

Research Space
Conference paper

**Insights into research-led interdisciplinary approach to teaching
Sports related disciplines in Higher Education.3rd Faculty Annual
Conference on Learning and Teaching and Scholarship Day:
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Van Vuuren-Cassar, G.**



INSIGHTS INTO RESEARCH-LED INTERDISCIPLINARY APPROACH TO TEACHING SPORTS RELATED DISCIPLINES IN HIGHER EDUCATION

DR GEMMA VAN VUUREN CASSAR
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HIGHER EDUCATION OF THE 21ST CENTURY IMPACT OF THE BOLOGNA PROCESS (1999 -2018)



- “All undergraduate students in all higher education institutions should experience learning through, and about, research and inquiry”

(Healey and Jenkins, 2009, p.3).

- Universities have responsibility for the development of research-related skills as a direct result of the Lisbon and Bologna agreements

(Griffioen 2013; de Weert and Van der Kaap 2014).

RESEARCH COMMUNITY OF PRACTICE: 6 STEPS TO ENGAGE STUDENTS WITH RESEARCH

1. Encourage active reading
2. Discuss your research with students
3. Involve your students in your research
4. Highlight co-curricular research opportunities
5. Make the most of your institutional resources
6. Identify research-based activities in the region



DEVELOP STUDENT'S AND STAFF RESEARCH ACTIVITY

- Assessments using research methods and data analysis;
- Poster and oral presentations;
- Dissertation showcases;
- Research seminars;
- Conferences;
- Writing workshops;
- Publications – journals, blogs etc
- Collaborative projects
- HE networks



RESEARCH IN HIGHER EDUCATION

RESEARCH EXCELLENCE FRAMEWORK (2014, UK)

RESEARCH IN HE DEFINED

- **‘a process of investigation leading to new insights effectively shared’**

ie disseminated within the wider academic domain

RESEARCH-LED TEACHING

- students benefit from – and want to be **taught by research active academics** - at the leading edge of their fields.
- enables universities to build a **research community** and an academically rigorous learning environment
- is characterised as **enabling students to think analytically, critically and creatively, within and across subject and international boundaries** – just as the best researchers do.

Students are participants

Research-tutored

Engaging in research discussions

Research-based

Undertaking research & inquiry

Emphasis on research content

Learning about current research in the discipline

Developing research & inquiry skills

Emphasis on research processes and problems

Research-led

Research-oriented

Students are an audience

THE RESEARCH-TEACHING NEXUS

Healey and Jenkins (2009, p.7)

WHAT IS "RESEARCH-INFORMED TEACHING"?

- Research informed teaching focuses on ***the processes through which knowledge is produced, places emphasis on developing skills of research and enquiry***, and on developing a research culture in which students are encouraged to think about how knowledge is developed and how they can be engaged in that process.
- ***Immersing students in the relevant disciplinary and departmental research cultures and the process of doing research and enquiry*** can be of wider benefit. Evidence suggests that students who are actively involved in the process of research are more engaged (Baldwin, 2005).
- Making ***reference to relevant academic research*** in the course of subject teaching; this is what Griffiths (2004) terms “research led teaching”.

CASE STUDY: LINKING FIRST AND SECOND-YEAR ASSESSMENT STRATEGIES THROUGH RESEARCHING THE NEED FOR A LOCAL SPORTS DEVELOPMENT PROJECT IN A WORK BASED LEARNING MODULE AT WEST HERTS COLLEGE, UK

- In the 2nd semester of year one Foundation Degree in Sport Studies (FDSS) students develop a project proposal focused on **researching the need for a local sports development project**.
- Students complete a **project proposal form** which is then presented to a panel for assessment.
- In year two students are encouraged to **approach employers with their year one sports development project proposals, to fulfil the requirements of their double semester work-based learning (WBL) module**



-Students **develop, implement, analyse and reflect on their implemented project** proposals and this forms the basis for a 5,000 word mini final project.

-Examples include: a proposal to **increase female sports participation which resulted in a cricket enrichment programme at a local secondary school for year eight female pupils** and an employment opportunity for the FDSS student

CHALLENGES WITH RiT IN THE PLACEMENT SETTING



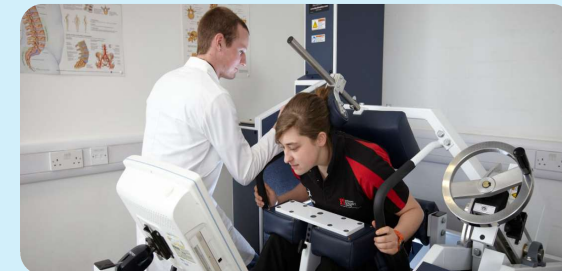
RISKS

- Matching client need, student need and staff expertise.
- Quality of research/work experience
- Ethical and legal concerns



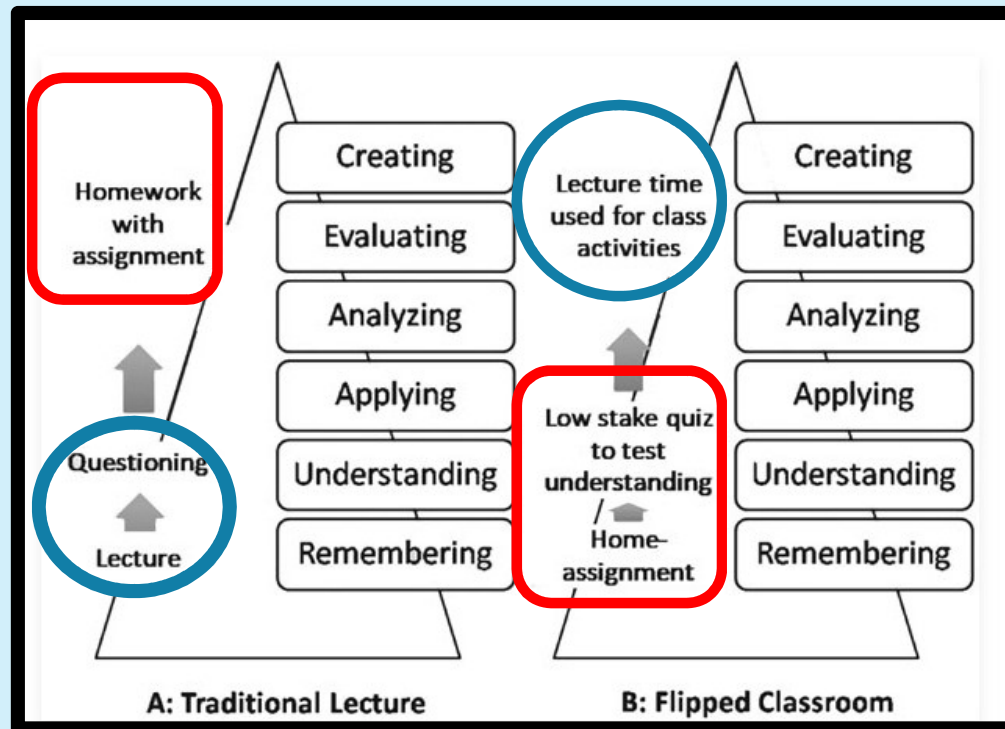
MESSAGE

- Explain benefits of **authentic experience**
- Students perceive RiT as an opportunity to **enhance employment and complete research**
- RiT develops **graduate attributes**:
 - Adaptability, effective communicator, digitally literate, informed, problem solving, critical thinking, leadership and teamwork skills



BLOOM'S TAXONOMY AND FLIPPED LEARNING

(BERGMANN, 2017)



DEFINITION

“Interdisciplinary studies is a process of answering a question, solving a problem, or addressing a topic that is too ***broad or complex*** to be dealt with adequately by a single discipline, and draws on the disciplines with the goal of integrating their insights to construct a more comprehensive understanding”

(Repko, 2011, p.16)

INTERDISCIPLINARY APPROACH TO TEACHING IN HE





pedagogical
cases in
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and youth
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Digital Technologies
and Learning in
Physical Education
Pedagogical cases

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“SPORT PEDAGOGY IS APPLIED, PRACTICE REFERENCED, MULTI-DISCIPLINARY AND INTERDISCIPLINARY. ITS PURPOSE IS TO CREATE NEW KNOWLEDGE TO SUPPORT PRACTITIONERS IN PHYSICAL ACTIVITY SETTINGS SUCH AS SPORT, EXERCISE, PHYSICAL ACTIVITY AND PHYSICAL EDUCATION”

[HTTP://AIESEP.ORG/WP-CONTENT/UPLOADS/2014/11/2012-AIESEP-POSITION-STATEMENT-ON-SPORT-PEDAGOGY.PDF](http://AIESEP.ORG/WP-CONTENT/UPLOADS/2014/11/2012-AIESEP-POSITION-STATEMENT-ON-SPORT-PEDAGOGY.PDF)

WHAT ARE INTERACTIVE TEACHING STRATEGIES IN HE?

(LYALL, MEAGHER, BANDOLA AND KETTLE, 2015)

INTERACTIVE METHODS

- Project-based learning (PBL)
- **Case study methods**
- Role-playing
- Simulations
- Virtual methods
- Peer-assessment and review
- Peer-assisted learning (PAL)
- Small-group teaching

CO-TEACHING / TEAM TEACHING

- Co-creation of syllabus and case studies
- Advanced planning and negotiation with co-teacher
- Co-advising with industry representatives
- Taking turns in teaching
- Creating learning community

WHY CASE STUDY?

STAFF VIEWS

- Case study provides a form of **inquiry that elevates a view of life in its complexity** *(Thomas, 2011)*
- Case study imitate **real-life settings and real-world complexities** and are highly dependent on students' individual efforts.

(Goodman and Huckfeldt, 2013)

STUDENT VIEWS

- case-based teaching led to students' stronger **critical-thinking skills** (89.1%)
- better ability to **make connections** across multiple content areas (82.6%)
- **deeper understanding of concepts** (90.1%)

(Herreid, 2011)

PROJECT GOALS: SPORT PHYSICAL EDUCATION AND COACHING IN HEALTH (SPEACH) PROJECT

GOALS

- Raising awareness about behavioural change towards an active and healthy lifestyle
- **Developing Health Enhancing Physical Activity (HEPA) modules in Higher Education**
 - **Physical Education Training Education (PETE) &**
 - **Sport coaching education programmes**



An initiative by the School of Sport Studies (Hanze University of Applied Sciences Groningen) in collaboration with:



Co-funded by the
Erasmus+ Programme
of the European Union



WU
Universität
Wien




BACKGROUND: CHILDREN 2-15

	Age (years)					
	All children 2-15	2-4	5-7	8-10	11-12	13-15
	Hours					
Boys						
Weekday	3.3	2.8	2.8	3.0	3.7	4.2
Weekend day	4.2	3.2	3.8	4.3	4.6	5.3
Base	862	216	192	177	124	153
Girls						
Weekday	3.2	2.8	2.7	3.1	3.5	4.3
Weekend day	4.0	3.2	3.9	4.1	3.8	5.1
Base	868	212	184	191	135	146

Sedentary time per day in children, by age and gender, *England 2012 (BHF, 2015)*

BACKGROUND: YOUNG PEOPLE AND ADULTS

QD1 How often do you exercise or play sport?

	Regularly	With some regularity	Seldom	Never	Don't know
EU28	8%	33%	17%	42%	0%
 Gender					
Man	9%	36%	18%	37%	0%
Woman	7%	30%	16%	47%	0%
 Age					
15-24	11%	53%	17%	19%	0%
25-39	8%	38%	21%	33%	0%
40-54	8%	31%	20%	41%	0%
55 +	8%	22%	12%	58%	0%

Eurobarometer, (March 2014)

PROJECT DESIGN



- *Management, monitoring & evaluation*
- **Needs analysis**
- **Module development**
- **Training concept development**
- **Piloting, review & validation**
- **Quality assurance**
- *Sustainability*



Gather input on the needs and wishes
within the field of Physical Education and Sport Coaching

Method
3 Step Strategy

NEEDS ANALYSIS

SURVEY RESULTS: STUDENTS

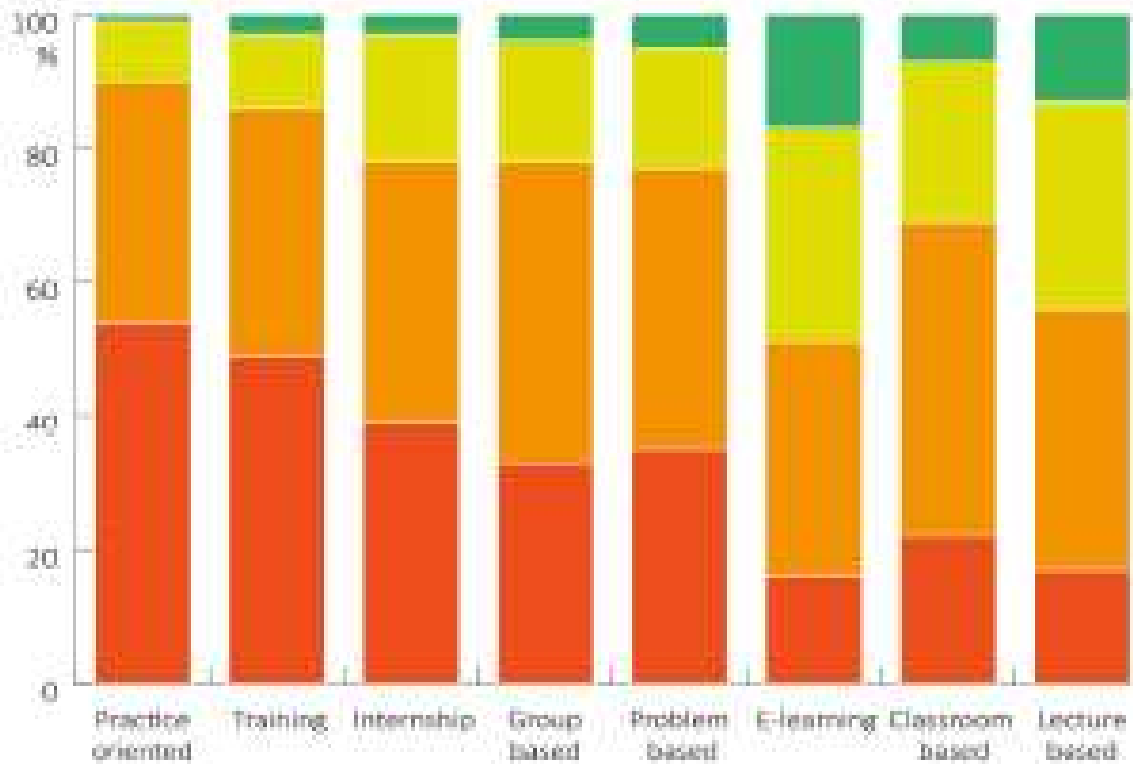
Gender	Respondents	%
Male	426	65 %
Female	234	35 %
Total	660	100.0 %

Country	Respondents	%
Belgium	99	15.0 %
Denmark	73	11.1 %
Lithuania	92	13.9 %
Portugal	86	13.0 %
Spain	76	11.5 %
The Netherlands	167	25.3 %
The United Kingdom	67	10.2 %
Total	660	100.0 %

STUDENT VIEWS:

IMPORTANT LEARNING METHODS (SPEACH PROJECT, 2015-2017)

IMPORTANT LEARNING METHODS



The Sport, Physical Education and Coaching in Health (SPEACH) project
Bringing Health Enhancing Physical Activity (HEPA) into sports

STUDENT VIEWS: IMPORTANT LEARNING METHODS (SPEACH PROJECT, 2015-2017)



Top 5 among PETE students:

1. Practice oriented learning: 94 %
2. Training: 89 %
3. Group-based learning: 87 %
4. Internship: 85 %
5. Problem-based learning: 82 %

Least *important* learning method is: *E-learning* (52 %).



Top learning methods suggested by experts

- Same as above
- Involving reflective learning



NEEDS ANALYSIS

MOST IMPORTANT CONTENT

Top 5 among PETE students:

1. Changing behaviour and motivation theories: 92 %
2. Physical activity for specific groups: 89 %
3. Personal leadership: 86 %
4. Health policy: 82 %
5. Nutrition: 79 %

Least important is: *Specific epidemiology* (62 %).

Top 5 among students in the field of coaching/training:

1. Changing behaviour and motivation theories: 88 %
2. Personal leadership: 85 %
3. Nutrition & Health Policy: 82 %
4. Physical activity for specific groups & Testing and exercise prescription: 78 %

Least important is: *Specific epidemiology* (60 %).

Experts: What is the most important content to focus on?

- Content such as health policy, motivation theory and nutrition
- General packages relevant for every sports discipline (for example nutrition)
- Specific content focusing on the possibility of specialisation.

MODULE DEVELOPMENT

	Title: Complex HEPA challenge	Responsible partner	Co-developer (PE)	Co-developer (CO)
1	<ul style="list-style-type: none"> Stimulating sport and physical activities for children with special needs towards a brighter future 	Hanze	LSU	NOC*NSF
2	<ul style="list-style-type: none"> Promoting HEPA among children and youth 	SDU	VUB	ICCE and ESDRM
3	<ul style="list-style-type: none"> A healthy lifestyle for the whole family! 	VUB	LSU	NOC*NSF and ESDRM
4	<ul style="list-style-type: none"> Nutrition, digital technology and physical activity for adults <p><i>“Understanding the changes of the human body and the impact of nutrition and physical activity in midlife (40-59 years)”</i></p>	CCCU	SDU	ICCE
5	<ul style="list-style-type: none"> Influencing and monitoring behaviour towards HEPA 	Hanze	LSU	NOC*NSF

MODULE DEVELOPMENT

THE CHALLENGE: NUTRITION, DIGITAL TECHNOLOGY AND PHYSICAL ACTIVITY FOR ADULTS

[HTTP://SPEACH.HANZE.NL/](http://SPEACH.HANZE.NL/)

***The Case:** You (and your team) have been tasked by your professional body to develop a programme of health enhancing physical activity for a new client group, middle-aged adults (40-59).*

*This programme will be piloted in your region in the first instance. Your programme needs to bring together various policies, provisions and stakeholders that provide Physical Activities for this age group. **The unique characteristic of this programme will be the integration of information and wearable technology to support participants in their journey to participate in walking sports or other physical activities; and the impact of nutrition and physical activity on their health.***

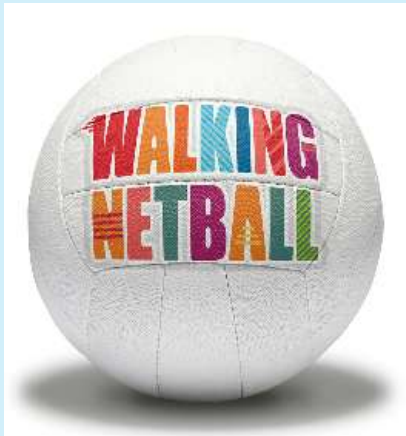
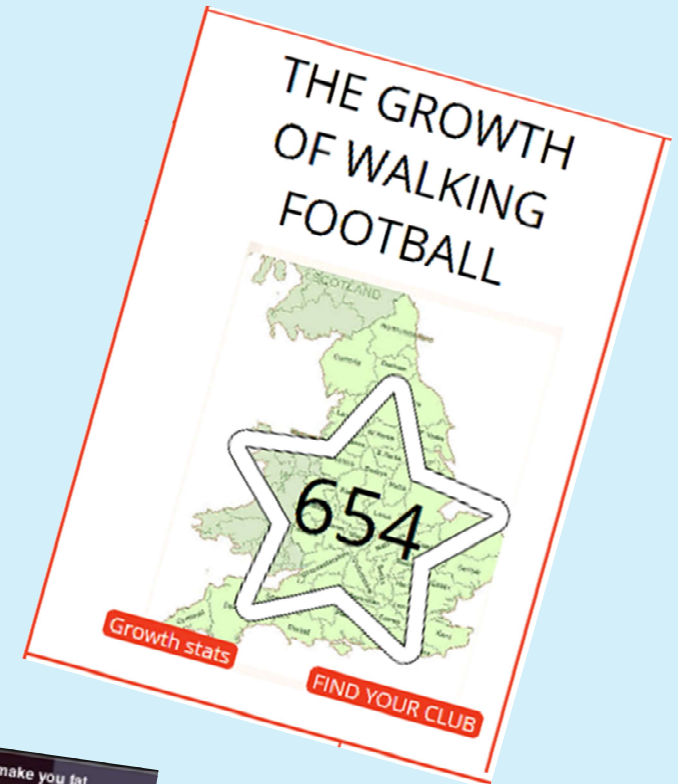
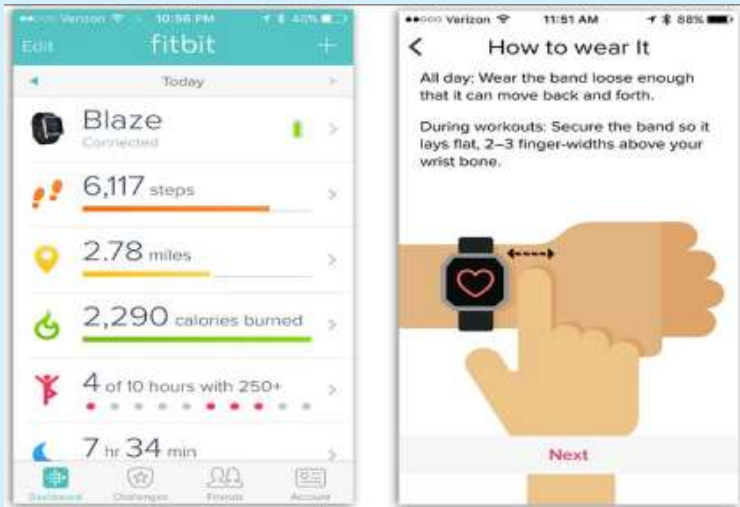


Runkeeper

Fitbit
By Fitbit, Inc



THE SETTING



FOOD MYTHS WE BET YOU STILL BELIEVE

1. Potatoes make you fat
2. Fat free products will help you in losing weight
3. Eggs increase cholesterol level so avoid it
4. Drinking water while eating makes you fat
5. Do not take milk after eating fish
6. Starve yourself to lose weight
7. Exercise makes you eat more

MODULE TEMPLATES

Go directly to our modules

<http://speach.hanze.nl/>



- *Learning outcomes (LO)*
 - Level 4-5 (Vocational)
 - Level 6 (Bachelors)
 - Level 7 (Masters)
- *Student assignment(s)*
 - Task 1: Knowledge Enrichment Activity (20%)
 - Task 2: Assignment: Scientific report (group task) (40%)
 - Task 3: Portfolio of engagement with clients and the workplace (individual task) (40%)

Week to week schedule

Week	Subject	Topic .. Content
1/2	Introduction	Nutrition and physical activity
3/4	Nutrition	Concepts and physical activity
5/8	Nutrition	Physiological applications and HEPA
9/10	Field trip	Target population settings
10/11	Digital technology	Technology for health enhancing physical activity
13/14	Leadership	Practical Workshop: Walking physical activities for participants
15 -21	Work based learning	Tutor and peer consultations
22-25	Preparation Assessment	Tutorials


PILOTING MODULES

- From 6-10 February 2017, over 65 students from eight European countries joined the international SPEACH week hosted at Hanze University of Applied Sciences Groningen.



MODULE RESOURCES

Case based challenge: wearable technology

Class based learning & Group work	Activity
	<ul style="list-style-type: none">❖ Lab work: review wearable technology and apps that will be of interest to your client group for nutrition and physical activity.❖ Discuss your findings with your classmates and share your findings. Upload your findings to a virtual learning environment that can be accessed by you and your future clients.
	<ul style="list-style-type: none">❖ <i>Web links, Books, Journals, Reports</i>

CONCLUSION

- Insights into teaching and research in sport related disciplines demonstrate how the project team and participants developed into a community of innovative and research led teaching and culture, that transformed the student experience.
- The SPEACH project shows that **students were co-creators** of the curriculum through **rigorous and ethical research** procedures.
- Students were delighted that **theory and practice were combined** in each module through **case studies and a variety of research led teaching activities**.
- The development of the five modules by **three partners** from different institutions and **disciplines** was a transformational journey.
- The **combination of areas of content** required the use of **team teaching** approaches in Higher Education.
- Students felt that **interdisciplinary modules** were authentic to the **world of work**; and the application of research and analytic skills promoted **graduate attributes** and enhanced **employability**.

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THANK YOU FOR
LISTENING

[Gemma.van-vuuren-
cassar@canterbury.ac.uk](mailto:Gemma.van-vuuren-cassar@canterbury.ac.uk)