Research Repository UCD

Title	International Student Collaboration in Biosystems Engineering using Video Podcasts in Design Classes
Authors(s)	Curran, Thomas P., Gates, Richard S., Gentile, Francesco, et al.
Publication date	2014-07
Publication information	Curran, Thomas P., Richard S. Gates, Francesco Gentile, and et al. "International Student Collaboration in Biosystems Engineering Using Video Podcasts in Design Classes." American Society of Agricultural and Biological Engineers (ASABE), 2014.
Conference details	American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting, Montreal, Canada, 13-16 July, 2014
Publisher	American Society of Agricultural and Biological Engineers (ASABE)
Item record/more information	http://hdl.handle.net/10197/6251
Publisher's version (DOI)	10.13031/aim.20141909810

Downloaded 2023-04-07T10:52:29Z

The UCD community has made this article openly available. Please share how this access benefits you. Your story matters! (@ucd_oa)

© Some rights reserved. For more information

International Student Collaboration in Biosystems Engineering using Video Podcasts in Design Classes

ASABE Paper 141909810

Tom Curran (UCD)
Richard S. Gates (UIUC)
Francesco Gentile (UniBari)
Durelle Scott (VT)
Francisco Ayuga (UPM)
Demetres Briassoulis (AUA)
Chenming Zhang (VT)

TABE.NET
www.ucd.ie/tabe

Trans-Atlantic Biosystems Engineering Network (TABE.NET)

- Funded by European Commission & US Dept. of Education Fund for the Improvement of Postsecondary Education (FIPSE)
- Virginia Tech (VT)
- University of Illinois at Urbana-Champaign (UIUC)
- University College Dublin (UCD), Ireland
- Universidad Politecnica de Madrid (UPM), Spain
- University of Bari (UniBari), Italy
- Agricultural University of Athens (AUA), Greece

TABE.NET
www.ucd.ie/tabe

Trans-Atlantic Biosystems Engineering Network (TABE.NET)

- Internationalization of Biosystems Engineering (BSEN) curricula
- Develop a global awareness within the discipline
- Student & faculty exchanges
- Innovation and entrepreneurship module
- “What is Biosystems Engineering?” module
- **Design module**

TABE.NET
www.ucd.ie/tabe

Initial draft proposal for design module / class / course

- 6 students per team (1 from each partner)
- Mentors
- Online collaboration
- Design solution
- Report
- **Compare existing design classes in each institution (Curran et al., 2011)**

TABE.NET
www.ucd.ie/tabe

Desired outcomes

- Change in the students' outlook to utilize in their remaining years within the university
- Take actions that result in a more internationalized resume before they finish
- Second or third language acquisition
- International peer assessment, appropriate peer assessment across cultures, with a cultural awareness, and how to give feedback

TABE.NET
www.ucd.ie/tabe

Santa Claus – Goal

- To implement a design, to test it and to evaluate its performance is the desirable goal connected to every learning activity regarding design
- Real impact
- Supports learning from experience

TABE.NET
www.ucd.ie/tabe

Laundry list of approaches for international student collaboration

- Semester or year-long exchange experience
- Study abroad – semester at home, plus 2-8 week field implementation
- Winter session, Maymester (3 weeks), or Summer
- Staff and students go to partner site for short course
- Webinar (live + recording)

TABE.NET
www.ucd.ie/tabe

Challenges

- Varying semester dates
- Opportunity cost for faculty
- Language
- Resources and costs
- Course credit approval

TABE.NET
www.ucd.ie/tabe

Advantages of video podcasts

- Prior positive experience among partners
- Low opportunity cost for faculty with high potential payoff
- Technically feasible for students and part of their culture
- Critical evaluation competencies and feedback across cultures
- Flexibility to implement across partners
- Opportunity for language training

TABE.NET
www.ucd.ie/tabe

Implementation

- Two learning outcomes could be added to classes
- Group work
- 1. Create a video with technical content for an international peer audience
- 2. Assess and provide feedback for content and clarity of videos created by international peers

TABE.NET
www.ucd.ie/tabe

TABE.NET Partner	Module/Class	Number of videos	Topic
UCD	Biosystems Engineering Design Challenge	8	Micro wind turbines
UIUC	Introduction to Agricultural and Biological Engineering	10	Varied across discipline
VT	Introduction to Biological Systems Engineering	20	Varied across discipline
UCD	Biosystems Engineering Design Challenge	8	Use of biomaterials
	Buildings and Environment	3	Environmental impact of agricultural buildings
UNIBA	Rural Buildings	12	Farm buildings, poultry units, wine cellars, etc.
UPM	Agricultural Buildings	13	Farm buildings, animal housing, wineries, rural roads, etc

YouTube view

TABE.NET
www.ucd.ie/tabe

UCD – Micro wind turbines

TABE.NET
www.ucd.ie/tabe

UIUC – Gulf of Mexico Dead Zone

TABE.NET
www.ucd.ie/tabe

VT – GM Foods

TABE.NET
www.ucd.ie/tabe

UNIBA – Wine cellar

TABE.NET
www.ucd.ie/tabe

UPM – Poultry housing

TABE.NET
www.ucd.ie/tabe

Peer Feedback Example

- The video did a good job of discussing wind turbines in a way that was neither confusing nor boring. The images and audio worked together very nicely, especially the timing. The visuals were up long enough to read and didn't distract from the narration. There were a couple of spots where the audio was cut off, but other than that the speaker was easy to understand. Though the visuals were varied, the video could have been more creative with music or a short video clip.

TABE.NET
www.ucd.ie/tabe

Before Video Experience	UNIBA n=40	UCD n=54
	(%)	(%)
Response rate	90	70
Has international experience (travel, language, family, friends)	44	89
First language, used at home	Italian (100%)	English (95%)
Some competency in a second language	81	66
Considered improving language skills	89	76
Considered sharing information with students abroad	67	39
Think that “students are the same the world over”	39	34
Prior experience of making videos	17	34

TABE.NET
www.ucd.ie/tabe

After Video Experience	UNIBA n=40	UCD n=54
Response rate	70	61
Considered to have improved international experience by making video	86	91
Increased interest in improving language skills	96	79
Positive experience of sharing information with international students	100	100
Changed view of students from other countries	29	36
Experience of making a video has improved communications skills	100	94
Feedback from international students was valuable	100	97

Conclusions

- Video podcast with peer assessment and feedback is a very practical way of facilitating international collaboration
- Students said it was a positive experience and they had improved their communication skills
- Increased interest in language skills training
- Students found peer assessment interesting but challenging

TABE.NET
www.ucd.ie/tabe

Acknowledgements

- Faculty – special thanks to Prof. Giovanni Russo (UNIBA)
- Students
- Funding from FIPSE and the Education, Audiovisual, and Culture Executive Agency (EACEA) through the EU-US Atlantis Program

TABE.NET
www.ucd.ie/tabe