensions between independent thinking and cultural sensitivity reside inside an approach to graphic design education that emphasises practice-led discovery. From the outset of the study, participants established that current teaching approaches often fail to apportion sufficient time for practice-led learning.[77] It was agreed that increasing *ijtihad* would be reliant on increased levels of independent student practice that would interface with heightened levels of classroom interactivity and critical discussion. This dynamic is still a 'work in progress' as the *ijtihad*-influenced approach develops, but the emphasis on research and the 'living nature of learning by doing' resonates somewhat with Batty and Zalipour's (2024) concept of 'research-enabled practice.' Here,

> the creative artefact is only made possible through conducting underpinning research. Existing theories, ideas, practices … are tested and expanded through creative application. The creative work is thus an outcome of the research, and through its materiality/DNA presents (embodies) the research findings. The creative artefact is a work that 'knows'—a thinking work. The creative work contributes to knowledge in and of itself. (para. 41)

77 Participant 4 expressed concerns about the current imbalance between providing information and allowing time for practice. She noted, "The reason why students don't practice that much is because I am trying to give them so much of information. However, proportionally I know that this is wrong because they need more time to practice – to discover through practice." Participant 6 noted, "Practice is the most important thing; you have to be creative, you have to have a good imagination, but without practice, you can't influence anything."

Batty and Zalipour note that in practice-led approaches to design education, "knowledge is not only explored or examined, it is also actively discovered or constructed through creative expression and reflexivity. This results in an embodied, emotive, and experiential understanding of knowledge" (2024, para. 18).

This sense of embodied, emotive and experiential understanding lies at the heart of an *ijtihad*-influenced learning environment. Like Kamali (1991, 2002) and Malik (2021), participants believe that to achieve this requires a learning process that emphasises knowing from the heart, independent thinking, analysis, effort, and critique.

6.6.5 Phase 5: Soliciting Feedback

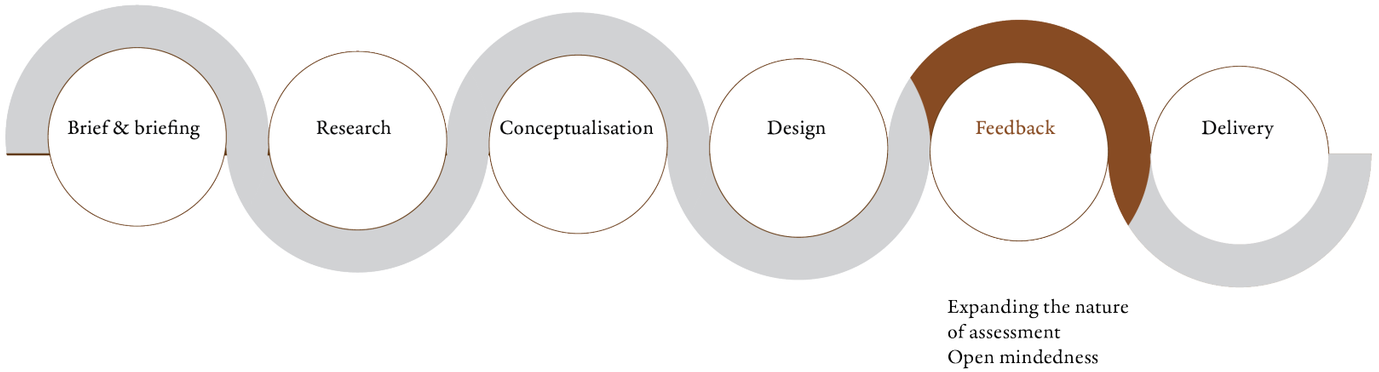

Figure 6.6 The participants' generic process, showing principles relating to soliciting feedback development.

The fifth phase of the proposed approach to developing *ijtihad* across a design process concerns the nature of feedback.

Expanding the Nature of Assessment

For a design to be successful and relevant, it must successfully address overarching objectives. These may be an institution's main goals, community needs, or more general societal ideals like representation, inclusivity, or sustainability.

Because design development is in itself a critical and critiquing process, feedback is not sufficiently addressed by a grade and comments assigned to a body of work upon submission for assessment.

Information surfacing through the interviews and *Halakat Elm* revealed that currently feedback is currently largely teacher generated, and there were very few examples given of self or peer assessment occurring during or after the submission of a student's designed solution to a brief. However, increasing thought was focused on student group discussion surrounding submitted work (see 5.3.3) and the potential of importing diverse professional and academic voices into feedback sessions (see 5.4.4). As the *ijtihad*-influenced approach develops, it will be interesting to see if evaluation and assessment of submitted work becomes something that students increasingly engage in, given that self and peer assessment align with the ethos of metagogy (as a process of collaborative adult learning that works on interdependence for the advantage of the individual and their learning community).

Currently, among participants, a move is occurring away from a model of discrete assessment, and consideration is being given to how students might become more actively involved as a collaborative community that not only researches, but also assesses what is designed.

Open Mindedness

In developing a critical, collaborative community, participant discussions emphasised the need to grow open mindedness in students and ways in which design teachers might use diverse forms of feedback to support this. Proposed methods for expanding open mindedness included public displays of student submissions inside learning environments (see 5.4.2), teachers finding and expressing value in diverse student solutions to the same brief (see 5.4.2.), and inter-institutional exhibitions where students might encounter a diversity of approaches outside of their own design school (see 5.4.5).

6.6.6 Phase 6: Design Delivery

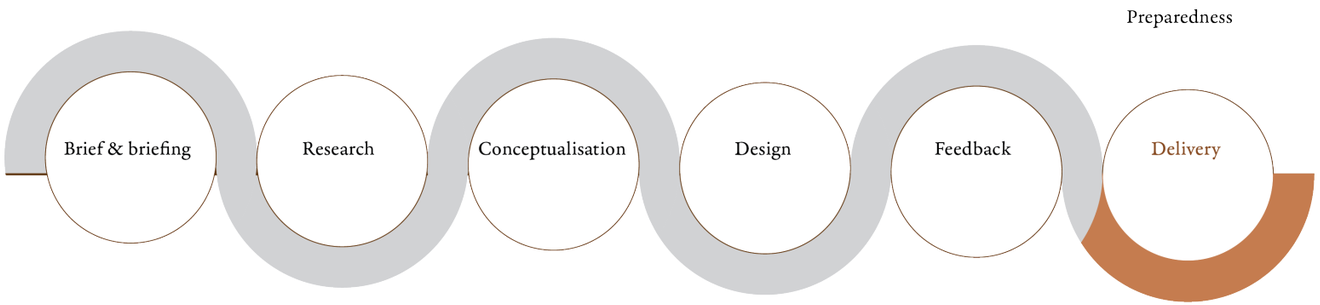

Figure 6.7 The participants' generic process, showing principles relating to design delivery.

The final phase of the proposed approach to developing *ijtihad* across a design process relates to the delivery of a design. Participants saw design delivery as something more than producing a solution that satisfies a client's needs. In an *ijtihad*-influenced process, a focus will be placed on developing broader considerations and diverse perspectives. It was envisaged that, at the delivery stage, students would present their design solutions in the classroom and receive critical questioning from their peers, guests (other teachers and design experts), and the lecturer facilitating the paper. This form of collective, discursive critique, it was believed, will enrich students' learning because they will be engaged in a critical analysis or their own design thinking while witnessing and contributing to the critique of other students' thinking.

Preparedness

Developing students' ability to critique their own work and the work of others, in addition to critically thinking about what underpins design in general, will resource both the immediate concerns of design education and students' futures. The designs that students create while they are studying design in tertiary institutions are not discreet outcomes. They shape how they will enter and function in professional realms as critical, creative, and moral beings.

Kamali (2002) explains that *ijtihad* entails a comprehensive effort to apply knowledge in a manner that is both intellectually rigorous and ethically sound. Participants in the study maintained that this includes behaving 'morally,' so their approach places emphasis on developing designers who, thorough analysis of the ethical and cultural implications of their work, will delve critically into the professional,

social, moral, and cultural contexts of design. This approach is not predicated on training students to acquire technical competence so they can produce portfolios of uncritical solutions. Instead, the participants have proposed an alternative that will cultivate a culture of continuous learning and self-improvement, because student designers will be consistently pressed to refine and understand their approaches, and those of others.

6.7 The Nature of Appreciative Inquiry as a Culturally Recontextualised Methodology

Having considered the cultural context of *ijtihad* and approaches developed to actualise it in undergraduate graphic design education, it is useful in closing this chapter to discuss a tangential contribution of the research. I refer here to the manner in which Appreciative Inquiry was redesigned so it was able to be actualised inside the culture and circumstances where the study sought to make a contribution.

6.7.1 The Context of the Appreciative Inquiry

Appreciative Inquiry was originally proposed by Cooperrider and Srivastva in 1987. Framed as a theory, methodology, and process of organisational and social change, it grew out of concerns with action research's remoteness. In proposing Appreciative Inquiry as a strengths-based process, the authors argued,

> Action-research has become increasingly rationalized and enculturated to the point where it risks becoming little more than a crude empiricism imprisoned in a deficiency mode of thought. In its conventional form, action research has largely failed as an instrument for advancing social knowledge of consequence and has not, therefore, achieved its potential as a vehicle for human development and social-organizational transformation. While the literature consistently signals the worth of action research as a managerial tool for problem-solving ('first-order' incremental change), it is conspicuously quiet concerning reports of discontinuous change of the 'second order' where organizational paradigms, norms, ideologies, or values are transformed in fundamental ways. (Cooperrider & Srivastva, 1987, p. 129)

Unlike action research, at the core of Appreciative Inquiry lies a "cooperative, coevolutionary search for the best in people, their organisations, and the world around them" (Cooperrider & Whitney, 2005, p. 15). Given this feature, applications of Appreciative Inquiry have often been very responsive to context (Cram, 2010; Elliot, 1999), and an avoidance of deficit-based approaches that emphasise "problems; … people who are perceived to be causing these problems; [criticism] of ideas, accomplishments, and the people involved" (Sullivan, 2004, p. 219).

The necessity for this study to support participants in recognising and creating positive change was fundamental, given that the research occurred in a time of significant difficulty.

At the core of the project was a belief that the research should serve the betterment of the community it investigates. I am a researcher from Yemen whose inside knowledge and ongoing dedication to my country reinforces a need to support my professional colleagues who are similarly committed to tertiary design education. However, unlike the participants, I have the temporary luxury of doctoral study in an environment removed from the economic and infrastructural hardship that they are navigating. Yet I remain connected to the same desire to review and develop increasingly effective tertiary design education in my country. Being cognisant of this privilege, and the impossibility of my returning home for the project, it was necessary for me to design an approach to Appreciative Inquiry that might draw insight and change forward, while being attentive to sensibilities and circumstances. Achieving this necessitated a respectful consideration of Yemen's unique infrastructural context and culturally shaped perspectives. In doing this I was reminded of Hannah Arendt's observation that:

> the reality of the public realm relies on the simultaneous presence of innumerable perspectives and aspects in which the common world presents itself and for which no common measurement or denominator can ever be devised. For though the common world is the common meeting ground of all, those who are present have different locations in it, and the location of one can no more coincide with the location of another than the location of two objects. Being seen and being heard by others derive their significance from the fact that everybody sees and hears from a different position. This is the meaning of public life … Only where things can be seen by many, in a variety of aspects, without changing their identity, so that those who are

> gathered around them know they see sameness in utter diversity, can worldly reality truly and reliably appear. (Arendt, 1958, p. 57)

The six participants in the study were committed to enhancing tertiary graphic design education in a country where they had grown up as thinkers and teachers. However, the educational landscape in which they were now working had changed. In fact, Khaled suggests that ongoing conflict has "broken many of the basic elements of Yemeni society" (2024, para. 1). He states that

> many students have dropped out of university because they have to help provide for their families [and the] demand for education, as a whole, has decreased significantly. There is no use for learning and knowledge in times of war, so students have gone to look for opportunities elsewhere. (Khaled, 2024, para. 20).

Of the students who remain, some are unable to attend lectures "because they are either working to support their families, or they cannot afford transportation from their villages or homes to the university" (Khaled, 2024, para. 22).[78] In addition, among teaching staff, many "talented minds have migrated to higher-paying jobs or universities in other nations where they are still able to teach, publish, and contribute to their respective fields of study" (Khaled, 2024, para. 12).

However, despite this picture, the participants in the study have remained in Yemen and maintain a deep commitment to tertiary design education. They share a sense of responsibility, not only to the present, but to a developing future. Like Khaled, they believe that

> Post-war reconstruction will require engineers to build infrastructure, architects and city planners to design cities, policy-makers and sociologists to provide social services, support communities, and rebuild trust, economists to advise development efforts, and multi-disciplinary thinkers to identify the skills needed to steer the future of work in Yemen. (2024, para. 28).

When asked about their decision to remain in tertiary design education, despite the difficulties, the teachers in the study discussed diverse reasons. Participant 1 said, "Because I believe in the afterlife, I know that you can't take materialistic things with you. Only good deeds. I remain because teaching is a good deed." Participant 5 said his ongoing commitment: "I remain in teaching because I want to make a change in education and to teach students better than I was taught." Participant 6 expressed a similar sentiment. He said, despite the challenges, "teaching is exciting. You feel like you are achieving something because you are helping students to learn things that you wanted to be taught." All the participants saw their commitment related to improving the intellectual, moral, and artistic richness of the students who they teach.

Given the project's constructivist orientation, the study accepted that truth and reality are inextricably linked to social/cultural contexts and meaning (Allen, 1994; Boyland, 2019). Consequently, the project sought a way of enabling the sharing of knowledge rather than reporting dislocated individual experience (DeCarlo, 2018). Achieving this required a reorientation of Cooperrider and Whitney's (2005) Appreciative Inquiry process, so that cultural constructs familiar to participants were able to shape how a process of collective reflection *would* reinforce co-creative determination, resilience, pride, liberation, and empowerment (Boyatzis & Jack, 2018; Bushe, 2013; Hung et al., 2018).

6.7.2 The Structure of the Halakat Elm

The structure and process of the Appreciative Inquiry was shaped by the traditional, culturally specific learning construct known as a *Halakat Elm* (حلقات العلم). Thses traditional Islamic study circles hold a significant place in Yemen's religious and educational landscape. The communal gatherings are integral to the generation and transmission of knowledge, particularly in the realm of religious and legal education (although in contemporary society they are also used in other fields). The circles are conducted in an egalitarian manner, facilitated by a learned scholar, often referred to as a *sheikh* or (معلم) *mualem*, leading the discussion. Mukhlison and Haris (2022) describe these circles as spaces where the scholar

> is paying attention to voice and body gestures, providing material conclusions, opening discussion rooms, recommending note-taking important things, asking questions … inserting humor and motivation, holding practices [and] holding enrichment. (p. 74)

78 The quote is from Khaled's interview with a professor at Sana'a University, March 17, 2023.

The focus of a *Halakat Elm* is on oral transmission and discussion and the duration and size of these circles can vary, with some sessions being relatively short, while others can extend across several hours. Knowledge circles can also be ongoing, with regular sessions held over a long period of time. The size of a *Halakat Elm* can range from a small group to several dozen people. The knowledge processed in a *Halakat Elm* can be extensive, covering a wide range of Islamic sciences, starting with foundational beliefs and practices, and progressing to more complex theological and legal discussions. In contemporary Yemeni society, study circles continue to serve a crucial role in preserving and transmitting religious knowledge, particularly in areas where formal education systems may be limited. The educational approach used in *Halakat Elm* emphasises memorisation, communal discussion, and the fostering of social connections among participants. For many individuals, especially those from traditional families, participating in *Halakat Elm* has been an integral feature of their upbringing. From a young age, children are often introduced to these study circles as a means of instilling religious values and providing a solid foundation in Islamic knowledge. As a result, this continuous engagement with *Halakat Elm* secures the continuity of religious education across generations.

In designing a contemporary Yemeni Appreciative Inquiry in a period when people were unable to be in the same physical space at the same time, the *Halakat Elm* was structured as a Virtual Community of Practice. Within this structure, as the researcher I adopted a position that was a renegotiation of the traditional معلم *mualem*. My role was to listen, ask questions, synthesise, and support. In this capacity I functioned as a subtle 'connoisseur' (Eisner, 2002; Barone & Eisner, 2006) who reinforced a strengths-based approach to problem solving by utilising *mudrik* (مدرك , a form of perceptive consciousness) that required me to listen 'inside' discussions. In this role I employed a process of questioning/reflection that focused consecutive *Halakat Elm* on 'dreaming' (envisioning potential for positive influence and effect), 'designing' (crafting positive propositions for strategies, processes, systems, or collaborations) or inviting 'destiny initiatives' (drawing action forward inspired by previous *Halakat Elm*) (Cooperrider & Whitney, 2005).

The dynamics of the *Halakat Elm* changed considerably over time, leading to a strong sense of intimacy and trust among the participants. This was partly due to a cultural convention that enabled experienced participants to naturally guide conversations. This fostered a sense of respect and continuity in discussions. Although some participants were familiar with each other, the absence of hierarchical barriers created an environment where they felt comfortable speaking openly without fear of being judged or questioned. Their shared goal further strengthened their bond because they were united by a common purpose rather than by institutional affiliation.

Unlike traditional *Halakat Elm*, where the *mualem* (معلم) dictates knowledge, in this study, my role was more appreciative and reflective. This approach not only made the exchange of knowledge more democratic, it also encouraged active participation, which helped to build a strong internal network within the group.

As a consequence, the group maintained and deepened its connections, and it has envolved into a supportive community of practitioners that continues to operate beyond the confines of the thesis study.

6.7.3 Cultural Principles

The structure of the *Halakat Elm* was shaped by three distinctive cultural features:

- واذا دعاك فأجبه (*wa'adeuk fa'ajbuh*);
- حسن الظن (*Husn al-Dhann*);
- صدقة العلم (*sadakat al elm).*

واذا دعاك فأجبه (*wa'adeuk fa'ajbuh*)—The Obligation to Accept and Support an Invitation

The idea that 'if he invites you, respond to him' (*wa'adeuk fa'ajbuh*) is deeply established in Islamic moral teachings. This concept emphasises the moral duty to accept invitations and support the person who invites you. It reflects broader themes of social cohesion and mutual respect within the community. Islamic scholars have widely debated this principle, highlighting its importance in fostering relationships and promoting a supportive social environment. The principle is derived from various hadiths and the practices of the Prophet Muhammad, who emphasised the significance of community bonds and mutual assistance as fundamental aspects of Islamic life.

The Messenger of Allah said,

> Every Muslim has five rights over another Muslim (i.e., he has to perform five duties for another Muslim): to return the greetings, to visit the sick, to accompany funeral processions, to accept an invitation, to respond to the sneezer [i.e., to say:

> 'Yarhamuk-Allah (may Allah bestow His Mercy on you),' when the sneezer praises Allah]." [Al-Bukhari and Muslim]. (*Riyad as-Salihin,* Book 6: Hadith 2)

Thus, in Islamic thought, responding in committed ways to invitations is a moral obligation: one must to aid and support others when they need help or companionship. Culturally, accepting an invitation is viewed as a means of strengthening ties and contributing to the overall well-being and unity of the community.

In the instance of this project, واذا دعاك فأجبه (*wa'adeuk fa'ajbuh*) meant commitment to a call of duty' that needed to shape itself in protean ways as it navigated circumstances that were often disrupted by power and technology failures, the inability to travel, and uneven time zones.

حسن الظن (*Husn al-Dhann*)—Adopting an Appreciative Outlook

Husn al-Dhann may be broadly translated as 'thinking well of others' or 'adopting an appreciative outlook.' The principle holds significant value in Islamic ethics because it serves to reinforce a harmonious social environment. *Husn al-Dhann* is rooted in the belief that maintaining a positive outlook towards others aligns with the virtues of trust in God (*Tawakkul,* توكل) and this enables one to circumvent negative behaviours like envy and hatred (Rusydi, 2012). Medieval Islamic scholars (including those from the Sufi tradition) emphasised the spiritual and psychological benefits of *Husn al-Dhann*, advocating practices that help individuals to overcome negative thoughts and focus on positive, constructive thinking (Yucel, 2014). Modern interpretations within Islamic psychology highlight the role of *Husn al-Dhann* in enhancing mental health, demonstrating a positive correlation between this appreciative outlook and overall well-being (Rusydi, 2012).

In this study, the centrality of *Husn al-Dhann* aligned the tenets of Appreciative Inquiry with Yemeni ethical and religious imperatives. Both *Husn al-Dhann* and Appreciative Inquiry are predicated on "*strengthening social relationships" (*Cooperrider & Whitney, 2005, p. 11) and growing inspiration, resilience, pride, and trust, based on the adoption of an appreciative perspective towards the insights and proposals of others (Boyatzis & Jack, 2018; Bushe, 2013).

صدقة العلم (*sadakat al elm*)—The Practice of Knowledge Charity

The third principle underpinning the *Halakat Elm* was *sadakat al elm* (صدقة العلم). This is a difficult term to translate precisely into English but it may be compared to the idea of 'knowledge charity.' However, knowledge charity is a complex cultural principle that extends beyond material generosity. It can also describe offering advice, spreading joy, and enhancing community well-being. Thus, the principle is more than a virtue; it is an obligation that is counter-distinguishable from the sin of مأثوم من يكتم العلم (*mathoum man yaktom al elm*—to deliberately conceal knowledge).

Sadakat Elm, in Islamic tradition, highlights the moral duty to disseminate knowledge for the good of individuals and the community.

Allah said,

> Then, when they presented themselves before Joseph, they said, 'Mighty governor, misfortune has afflicted us and our family. We have brought only a little merchandise, but give us full measure. Be charitable to us: God rewards the charitable.' (*The Qur'an*, 2004, Surah Yusuf 12:88)

Interpretations of this verse do not pertain to a particular form of material gift giving but rather the account signifies the act of being kind and generous (Awang, et al., 2017). This principle is deeply ingrained in Islamic teachings because knowledge is understood to be a form of wealth that should be circulated in the same way that one would share material resources. Sharing knowledge is considered a charitable deed, comparable to other forms of *sadaqah* (charity), and it is seen as an essential duty for those who possess knowledge.[79]

Knowledge charity, as it was manifested in the *Halakat Elm,* was instrumental in promoting collective learning and professional growth among the participants. It was evident in their willingness to share personal approaches to teaching, even when this might mean exposing their doubts, perceived flaws, or personal and professional challenges. In examples like Participant 4 expressing her intention to increase the use of group activities in her teaching, her self-critique was not seen as a weakness but rather as a valuable contribution to the collective understanding. Participants also demonstrated preparedness to critique their institutions and programme systems, driven by the belief that such critiques could help to catalyse initiatives that might lead to improvement. Out of such charitable sharing of limitations

79 It is worth noting that in hadith, charitable giving has a wide meaning because the Prophet considered every good deed to be a form of charity (Awang et al., 2017).

surfaced the feasibility of organising joint events between universities. The commitment to knowledge charity was also reflected in the practice of listening to others without criticism and allowing a diverse range of ideas to surface (despite the varied levels of professional experience among participants). Participants were also generous in their responses to requests for further clarification during the study's write-up phase. This commitment indicated a collective investment in the project's success.

The principle of *sadakat al elm* enabled an open sharing of experiences, fostering an environment free from judgment and rich in mutual support. In combination with *wa'adeuk fa'ajbuh* and *Husn al-Dhann,* it created a distinctive form of Appreciative Inquiry that was reinforced by deep cultural values while enabling high levels of support, commitment, and appreciative orientation as the teachers developed approaches to enhance *ijtihad* in Yemeni undergraduate graphic design education.

6.8 Summary

This chapter has discussed and contextualised findings from the study's initial interview and its three *Halakat Elm*.

The first three sections of the discussion considered the participants' framing of *ijtihad* as a culturally specific form of critical thinking associated with the application of effort and discerning analysis. Understood as a form of critically conscious awareness combined with an independent desire to seek insight, *ijtihad* was described as integrating rational and comparative analysis with moral behaviour (including ethical and social considerations). In the chapter's discussion of similarities between *ijtihad* and Western framings of critical thinking, *ijtihad* was considered as separable because of its additional emphasis on spiritual, epistemological, emotional, and ethical aspects of critical thinking.

The chapter's next section culturally contextualised critical thinking inside Yemeni society. The discussion began by outlining the historical importance of critical thinking in Islamic education by tracing its roots to the writings of early scholars like Al-Jahiz (776–868 AD) and Muneccimbasi (1660), both of whom advocated for the development of critical thinking through logical contemplation and inquiry. It then discussed the impact of family dynamics, teacher-student relationships, and academic and professional institutions on fostering critical thinking in Yemen. Within these analyses, consideration was given to difficulties posed by limited resources, damaged and infrastructure administrative delays, while acknowledging the potential advantages of cross-institutional collaboration and professional societies in enhancing critical thinking within design education.

The discussion then turned to a consideration of how *ijtihad* impacted the participants' approach to developing critical thinking practices across tertiary graphic design education in Yemen. Although the participants' approach to teaching design is still a work in progress (and open to development), its progression was discussed in relation to ideas like the tension between independent thinking and cultural sensitivity, consciousness, emotional and empathetic knowing, learning through practice, and the nature of preparedness.

In concluding, the chapter discussed the methodological approach that actualised the project. Attention was initially drawn to Appreciative Inquiry's historical differentiation from Action Research and its emphasis on cooperative, coevolutionary, strengths-based approaches. The application of an Appreciative Inquiry was discussed in relation to the complexities of Yemen's unique infrastructural context and culturally shaped perspectives.

The discussion then turned to the *Halakat Elm* as a culturally specific learning construct based on a knowledge circle. Traditionally, within these circles, oral transmission and communal discussion were used to develop thinking and foster social connections. In the context of this inquiry the traditional role as the *mualem* (teacher) changed, and I assumed the nature of a connoisseur who listened to, synthesised, and questioned participants by drawing on مدرك (*mudrik*), a form of perceptive consciousness. In adopting this attribute, I supported the inquiry as it moved through stages of dreaming, designing, and considering destiny initiatives.

Finally, the discussion of Appreciative Inquiry considered three influential cultural principles: *wa'adeuk fa'ajbuh* (the obligation to accept and support an invitation), *husn al-dhann* (adopting an appreciative outlook), and *sadakat al elm* (the practice of knowledge charity). These were determinants in shaping the culturally unique nature of the study, and as principles they contributed to a committed, appreciative and generous sharing of ideas and strategies for developing approaches to enhance *ijtihad* in Yemeni undergraduate graphic design education.

الفصل السابع: الخاتمة

Chapter 7: Conclusion

7.1 Summary

This thesis has investigated the issue of critical thinking in tertiary graphic design education in Yemen. As part of this goal, it sought to identify how critical thinking is defined within a specific cultural context. Determining what constitutes critical thinking is a challenging task, despite its significance for individuals and society (Al-fadhli & Khalfan, 2009; Alsaleh, 2020; Facione, 2000; Johnson & Hamby, 2015). This is because, as Lipman (1987) notes, critical thinking is culturally defined and orientated.

The study draws upon and expands Nordin and Surajudeen's (2015) consideration of *ijtihad* as an Arabic form of critical thinking. The main purpose of the research was to enable a group of tertiary educators to propose and develop an adult learning approach that might enhance *ijtihad* inside the learning experience of Yemeni graphic design students. This purpose was based on two premises:

- In Yemeni tertiary education, *ijtihad* may constitute a culturally resourced approach to critical thinking.
- By adopting a culturally focused approach, critical thinking can be encouraged, enhanced, and taught within Yemeni graphic design tertiary education.

Currently, the importance of critical thinking in Yemeni design education is underestimated (Al-Rashdan, 2009; Muthanna & Karaman, 2014; Sabra, 2022). This has resulted in programmes that lack an understanding of, and an educational framework for, how it might be developed. To address this problem, there is a need for a learning approach that might enhance students' ability to integrate critical thinking into the way they solve design problems and conceive of design as a social function.

The study did not attempt to transpose existing Western models of critical thinking onto another cultural context. Instead, given Yemen's distinctive intellectual history and its current resource-depleted situation, a strengths-based approach was developed. This assumed that existing knowledge and experience could enable context-informed solutions to a current situation. In facilitating this approach, the participants' insight and agency were processed through a culturally adapted form of Appreciative Inquiry that employed an interview-based discovery phase and three *Halakat Elm* (knowledge circles). This adapted model employed four phases: Discovery, Dreaming, Designing and Destiny (Cooperrider & Whitney, 2001). The study's participants comprised six Yemeni graphic design lecturers who teach design courses across eleven of the country's tertiary education institutions.

Given the disruptions the study faced in its initial stages (the impact of COVID, the war in Yemen, the consequent dissolving infrastructure, and the impossibility of my return to the country), I began to reassess the validity of an action research methodology, given that an Appreciative Inquiry proposes a more co-creative approach to addressing the study's questions (Cooperrider & Srivastva, 1987). Early circumstances necessitated my conducting participant interviews remotely, and using this data I undertook an initial Reflexive Thematic Analysis. These interviews revealed that while the English term 'critical thinking' had diverse associations amongst the participants, the teachers had a deeper understanding of the related Islamic principle of *ijtihad*. It also became evident that these teachers were committed to the project on a significant level, because they believed that having one of their own people able to conduct research in a safe, resourced environment had the potential to assist the discipline in a time of adversity. Accordingly, after considering limitations and potentials of the study, I reoriented the project so it became more co-creative, culturally cognisant, and responsive. This resulted in an inquiry into the Islamic concept of *ijtihad* and the reconfiguring of the research design into an Appreciative Inquiry based on the structure of *Halakat Elm* (knowledge circles) and the principles of دعاك فأجبه واذا (wa'adeuk fa'ajbuh, supporting an invitation), حسن الظن (Husn al-Dhann, adopting an appreciative outlook), and صدقة العلم (*sadakat al elm*, the practice of knowledge charity).

7.2 Contributions to the Field

The project was born out of the desire to support a "cooperative, coevolutionary search for the best in people, their organisations, and the world around them" (Cooperrider and Whitney, 2005, p. 15). The study proposes three contributions.

7.2.1 The Development of a Culturally Specific Approach to Critical Thinking

A significant outcome of the study is the proposed approach to enhancing the critical thinking abilities of Yemeni undergraduate graphic design students. As part of this, building on the work of Kamali (2002), Malik (2021), and Nordin and Surajudeen (2015), the study contributes to the advancement of current understandings of critical thinking (as *ijtihad*), when applied in a Yemeni context.

Developing an approach to integrating *ijtihad* in undergraduate graphic design education has involved a synthesis of relationships between existing educational

practices, adult learning approaches (primarily metagogy and andragogy), and situational analysis. The study provides a definition of *ijtihad* in the context of graphic design education, before considering how it manifests in existing classroom practice. It also considers how it might be extended through both curricula and extra-curricular initiatives.

The study is significant because it has established a network of thinker/practitioners who are currently developing, applying, and extending potential strategies for enhancing pedagogical, curriculum, and organisational change in Yemeni tertiary graphic design education. Thus, the study's process and outcomes have assisted in the establishment and enhancement of dialogue and action within a group of educators who seek to provide graphic design students with skills in critical thinking that may enable them to function with greater dexterity in a world of evolving complexity.

It is anticipated that this approach, because it is built on existing practice and an appreciation of social and physical contexts, may, with further development, be considered a contribution to national initiatives that seek to heighten the role and practices of critical thinking in Yemeni education.

7.2.2 Contribution to Regional and International Considerations of Critical Thinking

This research is one of the few studies that has investigated the enhancement of critical thinking in graphic design within Arabic education. Aloqaili (2012) noted that in the region, there is currently "no consensus regarding the definition of, [or] accepted framework for critical thinking" (p. 35). Consequently, the study proposes a timely contribution to current knowledge. By extension, the research is also significant because critical discussions, theories, and initiatives surfacing through the study contribute a culturally-specific consideration of how critical thinking might be approached in a non-Western cultural context. Thus, a significant contribution of the study lies in its potential to expand what Abdulla et al. describe as a current "mainstream design discourse [that] has been dominated by a focus on Anglocentric/Eurocentric ways of seeing, knowing, and acting in the world" (2019, p. 13).

7.2.3 Contribution to Research Design

The thesis also offers a contribution to considerations of research design when researchers work in culturally specific contexts, because it demonstrates how an Appreciative Inquiry can be adapted and extended within a non-Western context. Specifically, the study documents and reflects on the adaptability of an Appreciative Inquiry as a co-creative approach to positive problem solving in a culturally distinctive and infrastructurally challenged environment that is concurrently shaped by traditional cultural practices, war, and aspiration.

7.2.4 Other Contributions Made During the Thesis Study

Across the five-year journey of the study, as a way of sharing, challenging, and contextualising my thinking, I presented iterative developments in the thesis at conferences, took part in research projects, and immersed myself as a lecturer in undergraduate design education in two New Zealand universities.[80]

In April 2020, I presented my project in a paper, *Developing an Adult Learning Approach to Enhance the Critical Thinking of Graphic Design Students in Yemen,* at the MAI Doctoral Conference at Waikato University in New Zealand (Sabra, 2022). This conference afforded early phases of the research valuable feedback from an audience who shared insights into Indigenous perspectives on knowledge and the facilitation of change.

In 2022, I published a sole-authored article, *Exploring Critical Thinking in Graphic Design Education in Yemen*, in the open access, peer reviewed journal, *Revista GEMInIS* (Sabra, 2022). The article was translated into English, Portuguese, and Spanish, and it positioned the project alongside emerging thinking on design education in the Global South.

I have recently had published an article on the project's methodological design, in the open access, cross-disciplinary, peer reviewed journal, *Rangahau Aranga: AUT Graduate*

80 During my candidature I held a position for two semesters as a lecturer in graphic design at Auckland University of Technology (AUT). I was also appointed as a Professional Teaching Fellow at the University of Auckland (UoA) for two semesters. These immersions inside graphic design education enriched my understanding of the Western pedagogies and were useful because they show me how critical thinking is embedded and exercised inside another country's practice-led programmes of tertiary design education.

Review. The article, *Cultural Transposition: Adapting an Appreciative Inquiry to Support Organisational Change in a Non-Western context,* considers the challenges and opportunities encountered when an Appreciative Inquiry is aligned with the Arabic principle of *Husn al-Dhann* - حسن الظن, and how it navigates cultural distinctiveness in unstable circumstances (Sabra, 2025).

During the time of my candidature I was involved in two research projects. In the first, I conducted a scoping analysis and summarised over 100 papers related to design studio learning pedagogies, identifying relevant and missing literature. In the second project, I conducted a systematic literature review titled *Bridging Barriers: Strategies for Enhancing Inclusivity and Success among Māori and Pacific Students in New Zealand's Tertiary Education*. This research is has now been written up and will be submitted for publication in 2025. Participating in these initiatives enabled me to enhance my knowledge of current pedagogical practices in New Zealand tertiary design education and examine literature relating to culturally-specific approaches to enhance adult student success.

In addition, I established and facilitated a student support network: the Middle Eastern and North African (MENA) Student Mentoring Programme. The initiative was born out of the isolation and adversity of the COVID lockdowns, when I became aware that many international university students from the Middle East and Northern Africa were isolated, suffering mental health pressures and social dislocation. They were also disconnected from relevant sources of information and support. In an effort to assist, I drew on the methodological approach I was using in the thesis study and applied the tenets of Appreciative Inquiry to the situation. My belief was that solutions might lie in a co-creative approach with people who had an embodied knowledge of circumstances. This initiative lead to a productive imagining of what could be, followed by collective design of a desired future state that would be situationally appropriate, networked, and capable of affecting pertinent change (Bushe, 2013). What resulted was a support system built from the bottom up, that increasingly gathered momentum, eventually garnering institutional recognition and support. Although not directly related to the thesis question, MENA became a robust, successful, parallel application of the transposed Appreciative Inquiry methodology I developed.

7.3 Limitations of the Study

While the study generated insights and change associated with the integration of critical thinking into Yemeni graphic design education, it has significant limitations.

7.3.1 Size

First, constraints imposed by ongoing conflict in Yemen limited the potential size of the project. Although the study drew on experiences across programmes taught in eleven Yemeni universities, the sample size was very small. Accordingly, an Appreciative Inquiry developed with six participants cannot claim to have generalisable, transferable findings.

7.3.2 VCoP, Time and the Halakat Elm

Because of circumstances surrounding the inquiry, it was not possible to conduct the research in person in Yemen, and adaptations had to be made so the study did not place undue pressure on participants who were already navigating difficult situations.[81] Thus, the interviews and *Halakat Elm* that would normally be physically face to face were forced into remote facilitation. Furthermore, given the pressures on participants' availability, the knowledge circles were only 90 minutes in duration.[82] In addition, in three of the *Halakat Elm* three different participants, at different times, were unable to participate in sessions (because of difficulties with unstable technology and travel). To help address this limitation, the study included a Miro board and individual and group correspondence via WhatsApp and Facebook messenger.

Finally, it is worth noting that in a normal environment *Halakat Elm* would be longer, facilitated under less duress, and there might be more than one gathering of a knowledge circle as the inquiry moved through its phases of discovery, dreaming, designing and destiny development.[83] As a consequence, participants expanded the construct of the knowledge circles, and were increasingly in contact with each other outside of the formal provisions of the thesis study. This meant that there was a variable imported into the process that expanded reflection and discussion within the *Halakat Elm*. Given the nature of the *Halakat Elm,* the teachers were drawing on discussion from inside the knowledge circles and concurrently trialling new initiatives

81 This necessitated ensuring the anonymity of the participants.

82 Normally a *Halakat Elm* has a flexible time frame. It operates more organically, with the knowledge sharing and processing driving the nature and duration of each gathering.

83 To partly address the issue of time, the four phases of the inquiry were separated by periods for reflection and planning. These spaces ranged from fifty-two weeks between the initial discovery interviews and the [first] 'Dream' *Halakat Elm*, and an average of four weeks between the gatherings of the remaining *Halakat Elm.*

in their classrooms. Given this dynamic, one cannot claim that all initiatives were directly attributable to the knowledge circles, but one might argue that associated change was motivated by them and then shared with the other participants.

7.3.3 Limitations of Appreciative Inquiry

Bushe (2012), Egan and Lancaster (2005), Miller et al. (2005), Pratt (2002), and Reason (2000) suggest that Appreciative Inquiry's strengths-based ethos can cause it to neglect important concerns because it tends to avoid discussing negative experiences and problems. As a consequence, the approach may lead to decisions that are based on an unbalanced consideration of issues (Grieten et al., 2018). However, Asumeng and Osae-Larbi (2015) argue that successful organisational development requires a focus on the best of what is in existence, in addition to proposing solutions to identified challenges and problems. In the study, because participants adopted the principle of *Husn al-Dhann* - حسن الظن (pursuing an appreciative outlook), they were able to incorporate, rather than exclude, difficult issues impacting on their teaching (including pressures posed by the ongoing consequences of war). These difficulties were framed and integrated as grounded catalysts for activating change rather than restraints.

Because Appreciative Inquiry relies on subjective accounts of experience, the study presumed the honesty of its participants. As a result, results emanating from the approach cannot be measured objectively (Messerschmidt, 2008). However, an Appreciative Inquiry is not concerned with collating objective data. Instead, its focus is on "stimulating positive change by encouraging participants to tell stories about the positive/good achievements of the organization" (Ali et al., 2020, p. 3487).

Appreciative Inquiry can also face criticism because it tends to focus on a discrete organisation, potentially ignoring other stakeholders, such as governments, professional interfacing organisations, and external social environments (Ali et al., 2020). However, in this study considerable care has been taken to contextualise findings, and although this was rarely based on quantitative data, attention was paid to cultural and professional contexts as well as infrastructural impact.

7.3.4 Translation

Translation between languages and different epistemological frameworks is not an easy undertaking. All interviews and *Halakat elm* sessions were conducted in Arabic, but they were discussed in the thesis in English. This presented a challenge because many Arabic ideas are not directly translatable, so I appreciate that sometimes the study, read in English, may feel culturally unusual. For example see the discussion of effort (*juhd,* جهد) (6.4.1), and competition (*musabaqa*, مسابقة) (6.5.5). Similar issues arise when translating Islamic concepts such as 'success,' which is culturally linked to realising one's potential and making positive societal contributions (Karadağ et al., 2020). In this regard 'success' is differentiable from many Western uses of the word that are associated with the achievement of goals or production of outcomes.[84] To help address the issue of bilinguality, where a word or description cold not be translated absolutely, I have accompanied the English word with the original Arabic equivalent in its Romanised and Arabic forms.

7.3.5 Testing and Analysis

Finally, the research did not evaluate the effectiveness of the learning approach. This raises questions about how well the approach might work in real-world settings. A second phase of the study that examines the application of the approach will necessitate a different research design and the ability of the researcher to return to Yemen (when circumstances allow) so research can be located inside and alongside the teacher's learning environments. Given existing limitations, the focus of the thesis has been on developing an Appreciative Inquiry as the first step towards extended, multifaceted bodies of research concerned with improving pedagogy in Yemeni graphic design education.

84 In their discussion of Indigenous Māori and Pacific concepts of success, Anae and Peterson (2020) associate success with achieving goals that enable students to support their families and contribute to their communities. For Māori, success is rooted in a holistic view of well-being and cultural identity, that encompasses not only academic achievements but also understanding and participating in te ao Māori (the Māori world), including knowledge of te reo Māori, whakapapa, and tikanga (Martin, 2012). In a similar way, in Islam, success also involves striking a balance between worldly accomplishments and spiritual fulfilment (Abubakar et al., 2020). This is reflected in the Qur'an's use of terms like *al-Falah* (worldly and spiritual success), *an-Najah* (worldly success), and *al-Fauz* (success in the hereafter).

7.4 Indications for Future Research

7.4.1 Expanding the Study

The study suggests several courses of action, including recommending the learning approach to both the Yemeni Ministry of Upbringing and Education and Scientific Research and teachers in the discipline, for development across the tertiary sector. A potential way to address this issue may be to redesign the adult learning approach as a 'user-friendly' guide, thus providing teachers with ideas and suggestions as to how critical thinking might be developed with their students.

This said, I appreciate that further study is needed to evaluate the effectiveness of the proposed approach inside tertiary graphic design education. Such a study would be necessitate evaluating the findings in environments where observation could be triangulated with qualitative reporting. There may also be potential for developing assessment devises for quantitatively measuring the growth of critical thinking, although given the intricate and nuanced nature of *ijtihad,* this might be a challenge.

Advanced iterations of the inquiry might also require a team of researchers, (given the necessity for a larger participant sample, as well as the duration and resourcing of data gathering and analysis).

Other potential areas of inquiry might include:

- An advanced, comparative analysis of how critical thinking is defined and understood within Arabic and Western educational contexts.
- A focused case study that examines the implementation of critical thinking in a single Yemeni undergraduate, graphic design programme.
- A wider study with a larger sample of Yemeni tertiary graphic design educators that examines the implementation, benefits, and drawbacks of the proposed strategy.
- A contextual study that investigates existing programs, policies, methods, and instructional approaches that are currently being used to improve critical thinking in Yemeni education. This would be supported by a research design that would enable researchers assess the relative effectiveness of these phenomena.
- An assessment of obstacles that might hinder the implementation of *ijtihad* in contemporary practice-led education, accompanied by a consideration of ways that such impediments might be overcome.

7.4.2 Enabling and Disseminating the Current Research

Although the study is the first step in a wider undertaking, it has potential agency as a catalyst for, and enabler of, more immediate, related research.

After the thesis has been examined, it is my intention to apply for a post-doctoral fellowship that will enable me, while overseas, to resource collaborative work with Yemeni graphic design teachers using facilities not easily accessible at the present time in that country. An initial approach will be to embark on a series of collaborative research publications with other Yemeni educators. A research advisor on the thesis project and one of the participants have already expressed interest in co-authoring papers. Being temporarily outside of Yemen, I am in a position to help with insights into comparative pedagogical environments, access to international conferences and networks, translation, and the addressing of costs often associated with academic publication.

The present thesis will also be accessible internationally, as an open access study on Tuwhera (Auckland University of Technology's research repository).[85] However, I will also register it with the Yemeni higher education authority. This should provide open access to the study for students, educators, and policymakers. It is also my intention to present the study at conferences in other Islamic contexts, (such as Malaysia), because these countries contain significant populations of expatriate Yemeni educators and students. This exposure may help to reinforce related research and provide opportunities for collaboration.

In advance of this, I am currently working on two papers. The first, which will be submitted for consideration to the Higher Education Research and Development Society of Australasia (HERDSA) annual conference in Perth (7-10th July 2025),[86] is titled, *Designing a Mentoring Program for Middle Eastern and North African (MENA) Students at New Zealand University.* The second, which considers the nature and agency of *ijtihad* in Yemeni undergraduate graphic design education, will be submitted to the *International Journal of Art and Design Educationd (IJADE).*[87]

85 https://tuwhera.aut.ac.nz/about-tuwhera
86 https://conference.herdsa.org.au/2025/
87 https://onlinelibrary.wiley.com/journal/14768070. IJADE is one of the most highly cited international fora for research in the field of art and design education.

7.5 PERSONAL REFLECTION

This research project has impacted on my comprehension of Western critical thinking and its Islamic counterpart, *ijtihad*. Because the study explored inter and cross-disciplinary spaces and cultures across graphic design and education, I have broadened my knowledge of educational approaches, including adult learning theories and Islamic pedagogies. This process has highlighted the significant role of context in how we might understand and develop critical thinking and learning theories, particularly when thinking emanates from distinctively different cultures and ways of knowing. Researchers such as Grosser and Lombard (2008), Madondo (2018), and Schendel (2016) have emphasised the importance of cultural perspectives in understanding critical thinking. This insight illuminated cultural aspects of my research, offering me new ways to interpret and engage with the world. The study has also reconnected me with my educational heritage; a heritage that has often been overshadowed by prevailing Western values and pedagogical paradigms. I discovered that when a Western lens is removed from how we view critical thinking and adult learning practices, such things may already be integrated in an education system, even if they are not explicitly labelled as such.

By employing an Appreciative Inquiry, I moved my perception of research away from something focused on understanding and positioning an idea, to a deeper consideration, that scholarship may be a form of service where one brings one's resources and abilities to the betterment of others, supporting them as they use their embodied appreciation of a situation, to design and realise meaningful futures.

I have immense respect for the teachers who agreed, in such difficult circumstances, to help shape this study. It is not possible to account what this actually required of them. My approach has been to adapt the research to their circumstances and to treat their commitment with appreciation and respect.

It is not easy to develop a thesis study in a country during a time of war, when infrastructure is compromised and one is forced into physical remoteness. There would have been easier studies to conduct, but the research has been driven by need. The project encountered significant obstacles, including the eruption of conflict in Yemen shortly after the initial proposal was drafted in December 2014, and the subsequent global COVID-19 pandemic in 2020. However, these challenges only intensified my dedication to the study. The Yemeni war has had profound personal implications for me and it has impacted heavily on the study's participants and methodology. It has required a form of dexterity I have rarely encountered in research studies conducted by other doctoral candidates.

Despite ongoing turmoil in Yemen, the participants and I remain dedicated to preparing future generations to effect meaningful change in a country that we love. This becomes imperative because, as Khaled in his discussion of contemporary Yemeni tertiary education notes, as post-conflict nations rebuild their economies and societies, history has proven that higher education is central. In the early stages of reconstruction, higher education offers a path to employment for former soldiers or those displaced by war … Education can help Yemen diversify its economy, pivot to new technological skills, and develop its workforce in new and more effective ways. Following the ruin of war, there must be a path forward. Education is that path. (2024, para. 33)

This study proposes that an ijtihad-influenced approach to education may help.

الملحقات

APPENDICES

Appendix 1: Ethics approval through the Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

8 July 2021

Anna Jackson
Faculty of Design and Creative Technologies

Dear Anna

Re Ethics Application: **21/129 Developing an adult learning approach to enhance the critical thinking of graphic design students in Yemen**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 7 July 2024.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.

AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through http://www.aut.ac.nz/research/researchethics

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: nabil.sabra@aut.ac.nz; Adrian Schoone

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

29 November 2022

Anna Jackson
Faculty of Design and Creative Technologies

Dear Anna

Re Ethics Application: **21/129 Developing an adult learning approach to enhance the critical thinking of graphic design students in Yemen**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application for the second stage of your research has been approved for three years until 29 November 2025.

Non-Standard Conditions of Approval

1. Revision of the prefix for the researcher's mobile number in the Arabic Information sheet (there should not be a "9" after the "4"…+649272875959).
2. Inclusion in the Consent Form of the statement regarding focus group confidentiality. This can be found on the AUTEC exemplar for the Focus Group Consent Form.

Non-standard conditions must be completed before commencing your study. Non-standard conditions do not need to be submitted to or reviewed by AUTEC before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.
8. AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through http://www.aut.ac.nz/research/researchethics

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: nabil.sabra@aut.ac.nz; Adrian Schoone

Auckland University of Technology Ethics Committee (AUTEC)

25 August 2023

Welby Ings
Faculty of Design and Creative Technologies

Dear Welby

Re: Ethics Application: **21/129 Developing an undergraduate learning approach to enhance ijtihad in graphic design education in Yemen**

Thank you for your request for approval of amendments to your ethics application.

The minor amendments to the pubic facing documents have been approved and changes to the methodology, title and supervisory team have been noted.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online http://www.aut.ac.nz/research/researchethics

For any enquiries, please contact ethics@aut.ac.nz

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: nabil.sabra@aut.ac.nz; Adrian Schoone

Auckland University of Technology, D-88, Private Bag 92006, Auckland 1142, New Zealand
T: +64 9 921 9999 ext. 8316: E: ethics@aut.ac.nz: www.aut.ac.nz/researchethics

Appendix 2: Participant Information Sheets

Participant Information Sheet

Date Information Sheet Produced:

23 June 2021

Project Title

Developing an adult learning approach to enhance the critical thinking of graphic design students in Yemen

An Invitation

My name is Nabil Sabra. I'm a designer and a researcher born in Yemen. I am currently living in Auckland, New Zealand where I am a design lecturer and Ph.D. candidate.

This research is being undertaken as a part of my Ph.D. degree study at the School of Art & Design, AUT. My focus will be on understanding critical thinking in the graphic design discipline within the Yemeni culture to develop an adult learning approach that enhances students' skills.

You are invited to participate in a two-phase research project. Your participation is voluntary, and you may choose not to participate or withdraw from the study at any time.

The first phase includes an interview taking between 45 minutes to 1 hour to have an understanding of critical thinking in graphic design education in Yemen. This will be a one-to-one session via zoom or a similar online communication tool and will be audio and video recorded to be analysed later by me as the researcher. The expected outcomes of this method are redefining critical thinking, identifying some critical thinking techniques, and adult learning approach.

The second phase will involve presenting the findings from the interviews in a series of online meetings with a small group of participants in a virtual community of practice. These sessions will assist the development of critical thinking techniques and an adult learning approach prototype based on our understanding and definition of critical thinking. There will be two community of practice sessions. The duration of each session is 90 minutes. These sessions will be conducted during 2021-2022. After I have refined my data and obtained the ethics approval.

The data that you provide will be used in my Ph.D. thesis. These data may also be used for academic publications and conference papers. All of the data that will be published will contain no identifying information. I will use a pseudonym in order to protect your identity and ensure confidentiality.

What is the purpose of this research?

The purpose of this research is to understand critical thinking phenomena in graphic design education in general and particularly within the Yemeni context. Defining critical thinking will allow us to develop critical thinking techniques that will enhance students' critical thinking. Another purpose is to develop an adult learning approach that provides a suitable environment in the classroom to foster critical thinking practice.

The findings of this research may be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You were invited to participate in this research because you are a Yemeni graphic design lecturer with at least 2 years of experience in teaching and designing. Dr. Gawed Nagi is a Yemen-based advisor who has helped me to identify participants who match these criteria and he has contacted you to ask if you are interested in participating in my research.

How do I agree to participate in this research?

Your participation in this research is voluntary (it is your choice), and whether or not you choose to participate will neither advantage nor disadvantage you. You can withdraw from the study at any time. If you decide to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible. Once you decide to participate in the research the consent form will be signed before the

actual interview and the community of practice sessions. Both me as the researcher and you as the participant will have a copy of the signed consent form.

What will happen in this research?

The interviews will be semi-structured and one-to-one between me as the researcher and you as the participant. You will be asked several questions about your understanding of critical thinking, critical thinking techniques, and adult learning approaches. The interview will be audio and video recorded so that I can later review it for analysis. The duration of the interview is around one hour.

What are the discomforts and risks?

There may be some discomfort associated with this research. For example, you may feel embarrassed or uncomfortable participating in an online discussion. Another discomfort is the civil unrest in Yemen. Participants can withdraw from the study at any time, no questions asked.

There is a little perceived risk in this research. The data will be gathered through interviews, community of practice sessions, and any information you wished to record on the journal within these sessions. I will not collect sensitive information.

How will these discomforts and risks be alleviated?

All possible care will be taken to help you to feel comfortable and safe. Should you feel otherwise, please let me know immediately so that we can find a solution.

What are the benefits?

The research objective is to help students to enhance their critical thinking skills. It will benefit the education system and the community as it is aiming to provide a better understanding of critical thinking as it is one of the top ten desirable skills, according to the World Economic Forum 2020. The results will provide a better understanding of critical thinking.

The information collected from these interviews will benefit me to obtain my Ph.D. degree in Graphic Design. I will gain a deeper understanding of the critical thinking and adult learning approaches applicable in the Yemeni context.

How will my privacy be protected?

The nature of this research is not sensitive. You have the freedom to choose what information you wish to share with the researcher and not answer the questions you feel uncomfortable with. You can terminate the sessions any time, even during any sessions. There is limited confidentiality in the community of practice sessions where you and other Yemeni lecturers will work together online, but to protect your confidentiality, you can decide what information you wish to be shared in the research and what information to be excluded. Your personal details and information will not be mentioned in the research. The videos and the photographs of your optional journaling will be only used for transcriptions and analysis. They will not be published or exhibited. I will take full responsibility to protect these files and keep them secure at AUT premises. They can only be used for publication or written materials related to my Ph.D.

What are the costs of participating in this research?

The study will not cost you money. The interview will involve your time. The estimated length of the interview will be around 1 hour. A voucher equivalent to 60NZD will be sent to you for the internet cost for the purpose of this research.

In the second half of 2021 or the beginning of 2022 you will be invited to participate in Community of Practice Sessions in which we develop the adult learning approach according to the interview and document analysis findings. There will be two sessions, and these will take approximately 90 minutes each.

What opportunity do I have to consider this invitation?

I would appreciate to know your decision within one month of receiving this participant information sheet. As mentioned, you have the right to withdraw from taking part in this research even after agreeing to participate.

Will I receive feedback on the results of this research?

Yes, a report of the research findings will be given to the participants that showed interest in the research on their consent form. Any academic publication such as conference papers and journals related to this research will be forwarded to you if you wish to receive them.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Anna Jackson, anna.jackson@aut.ac.nz +64 921 9999 ext 8067

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Nabil Sabra, nabil.sabra@aut.ac.nz +64 272875959

Project Supervisor Contact Details:

Dr Anna Jackson, anna.jackson@aut.ac.nz +64 921 9999 ext 8067

Approved by the Auckland University of Technology Ethics Committee on *8 July 2021*, AUTEC Reference number *21/129*.

Participant Information Sheet

Date Information Sheet Produced:

17 October 2022

Project Title

Developing an adult learning approach to enhance the critical thinking of graphic design students in Yemen

An Invitation

My name is Nabil Sabra. I'm a designer and a researcher born in Yemen. I am currently living in Auckland, New Zealand where I am a Ph.D candidate and staff member working as part time lecturer and Faculty students mentor at AUT, Auckland, New Zealand.

This research is being undertaken as a part of my Ph.D. degree study at the School of Art & Design, AUT, New Zealand. My focus will be on understanding critical thinking in the graphic design discipline within the Yemeni culture to develop an adult learning approach that enhances students' skills.

You are invited to participate in the second phase of the project. Your participation is voluntary, and you may choose not to participate or withdraw from the study at any time.

The second phase will involve presenting the findings from the interviews in a series of online focus groups with a small group of participants in a virtual community of practice. Community of practice (CoP) is a group "people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4). These sessions will assist the development of critical thinking techniques and an adult learning approach prototype based on our understanding and definition of critical thinking.

There will be three focus groups (virtual community of practice sessions). The duration of each session is 90 minutes. These sessions will be conducted via zoom using Miro during 2022-2023 (Miro is an online whiteboard for collaboration).

The data that you provide will be used in my Ph.D. thesis. These data may also be used for academic publications and conference papers. Data from the project may also be used as part of further post-doctoral research. All of the data that will be published will contain no identifying information. I will use a pseudonym in order to protect your identity and ensure confidentiality.

What is the purpose of this research?

The purpose of this research is to understand critical thinking phenomena in graphic design education in general and particularly within the Yemeni context. Defining or having an understanding of critical thinking will allow us to develop critical thinking techniques that will enhance students' critical thinking. Another purpose is to develop an adult learning approach that provides a suitable environment in the classroom to foster critical thinking practice.

The findings of this research may be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You were invited to participate in this research because you have participated in the first phase and you showed your interest to participate in the second phase.

How do I agree to participate in this research?

Your participation in this research is voluntary (it is your choice), and whether or not you choose to participate will neither advantage nor disadvantage you. You can withdraw from the study at any time. If you decide to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible. Once you decide to participate in the research the consent form will be signed before the actual community of practice sessions. Both me as the researcher and you as the participant will have a copy of the signed consent form.

What will happen in this research?

In this phase of the research, there will be three sessions with the community of practice:

Session One: Defining

In the first session I will share the findings and insights from my analysis of the first phase of the research (interviews) and we will these further to come up with a mutual understanding and definition of critical thinking.

Session Two: Developing

We will discuss what are the specific practices and techniques and mindsets that support critical thinking in order to further develop an adult learning approach.

The information shared in this session will be used by the researcher to then further develop during the design phase of the project.

Session Three: Design reflection and evaluation

In the third session I will present the draft adult learning approach to the community of practice for feedback and reflection.

These sessions will be held via Zoom. A password protected miro board will also be used to enable participants to interact during each session and to contribute asynchronously also. The miro board provides a virtual space similar to a face to face workshop.

What are the discomforts and risks?

There may be some discomfort associated with this research. For example, you may feel embarrassed or uncomfortable participating in an online discussion. Another discomfort is the civil unrest in Yemen. Since Yemen has been living a conflict for several years, participants may experience hardship and stress that make it difficult to participate. That is why participants can withdraw from the study at any time, no questions asked. There is a little perceived risk in this research. The data will be gathered through interviews, community of practice sessions, and any information you wished to record on the journal within these sessions. I will not collect sensitive information.

How will these discomforts and risks be alleviated?

All possible care will be taken to help you to feel comfortable and safe. Should you feel otherwise, please let me know immediately so that we can find a solution.

What are the benefits?

The research objective is to help students to enhance their critical thinking skills. It will benefit the education system and the community as it is aiming to provide a better understanding of critical thinking as it is one of the top ten desirable skills, according to the World Economic Forum 2020. The results will provide a better understanding of critical thinking.

The information collected from these focus groups will benefit me to obtain my Ph.D. degree in Graphic Design. I will gain a deeper understanding of the critical thinking and adult learning approaches applicable in the Yemeni context.

How will my privacy be protected?

The nature of this research is not sensitive. You have the freedom to choose what information you wish to share with the researcher and not answer the questions you feel uncomfortable with. You can terminate the sessions any time, even during any sessions. There is limited confidentiality in the community of practice sessions where you and other Yemeni lecturers will work together online, but to protect your confidentiality, you can decide what information you wish to be shared in the research and what information to be excluded. Your personal details and information will not be mentioned in the research. The videos and the miro board will be only used for transcriptions and analysis as required. They will not be published or exhibited. I will take full responsibility to protect these files and keep them secure at AUT premises. They can only be used for publication or written materials related to my Ph.D.

What are the costs of participating in this research?

The study will not cost you money. The focus group will involve your time. The estimated length of each focus group session will be around 90 minutes. In total, four and a half hours of the three sessions. The outcomes of these sessions will be a definition or understanding of critical thinking, critical thinking techniques, and adult learning approach.

What opportunity do I have to consider this invitation?

I would appreciate to know your decision within two weeks of receiving this participant information sheet. As mentioned, you have the right to withdraw from taking part in this research even after agreeing to participate.

Will I receive feedback on the results of this research?

Yes, a report of the research findings will be given to the participants that showed interest in the research on their consent form. Any academic publication such as conference papers and journals related to this research will be forwarded to you if you wish to receive them.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Anna Jackson, anna.jackson@aut.ac.nz +649 921 9999 ext 8067

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Nabil Sabra, nabil.sabra@aut.ac.nz +64 272875959

Project Supervisor Contact Details:

Dr Anna Jackson, anna.jackson@aut.ac.nz +649 921 9999 ext 8067

Approved by the Auckland University of Technology Ethics Committee on *29 November 2022*, AUTEC Reference number *21/129*.

Participant Information Sheet

Date Information Sheet Produced:

22nd AUGUST 2023

Project Title

Developing an undergraduate learning approach to enhance ijtihad in graphic design education in Yemen

An Invitation

My name is Nabil Sabra. I'm a designer and a researcher born in Yemen. I am currently living in Auckland, New Zealand where I am a Ph.D candidate and staff member working as part time lecturer and Faculty students mentor at AUT, Auckland, New Zealand.

This research is being undertaken as a part of my Ph.D. degree study at the School of Art & Design, AUT, New Zealand. My focus will be on understanding critical thinking in the graphic design discipline within the Yemeni culture to develop an adult learning approach that enhances students' skills.

You are invited to participate in the second phase of the project. Your participation is voluntary, and you may choose not to participate or withdraw from the study at any time.

The second phase will involve presenting discussing findings from the interviews in a series of online focus groups with a small group of participants in a virtual community of practice. Community of practice (CoP) is a group "people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4). These sessions will assist the development of critical thinking techniques and an adult learning approach prototype based on our understanding and definition of critical thinking.

There will be three focus groups (virtual community of practice sessions). The duration of each session is 90 minutes. These sessions will be conducted via zoom using Miro during 2023 (Miro is an online whiteboard for collaboration).

The data that you provide will be used in my Ph.D. thesis. These data may also be used for academic publications and conference papers. Data from the project may also be used as part of further post-doctoral research. All of the data that will be published will contain no identifying information. I will use a pseudonym in order to protect your identity and ensure confidentiality.

What is the purpose of this research?

The purpose of this research is to understand critical thinking phenomena in graphic design education in general and particularly within the Yemeni context. Defining or having an understanding of critical thinking will allow us to develop critical thinking techniques that will enhance students' critical thinking. Another purpose is to develop an adult learning approach that provides a suitable environment in the classroom to foster critical thinking practice.

The findings of this research may be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You were invited to participate in this research because you have participated in the first phase and you showed your interest to participate in the second phase.

How do I agree to participate in this research?

Your participation in this research is voluntary (it is your choice), and whether or not you choose to participate will neither advantage nor disadvantage you. You can withdraw from the study at any time. If you decide to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible. Once you decide to participate in the research the consent form will be signed before the actual community of practice sessions. Both me as the researcher and you as the participant will have a copy of the signed consent form.

What will happen in this research?

In this phase of the research, there will be three Appreciative Inquiry sessions with the community of practice:

Session One: Discovery and Dreaming

In the first session, I will share the findings and insights from an analysis of the first phase of the research (interviews), and we will inquire into the positive core of participants' experiences so we might establish a mutual understanding and definition of ijtihad, its contexts and challenges in graphic design education in Yemen.

Session Two: Design

We will discuss effective techniques for developing ijtihad using adult learning approaches, and craft a positive core of adult learning strategies, processes, systems, decisions, and collaborations.

Session Three: Destiny

In the third session, we discuss feedback from a synthesis of the first two sessions and develop strategies for an ongoing community of practice.

These sessions will be held via Zoom. A password protected miro board will also be used to enable participants to interact during each session and to contribute asynchronously. The miro board provides a virtual space similar to a face-to-face workshop.

What are the discomforts and risks?

There may be some discomfort associated with this research. For example, you may feel embarrassed or uncomfortable participating in an online discussion. Another discomfort is the civil unrest in Yemen. Since Yemen has been living a conflict for several years, participants may experience hardship and stress that make it difficult to participate. That is why participants can withdraw from the study at any time, no questions asked. There is a little perceived risk in this research. The data will be gathered through interviews and community of practice sessions. I will not collect sensitive information.

How will these discomforts and risks be alleviated?

All possible care will be taken to help you to feel comfortable and safe. Should you feel otherwise, please let me know immediately so that we can find a solution.

What are the benefits?

The research objective is to help students to enhance their critical thinking skills. It will benefit the education system and the community as it is aiming to provide a better understanding of critical thinking as it is one of the top ten desirable skills, according to the World Economic Forum 2020. The results will provide a better understanding of critical thinking.

The information collected from these focus groups will benefit me to obtain my Ph.D. degree in Graphic Design. I will gain a deeper understanding of the critical thinking and adult learning approaches applicable in the Yemeni context.

How will my privacy be protected?

The nature of this research is not sensitive. You have the freedom to choose what information you wish to share with the researcher and not answer the questions you feel uncomfortable with. You can terminate the sessions any time, even during any sessions. There is limited confidentiality in the community of practice sessions where you and other Yemeni lecturers will work together online, but to protect your confidentiality, you can decide what information you wish to be shared in the research and what information to be excluded. Your personal details and information will not be mentioned in the research. The videos and the miro board will be only used for transcriptions and analysis as required. They will not be published or exhibited. I will take full responsibility to protect these files and keep them secure at AUT premises. They can only be used for publication or written materials related to my Ph.D.

What are the costs of participating in this research?

The study will not cost you money. The focus group will involve your time. The estimated length of each focus group session will be around 90 minutes. In total, four and a half hours of the three sessions. The outcomes of these sessions will be a definition or understanding of critical thinking, critical thinking techniques, and adult learning approach.

What opportunity do I have to consider this invitation?

I would appreciate to know your decision within two weeks of receiving this participant information sheet. As mentioned, you have the right to withdraw from taking part in this research even after agreeing to participate.

Will I receive feedback on the results of this research?

Yes, a report of the research findings will be given to the participants that showed interest in the research on their consent form. Any academic publication such as conference papers and journals related to this research will be forwarded to you if you wish to receive them.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Welby Ings, welby.ings@aut.ac.nz +649 921 9999 ext 8621

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Nabil Sabra, nabil.sabra@aut.ac.nz +64 272875959

Project Supervisor Contact Details:

Professor Welby Ings, welby.ings@aut.ac.nz +649 921 9999 ext 8621

Approved by the Auckland University of Technology Ethics Committee on *25 August 2023*, AUTEC Reference number *21/129*.

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