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What Will be the Surprises for HRD in 2028? A Futures Scenario

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The paper reports findings from a futures workshop to consider surprises — unexpected or astonishing events or facts — that may await HRD. Participants were asked to identify an HRD issue for the future and then pose questions that placed surprise up front and that could indicate a vulnerability for HRD. Two scenarios are developed for the year 2028 and events leading to this year. In the first, S1, human behaviour within organizations is defined by machines and machines prescribe why, what and where work is needed, who does it, when, and how work is done. Thus programmes of learning are pre-determined by machines. In the second, S2, aritificial intelligence proves to be incapable of adapting to the extreme events of solar activity affecting satellites and internet communications globally. HRD rebuilds trust in the collective human ability to work together collaboratively to restore a team ethic and rebuild. The scenarios are discussed and a recommendation is made for HRD research to consider the direction and value of their work and how progress in academic life might be reconstituted to allow more attention to be given to key areas of machine learning and artificial intelligence.

Introduction

At the 2017 HRD Conference in Lisbon, a futures workshop was held to consider the future of HRD for the year 2027. The outcome was three mini-scenarios, which projected an advance in HRD research and practice as a collaborative activity and these are reported in Gold (2017). It was interesting to note but not especially surprising that the scenarios were all optimistic and suggested that HRD research and practice were creatively advancing together as they dealt with political, regulatory and technological dynamics. One example was the value given to apprenticeships in the UK; another is how collaborative research gained prominence where HRD scholars work on what is relevant to others and work across disciplines in a variety of contexts.

At the 2018 HRD Conference in Newcastle, a second workshop was held with an intention to focus on surprises that may await HRD. Surprises concern unexpected or astonishing events or facts. In futures, for HRD, we are concerned with improbable and yet possible surprises which are not yet being discussed in detail in HRD. This could allow the opening of new lines of enquiry, allowing recognition of new opportunities and preparation for difficulties. A key purpose is to identify that which is not yet obvious in HRD so that ignorant security is transformed

into reflected insecurity involving seeing more, responding early, increasing imagination and boldness in HRD scholarship and practice.

Method

After an introduction to consider the meaning of surprise, participants in the workshop were asked to identify an HRD issue for the future. They could then pose questions that placed surprise up front that could indicate a vulnerability for HRD. In the present, there might be improbability but the effects might be severe. In addition, the awareness of these might not yet appear on the agendas of research and practice in HRD.

Participants were given various prompts against which the future might be considered. These were:

- Behaviour
- Technologies
- Geo-Social-Political conditions
- Law and regulation
- Natural resources

Not surprisingly perhaps, and paradoxically for the theme of the workshop, a key area of vulnerability selected by the participants was technology and, in particular, artificial intelligence and the work as well as learning of machines in programmes of learning for humans. The scenarios created begin with a consideration of the year 2028, the events and processes that were in place in 2023 and how the path was formed in the near present.

The Scenarios

Scenario 1 (S1)

2028

It is the year 2028. Nations exist but there are no physical borders or demarcating boundaries between them. Individuals do not describe themselves as belonging to a specifically bounded geographical area or use a geographical area to define their identity.

Individuals are free to move between nations as exchange is not restrictive. Individuals may have a sense of national identity but are behaving as truly global citizens due to the freedom of movement.

However, human behaviour within organizations is defined by machines. Machines prescribe why, what and where work is needed, who does it when, and how work is done. An individual's career development and organizational progress is all defined and controlled by machines.

Programmes of learning, within organizations, are pre-determined by machines. Machines identify learning needs, design learning and then match workers to programmes. Learning is bounded by the machine to ensure a perfect fit with organizational need.

2023

In 2023, the boundaries between the role of humans and machines in organizations is becoming blurred. Individuals begin to stop defining themselves in the context of their birth location or residence. Identities are being formed based on global social movements, political alliances and large global business organizations. The United Nations is re-constituted as it is no longer seen as a sustainable or relevant construct. Administrative agencies around the world launch a global access programme, issuing individuals with electronic travel documents to facilitate movement across national boundaries. Though national identities are maintained, individuals are deployed in different work locations based on work needs. Organizations operate globally, with increasing need to move resources across boundaries freely. State of the art security technology provides access clearance and fraud prevention/detection. It reconfigures around a number of shared interests of the increasingly powerful movements and alliances. It is re-branded as 'Shared Aspirations' seeking to bring together movements, alliances and businesses to further peace amongst all people.

Routine work processes are almost constantly carried out by machines and the need for interaction between workers is reduced. Organizations routinely begin to use the power of AI to maximize global competitiveness.

Machines are elected to senior management positions and/or governing boards within organizations; they fill senior management positions in organizations and 'seats' on boards. Machines play an increasing decision-making role, progressing from roles of optimizing processes, resource allocation and planning.

HRD scholars and practitioners leverage big data analytics to optimize training delivery; optimization algorithms predict learning outcomes based on learning behaviour and knowledge transfer patterns. Sensor arrays collect information (e.g. attention, mental/cognition activity, interest level) and apply interventions real-time in order to sustain the level of learning of participants. However, curriculum design and training needs analysis is still done by humans.

HRD scholars are preoccupied with re-defining the focus of the discipline and organizational practice in this new world and begin to move away from a single focus on human learning and development. Critical HRD scholars find a voice working extensively with a range of global social movements. There are growing streams of work forging links between HRD and psycho-geography. The keynote address at the recent HRD conferences focused on the role of AI in Assessment and Development Centres with a new stream focusing on co-creation between humans and machines. Coaching is beginning to explore relationships and behaviour with artificial as well as human intelligence.

Near Present

Work is becoming global and travel across countries are made easier with economic communities formed. Though existing communities are on the brink of breaking up (like the European Union (EU), others are formed, like the ASEAN Economic Community (AEC). Fuelled by the economic growth of China and India, cross-border projects like China's One Belt One Road (OBOR) initiative bring nations closer and blur national boundaries.

In the UK there is growing angst and concern amongst the 48% of UK citizens who voted to remain, against the forthcoming exit from the EU. The mass peaceful protests that take place

in major cities in the summer across the UK spread by the autumn to towns and even villages. People seek to counter the nation centric views of populist politics and explore new ways of organizing society and constructing identity that does not rely on national boundaries. This movement quickly transfers to America and there is a large permanent protest outside the White House that starts to campaign for free movement across the world.

The exponentially increasing use of machines to perform tasks is brought about by the proliferation of technology, faster and cheaper computers, wide availability of high-speed internet connections (4G/LTE, 5G networks) and coverage, quicker adoption of technology, etc. and enable the growth of the internet of things (IoT) and industrial internet of things (IIoT). Self-driving vehicles and drones, chat-bots, and robots coupled with machine learning and artificial intelligence begin replacing routine jobs humans perform.

As technology 'behaves', a noun commonly associated with humans unpredictable consequences, are evident, such as changes in the Dow Jones that resulted in stock market "prices that fell faster than any human trader could react to" (Bridle, 2018). Algorithms replace work activities undertaken by humans as a cheaper and more efficient option. A systems interface is evident, for example, at airports where scanners screen passports or in recruitment where CVs are analysed. However, this is the tip of the iceberg as research suggests that 50% of the activities that people do could be automated (McKinsey, 2017).

The general population becomes aware of the potential of AI to transform all aspects of working life. The UK Government cite AI as one of the four grand challenges in its Industrial Strategy Document published earlier in 2018. HRD practitioners and scholars begin to consider how to equip individuals and organizations to thrive in this new context.

At the same time a marketized, consumerized neoliberal world has enhanced globalization, the success of which is underpinned by a flexible, labour workforce. There is an expanding precarious working underclass with a loss of jobs and rise in insecurity. As more work practices are subject to computation there is shift in the type of work to the services sector that tends to be 'ripe' for precarious working practice.

HRD scholars and practitioners are challenged to devise development plans as machines are predicted to take over jobs performed by humans. By 2030, it is predicted that 47% of today's jobs will be replaced by machines (Frey & Osborne, 2016). New skills need learning and new curriculums need to be created (e.g. machine learning degree).

The focus on the individual (who can have what they desire at any time) weakened family and traditional communities has increased state powers and dependence, resulting in the nation being an imagined community of the state (Harari, 2014). Thus, having Nations can help humans believe that they are in a community, however, the homogenous, boundaryless states, combined with technology, has enabled multinational organizations to expand and dominate. This consumerism, enabled by technology, influence individuals' identity as they connect e.g. through social media from interests such as music thus encouraging identification from what they consume.

To sustain individual appetites there is a need to speed up the fuelling of these desires. Thus, physical borders are being replaced by borderless borders such as the bridge between Copenhagen (Denmark) and Malmo (Sweden) electronic tolls with no human intervention necessary.

So as technologies become extensions of ourselves what does this mean in terms of training? Face to face training is being replaced by e-learning sessions and platforms, such as Massive Open Online Course (MOOC). Instead knowledge is codified in machines and frameworks for us to choose as individuals when are where to consume e.g. one multinational proudly shared how they now only had eight trainers coordinating their worldwide training programme.

Scenario 2 (S2)

2028

In 2028 Organizations are making their contingency plans based on risk levels to business continuity, but they are insufficient. AI is incapable of adapting to the extreme events of solar activity affecting satellites and internet communications globally. Computers, reliant on updates to remain operational, crashed and networks failed. The same reliance on technology impacted on human failure as people are locked out of the manual overrides and organizations cannot respond to the disasters (Dalcher, 2007). The stock market disappears from Bloomberg displays and organizations scrambled for survival in the new normal.

The transition to solar energy sources is halted and many solar farms are overloaded. Mothballed oil rigs fire up again in Saudi Arabia and a local workforce is needed!

Workers and managers sit at desks with blank screens and phones start to ring. Some remember the old ways. Pens and paper were distributed like rations. Nationally, the populist leaders seize their opportunity to harness the rising fear and anger, stoking riots and looting. A clear vision is preferable to the chaos for most and a new model of leadership was spreading.

Following a decade of increasing transition from human to human interaction to artificial intelligence and self-serve models of service (Tintarev, 2016), HRD departments are tasked with reviewing human interaction and customer service training to respond to a swathe of unpredictable influences that can no longer be devolved to AI mediation in place of human action (Larson, 2010). With increasing fear and the rise of aggressive managers in the framework of populist leaders, HRD take responsibility to mediate with leaders and employees to rebuild trust in the collective human ability to work together collaboratively (Cooper, 2018) to restore a team ethic and rebuild.

2023

In 2023 the world rejoices at the birth of AI. In reality it has been operational since 2005, but the unfortunate ‘hiccup’ in 2007 stalled the celebratory announcement until some ‘fine tuning’ was finished. Work has already completely changed for most organizations. The Microsoft update included an individualized personal assistant for all which controlled your inbox and answered most of your emails. People were suddenly free to do something else … Meanwhile, populist parties struggle to articulate message against the backdrop of this positive, liberating news.

The modernization agenda in Saudi Arabia transitioned into overdrive as the new King Mohammad ascended to replace deceased King Salman. The reformist agenda focused on a massive repositioning to be solar energy global leaders and to transition away from oil which galvanized the young labour force in synergy with AI.

Ongoing HRD initiatives to release the proactive potential of employees with additional training and support for transformational leader development (Caniëls, Semeijn, & Render, 2018). Such

initiatives have more time to grow in the new reality where operational issues are managed through the utilization of AI personal assistants which responds to problems and monitors issues extremely efficiently. For the first time in decades, people are released to become more creative in and out of work as employers all agree to reduce the working week to thirty hours in line with pilot studies in Sweden.[1] The work of HRD starts to change as work enrichment becomes increasingly important and HRD encourages workplace friendships (Kaeppel, Bjorngard, & Grenier, 2018) to foster a different type of workplace which values friendship activity which allows work to transition into play more seamlessly.

Near Present

In near present, solar activity forecasts predict potential spike of activity in the next 10 to 15 years. Governments allay fears and appoint global monitoring body with nations as co-signatories to agree an action plan. Saudi Prince views the news as a sign for the nation to focus on this energy and publishes his latest vision for the next 20 years in Saudi Arabia.

Trump is moderately successful at 2018 mid-terms and this re-invigorates his message to "Make America Great". His approach to distracting the national discourse through misdirection is adopted more widely in the Brexit discourse. This rhetoric is increasingly finding its way into CEO annual reports and leadership discourse for change management methods.

The use of smart tech is increasingly overtaking user's ability to comprehend its impact. Data mining and algorithmic methods predict what staff and customers want before they have thought of it. We are more reliant on smart tech than ever in work and outside and the stock market is booming again.

With continuing pressure to maximize productivity and engagement (Bakker & Albrecht, 2018) and with reduced resources, major corporation HRD departments responds to the benefits of AI. Tools such as 'sidekick' are procured for their potential to monitor employee engagement or burnout signals and provide on demand coaching to maximize potential employee engagement (Butler, 2018). The future of employee development is immediate response on a bespoke and individualized basis.

Comment

Both scenarios have a technological theme but with different pathways and destinations. S1 reflects a clear area of vulnerability for HRD, particularly researchers. Machines are already indicated in the present as a source of uncertainty of employment for practitioners and yet, a search of scholar.google in July 2018 yielded a zero return for a search of the terms 'machine learning and human resource development' and 'artificial intelligence and human resource development'. A search on google main was replete with offers on both but mostly focused on HR in general, where it was claimed by one that "It's hard to find an industry that is not being impacted by machine learning applications".[2] Whether there is a lag in the publication of academic papers (caused by the protracted lead time between submission and publication of academic publications) or a failure by HRD researchers to engage with the issue, the gap clearly represents an opportunity that needs attention. The scenarios suggest that the agenda for HRD is there in 2023 but action is needed soon if this is to be fulfilled.

S2, by contrast, combining the progress to AI with the constraints and upsets of power supplies (and events in Saudi Arabia, representing a particular interest and knowledge of one of the participants), the destination arrives at a crash and ensuing chaos. So the ascent of AI, fed by the abundance of solar energy, comes to a halt.

S1's idea that by 2028 there is freedom of movement for everyone who behave as 'global citizens' is interesting and perhaps hopeful. However, it is a view that chimes with various moves in the education of young people. For example, the Global Dimension website at https://globaldimension.org.uk/, seeks to "develop children and young people as active global citizens", providing resources for teachers and trainers for course and curriculum development. Again, HRD scholars do not seem involved yet. In what seems like another age, in 2013, the Washington DC Brookings Institute conducted an e-discussion on global citizenship, job and skills seeking to create "responsible global citizens who can take joint actions".[3]

Most disturbing is the possibility that by 2028, for many at work, their behaviour is defined and prescribed by machines, dictating why, where, who and how work is done. The signs are there in the near present but mostly in reports outside the HRD field.

An intriguing feature of S2 is the continuing development of the "framework of populism" against which leaders and HRD must reference. Interestingly, HRD research does not seem to have much to say about such changes although with the re-discovery of collaboration, team ethic and trust by 2028, there is safer and more familiar ground.

Conclusion

These scenarios are not predictions; they are possibilities which can provide us with some insight for what might happen. The intention of the workshop, from which the scenarios were developed, was designed to consider surprises for HRD in the sense of what could disturb our thinking. If there is one aspect that has surprised the writers of this paper, it is how HRD practice and HRD practitioners, might be ahead of the researchers in academe. As we know only too well, those in universities and Higher Education in the UK, can easily focus on the requirements for progress in academic lives, and therefore become disconnected from those who practice. Is this the case for those who work under the heading HRD? The challenge posed by this paper is that, if the scenarios have any traction resonace vis what might be happening, HRD researchers (and perhaps retitled Learning and Development researchers) need to reconsider the direction and value of their work and how progress in academic life might be reconstituted.

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Notes

1 Reported in the Guardian online at https://www.theguardian.com/world/2015/sep/17/efficiency-up-turnover-down-sweden-experiments-with-six-hour-working-day, accessed 17 August 2018.

2 Found at https://www.hcamag.com/hr-news/the-future-of-machine-learning-and-human-resources-236576.aspx, accessed 29 July 18.

3 Go to https://www.brookings.edu/blog/education-plus-development/2013/01/30/knowledge-and-skills-for-becoming-global-citizens/, accessed 29 July 18.

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