

## Transforming the student experience by integrating interdisciplinary challenge-led learning

Heir 2019



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Q: What is a university for?



## Fourth Industrial Revolution

- Interdisciplinary in nature
- Crosses field
- Transcends disciplines



## Overview

- Context – student engagement
- ICE : Innovative Creative Exchange (University of Huddersfield)
- Models for Challenge-led learning
- IMPACT
- Where now...



“Tell me and I’ll forget: show me and I may remember; involve me and I will understand”

Benjamin Franklin



## Context

- Research /practice /scholarly
- Learning & teaching
- Engagement (internal and external)
- Integration of knowledge (leaders)



Improving

# Engagement

- Sense of belonging
- Enabling full integration with studies
- Engage with wider studies
- Feeling valued/encouraged/included (Identity)
- Making friends (critical/commuter)
- Working outside discipline (networks are key)
- Designing for learning (assessment/engagement)
- Skills to succeed beyond university
- Realizing dreams – going beyond expectations



## What 'we' were trying to achieve?

- Co-create knowledge (problem solving)
- Knowledge communities
- Exchanges and networks
- Develop skills and attributes – fulfil potential
- Entrepreneurial / intrapreneurial mindset
- **Ability to work with other disciplines**
- Engaged University – sector "We are the cause"
- DRIVER – Commercial awareness, IP, co-creation
- Ability to deal with uncertainty (wicked or complex)

## VALUE

Interdisciplinary working has been recognised as a key contributor in solving complex social problem (DIUS, 2008; QAA 2012, BIS 2016)

- DC promotes design led approaches to problem solve / co-create (Feb 2018)
- The RAE - individuals who can work together in multidisciplinary teams are better equipped to deal with complex challenges (RAE, 2012).
- Grant (2012) engineering and design graduates need to be exposed to stimulating environments that promote entrepreneurial mind sets and cultures leading to novel ideas to expose creative flair but also sustainable networks and connections to bring them into fruition.
- The Design Council advocates "design" as a means to addressing complex social issues and offers multidisciplinary as a solution with "design" placed as the foundation of discipline integration (DC, 2015).
- The Academy of Management stressed the importance of expanding research and teaching interest beyond business to support complex problem (1970)

## Innovative Creative Exchange (ICE) at University of Huddersfield



- **VPI – Jonathan Sand (Vexillifer)**
- **Interdisciplinary /challenge-led collaborations (complex and commercial)**
- **Dynamic and unique environment**
  - outside the traditional curriculum
  - UG (second years) engage in challenges-led learning
  - challenges cross discipline boundaries (newness)
- **Disruptive parameters to impact on learning**
  - time controlled environments
  - challenging students both creatively and technically (competitive)
  - developing entrepreneurial skills – mindset
  - co-creation



### Challenge-led Learning

>>>>INSPIRE>>>>INNOVATE>>>>IMPACT>>

Bridging discipline gaps through the creation of a network of exchange to develop a legacy of learning

- **Design Challenges** • 24 hour Challenges
- **Commercial Challenges** • 7 hour Challenges • 24 hour Challenges

### 7 hour commercial challenge



*It's a fun and creative event. I really enjoyed it. Very useful event, we should have more interdisciplinary activities to encourage the type of idea generation that has happened today."*

*...today was thoroughly interesting and very relevant to my studies...I feel informed and [it] will leave me with a lot to think about, and a fresh boost of creativity*

*"We were told in a guest lecture how SPEED is crucial – so this is great practice and an awesome piece to put in my portfolio*

### 24-hour Wicked challenge

*"Judging the 24-hour design challenge was a pleasure and revealed an impressive arsenal of talent the University of Huddersfield has amongst the students. .... When placed under pressure, right brain instinct coupled with pragmatic decision making, causes inventive and exciting concepts and solutions. Events like the 24hr Design Challenge are a great example of where you'll see this in action."* David Bailey UX BBC

### Reflection

"It has been an unbelievable experience that has offered me the chance to not only meet new people...but learn things in industries that I have no knowledge of at all. I would recommend it to anyone not only as a confidence building experience but also the chance to pursue an idea or concept that you wouldn't otherwise get the opportunity to even look at." Student 2017

...To my surprise the value of the ICE challenge has been not only in the high pressure work itself, but in the experience & highlighted importance of cross discipline student collaboration. Personally as a designer, Project Blue has demonstrated an ability to not only craft and develop an idea into strong brand identity but then weave that brand into a styled companion digital role out & animation, all of which have become highly transferable skills when working in industry. Student 2017

"The ICE project for me has been such a beneficial experience. I've learnt skills which I would never have gained through my degree and I'm still being offered brilliant opportunities and meeting new people due to taking part in this project. I am very grateful to the university staff members who mentioned it to me - it has definitely been worth it." Student 2017

**BLUE BIN**  
 -Interior Design - Heather Bradlock  
 -Graphic/Animation - James Betts  
 -Electrical Engineering - Philipp Hazel  
 -Product Design - Abi Li

### Analysis

"It has been an unbelievable experience that has offered me the chance to not only meet new people and make forever friends, but learn things in industries that I have no knowledge of at all. I would recommend it to anyone not only as a confidence building experience but also the chance to pursue an idea or concept that you wouldn't otherwise get the opportunity to even look at (VALUE)." Student

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- Friendship
- Commercial
- Skills
- Collaboration
- Value / benefit

| Participant Refection   | Learning Process   | Learning Context   |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Love.....</li> <li>• Framework</li> <li>• VALUE – learning</li> <li>• Metacognition</li> </ul> | <ul style="list-style-type: none"> <li>• Skills</li> <li>• Commercial awareness</li> <li>• Self awareness</li> </ul> | <ul style="list-style-type: none"> <li>• VALUE contribution</li> <li>- Friendship</li> <li>- Impact collaboration</li> <li>- Skills</li> <li>• Holistic</li> <li>- General</li> <li>- Value collaboration</li> <li>- Further Prospects</li> <li>- Learning gain</li> </ul> |

Reflection 2012 - 2016

## Impact

| Student  | Commercial   | University   |
|--|--|--|
| Skills - resilience<br>Metacognitive appreciation<br>Value of networks<br>Positive disruption<br>Change of mind-set<br>Benefits to career<br>Awareness of opportunities<br>Better ENGAGEMENT | Changed mind-set<br>- changed branding strategy<br>- exploring KTP<br>- exploring research projects<br>Inventive/exciting concepts<br>- opportunities to explore new concepts<br>Overwhelmed by new ideas<br>- taken into the commercial sector<br>Great design is a team<br>- opens new perspectives<br>- Fashion students for web design | Brought people together<br>Staff short listed for prize<br>Opened up facilities<br>Snowballed<br>Benchmark statements<br>Streamlined IP<br>Changed mindset<br>Blueprint for learning |

Reflection 2012 - 2016  
 (Power, 2018)

## Creative Footpath Challenge

Staffs students in Partnership with UHNM May 2018

<https://www.linkedin.com/pulse/staffordshire-students-working-community-challenge-power-sfhearnt/>

THE CONNECTED UNIVERSITY

## Funding for VPI Oct 2018-July 2022




**The Creative Connections**

- innovative teaching and learning practices to increase student learning,
- build sustainable networks and develop employability skills
- work in a world of uncertainty and complexity,
- promote entrepreneurial mind sets and cultures
- sustainable networks and connections to bring them to fruition.



## Summary

- **Best practice models – interdisciplinary collaborations in HE**
- **Key challenges, levers/mechanisms and intutional barriers**
- **A blueprint – Challenge based learning**
- **Measurable Impact – students, commercial, university**

Thanks  
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**Jonathan Sands  
Stefan Gabriel**

Royal Academy of Engineering

Q: What is a university for?



Q: What is a university for?

“Generate knowledge  
for the good of  
mankind”



### Further Information

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