Built Environment Learning and Teaching Showcase 2016

Never Stand Still | Built Environment

IDES2201 Ergonomics re-designed for 2016

Andrew Wright and Stephen Ward

This presentation

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2. Aims of re-design
3. What we did
4. Outcomes

About the course

IDES2201 Aims

*"..... the **aim** is that you will become a **better designer** by gaining an appreciation of the needs and capabilities of the people who will use the products, systems and environments you design..."*

(from course outline)

IDES2201 Learning outcomes

Learning outcomes are aligned with the aim and directed toward students:

- ❏ Demonstrating ability to find, interpret and use information from ergonomics literature.
- ❏ Integrating ergonomics knowledge and design process with suitable tools and techniques for user-centred design.

Interactive Lectures

The size and arrangement of the lecture theatre facilitates discussion and Q&A following from pre-class engagement.

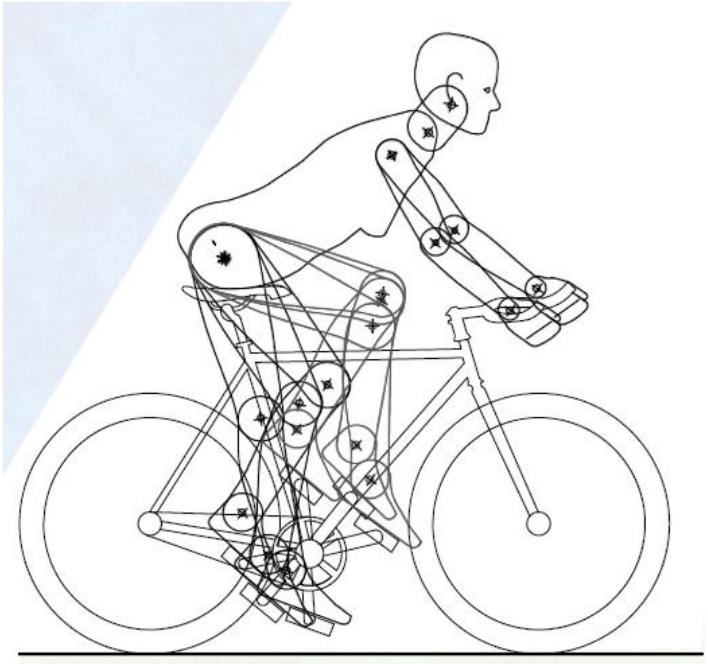
Tutorial/prac activities

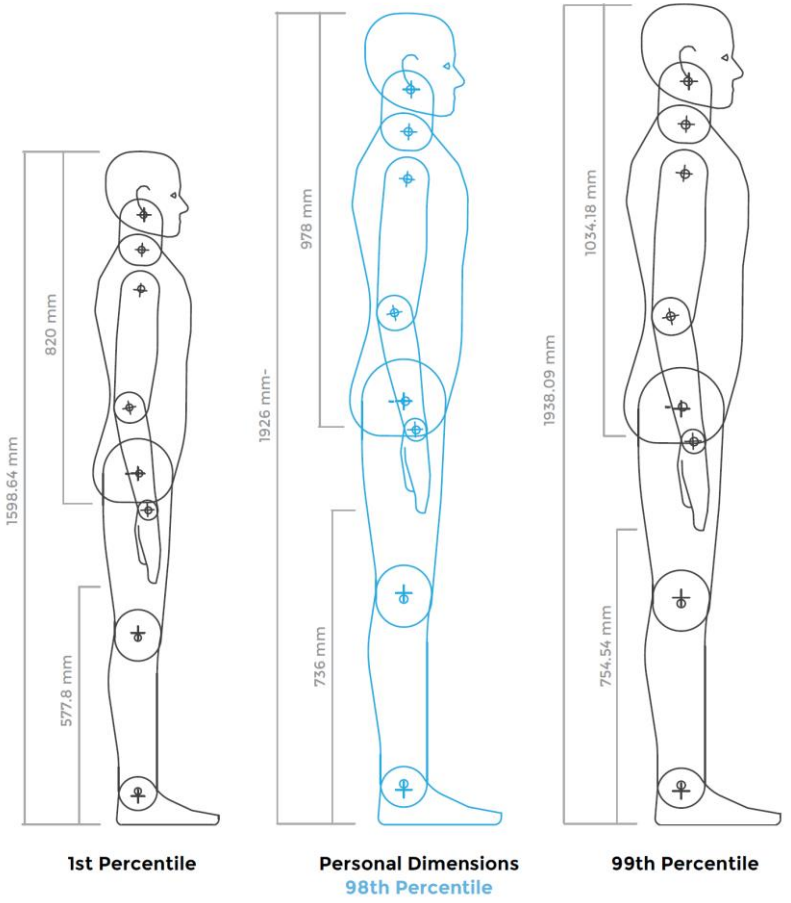
Flexible studio space adapted each week according to activity.

Structure of revised course

IDES2201 Ergonomics - Course structure - Semester 1, 2016			
Module 1 Weeks 1-4 **Physical Ergonomics** Assignment: *"My Size"*	Mid Session recess & non-teaching week	Module 2 Weeks 6-8 **Cognitive Ergonomics** Assignment: *"Self-Service"*	Module 3 Weeks 9-13 **Inclusive Design** Assignment: Research report & group design project

Physical Ergonomics





Cognitive Ergonomics

Figure 1. An example of a paper mock up that was used to represent the interface.

Figure 2. LOW FIDELITY TESTING RESULTS-1

PROBLEM	1	2	3	4	5	SOLUTION
Going too the touch screen first.	1		1	1		Instructions on screen to 'select a product'
Don't know whether to press the buttons.	1	1			1	Use of instructions on screen and also plus signs on the buttons.
Problems in selecting more that one option	1	1				Make it clear when items are selected that you can add or take away products.
Further health services not clear.	1		1	1		Introduce them as an option on the home screen.
Pay services unclear					1	Use arrows and brief instructions.
Confusion in removing items?		1				Add plus or minus buttons on screen.
How to go back or home.		1	1	1	1	Consistent button on screen.
How to add items.				1		Add plus or minus buttons on screen.

Figure 3. The large scale model which made a huge difference to the accuracy and testing experience.

Figure 4. HIGH FIDELITY TESTING RESULTS

PROBLEM	1	2	3	4	5	SOLUTION
Going too the touch screen first.	1	1	1	1	1	Note: This occurred in all cases but was now a part of the new user process.
Don't know whether to press the buttons.						
Problems in selecting more that one option						
Further health services not clear.				1		Add them on a page after a product is bought.
Pay services unclear						
Confusion in removing items?						
How to go back or home.		1		1		Make back and home buttons even more consistant.
How to add items.		1				Ensure it is very clear on the 'selected items screen'
Confusion because 'select a product' is in a section box.	1	1				Put the 'select a product' in an arrow pointing at the options
Where do you tap first.	1			1		Insure the opening screen is very clear.
What happens if you press the plus while on the 'health services' screen.					1	When plus is clicked at anytime (emergency services exempted) go to 'selected items' screen.
What happens when the plus is clicked.		1			1	Make the change from 'home screen' to 'selected items very dramatic and noticeable'

Inclusive Design

Bridge the gap between station platform

Avoid injury and hassle with the help of a retractable ramp

Aims of re-design

Aims of re-design

1. More active learning environment with student involvement distributed before and after classes.
2. New video collection of expert interview videos produced for this course.
3. Make lectures more interactive; tutorials to be more fast moving to take advantage of students' pre-engagement with the material.

What we did

Co-design sessions

A student co-designer group was an integral part of the re-design process – to include a learner perspective in the evaluation of our re-design proposals.

The eight student members of the group had completed the course in 2015. There were three co-design sessions.

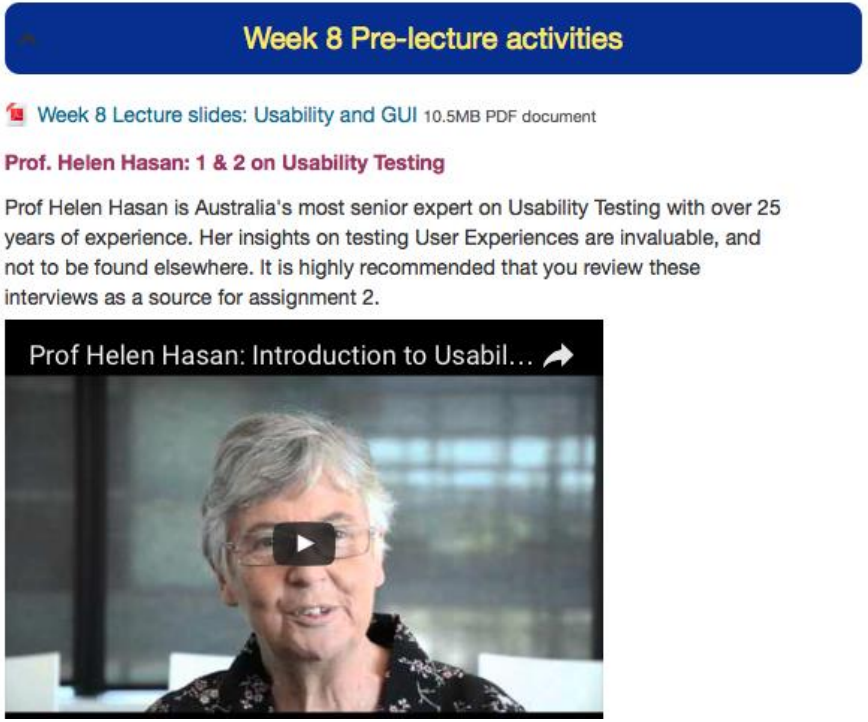
More online activity and resources

1. Forum for student pre-class posts and discussion
2. Custom-made video interviews – some required as pre-class viewing, others available as resources
3. Wiki for students to compile and share resources in five categories to support final Inclusive Design group project

Structure of pre-class activities

Starting Monday:

- A required task e.g. reading some prescribed journal articles or viewing expert interviews
- Answering provided questions in the weekly discussion forum
- Always related to the Wednesday's lecture and / or the tutorial content



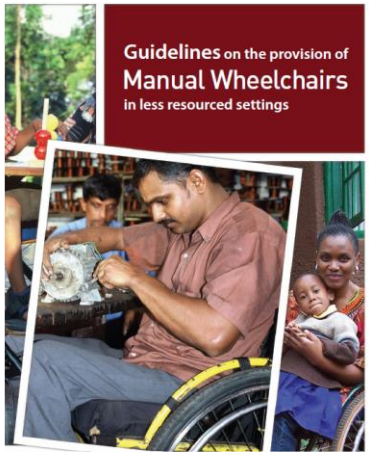
"*Interviews with Experts"* video series

Approximately 40 separate clips created with two graduating industrial design students and eight experts in the Ergonomics / Human Factors domain.

Topics include design, visual ergonomics, manual handling, environments for children, user experience, packaging, office equipment, transportation, human computer interaction, the elderly and workplace injuries.

Inclusive Design wiki

Students each contributed 3 items to an assigned category in an Inclusive Design wiki resource. The wiki was used by students for assignment work, and will serve as a reference for the future.



Outcomes

Participation in pre-class activities

The forum and wiki in moodle allowed reliable monitoring of contributions to discussions related to pre-class activity.

Participation was a component of student assessment, and was generally enthusiastic.

Participation

Student ID	Name	Group	Wk 2 Forum	Wk 3 Forum	Wk 4 forum	Wk 6 forum	Wk 7 Forum	Wk 8 Forum	Wk 10 Forum	Wiki.. / 3
s5070845	Abbott, Marc	A		1	1		1	1		1
s5061238	Agius, Emily	A	1	1	1		1	1	1	1
s5023185	Allen, Jessica	C	1	1	1		1	1		1
s5069672	Andrews, William	C			1	1		1		1
s5018456	Ayton, Digby	C	1	1	1					1
s5061272	Baltazar, Melchor	C	1	1	1	1	1	1		1
s5062418	Banks, Charles	C	1	1		1	1			
s5054477	Chang, Hoi Young	B	1	1	1		1	1		1
s5077134	Chen, Faye	C	1	1	1	1	1	1		
s5069511	Chen, Yuting	B	1	1	1			1		1
s5105553	Chiu, Wing Yin	B			1			1		1
s5140758	Dai, Luoning	A	1		1		1	1	1	
s5101818	Diaz Lazo, Ibrahim	C				1	1			1
s5078745	Farquharson, James	A	1	1	1	1		1		1
s5078468	Feng, Bowen	B	1	1	1		1	1		1
s5073877	Ghent, Sandy	A	1							
s5077136	Griffin, Daniel	C			1		1	1	1	1
s5028495	Guo, Haojun	C	1	1	1		1			
s5041686	He, Qian	C	1	1	1	1	1	1	1	1
s5105829	Ho, Claudia	A		1	1		1	1	1	1
s5056035	Hou, Tianyu	B	1	1	1	1		1		1
s5076009	Hua, Natalie	B	1	1	1	1		1		1
s5069855	Hynes-Ostergaard, Christian	A	1		1			1		
s5014470	Jiang, Yina	C	1	1	1		1			
s5078835	Kohn, Dayna	B	1	1	1	1	1	1	1	1
s5061504	Le, Benjamin	B	1	1				1		
s5033230	Li, Chenming	B	1	1	1	1	1	1	1	1
s5014438	Li, Ningjin	A	1	1				1		
s5062346	Lochens, Kurt	B	1	1	1		1	1		1
s5118868	Loedemel, Helge	A	1	1	1		1	1		1
s5023865	McGoldrick, Ryan	A	1	1						
s5105706	Munch, Mikako	C	1				1	1	1	1
s5060079	Ng, Matthew	A	1	1	1	1				
s5058805	Nicholls, Lachlan	C	1	1	1					
s5119853	Ocone, Renato	A	1		1					
s5056503	Pan, Chengdong	A	1	1	1	1	1	1	1	1
s5149519	Pan, Rong	C	1	1			1	1		1
s5019859	Pataki, Sean	B	1	1	1	1	1	1		1
s5061792	Perry, James	A	1		1		1	1	1	1
s5060627	Sariaatmadja, Raden	B		1						1
s5062472	Scholsner, David	A	1	1	1	1				1
s5107548	Sivarajah, Nikors	A			1		1	1	1	1
s5060996	Sue, Alexander	B	1	1						
s5061724	Van Heyst, Sasha	C	1	1	1				1	1
s5027130	WANG, Shouchen	B	1	1			1	1		1
s5027748	Wang, Xin	A	1	1	1		1	1		
s5062504	Wilandouw, Josephine	B	1		1	1		1		1
s5013199	Wood, Lauren	B	1	1	1	1		1	1	1
s5027166	Wu, Jitao	C		1				1		
s5056006	Wu, You	A	1		1		1		1	1
s5028511	Yu, Zhen	B	1	1	1		1	1		
s5054773	Zhang, Yijia	A	1	1			1	1	1	1
s5028515	Zhang, Yuncheng	C	1	1	1		1	1	1	1
s5028516	Zheng, Xinyu	A	1	1	1		1	1	1	1
s5056870	Zhou, Quan	B	1	1	1	1	1	1		1

Student feedback in CATEI

".. resources uploaded to moodle each week, was great to be able to go back to and reflect on and use for further learning"

"The in class activities, I felt they were well planned and relevant to the course of assignments"

"in class activities were all relevant to what we were learning .... enjoyable and interactive"

Student feedback in CATEI

“very useful information that has changed my perception of user centred design”

“Very informative, well organised!”

“Great subject that was fun and interesting. Subject content and assignments made relevance to real life situations and kept students interested and satisfied.”

….Questions?