

# TOPICAL REPORT

## DESIGN & INNOVATION

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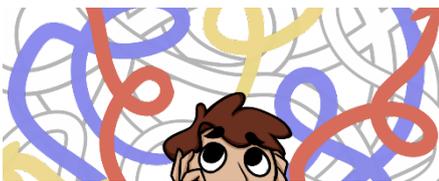
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### DESIGN THINKING



#### Tomorrow is Good: Design Thinking and Ethics

"If we want tomorrow to be any good, we've got to do improve it right now. The well-known American management professor Peter Drucker once said: "The best way to predict the future is to create it." Yet to do that, we first have to learn how to make things better. Within that context, Design Thinking is naturally a popular paradigm. It refers to thinking about design and acting on it always with the design's end user in mind."

Source: Innovation Origins

### DESIGN EDUCATION



#### It's time for the design industry to redesign itself

"Albert Shum, CVP of design at Microsoft, envisions what design education might look like for the next 100 years."

Source: Fast Company

#### Education innovations in Asia: 5 takeaways from Taiwan's NXTEducator Summit

"There's no question that children in school today will encounter an entirely different workplace than the

### DESIGN EDUCATION



#### Innovation in design education: From trans-disciplinary to "undisciplined" design learning

"This document testifies the attempt at critically interpreting certain formative models of the designer from an evolutionary point of view. The criteria used to draw up a historical mapping and perform a reading of some interesting contemporary case histories concern the comparison between the subjective approach (the unveiling of the author's personality and different identity, considered as a subject under formation), on one hand, and the objective reproducibility of a process (project methodology), on the other."

Source: Allemandi & C

#### Analysing The Relevance Of Serious Game Elements For Effectively Teaching Innovation Processes

"we explore in this paper the use of Serious Game Design Assessment (SGDA) framework to analyse IP board games. According to the case study on an open innovation board game, we suggest applying this method to examine the a priori relevance of game elements (components that make up a game system). Moreover, we make recommendations to complement

### INNOVATION



#### 2020 R&D Trends Forecast Results from the Innovation Research Interchange's Annual Survey

"This year's results show continued, but tempered, optimism, continued focus on collaboration, and growing interest in artificial intelligence and related technologies."

Source: Research-Technology Management

### ENTREPRENEURSHIP



#### The Report: Entrepreneurship and leadership skills

"As universities are fighting it out to attract students, digital entrepreneurship and leadership skills are taking the spotlight. But do we really need more digital entrepreneurs? Charley Rogers investigates..."

Source: Edtechnology

one we're in now. The impact of new technologies and a changing climate will influence the kinds of jobs available and the skills needed to be successful in them. While it's impossible to know what exactly the future will hold, education scholars are emphasizing the need for young people to acquire skills such as collaboration, critical thinking, and problem-solving. These so-called "21st century" skills will help young people thrive in an uncertain future. Around the world, innovators are finding new and creative ways to deliver such skills."

Source: Brookings.edu

### Can innovation be taught?

"Brands like Moncler are sending employees and executives to technology bootcamps to foster new ideas and mindset shifts."

Source: Vogue Business

### Pro and Con: Combining Instructional Designers and Educational Developers

"At some schools, the educational developers and instructional designers are part of a single campus center for teaching and learning. At other institutions, these learning professionals are homed in separate organizations, with IDs in academic computing units and EDs in CTLs."

Source: Insidehighered

### Shape shifters: tech and the learning space

"Technology is increasingly determining the geography of the classroom; Simon Fry investigates how today's learning spaces got their shapes"

Source: Edtechnology

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## ENTREPRENUERSHIP



### Creativity meets entrepreneurship: Why it is the next big thing Singapore needs to thrive

"Against the unprecedented socio-environmental challenges of our shared future, we have to begin asking what a thriving nation will look

the SGDA framework with Game and Learning Mechanics, and real-world information. This contribution should help designers transform traditional educational supports into serious board games for teaching IP."

Source: Design Society

### Design teaching as design research validation

"Validation of design research results has been an ongoing challenge. Validating is defined as 'supporting or corroborating on a sound or authoritative basis' or 'recognizing, establishing, or illustrating the worthiness or legitimacy of (something)' (Merriam-Webster Online Dictionary). In scientific research we validate theory and results through observation, experimentation, and repeatability. What about design research?"

Source: International Journal of Design Creativity and Innovation

## ENTREPRENUERSHIP



### Building the Entrepreneurial Mindset Through Cross-Functional Innovation Teams

"This learning innovation article's purpose is to provide educators with a course assessment tool that can be used to improve student outcomes in an undergraduate, production innovation, and development course, comprised of cross-functional teams (business and engineering students)."

Source: Entrepreneurship Education and Pedagogy

### Examining Current Practice in Engineering Entrepreneurship Education

"Engineering entrepreneurship not only shares the same origins of the more traditional venture creation-focused entrepreneurship but also represents a new discipline influenced by the practices of engineering and education. Our understanding of what exactly defines engineering entrepreneurship is still evolving because theory and research lags behind the significant growth of practice. Theoretical frameworks, research, and reviews of engineering entrepreneurship are needed to advance the understanding of this emerging discipline."

Source: Entrepreneurship Education and Pedagogy

like, and how we can create a culture for that to happen.”

Source: e27

## New research evaluates design of startup accelerators

“Findings reveal the hallmarks of accelerators that lead to better results for startups”

Source: The University of Georgia

### INNOVATION



## How Digital Twins Are Reinventing Innovation

“From faster and cheaper drug trials to fully “conscious” cities, digital replicas are changing the face and pace of innovation.”

Source: MIT Sloan Review

## When Individuals Are More Innovative Than Teams

“It is widely believed that breakthrough innovation is more likely to be achieved by teams. Research has found that teams generally outperform individuals when attempting to create impactful innovations such as highly cited technological patents or scientific publications.”

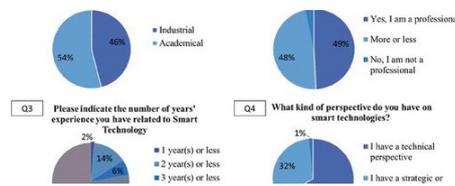
Source: Harvard Business Review

## Working to Instill the Entrepreneurial Mindset Across the Curriculum

“This article describes efforts to build the EM comprehensively into the mechanical engineering curriculum at Ohio Northern University. While several frameworks have been proposed related to the EM, the work here is motivated by the Kern Entrepreneurial Engineering Network framework (KEEN). A core group of college faculty identified the institutional definitions of the KEEN student outcomes and identified courses for deployment of these outcomes to provide comprehensive, curriculum-wide exposure to the EM.”

Source: Entrepreneurship Education and Pedagogy

### INNOVATION



## News and Analysis of the Global Innovation Scene

A record of 4 ongoing innovations covering topics on urban mobility, healthcare, material innovation and cybersecurity.

Source: Research-Technology Management

## Mobile Market Research Applications as a New Voice of Customer Method: Implications for Innovation and Design Management

“This paper describes mobile market research applications (MMRAs), new Voice of the Customer (VoC) tools that take advantage of the ubiquity of smartphones. MMRAs provide an efficient and effective method of collecting intimate, in situ data from customers, allowing traditional VoC approaches to be augmented with digitally captured data.”

Source: Research-Technology Management

## Co-design and Innovation: Tools, Methods and Opportunities for the Generation of Innovation Through User Involvement

“Starting from the role of Design as a strategic factor of innovation in the production and social field, the chapter deals with the main methods of participatory design. In particular: Design for product and service innovation; Participatory design and co-design; Co-design tools for design and development of a project; Cultural probes; the co-design workshop: from conception to prototyping.”

Source: Design for Ergonomics

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