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Global Entrepreneurial Talent Management challenges and opportunities for HRD

Designing a Design Thinking Approach to HRD

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This article considers the value of design thinking as applied to a HRD context, Specifically, it demonstrates how design thinking can be employed through a case study drawn from the GETM3 programme. It reports on the design, development, and delivery of a design thinking workshop which was created to draw out and develop ideas from students and recent graduates about the fundamental training and skills requirements of future employment. While design thinking has been widely deployed in innovation and entrepreneurship, its application to HRD is still very much embryonic. Our overview illustrates how the key characteristics of the design thinking process resonate with those required from HRD (e.g. focus on end user, problem solving, feedback, and innovation). Our contribution stems from illuminating a replicable application of design system thinking including both the process and the outcomes of this application. We conclude that design thinking is likely to serve as a critical mind-set, tool, and strategy to facilitate HRD practitioners and advance HRD practice.

Key Words: Design thinking, HRD, Future of work, co-creation, problem solving

Introduction

In recent times organizations have witnessed something of a ‘design turn’ (Schumacher & Mayer, 2018). Advocates stress the significance of fostering a design-driven culture, having design representation on corporate boards, and the merits of an overall ‘design-index’ (Sheppard, Kouyoumjian, Sarrazin, & Dore, 2018). Against this backdrop comes the claim that design thinking provides a basis to secure a sustainable competitive advantage (Martin, 2009). While subject to multiple interpretations, design thinking can be broadly defined as “a human-centred process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping, and concurrent business analysis which ultimately influences innovation and strategy” (Lockwood, 2010, p. 11). These characteristics mean that design thinking should have particular resonance for HRD practitioners. Both HRD and design thinking advocates share common characteristics of engaging participants, fostering learning, innovative problem solving, and constant feedback loops (Hill, 2004). Design thinking is a particularly valuable approach when addressing complex, ill-defined, and networked problems, or what Rittel & Webber (1973) refer to as “wicked problems”. It is generally recognized that the future of work mandates new approaches to training and the cultivation of creative new skill-sets (World Economic Forum, 2018). Sarooghi and colleagues note the “growing need for a workforce equipped to face uncertainties and address problems not susceptible to inquiry based on pure analytical skills” (2019, p. 78).

Design thinking is therefore especially apt to facilitate HRD practitioners in dealing with the complex and ambiguous challenges related to the future of work. Ultimately, allowing for input, consultation, and engagement in exploring and creating probable futures is likely to contribute to a greater sense of employee justice, buy-in and engagement with firm activities and HRD objectives (Heffernan & Dundon, 2016; Liedtka & Kaplan, 2019).

The purpose of this paper is to outline and showcase an application of design thinking to explore the skills required for the world of work of tomorrow. Specifically, the article reports on the design, development and delivery of a workshop designed to generate and develop ideas from students and recent graduates about the fundamental training and skills requirements of future employment. Such workshops, designed for the co-creation and evolution of ideas, are often referred to as co-generative. Our contribution stems from illuminating a replicable application of design thinking, including both the process and outcomes. While the value and potential of design thinking has been explored in the context of innovation and entrepreneurship (Elsbach & Stigliani, 2018; Sarooghi et al., 2019) its application to the domain of HRD is still in its embryonic stage. Hence this paper offers an overview of a process and pathway for future explorations to further generate HRD insights and to benefit HRD practitioners.

The paper proceeds as follows. We first detail the significance of design thinking in addressing the challenges confronting HRD practitioners. We then outline the design thinking approach and provide some context for its application as part of the GETM3 project which explores entrepreneurial skills required for the future world of work. The latter half of the paper provides both content and process findings as related to a series of separate workshops conducted with multiple stakeholder groups. This involves a review of the workshop design, pilot, and associated resources. We conclude with the key implications and insights for HRD.

Setting the Context for Design Thinking in HRD

Headline statistics on the future of work highlight a landscape characterized by change and challenge. According to the Institute of the Future “85% of the jobs that today’s students will do in 2030 do not yet exist”, while PwC report that, even today, 79% of global CEOs express concern about the availability of skills (Caplan, 2018). What is less explored is how firms, and HRD professionals in particular, might seek to address the challenge of skill shortages and requirements for up-skilling. The Taylor report in the UK highlights a critical statistic; 65% of the 2030 workforce have already left full-time education (2017, p. 59). This means that the onus falls on employers to build the capacity and skills required for the future of work. The track record of organizations here is not encouraging. For example, research shows that while 70% of CEOs agree that their business model is under attack, a remarkable 90% believe they do not have the appropriate skill-sets to deal with such challenges (Bersin, 2017). Part of the problem is that traditional approaches focus on skills forecasting based on previous challenges, while failing to sufficiently engage with key stakeholders to inform explorations of future probabilities (Caza, Brower, & Wayne, 2015). It is in the context of such challenges, and as a means to better understand changing employee expectations, that design thinking approaches can have great utility for HRD professionals.

Following Zidulka and Kajzer Mitchell (2018) we can highlight specific benefits when design thinking is understood as either a mind-set, process, or strategy. With respect to mind-set, design

inspired approaches encourage empathy, prototyping, and exploration underpinned by a safe environment which acknowledges, and encourages, failure and learning. This learning, lean-start up or abductive philosophy privileges the incorporation of stakeholder input at the outset, while appreciating the value of real-time feedback and adjustment (Blank, 2013; Carlgren, Rauth, & Elmquist, 2016; Martin, 2009). In an era of transient advantages, a HRD mind-set founded on this philosophy is likely to avoid complacency and appropriately focus on exploration of skills for tomorrow, versus merely exploiting the skills of today (Harney, 2016). In terms of process, providing tools and an infrastructure to frame and reframe problems broadens the horizon of strategic opportunities (either at an organizational, HRD, or individual level). Explicit delineation of the problem solving effort is especially valuable for ill-structured, complex or wicked problems which match those confronted by business today. In this manner, design-led approaches may provide a vehicle for HRD professionals to demonstrate value added activities, and evidence around same, as part of the quest for strategic business partner status (Gubbins, Harney, van der Werff, & Rousseau, 2018; Hamlin, 2018). Finally, as a purposeful strategy, design thinking enables the co-evolution of problems with the development of solutions, thereby serving as a “frontier for the development of ideas/strategy formulation” (Liedtka & Kaplan, 2019). This allows for HRD solutions, in the form of new techniques, approaches or skill-set development of to emerge and co-evolve.

Design Thinking for HRD: Opportunity and Application

While product design has long been recognized as an aesthetic driver of innovation, it is only in more recent years that it has emerged as an holistic innovation management practice (Sarooghi et al., 2019). The origins of Design Thinking lie in the 1950s and 1960s work of scholars such as Arnold in 1959 (*Creative Engineering*) and Archer in 1965 (*Systematic Method for Designers*) who sought to define and develop principles and techniques for creative practice. The notion of design thinking and methods for applying the approach crystallized through the practice of David Kelley and his colleagues at IDEO and Stanford University. In part because of its interdisciplinary appeal, and readily applicable tools and logic, design thinking has quickly moved from a niche approach to something broadly desired (Martin, 2009; Sheppard et al., 2018). Accordingly, Dunne and Martin argue that managers and educators would be better served by exploring challenges and problems in the same manner as “designers approach design problems” (2006, p. 512). Design-led co-generative solutions allow for emergence of deep understanding concerning the user’s situation, condition and, critically, needs (Bason & Austin, 2019). Phrased differently, design approaches enable a move “beyond understanding what customers want, to truly uncovering why they want it” (Kilian, Sarrazin, & Yeon, 2015, p. 2). As a result of providing an infrastructure and process of engagement, design thinking approaches are frequently put forward as a means to foster greater engagement (Sharma & Bansal, 2019). The opportunity of design thinking when applied to HRD involves the incorporation and accommodation of multidisciplinary teams to focus on stakeholder needs. By way of example, a deep understanding of employee training and development experience would help with the sense checking of proposed HRD questions and ensuring that an appropriate question is put forward to be answered, prior to embarking on solution generation (Liedtka & Kaplan, 2019). In this sense, design thinking offers a means to move away from traditional, top-down HRD decision making (e.g. top management selecting from predetermined solutions) towards a bottom-up, immersive and more inclusive design-creating logic (i.e., creating new opportunities and solutions) (Baker & Baker, 2012; Schumacher & Mayer, 2018).

While definitions of design thinking are increasingly contested, especially when applied directly in the business sphere, there is more of a consensus on the key characteristics of design approaches. Such key characteristics are said to include a user focus, problem framing, experimentation, visualization, and diversity (Schumacher & Mayer, 2018, p. 500). According to Brown (2008) design thinking traits can be grouped to represent a) a human centered perspective (stakeholder inclusion, empathy); b) focus on generative thinking and creativity; c) rapid learning and feedback (prototyping and continuous communication). Perhaps one of the most recognized manifestations of design thinking comes in the form of Stanford's Design Thinking Process model (Figure 1). This is helpful insofar as it highlights five key stages of design logic. Specifically, a) *empathize* captures the significance of understanding user needs through the means of ethnography, observation, immersive experience, and various forms of user interaction b) *define* builds on the first step, and involves a synthesis of users' points of view c) *ideate* centres on generative and creative processes, encouraging a divergence of perspectives so that as wide a range of solutions as possible are generated d) *prototype* — here the solutions are rendered into material and tangible artefacts enabling experimental interaction with users e) *test* where the most the prototypes with the most strategic potential are tested with users to enable targeted learnings and refinement. This continues and culminates in a final convergence and consensus. An adaptation of this model was adopted in the design of the GETM3 workshops presented in this article.

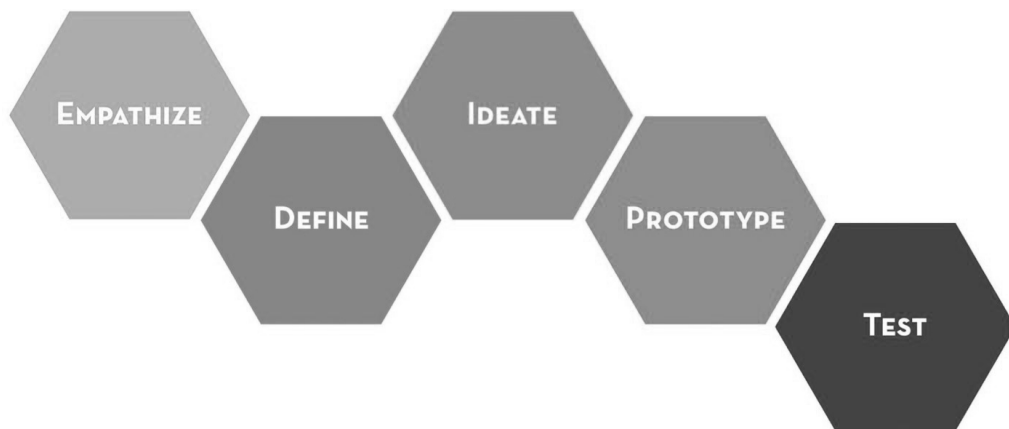


Figure 1. Stanford's 5-step Design Thinking Process (2011)

A notable value of design thinking models is that they are readily transferrable to 'non-designers', offering scaffolding and security to sceptical or hesitant participants. That said, a level of competence, experience, and ambidexterity is required of facilitators when using a design approach as an understanding of the problem co-evolves with development of solutions. It is, therefore, important to move back and forth iteratively between the various steps as understanding develops. Indeed there have been concerns that approaches such as the Stanford Design Thinking Process Model risks perpetuating a prescriptive, codified and linear logic. In recognition of this Brown importantly clarifies that the design process is "best described metaphorically as a system of spaces rather than a predefined series of orderly steps" (2008, p. 88). Over simplification of a design approach can also remove the agency of the designer and aspects of critique that they may encourage. In this sense, it is important that a design thinking informed approach does not gloss over complexities, but instead acknowledges the creative tensions that are inherent to any complex situation (Dorst & Cross, 2001).

In order to be truly effective, multidisciplinary teams using the approach should establish empathy with all stakeholders involved in the ‘wicked problem’. An important aspect of design thinking is that it democratizes design activity, establishing hierarchy-free environments in which each stakeholder voice has equal weight. This has a twofold benefit: First, participants contribute knowledge and understanding from their own standpoint thereby enriching the collective development of the problem-space. Second, participants, invited to engage in co-creative design thinking activity become invested in solution development *and implementation*. This has significant potential in the realm of HRD where there is frequently a gap between espoused policies and practices and the realities experienced by HRD professionals or, indeed, employees (Gubbins et al., 2018). Empowering a workforce through design thinking can therefore establish creative functionality in an organization (Bailey et al., 2018). This capitalizes on an enterprise’s latent capabilities in order to establish a more entrepreneurial organizational mind-set and organizational structure. In order to explore the utility of a design approach the next section highlights its application in the context of the GETM3 project.

Design Thinking in the Context of GETM3

Global Entrepreneurial Talent Management³ (GETM3) provides a perfect platform to explore and showcase the applicability of design thinking to key HRD related issues, namely the future of work and skills required for jobs that may not yet exist (Bailey et al., 2018) (see editorial for an overview of the GETM3 project). The inclusion of student, higher education and employer insights is a critical and recurrent theme across the entire GETM3 project. Wastell (2014) argues that design can form the basis of reform for management practice, but equally for higher education (e.g. curriculum design). In light of this promise, design-led, co-creative and generative approaches have been adopted by GETM3 partner institutions, allowing participants from diverse disciplinary and cultural backgrounds to collaborate in order both to frame a problem-space, and concurrently identify and explore solution opportunities (Bailey et al., 2018). In the example presented in this article, design thinking has been deployed with groups of students and graduate talent in order to explore curriculum design and future skills for talent development in an uncertain and rapidly changing labour-market.

The design of workshops and resources was conducted by academics from the GETM3 consortium, led by the Northumbria University Design team. Recent graduates with experience in design-thinking and workshop facilitation were also involved in the development and application of associated resources. For the purposes of the GETM3 programme, an adaptation of the simple 5-stage model was required, primarily because of time available to work with stakeholders within the project is very limited, and longer projects harder to establish. As a means to engage graduate talent in thinking expansively about the possibilities of future new educational models and paradigms, design thinking offered an activity-based approach that, through careful facilitation, would enable participants to view the complex situation from multiple perspectives; that of employers, students, the institutions, the disciplines, funders, policy-makers, and so forth. The approach offers a rapid way by which to generate understanding and multiple, innovative possibilities. It is critical that this occurs in a ‘safe environment’ where individuals are treated as equals. The philosophy informing the workshop followed that suggestion by Dunne and Martin whereby

A traditional manager would take the options that have been presented and analyze them based on deductive reasoning. You typically get those options on the basis of what you have seen before —

that is, inductive logic. You then select the one that has highest net present value. Whereas a designer uses abductive reasoning to say, “What is something completely new that would be lovely if it existed but doesn’t now?” (2006, p. 514).

Keeping true to design logic we present details and process of the GETM3 design thinking workshops in a form similar to a pilot study (Spurlock, 2018). Morin (2013) highlights that pilot studies are especially useful in gathering evidence of intervention effectiveness. Similar to design thinking, proceeding on the basis of a pilot study enables the feasibility and acceptability of the proposed approach to be explored and refined.

GETM3 Design Thinking Workshops: Method and Design

The time for each GETM3 workshop was limited to two days. This called for an accelerated approach that took advantage of the most valuable aspects of both the Stanford Design-Thinking, and Google Design Sprint approaches. The delivery extended to four sessions namely: Unpack (problem- framing); Sketch (ideation); Decision & Revision; Communication. The first workshop was conducted in January 2018. The cohort who participated comprised 17 students representing eight different nationalities who between them had experience of studying 12 different subjects including mathematics, fine art, journalism, software engineering, sociology, and design in six different countries. They ranged in age from 22 years to 33 and had between zero and 10 years of professional employment experience. These students were studying for a Master’s degree in Multidisciplinary Innovation (MDI) — a programme that is designed to enable graduates of different disciplines to learn cooperatively through creative, enquiry-based learning undertaken with external partner organizations (Bailey & Smith, 2010). As a pilot study, the facilitators (expert academics and Innovators in Residence) were simultaneously adopting the role of practitioner researchers. In this role they were conscious that the pilot was, in effect, a prototype which was being tested by the student participants. However, as this activity was being run as part of these students’ studies, the facilitators were mindful of the need to ensure that this was a positive learning experience and to ensure alignment via “a dynamic prototyping approach” (Schon, 1995). The initial design for the workshop and resources was piloted at Northumbria University, with colleagues from Slovenia and South Korea in attendance. In addition to a reflection session by participants at the end of the workshop, colleagues from University of Ljubljana, Dublin City University, University of Warsaw, and Northumbria University were involved in the evaluation of the pilot (see Bailey et al., 2018).

Aligning with the workshop philosophy outlined previously, one critical tool used by facilitators involved “creative tensions” (Sterling et al., 2018). This is a device designed to accelerate the development of empathy amongst participants by synthesizing comprehensive stakeholder research data into a series of contextualized statements that set-up potential conflicts between the different parties’ points of view (see Figure 2). These are derived from the central paradoxes of the situation, which have been identified by preparatory research conducted prior to the workshop. They provide different frames through which participants may view the situation from perspectives other than their own and thereby help to frame the problem space. Other tools that have been found to be useful include specially designed templates tailored to the topic under discussion. These prove a good way of providing scaffolding to participants who are unfamiliar or uncomfortable with creative practices and the inherent ambiguity that can exist in addressing ‘wicked problems’. To this end, one useful approach involves adapting the Business Model Canvas

(Osterwalder, Pigneur, & Smith, 2010) to suit the situation at hand. In this case, that adaptation involved reconceptualizing the canvas as the ‘Global Education Challenge Canvas’ to incorporate fields of interest specific to the circumstance of Higher Education; What would students learn?, How would they learn it? Key Stakeholders, Funding Mechanism, etc. (Figure 2).

Figure 2 Examples of creative tension tools deployed in the workshops

Figure 3 Sample Global Education Challenge Canvas

GETM3 Design Thinking Workshops: Process

Two days prior to the event participants were provided with links to the various resources that the researchers within the GETM3 project had provided. These comprised predominantly articles from the popular press, specialist media, and TED talks. The purpose of providing this material in advance of the workshops is to allow participants to familiarize themselves with alternative points of view relating to the topic and to give them time to internalize these and start to consider their own positions.

Session 1 — Problem Framing

Problem framing and re-framing is an essential element in creative practice (Dorst & Cross, 2001) and it could be argued that it is the aspect of any creative design project that merits the greatest attention because it sets the scene for all that will follow. Essentially it is about identifying which challenge or opportunity, within a given situation, should be addressed; which question should be answered. Ideally it will involve input from all of the key stakeholders. Within the context of a rapid workshop design, tactics need to be employed that will accelerate the process whilst still endeavouring to keep opportunities open. Dorst and Cross (2001) identify that the problem-space and solution-space co-evolve, and we propose that it is, therefore, valuable to use solution-focused activities to help to stimulate exposure of the nature of the problem-frame.

The Problem Framing session comprised four activities and took three hours:

Activity 1: Briefing. The outline for the structure of the following two days was presented followed by a recap of the contextual material that had been shared prior to the event. In preparation for the workshop, the Northumbria Design team had prepared a series of Creative Tensions (Figure 2) that represented different educational themes that could be pursued and were constructed from the perspective of the three primary stakeholders; SME employers, New Talent employees, academia. These were presented to the overall group and then allocated to smaller groups of two or three. At this stage, no overarching question was presented beyond an informal “here is a situation, what might we do about it?”

Activity 2: Learning Journeys. In their small groups, the participants were first asked to think about the most meaningful educational experiences (formal or informal) that they could recall, discuss it and visually map this out as a learning journey; what was learned, how and where; how it was assessed and recognized etc. They were then asked to think about the scenario presented in the Creative Tension and consider how their own educational highlights might be adapted or adopted to help address this theme. They were required to create learning journeys relative to each theme. Learning Journeys in this context are akin to a customer journey map used in Service Design. They identify each of the touchpoints that a user has with the service and represent these along a timeline. In the case of the learning journeys required at this stage of the workshop, participants were required to imagine each intervention that would be required to happen in order for learning to take place in the way that they had envisaged.

Activity 3: Adapted World Cafe Approach. The World Cafe encourages diverse voices to converse around a given theme, building understanding and creative opportunities in the process (Brown, Isaacs, & Wheatley, 2005). In this case, the teams were required to rotate from theme to theme using the Creative Tension as a prompt to ask “what if universities did ...?” questions building upon the ideas of participants who had already contributed to the theme and record their creative responses on sticky notes for the next group. Each rotation was given 10 minutes.

Activity 4: Sum-up. This exercise represented an opportunity to review all of the thinking and ideas explored thus far and for individuals to identify, for themselves, which theme offered the greatest creative scope for them to contribute to developing proposals that would address the question “How might universities prepare graduates for jobs that don’t yet exist?” At this point the participants were asked to form small teams (again of two or three), around their preferred theme.

Session 2 — Solution Development 1 — Global Education Challenge Canvas

The Solution Development 1 exercise comprised two activities and lasted two hours and the participants were advised that the teams should not discuss their emerging ideas with each other but should work in secret in order to stimulate some friendly competition, avoid ‘group-think’ and maintain the possibility of developing surprising, novel outcomes:

Activity 1: Synthesis. The teams were invited to review all of the ideas that had been generated around their theme through the Adapted World Cafe rounds, to identify the most promising and to generate new or refined ideas based on these. They were encouraged to use ‘what if?’ questioning and to consider whether new opportunities might emerge through combining apparently disparate idea pairs. They were given a period of time for unconstrained, freeform thinking before a structural device, The Global Educational Challenge Canvas, was introduced to help them start to refine their thinking. They were advised to use the different sections of the canvas as prompts to help them ‘dig-deep’ in their idea development.

Activity 2: Wildcards. Having been asked to start to commit their most compelling solutions to the canvas (they were not limited to just one solution at this point), wildcards were introduced, at random, to each team. These wildcards (two were presented to each team) introduced a significant contextual shift in the situation that the participants then had to consider and respond to in their proposal. Examples of wildcards were: “What if all companies had to gain a ‘qualification’ that enabled them to be licensed to employ graduates?”, “What if gap years were a mandatory requirement before students could start degree programmes and they were arranged by universities?” and “What if all post-school research and education was funded by employers, not learners? How does this change the intervention?” The proposals had to be reevaluated and potentially adapted to address the wildcards and then committed to the canvas.

Session 3 — Solution Development 2 — Create, Test, Refine, Commit

Session 3 was designed with critique and subsequent iterative refinement very much in mind. Some have bemoaned the absence of critique in Design Thinking (Iskander, 2018). It is impractical in many workshop situations to fully prototype and accurately test designed concepts. Nonetheless, a degree of simulation can be employed to help in refining the proposal. This session comprised four Activities undertaken in three hours, in the small groups and still exclusively within their group

Activity 1: Create. The participants were asked to translate their preferred proposal from the outline presented on the previously completed canvas to a timeline representing the students’ learning journey and combined with the corresponding timelines for employers, academia, and any other relevant stakeholders. Presented as a ‘walk-through’ from the perspective of different stakeholders, this sort of journey mapping enables participants to create a story which, whilst not as compelling a full prototype, nonetheless brings their ideas to life. For example, in one proposal where the participants were suggesting an education system where universities no longer existed but learners accessed knowledge through an online trading platform, they were required to produce a timeline that showed how this service would work from the perspective of the learner and the academics trading their expertise through the platform.

Activity 2: Test. Facilitators took on the role of different stakeholders and challenged the proposal through the use of ‘devil’s advocate’ questioning seeking to test the validity of the proposal from multiple perspectives.

Activity 3: Refine. Based on feedback from the previous questioning, the participants were given a short time to refine and revise any aspects of their proposal that were found wanting.

Activity 4: Commit. Finally, in this session, the participants were required to translate their proposal into a short, five-minute 'pitch' to be shared with the other participants and GETM3 project academics.

Session 4 — Reveal, Combine, Communicate

The plan for this session was to have three discrete activities which would enable the separate teams to reveal their different proposals, combine the best elements of each and create and communicate a single, collective proposition. True to the dynamic prototyping, reflection-in-action stance that we had established as a principle for this pilot workshop, it quickly became apparent that this approach would not work as the different ideas, as they were revealed, were a) extremely different in scale and focus and b), could not readily be contrived into a meaningful and useful whole. Examples ranged from individual modules of study that brought together local charities and groups of students to address local challenges, to the wholesale, global disestablishment of the university system! For this reason, the individual teams were given an opportunity to incorporate feedback that they had received from the wider cohort into their pitches and re-present these as a finale to the creative workshop.

Session 5 — Reflection

The working practice of the Northumbria Design team is to formalise collective reflection at the end of any project and to consider three questions: What did we learn about the topic?, What did we learn from the approach? What can be done differently in the future? This approach helps to clarify and consolidate new knowledge acquisition, and captures, whilst fresh in the mind, any improvements that should be considered in the future. This approach was adopted in this case.

GETM3 Design Thinking Workshops: Insights

Based on the pilot workshops there were three key sources to consult in order to review and re-assess the design think process and tools as applied. The first involves the collective reflection of the participating students captured in Session 5. Secondly, the reflections of the participant researchers; the facilitators whose reflection-in-action allowed for modification of the workshop plan in real-time as the pilot was being delivered. Finally, the observations of visiting GETM3 academics who observed the workshops. Taken together, these reflections revealed a number of opportunities for improving the design thinking workshops:

1. Preparatory set-up: the participants failed to engage fully with supplied material prior to the workshops and would have preferred this summarized within the briefing at the start of the event. This is easily remedied in practical terms, but will be detrimental to their ability to internalize and form their own positions.
2. Creative Tensions: whilst these were seen as a positively helpful device in enabling the participants to see the situation from multiple perspectives, they felt that, they could have represented even more points of view. However, we have found that a balance needs to be struck.

3. Employers: graduate talent was well represented in the pilot, as was the university perspective (through the facilitators) but more authoritative employer perspectives were considered to be missing.
4. The introduction of Wildcards was seen as positive. However, they weren't universally helpful because they weren't disruptive enough. In many cases they aligned too easily with emerging propositions so it was easy to incorporate them.
5. The participants in this pilot were all studying for a Master's degree in innovation which uses design-led approaches as underpinning pedagogy. They are attuned to employing a creative mind-set and to an atypical educational setting. For this reason, the output of their work may not be very representative of what other graduate talents from other disciplinary backgrounds might seek.
6. When deployed in other GETM3 countries, cultural differences need to be borne in mind. For example, one of the overseas observers pointed out that in some cultures, an instruction to work in secret would have the polar opposite effect, encouraging participants to chatter about their ideas between sessions.

Taking into consideration the findings from the pilot study, a refined workshop design has been developed that addresses the points raised above. Additionally, the device of 'headline writing' has been introduced to assist participants when they are struggling to commit to the core benefit of their proposition. We employ this device within our projects in order to assist teams in teasing out what matters, to whom and why this is important. They are simply given a short amount of time to imagine that their new intervention has been launched and write the headline and first paragraph of a newspaper article that reported on it, or indeed a tweet that might best communicate it.

In terms of outcomes, three key themes that emerged from participants' proposals (revealed through this pilot and subsequent refined workshops run with different participants) were:

- The importance of soft-skill development e.g. insights gained from bringing together groups and teams from differing disciplines with different approaches and 'ways of looking' at and defining problems.
- The value of the design approach for fostering genuine, hands-on engagement with real-world challenges. The design thinking process offers real benefits in fostering deeper understanding of the challenges confronting HRD and expectations around same. Equally, through engaging with the process, participants develop a sense of shared understanding, sensitivity to multiple frames of reference enhancing the likelihood of buy-in to subsequent organizational efforts.
- The importance of insights from multiple stakeholders. In the context of the GETM3 project this includes the direct involvement of 'employers' in informing and engaging with the learners.

These are exemplified in proposals including the dissolution of universities as institutions and working with charities on real-world challenges. Other proposals emanating from the design workshops included a scheme for converting university buildings into open-innovation spaces where students and industry can work together developing new products, systems, and services, an online platform through which a safe space for industry/student collaboration is established, a

university/industry collaboration through which gap-years are delivered in a way that promotes and recognizes competency development, and the concept of the co-iversity where ideas and solutions are generated in tandem as opposed to traditional hierarchical, top-down modes of learning in institutions (Schumacher & Mayer, 2018).

Conclusion

Design thinking has emerged as a significant concept in innovation and entrepreneurship (Sarooghi et al., 2019), but less so in people management and HRD where its application remains embryonic. In an effort to address this deficiency this paper has explored and showcased the effectiveness of a design informed approach to a ‘wicked problem’ of particular relevance to HRD. By so doing we illuminate both the application of design thinking, but equally, draw out some initial conclusions regarding its potential to explore education and skill-set future proofing. In fostering creative competence, design-led thinking nurtures and creates the active learning, exploration, and originality that the World Economic Forum (2018) deems critical as future work skills. The intuitive appeal of design thinking as a mind-set, process and/or strategy for HRD includes its pragmatic approach and alignment with core characteristics desired of HRD interventions. This an opportune time for experimentation, reflection, and application of design thinking to generate critical insights. While the future by definition will always be uncertain, the infrastructure available to explore and manage it need not be. Designing design thinking for HRD certainly offers a means to add to the HRD practitioner toolkit and advance HRD practice. Importantly, design thinking is a future-facing and strength-based approach (Allen & Simpson, 2019).

The workshop design presented aligns neatly with the need to move thinking in education away from linear, fixed, and progressive models of understanding towards a more dynamic, continuous, and eco-system informed approach. Notably, the value of the design thinking application for the GETM3 project was not simply related to content and appropriate stakeholder representation, but critically, in understanding and replicating the process of workshop delivery across GETM3 partners and contexts. Future research should explore the process of design thinking as applied to specific wicked HRD problems, including an assessment of the benefits of the approach, both content and process, from multiple stakeholder perspectives. A valuable application will come from bringing together multi-stakeholder teams e.g. managers, HRD professionals employees, clients, policy makers, young graduates. Innovations competitions can serve as a tangible output, ensuring that design thinking outputs are both realized and disseminated. The overall benefits of applying design thinking is ably captured by Rouse

when people create together, they engage in intimate creative interactions, which, under certain circumstances, lead to the development of a shared interpersonal boundary (i.e., a sense of “we”). This shared interpersonal boundary influences creativity by circumscribing a closed, safe space in which [to] explore divergent ideas and manage the paradoxes of creativity (Rouse, 2019).

This was captured by a workshop participant who noted “it’s not simply about what we need to learn, but also how to learn”.

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