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Evaluation of Policies for Academic Integrity in Higher Education: An International Perspective

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By

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Acknowledgements

The journey to complete this portfolio began a very long time ago when my school teachers convinced my parents that I should not leave school at 16, but continue in education. I went on to complete an honours degree in computing science at North Staffordshire Polytechnic in 1972. I met my future husband Guy within the first few weeks of arriving at Stafford and we have been married for over 40 years. He has been a great supporter of my career and played a key role in my move into academia in 1990.

During the last twenty-six years I have benefited from working closely with many very accomplished academics, in many different educational research areas. I am very grateful for their input to my career development.

I thank all former colleagues and people associated with the Impact of Policies for Plagiarism in Higher Education Across Europe (IPPHEAE) project who helped to make it a success. I am deeply grateful to the European Commission and Council of Europe for funding the research and the survey participants who provided valuable insights into plagiarism policies in Europe.

Throughout my research I forged strong links with many organisations and individuals across the world, actively engaged in related research. I thank all these colleagues working in different aspects of academic integrity for their support, companionship and encouragement, which helped me to complete this body of work.

Finally thanks to many colleagues at Coventry University who have shared my pains and triumphs on the long journey to the submission of this portfolio.

Abstract

Academic Integrity is central to the security of higher education academic standards and qualifications. However in recent years threats to integrity and educational quality have increased throughout the world because of high rates of academic misconduct. The author of the portfolio was Principal Investigator and project leader for the EU funded project *Impact of Policies for Plagiarism in Higher Education Across Europe* (IPPHEAE, 2010-2013) and has continued to build on the findings from the research since the project ended. Over 5000 survey responses were collected from over 200 institutions across 27 European Union (EU) countries, through on-line questionnaires, interviews and focus groups, involving higher education students, academics, managers, researchers and people concerned with HE nationally.

The portfolio draws on the authors significant contributions to the IPPHEAE research which explored the nature and efficacy of institutional policies designed to address these threats and promote ethical and scholarly academic conduct.

Although some effective policies were evident, for example in UK, Sweden, Austria and Slovakia, the findings indicated that much more could be done in every country studied to improve guidance and support given to both students and teachers. Great disparities were evident across Europe in what was perceived as acceptable academic conduct, procedures to investigate allegations of student cheating and penalties applied for different offences.

This initial research highlighted inherent inconsistencies, lack of transparency and unfairness in student outcomes. It is remarkable that such major policy and conceptual differences should exist despite moves to harmonise educational systems across the EU. There was a perception among survey respondents that outcomes and penalties for students found to be cheating would vary within an institution according to which lecturer found the problem.

The author's contributions to the body of knowledge include a unique insight into how well HEIs in different part of Europe appreciate current challenges to academic integrity and how their perceptions are driving national and institutional policies.

Key outputs from the authors' own research include the Academic Integrity Maturity Model (AIMM), which calculates a maturity profile for each country studies based on nine metrics, calculated from the survey data. AIMM was applied in the country-by-country report comparing policies across the 27 EU countries. AIMM has since been repurposed as an institutional evaluation and benchmarking tool and forms the basis for the Scorecard for Academic Integrity Development (SAID).

The portfolio contains five different publications that cover the main elements of the authors' research in this specific field: a journal paper, a conference paper, a book chapter, the EU-wide comparison report and an expert witness report presented to an international forum. All the publications have been subject to peer review.

Given the vast scale and scope of this research, the author has collaborated with many other researchers in the course of the underlying research and developments. Eight main co-researchers were given access to the portfolio and draft thesis and each has provided a statement about their view of the research. The author is now building on earlier research, in conjunction with the global research community.

Further funding has just been provided to extend IPPHEAE to the Balkan region (Council of Europe) and to create a European Network for Academic Integrity (Erasmus+). The long-term goal is to improve the security and integrity of qualifications and systems in education and research throughout the world. Only if the future leaders of government, business, education and commerce become convinced of the need for ethical values and integrity, will we begin to see long-term positive changes to cultural values affecting wider society.

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Chapter 1: Introduction to the Critical Overview and the Portfolio

1.1 Overview

This thesis supports and evaluates a portfolio of publications arising from my research concerning the nature of effective policies for promoting academic integrity and ethical practice in higher education (HE).

The body of work in this portfolio developed from a research project I led that investigated policies in higher educational institutions in 27 different European Union (EU) countries. My objectives encompass both the project for which I was Principal Investigator (2010-2013) and further research that still continues:

- To investigate the effectiveness of national and institutional policies and procedures for managing and discouraging plagiarism and academic misconduct in different countries;
- To conduct research and develop strategies to improve consistency in practice, quality and systems in higher education institutions;
- To encourage consensus in the development of a global culture of scholarly values and practice for academic integrity in education and research, informed by research from across the world;
- To develop and implement tools and benchmarks for evaluating maturity and efficacy of institutional policies for academic integrity;
- To influence the development and adoption of robust institutional and national benchmarks, standards and policies for upholding integrity in educational and research contexts.

The initial research focused on national and institutional strategies and policies that address the ever-changing threats to academic standards from student plagiarism, academic misconduct and dishonesty. My subsequent research has built on the knowledge gained about Europe to form a deeper understanding of policies and practices in different parts of the world.

Survey evidence was analysed for each country studied, to explore whether institutional policies were consistent, fair and proportionate, but many other dimensions were explored, such as whether the policies were operating as

intended and how well they were communicated to the academic community. In order to compare responses from a range of participants in different countries, I created a set of metrics that quantified the maturity of policies in each country. Tools created for the initial project have since been repurposed to support evaluation of institutional policies and systems and recommend improvements.

The underlying purpose of all the research has been to promote the concept of academic integrity as a means of discouraging malpractice – knowing how to write and reference will not alone discourage student plagiarism if the institutional culture does not reward honest and ethical conduct. The research approach includes exposing inconsistent and unfair practices in handling accusations of student plagiarism and academic misconduct. Conversely it is important to promote good practice examples identified and identify what more could be achieved by HE institutions in all countries to maintain integrity across processes and systems relating to student assessment.

In collaborating with many like-minded researchers my aim is to improve the standard of academic scholarship across academic communities by increasing awareness of where weaknesses lie in institutional strategies, policies and systems. Recent research includes development of draft benchmarks describing processes and management of change for developing mature and effective systems for assuring quality and integrity of academic assessment, intended for global application.

1.2 Academic Integrity

The central focus of this thesis is *Academic Integrity* in Higher Education. Appendix 1 provides a list of definitions including three related terms *Educational Integrity*, *Research Integrity* and *Academic Integrity.* It is important to be clear at the outset what is meant by such expressions. In the context of this thesis integrity refers to different aspects of practice, ethos, strategy and policy for maintaining security of standards and conduct within educational institutions, including national influences and constraints. This broad definition

is intended to encompass institutional procedures and practices underpinned by regulatory structures and pedagogical practices.

In preparing for the research about Europe I drew upon geographically and academically diverse research about academic integrity. The term academic integrity is commonly understood in educational circles throughout the United States of America (USA), promoted through the Centre for Academic Integrity, currently based at Clemson University, founded in 1992 (ICAI 2012).

Park (2003, 482) citing Iovacchini (1989) linked academic integrity to the prevalence of "honor codes" in US education, which are less common in other countries. Bertram Gallant located an earlier US reference to the term:

> *A New York Times article in 1963 reported on the Commission on Academic Integrity at Columbia College. The commission, according to the article, was established to institute an academic integrity pledge to convey "that absolute integrity is expected of every student, and that it is wrong to fraudulently or unfairly advance with academic status or knowingly be a party to another student's failure to maintain academic integrity" ("Columbia Weighs an Honor System", 1963, par. 3).* (Bertram Gallant 2008, 23)

Educational researchers globally call for integrity and ethical conduct when studying a range of phenomena relating to the security and fidelity of assessment for educational credits and research outputs, publication and associated processes, including developing and applying associated rules and regulations (for example COPE, ESF 2008, ETICO, ETINED, RESPECT 2004, Bretag and Mahmud 2014, Morris 2011).

Pecorari and Petrić (2014) echo this theme in a detailed discussion of literature focused largely on academic writing teachers' views about students writing in a second language, where terms such as "transgressive and non-transgressive intertextuality" are used by many researchers to describe appropriate and inappropriate use of academic sources (for example Abasi and Akbari 2008, Borg 2009, Chandrasoma et al 2004).

Intertextuality is a very general term for relationships between different text-based sources addressing similar subjects. An extreme form of intertextuality, where a range of sources are combined naively to construct a new written work is often called "patchwriting", a term coined by Howard (1999). Researchers into second language learning and teaching (L2) argue that patch-writing can be a legitimate stage in the process of learning to write in a second language, or in the case of native speakers, in a style suitable for academic works in a specific discipline. The difficult question discussed in this area of research is distinguishing developmental practices from *transgressive conduct* or *intentional plagiarism*.

1.3 Plagiarism

My views about plagiarism are not shared by all the people I have discussed it with. Also definitions of plagiarism vary according to the audience: a legal definition is different from that used to guide undergraduate students; plagiarism in a student context differs from a more general definition of plagiarism in professional and commercial circles.

Teddi Fishman's definition has been adopted and adapted by several other researchers:

Plagiarism occurs when someone
1. Uses words, ideas, or work products
2. Attributable to another identifiable person or source
3. Without attributing the work to the source from which it was obtained
4. In a situation in which there is a legitimate expectation of original authorship
5. In order to obtain some benefit, credit, or gain which need not be monetary

(Fishman 2009)

In my view a broader definition is needed when referring to student assessment.

My first point of difference is that student plagiarism may be either deliberate or inadvertent. Sanctions may differ for plagiarism occurring through lack of skills or knowledge compared to plagiarism that is deliberately aiming to seek reward through the efforts of other people. Several individual academics I spoke to (for example in Sweden, Germany, Bulgaria) and national regulations in Sweden,

precluded applying penalties for plagiarism in student work without proof of "intent to deceive".

In my view students lacking knowledge in academic writing and use of sources need education and guidance, but their compromised work should not count towards their qualification. A mature institutional strategy will ensure that on-going support in academic writing techniques and skills is made available for all categories of students, starting with writing skills to prepare for the submission of their first assignment, but continuing throughout their studies.

The second point about Fishman's definition is that it does not encompass self-plagiarism, sometimes called auto-plagiarism. I strongly believe that students should not gain academic credit more than once for the same piece of work. However all writers may re-use aspects of their publications as long as they self-reference.

I was surprised how many experienced academics, interviewed during the research, disagreed that self-plagiarism in students' assessed work was unacceptable. Several interviewees acting as reviewers for prestigious journals reported that self-plagiarism was not taken seriously by some journal editors.

1.4 Academic misconduct / dishonesty

In my writing I often refer to student *plagiarism* and *academic misconduct / dishonesty* as separate but linked terms, because, as described above, by my definition plagiarism is not always dishonesty.

The initial research focused on academic misconduct by undergraduates and taught master's students rather than misconduct in research or by academics. In my own institution's regulations student academic misconduct includes cheating in examinations, deliberate plagiarism, impersonation, collusion, fraud, fabrication, falsification and selectivity in research, using and procuring ghost-written work, using deception or translation to avoid detection of plagiarism, bribery to influence assessment outcomes, gaining prior access to unseen formal examinations and helping other students to commit misconduct.

Evidence of a broader range of corruption and malpractice in education emerged in the course of the research, including unfair authorship (typically supervisors claiming authorship of students' work), bribery and corruption in academic appointments and university admissions and "degree mills" – bogus colleges issuing fraudulent certificates. Addressing these types of misconduct is as important as tackling assessment misconduct, but finding ways to prevent such practices is difficult.

Terms such as academic integrity and intertextuality are often used by researchers in preference to those with more negative connotations particularly plagiarism, misconduct and cheating (Abasi & Akbari 2008, Borg 2009, Chandrasoma et al 2004, East 2014). The motivation behind this shift in terminology acknowledges that not all plagiarism is cheating and puts a positive spin on a topic with negative connotations. My research shares the objective for encouraging scholarly activities and strategies that deter or remove opportunities for malpractice, rather than to focusing primarily on the detection and punishment of "offenders". However both negative and positive terminology was used in conducting the research on which this portfolio is based, since it could not be assumed that such nuances were commonly understood by participants from across parts of Europe or could be meaningfully translated into different languages.

1.5 Policies for Plagiarism in Higher Education

The body of research from which this portfolio developed began in 2009 when, as principal investigator, I submitted a proposal to the European Union to fund a project entitled "*Impact of policies for Plagiarism in Higher Education across Europe*" (IPPHEAE, pronounced Iffy). The collaborative project, with a consortium of five EU HEIs, formally operated between October 2010 and September 2013, with follow-up research still continuing.

Prior to IPPHEAE, research into plagiarism and academic misconduct in countries such as USA, UK, Australia, indicated that with the advent of the World-Wide Web, the ubiquity of easy-to-access information appeared to spawn a huge rise

in the incidence of student plagiarism (for example McCabe & Pavela 1997, Park 2003, Carroll 2005, Rowell 2009, East 2009). However it is impossible to compare trends in student plagiarism and academic misconduct because few historical records are available. There is some uncertainty whether there has been a rise in plagiarism recently or whether more cases are identified because Internet technology has made it easier to detect (Park 2003).

It is clear that resources devoted to policies and systems for managing academic misconduct have grown substantially during this period in HEIs that are taking it seriously. Funding for IPPHEAE and for current research in Europe and Balkan countries, was justified by lack of knowledge about how HEIs across Europe were managing academic conduct, despite high focus on research and activities in Anglophone countries.

1.6 Portfolio and Thesis

The portfolio includes selected publications generated during IPPHEAE and concerning research conducted since the project ended. The five publications help to justify my contribution to the body of knowledge in academic integrity, specifically focusing on institutional policies, and indicate how my research in this domain continues to develop.

My earlier career and activities both in industry and education provided the foundation of knowledge and skills required to lead IPPHEAE and conduct other concurrent research into different aspects of higher education policy and systems.

My key motivation for exploring academic integrity (at bachelor and master's level) was interest in the underlying quality and security mechanisms for assuring standards of academic outputs within the institutions studied. However, rather than confining the research just to policies for "plagiarism", the scope of the research was broadened to encompass a full range of issues surrounding a range of tensions between academic misconduct and educational integrity.

Geographically the funding from the European Union's Lifelong Learning Project covered a study of 27 European Union countries. However, as will be demonstrated in the thesis, the impact of the research findings has been global.

This thesis composed of seven chapters:

1. Introduction to the thesis and the portfolio: Sets the context for the thesis and the associated research.
2. Autobiographical context for the portfolio of evidence: Provides details of the personal journey the author followed and a chronological summary of the research development.
3. Analysis of the portfolio of evidence: Begins with overall objectives and an overview of the IPPHEAE project central to this research; describes and evaluates the originality of each output in turn.
4. Research methodology, underpinning theory: Identifies the methodologies adopted in different parts of the research and explores the theoretical underpinnings on which this research depends.
5. Impact of the research and contributions to knowledge: Presents a critical reflection on the body of research presented in the portfolio; links between the outputs, development of the portfolio of evidence and contribution to the body of knowledge; recent developments and evidence of impact of the research.
6. Statements on the contributions of other persons: Personal contributions to the research and acknowledgement of the contributions of others.
7. Conclusions and future research.

   References.

   Appendix 1: Terminology and Definitions.

   Appendix 2: Portfolio Outputs.

   Appendix 3: Ethical Approval Statements.

   Appendix 4: Statements from Co-researchers.

Chapter2. Autobiographical context for the portfolio of evidence

2.1 Early career

On graduating with honours degree in Computing Science from North Staffordshire Polytechnic in 1972, I worked briefly as a secondary mathematics teacher before I began my career in the computing industry, first working as a computer programmer then later as a systems analyst and project manager. My various posts included consultancy work, two years in Australia working as a systems analyst and teaching part-time in HE.

After a brief career-break for the birth of my two sons, I became a teacher 1983-1990 and gained Qualified Teacher Status. My duties included teaching adults in a community college, secondary school mathematics, IT and computing and further education IT. Concurrently I successfully completed an Open University master's module ("Computer Architecture and Operating Systems"), supported by a bursary from Women into Technology.

In 1990 I was appointed lecturer in computer science at Coventry Polytechnic, which became Coventry University in 1992, where I remained employed (2016).

2.2 Higher Education teaching 1990-2007

During this period I taught, created and led many different undergraduate and postgraduate programmes and modules in computer science. With several different job titles such as programme manager and portfolio manager, I had a wide range of different management duties, encompassing undergraduate joint and interdisciplinary computing and IT programmes (1992-1999), responsibility for international collaborative partnerships (in the Far East and Cyprus 1999-2002) and coordinating up to 17 different postgraduate taught programmes (PGT) (2002-2007). My interest in academic policies and quality assurance stemmed from this experience.

Central to these roles was responsibility for academic quality and standards. I gained very good experience through monitoring operation of internal moderation, working with external examiners and appointments as an external

examiner at other institutions. Managing quality in international collaborative programmes and supporting the growing number of international students studying in the UK presented significant challenges.

The fundamental differences in educational cultures in different countries led to complex conversations with academic partners about pedagogical practices, the value of different assessment methods, educational expectations and the intricacies of UK quality assurance measures, particularly justifying the level of accountability and monitoring.

Initially, some partner institutions were not comfortable with the level of scrutiny (for example checking assessment briefs, marked work, teaching observation, staff Curricula Vitae) required by collaborative agreements. In addition, many students and academics were used to rote learning and didacticism, quite different from expectations of UK HE.

Apart from cultural factors, the management of change was complicated by the great geographical separation and high turnover of academic staff in partner institutions. Introducing and maintaining equivalent systems, required the provision of regular on-going staff development workshops during visits to the partners and when partners visited Coventry.

The main focus of training for partner staff was to ensure assessments were designed to effectively test the learning outcomes of the given module and reflect the academic level of the module. The challenge was typically to transition the partners from a culture of rote learning to one involving students in the learning process and encouraging critical thinking and deeper understanding. This inevitably had implications on pedagogy and the classroom experience.

While coordinating PGT programmes I was responsible for managing academic staff development, timetabling and scheduling delivery and overseeing academic standards and quality assurance. My role at that time included project management of two funded projects targeting local small and medium sized

enterprises (SMEs) "MIS Partnership Training awards" with almost £500,000 budget supported by grants from the West Midlands European Structural Fund.

In common with earlier work, my priority was to ensure the student experience was appropriate and to provide a good level of support for both students and colleagues. The skills and knowledge developed throughout my career to this point were pivotal in preparing me for the challenges that came next.

2.3 Understanding the need for Academic Integrity

In the different management roles at the University I was required to handle allegations of academic misconduct. From about the year 2000 there was a steady increase in cases of student plagiarism, but no clear policies were in place for either managing allegations of cheating or educating students about scholarly practices. Institutional strategies and procedures began to be formulated for Coventry University during this time, informed by good practice elsewhere.

Of particular influence was Jude Carroll who provided a staff development workshop on student plagiarism at CU in 2003. I identified significant synergy between the ideas Jude presented and the CPD activities I had been running for colleagues and international partners. Specifically, I saw a common purpose in both the need to raise academic standards through appropriate assessment of learning outcomes and managing the growing number of allegations of plagiarism and cheating.

2.4 External influences

Ethical and professional practice has been central to my thinking throughout my career progression. I became a student member of professional body British Computer Society (BCS) in 1971 and a full member (MBCS) in 1976. From 1992 I became more actively involved in voluntary work for the Society, serving on and chairing regional professional development panels, membership assessment committees. I became a Chartered Engineer (1992), Chartered IT Professional (2004) and Chartered Fellow (FBCS) in 2011. I have served as chairman of BCS

Coventry Branch since 2010, was appointed to the national BCS Membership Board in 2014 and was elected to BCS Council in 2016.

Since 1999 I served as an external examiner and reviewer many times for different institutions and was panel member on many institutional assessment panels for BCS and the Engineering Council. These roles provided invaluable experience of QA processes in different institutions and enhanced my understanding of standards and quality systems elsewhere. In such roles I was able to support other HE institutions in quality enhancement and upholding academic standards. These duties and appointments were an effective way to learn more about quality assurance and appreciate differences in institutional strategies and policies.

2.5 Research and development from 2007

From 2007 I was appointed Academic Manager for Student Experience (AMSE) for the Faculty of Engineering and Computing (FEC). The AMSE role necessitated conducting research into aspects of student experience, to raise the quality of the classroom experience, including support and facilities provided to students. My initial research starting in 2007 was largely practice-based and related to enhancing students' experiences across stages of the "student journey" (Glendinning et al 2008, Dunn & Glendinning 2009, Glendinning & Hood 2011).

A key part of the initial strategy was to establish a student-led faculty-based support unit, staffed largely by employed Student Advocates, known as Student Experience Enhancement Unit (SEE-U). Ideas were crystalized following two visits to the USA, which helped to shape my perceptions and also faculty policy about student employment and SEE-U. The Unit became operational in September 2008 (Dunn & Glendinning 2009, 2010).

The management of change in establishing SEE-U formed a key element of my initial research when it became apparent that other Faculties and institutions were considering adopting a similar approach. Evaluation of the creation, training and on-going management of student employees was of particular

relevance in this respect (Glendinning & Hood 2011, Glendinning et al 2011, Glendinning 2012a).

2.6 Research into Academic Integrity

The AMSE duties included membership of the European partnership team for FEC, with responsibility for recruiting and supporting European students on PGT programmes. The partnership work drew on a strong network of over 200 European HE institutional partners that had been developed for over 25 years (Blake et al 2007, Glendinning & Gatward 2007).

The FEC European partnership team explored areas of common research interest with partners for which collaborative funding proposals could be developed. After contact with Linköping University in Sweden about problems they were facing with student plagiarism and meetings in Coventry, Lithuania and Czech Republic during 2009, I was asked to lead the development of a project proposal.

Funding (75% of budget) of €277,064 was allocated to IPPHEAE from the European Union's Lifelong Learning Programme, which began in October 2010. I was both Principal Investigator and project leader. Other partners were Lodz University of Technology, Poland; Mendel University in Brno, Czech Republic; Aleksandras Stulginskis University, Kaunas, Lithuania; and University of Nicosia, Cyprus.

As the evidence presented in this thesis will demonstrate, the research findings continue to have resonance across many parts of Europe and beyond. IPPHEAE was just the beginning of my own research into aspects of academic integrity. As demonstrated through the portfolio, my personal research and collaboration with partners from Europe and elsewhere had continued since the IPPHEAE funding formally ended in September 2013.

2.7 Summary of funded research

As outlined earlier, I led and contributed to different funded projects in recent years, some research is more directly relevant than others to this portfolio.

However all the research has contributed to my development as academic researcher. Table 2.1 summarises the research between 2003 and 2016, green highlights indicate aspects of academic integrity and plagiarism policy.

Table 2.1 Funded Research 2003-2016

Project	Funding details	Brief description	Personal contributions
ENIA (European Network for Academic Integrity) – grant confirmed July 2016.	Erasmus + grant of **€280,024.00** in total 2016-2019, 36 months	Led by Mendel University in Brno, with many partners.	Develop tools for evaluating institutions based on SAID / AIMM / AIRS; Coordinate peer reviews for conferences; Publication and dissemination.
ETINED: Council Of Europe commissioned an extension of IPPHEAE project to six countries in the Balkan region	July 2016-January 2017 Budget €35,749.25 in total of which **€20,270.25** is allocated to the Coventry team	Led by Mendel University, in Brno, partnered by Just Coventry University – conduct survey using AIMM to analyse in Bosnia Herzegovina, Montenegro, Macedonia, Albania, Croatia and Serbia	Coventry team = IG and Thomas Lancaster will survey Bosnia Herzegovina, Montenegro, Macedonia, Albania; IG will customise the survey and secure translations.
Activity Led Learning for Master's in Engineering Management	01/01/2012-31/03/2013 HEA Teaching Development **grant £28,851**	Investigating, piloting and evaluating Activity Led Learning for PGT	Principal Investigator and project leader
Virtual Academy Platform for Vocational Schools (VAPVoS)	Lead partner Bochum University of Applied Sciences : Leonardo da Vinci, CU budget €**30,298** **2011-2013**	Developing resources for teaching robotics, mechatronics and computing for remote and virtual access	Coventry main contact and co-lead (with Mark Childs)
Impact of Plagiarism Policies in Higher Education across Europe (IPPHEAE)	Erasmus LLP Multilateral Projects (2010-2013 **budget €396,419);** Partners Lodz University of Technology, Mendel University in Brno, University of Nicosia, Aleksandras Stulginskis Uni, Lithuania	Investigating policies for academic integrity in 27 EU countries, developing cases studies and resources to counter plagiarism and academic misconduct	Principal Investigator and project leader, lead of Coventry team
Disabled Student Engagement Project	Part of HEA/NUS national Meaningful Student Engagement Project 2010-11, with **£9000 funding** from Coventry and Warwickshire Lifelong Learning Network and CU	Investigating effectiveness of CU policies for learning support with research in each faculty	Principal Investigator, project leader for Coventry team
Quicker Steps from Education to Working	Finnish ESF funding, running 2011-13, with a	Benchmarking employability measures	Co-leader for the Coventry team (with

Life	consortium of partner universities from Finland, Austria and Luxembourg, Funding for travel and meeting expenses **Budget €9000**	for Higher and further Education in each of the four countries under study	Sarah Wilson-Medhurst)
BME student attainment	HEA national Summit programme (2009-10), **£3500** funding for the sub-project from Coventry and Warwickshire Lifelong Learning Network	Investigating the attainment gap for BME students and implementing measures – sub-project was a pre-university web site for EC faculty	Member of cross University team led by Christine Broughan, leader of the sub-project for EC faculty
MIS Partnership Training Awards 2	ESF funding budget approx. **£250,000**, 2004-2007	Providing training through PGT programmes for local SME and large companies	Project Manager jointly with Prof Keith Burnham
MIS Partnership Training Awards	ESF funding budget approx**. £250,000**, 2003-2005	Providing training through PGT programmes for local SME and large companies	Project Manager jointly with Prof Keith Burnham

2.9 Selection of research outputs for the portfolio

As can be observed from the above summary, although almost all my research was focused on aspects of student experience, the scope is very broad. I was faced with the choice of either including papers covering a wide range of topics, to reflect the diverse nature of my research, or selecting a narrower focused sub-set of the research. Table 2.2 lists the main publications organised according to the subject of the research together with the focus of each paper and how it contributes to the portfolio.

Table 2.2 Summary of Research Publications

Research output or publication	**Contribution to personal development or portfolio**
Text book	
Tatham, E, Glendinning, I, (1994 and 1996) *Making Sense of Modula-2*, Edition1: Chapman Hall, Editions 1 and 2: International Thomson Publications	Co-authored text book, experience in writing for publication
STEM Outreach	
Glendinning, I, Pattinson, W, (1994), *Girls, IT and the National Curriculum*, WiC Conference Proceedings	First experience of presenting a conference paper, concerned with research and outreach activities in secondary schools to encourage girls to consider a computer science career

Glendinning, I, Low, M, (2010) Conference and Journal paper *Collaborative Initiatives for Promoting Computer Science in Schools* ISSEP Zurich 2010, Springer series ISSEP 2010, LNCS 5941, pp. 103-110	I have been actively involved in STEM outreach activities in schools since 1990, to encourage take-up of computer science careers, but also since 2012 supporting teachers to convert from ICT to computing in line with the 2014 revised national curriculum. Margaret and I regularly work together via BCS and CAS. I'd like to use my connections to extend the work on plagiarism to secondary level.
Networking with European partners	
Blake, M, Cooke, G, Dunn, I, Gatward, R, Glendinning, I, Lloyd, D, (2007) *Developing a Network of European Partner Universities*, Conference Paper, Elate, Coventry University June 2007	Developing a network of EU partners was essential for proposing and conducting the IPPHEAE project
Glendinning, I, Gatward, R (2007) *Higher Education Mobility: Assurance of Quality and Standards with reference to Computing and IT Programmes,* Conference Paper Alytus College Lithuania, December 2007	This keynote presentation in Lithuania and the associated paper was the start of our ideas on an EU-wide project based on differences in quality assurance and academic standards. My co-author, former colleague Richard Gatward raised the idea for the IPPHEAE project and helped put the consortium together.
Student experience enhancement, students supporting students	
Glendinning, I, Dunn, I, Butler, C, Hood, H (2008) *Initiative for Enhancing the Student Experience,* Elate Conference Proceedings, Coventry University	These two conference papers concern work I did with colleagues in setting up and operating a student-led support service for students, and the research including exploring similar schemes in the USA that underpinned that initiative. The second conference paper was reworked to create the journal publication. Support from the "student advocates" as co-creators was an important factor in the success of the research I was involved with 2008-2013, including IPPHEAE.
Dunn, I, Glendinning, I (2009) *Supporting learners through the development of a Student Experience Enhancement Unit,* NACADA Conference paper and Journal paper, Widening Participation and Lifelong Learning Volume 12 Number pp 74-80 April 2010.	
Glendinning, I, Hood, S (2011) *Adding Value to Services in a University faculty by Employing Students,* Conference Proceedings: New ways to Learn, Laurea University of Applied Sciences, Finland.	Further papers about the research with SEE-U, student supporting students. The first paper was part of an on-going relationship with Finnish HEIs. The second paper focused on how the advocates themselves gain skills and knowledge from their work supporting other students
Glendinning, I., Domanska, A., Orim, S. (2011) *Gaining Employability Skills through Student Advocacy,* Conference paper *Enhancing Employability of Computing Students*, Higher Education Academy Centre for ICS (February 2011); ITALICS 2nd Edition http://www.ics.heacademy.ac.uk/italics/vol10iss2.htm	
Transition to higher education, widening participation, BME student support, Diversity and Equality	
Glendinning, I., (2012) *Supporting Diverse Learners in their Transition to Higher Education*, Engineering Education, Vol 6, no 2	This paper reported on research and development of a web site to support BME (British black and minority ethnicity) students during their transition to higher education. The web site was developed and operated with student advocates.
https://www.heacademy.ac.uk/sites/default/files/resources/strategic_approaches_to_disabled_student_engagement.pdf	HEA / ECU / NUS Meaningful engagement in higher Education: I led Coventry University's team contribution to this initiative, which we called the Disabled student engagement project. HEA case study
Research into Pedagogy - Activity Led Learning	

Wilson-Medhurst, S, Glendinning, (2009), *Winning hearts and minds: Implementing Activity Led Learning (ALL)*, Conference Paper Laurea University of Applied Sciences, Finland	This paper was largely about management of change in developing a whole-faculty active learning approach for engineering and computing undergraduate programmes, which led to an invitation to participate in a Finish ESF funded project
Glendinning, I., Michalska, A. (2012) *ALL for Masters: Exploring effective delivery of Activity Led Learning for taught postgraduate students,* EE2012 Conference proceedings, Coventry University, September 2012	This set of publications concern a project I led after been awarded a teaching development grant by the Higher Education Academy. We investigated how viable it was to extend the Activity Led Learning (ALL) pedagogy to postgraduate taught programmes, taking the engineering management programmes as our case study. This study looked at the views of international students and UK-based part-time students mainly sponsored by their employers. We also explored the views of academic teaching staff. There are considerable synergies with the plagiarism research. Two further journal papers from this research have been accepted for publication and are in the editing / review stage (June 2016).
Cooke, G., Lewis, P. and Glendinning, I., (2014) *Evaluating Postgraduate students' Perceptions of Activity Led Learning: Findings from a longitudinal study, SEFI 42nd Annual Conference*, 15-19 September 2014, Birmingham, UK.	
Glendinning, I. (2014c) Exploring activity led learning in postgraduate taught programmes: TDG report, HEA https://www.heacademy.ac.uk/resources/detail/internationalisation/TDG_Irene_Glendinning_Rd2Depart	
Research into academic integrity	
Glendinning, I. (2012) *European Responses to Student Plagiarism in Higher Education, Proceedings of* 5th International Plagiarism Conference, Newcastle July 2012	This paper reported on the project aims and objectives and methodology, with some preliminary results. The main purpose was to try to generate interest and participation in the research.
Orim, S-M. I., Davies, J.W., Borg., E., Glendinning, I. (2013) Exploring Nigerian postgraduate students' experience of plagiarism: A phenomenographic case study. *International Journal for Educational Integrity,* Vol 9 (1) June 2013 pp. 20-34	I was part of the supervisory team for Stella's PhD research about plagiarism Nigeria, together with Erik and John (DoS). Stella was a student advocate and worked as part time research assistant for IPPHEAE. She based part of her research on the IPPHEAE survey, which she helped to develop.
Glendinning, I. (2013-15) Author (15 reports), editor or co-author (12 reports): National reports on plagiarism policies in 27 different European countries, on-line http://plagiarism.cz/ippheae/	These 27 reports comprise the main outputs from the IPPHEAE survey or 27 countries. More detail of authorship is to be found in figures 3.1 and 3.2.
Glendinning, I (2013) *Comparison of Policies for Academic Integrity in Higher Education across the European Union*, on-line http://plagiarism.cz/ippheae/	**Output 2**
Glendinning, I. (2014a). Responses to Student Plagiarism in Higher Education Across Europe. *International Journal for Educational Integrity,* Vol 10(1) June 2014 pp. 4-20.	**Output 1**
Foltýnek, T., Glendinning, I. (2014) *Impact of Policies for Plagiarism in Higher Education Across Europe: Results of the Project,* International conference in Academic Integrity, Florida, USA February 2014, published in the journal Acta Univ. Agric. Silvic. Mendelianae Brun. 2015, 63(1), 207-216; doi:10.11118/actaun201563010207	Post-project joint conference paper to disseminate the findings from the research. Tomas presented the paper and made contact with Tricia Bertram Gallant, the creator of the ICAI's Academic Integrity Rating Systems, with whom I am now collaborating. This paper was subsequently published in a Czech Republic academic journal.
Glendinning, I. (2014b). *Assessing maturity of institutional policies for underpinning academic integrity*, 6th International Integrity and Plagiarism conference, Sage, Newcastle, 15-18th June 2014.	**Output 3**

Foltýnek, T., Kravjar, J., Glendinning, I. (2014) Case Study: Policies, Strategies and Responses to Plagiarism in Slovakia, *Journal on Efficiency and Responsibility in Education and Science*, Vol. 7, No. 1, pp. 19-25, online ISSN 1803-1617, printed ISSN 2336-2375, doi: 10.7160/eriesj.2014.070104.	IPPHEAE showed that Slovakia has an unusually mature academic integrity (AIMM) profile compared to other eastern and many western European countries, in terms of student awareness and also in use of software to deter plagiarism. This co-authored journal paper expands on the evidence and reasons behind the Slovakian policy developments.
Glendinning, I. (2015a) *Prevention and fight against plagiarism: How to set up an institutional response to individual misbehaviour. Policies in the United Kingdom*. International Institute for Educational Policy (IIEP) Policy Forum on Planning Higher Education Integrity. IIEP Paris, 18th – 21st March 2015. Publication awaiting release.	**Output 5**: This paper was commissioned by the IIEP specifically for the Paris Policy Forum. The focus was on how the UK is responding to academic integrity. The paper is mainly based on evidence presented in the IPPHEAE UK national report, but updated to include more recent developments from my own research. This event was particularly useful for meeting policy-makers from across the world and making them aware of the findings. Publication is in progress.
Glendinning, I. (2015b) *Promoting Maturity in Policies for Plagiarism across Europe and beyond*, Council of Europe 7th Prague Forum "Towards a Pan European Platform on Ethics, Transparency and Integrity in Education" Charles University, Prague 1-2 October 2015 https://www.coe.int/t/DG4/EDUCATION/etined/Irene_Glendinning_PragueForum2015.pdf	I was invited to present the research finding about European policies at this two-day event as an expert witness in this subject. The forum focus was to launch an initiative to harmonise practices and policies across Europe and beyond in the area of ethics and integrity in education.
Glendinning, I. (2016) Book Chapter: *European Perspectives of Academic Integrity* in the Handbook of Academic Integrity, edited by Tracey Bretag, Springer, published Spring 2016.	**Output 4**
Glendinning, I (2016) Blog post on ETICO Blog https://eticoblog.wordpress.com/2016/05/26/management-of-academic-integrity-in-higher-education-across-the-european-union-2/	This article was requested by IIEP/UNESCO for their ETICO site on corruption in education, to give a summary of IPPHEAE project and the methodology behind the survey. A full paper on this subject is in progress.
Daniel, J. (2016) Advisory Statement for effective International practice, author Sir John Daniel, Combatting Corruption and Enhancing Integrity: A Contemporary Challenge for the Quality and Credibility of Higher Education, release 29th July 2016 http://www.chea.org/pdf/advisory-statement-unesco-iiep.pdf	This is the output from a meeting I attended on 30th - 31st March 2016 at CHEA (Council for Higher Education Accreditation in Washington DC as an expert witness. This statement has been circulated globally via CHEA and IIEP mailing lists and available via their web sites.
Unpublished reports, case studies Holistic Institutional Policy Review (IG Author) Good academic Practice Quiz (IG Co-author) Evaluation of plagiarism workshops (IG Author) Code plagiarism (IG Co-author – incomplete study)	These four papers are my main contributions to a set of 12 case studies conducted for the second phase of IPPHEAE. We wrote the reports for these studies in the style of academic papers with the intention of submitting them for publication after the project had finished. We conducted informal peer review of these between IPPHEAE team members - currently unpublished.

Considering the variety of projects and publications summarised in Table 2.2, I decided to base this portfolio on a cohesive sub-set of the publications and reports on academic integrity, misconduct and plagiarism in HE. The five chosen outputs convey the basis and scope of the initial research (Outputs 1 and 2) and

help to demonstrate how my individual research has continued to develop and be recognised internationally since the project finished (Outputs 3, 4 and 5).

The following chapter critically appraises the five selected publications. Later chapters explore interrelations between the selected publications and evidence is presented about the impact of my research on the higher education sector in different countries. I also discuss collaborative aspects of the research process, particularly how contact with the wider community of researchers from around the world continues to enrich and inform my own achievements and direction.

Chapter 3: Analysis of the portfolio of evidence

3.1 Research objectives

My motivations and ambitions for becoming involved and continuing to pursue the research into academic integrity can be summarised as follows:

- To investigate the effectiveness of national and institutional policies and procedures for managing and discouraging plagiarism and academic misconduct in different countries;
- To conduct research and develop strategies to improve consistency in practice, quality and systems in higher education institutions;
- To encourage consensus in the development of a global culture of scholarly values and practice for academic integrity in education and research, informed by research from across the world;
- To develop and implement tools and benchmarks for evaluating maturity and efficacy of institutional policies for academic integrity;
- To influence the development and adoption of robust institutional and national benchmarks, standards and policies for upholding integrity in educational and research contexts.

Each of the five publications in the portfolio demonstrate contributions towards these five objectives, but they have different perspectives and target audiences. The nature and focus of each publication are evaluated in this chapter and links between them summarised in Table 5.2.

IPPHEAE was a collaborative project in which a wide and diverse geographical area (27 EU countries) was explored. It would have been impossible for one researcher to complete such a study. For longer term research, collaboration remains important in this global, complex and difficult area of study, where progress depends on input from many different specialists within the field.

There are no easy solutions to creating effective strategies and policies for academic integrity in education. One of the major challenges remains the fundamental inconsistencies in perceptions about what constitute acceptable and unacceptable academic practices, even within institutions and certainly

between countries and cultures. Reaching an international consensus on key concepts would be a major achievement.

My own research and the tools I developed have contributed to global understanding on policies and strategies in HE on academic integrity; the analysis provides a unique insight into national and institutional strategies for managing academic conduct, focusing on 27 EU countries, by highlighting good practice and indicating where more needs to be done; the evaluation tools, that are of interest globally, identify criteria and serve to benchmark maturity of policies and systems for promoting a culture of integrity.

The complex and evolving nature of academic misconduct, for example, most recently through application of mobile communications and social media for supporting cheating in different ways, ensures that this area will remain a rich and important field for research and development for many years to come.

3.2 Overview of Impact of Policies for Plagiarism in Higher Education Across Europe (IPPHEAE)

The IPPHEAE project was 75% funded by the European Union's Lifelong Learning Programme, under Erasmus, Modernisation of Higher Education, with the partner institutions contributing the remaining 25% of the funding. I was Principal Investigator and project manager for the project from the point at which the research idea was established in 2009 through to the final settlement of funding apportionment to partners in July 2014.

The research for the project was supported by teams from each of the five partner institutions making up the consortium. The scope of the research was limited to 27 member states of the European Union. The project proposal cautiously committed the consortium to survey at least one HEI in each country, but with the intention of capturing information from a range of higher education institutions in all countries.

The nature and scope of the research largely determined the methods adopted. A survey about policies for plagiarism could have been viewed as collecting

factual information: what are the policies and where are they available; however documentary analysis or policy details captured by interrogating senior managers would generate only limited evidence of the overall picture. To capture useful information required a broader survey of different stakeholders, with triangulation of results where possible. Interviews, focus groups and on-line questionnaires we conducted with HE students, teachers and managers, provided a much richer insight into institutional culture.

Important questions for the research concerned whether the policies were applied as intended, how well they were communicated and whether they were effective in both deterring and detecting academic misconduct and student plagiarism.

Participants targeted were: students studying master and bachelor degrees, academic teachers, middle and senior managers and administrators, representatives from national or regional organisations and researchers into academic integrity. This wide range of contributors provided different perspectives into what was happening institutionally and nationally and also provided access to documentary sources and previous research.

For the purposes of this research international students were considered part of the student population of the institution in which they were studying at the point of the survey; although it was anticipated that their previous educational experiences would distinguish their perceptions when compared to students educated entirely in the country under study. International students were also a valuable source of comparative information for related research (ORIM PhD thesis 2014, Michalska PhD thesis forthcoming) about policies and student views in different countries.

Many questions required responses in the form of opinions and perceptions of the participants rather than factual information, for example asking participants if they know where to find details of the policy implied how transparent, accessible or well communicated the information was. Some respondents provided indirect or implied information that needed interpretation. The validity

of such information depends on the clarity of questions, honesty of respondents, conditions for data capture and the representative nature of data collected.

Any differences in participants' preparation for the survey, including priming and advising on responses, would lead to unreliable results. Clearly, in countries where the response rate was low or sampling unrepresentative, the results could not be generalised.

3.2.1 Research design

I created the initial design and plan for the survey, with minor refinements and updates by the Coventry team members, particularly the two research assistants, as the project progressed. A brief description of the research design is included in Output 2 (Glendinning 2013, pp 5-8). Minor contributions were made to the survey research design by other members of the consortium. The anticipated volume of the survey responses meant that on-line questionnaires were the only option for students and teachers.

A lower volume of responses was expected from researchers, HE managers and national contributors; therefore the decision was taken to create a shorter on-line questionnaire with mainly open questions, and include the option of conducting semi-structured interviews.

The survey questions came about through an iterative process of negotiation followed by editing, piloting and refinement, which took about one year in total. Jude Carroll provided a video conference seminar for project partners from Coventry in March 2011. Her input helped to focus the team on the main problems and how to design survey questions to capture useful insights.

Exploring surveys done previously by other people provided the inspiration for many questions (Park 2003, McCabe 2005, Tennant and Duggan 2008). Draft questions were sent to many different reviewers for comment. The varying perspectives of reviewers and IPPHEAE partners helped to broaden and internationalise the ideas, wording and outlook.

A few specific questions were included in the student survey that aligned with personal research objectives of the two Coventry research assistants, who were by then both registered for PhDs with research overlapping IPPHEAE.

Selection of languages for conducting the survey was important. Surveying only in English would have seriously restricted numbers, skewed the range of participants and led to some misunderstandings about terminology and lack of comparability of responses. Therefore the three on-line questionnaires were made available in fourteen different languages (42 versions in total) and, to minimise inconsistencies in the wording and meaning conveyed, the translations were done by academic native speakers of each language and then peer reviewed for accuracy.

It was essential that results generated for different language versions as far as possible were language neutral and could be easily compared and analysed quantitatively. This was largely achieved by providing check-lists with answer options, but leaving provision for open text responses.

After ethical approvals, followed by independent peer reviews, considerable piloting and testing, the set of survey instruments was finalised by the autumn of 2011. The survey consisted of several complementary approaches:

- Separate on-line questionnaires for HE students, teachers and senior managers. Each of these three questionnaires was translated from English into 13 other European languages, uploaded to the Bristol on-line surveys (BOS) secure platform together with informed consent information and guidance notes;
- Semi-structured interviews for HEI managers, researchers and national contributors;
- Student focus groups, with semi-structured questions designed by the research assistants and customised for their own PhD research: Anna Michalska (formerly Domanska: European students) and Dr Stella-Maris Orim (Nigerian students);
- Analysis of documentary and web-based sources.

Each project partner took responsibility for conducting surveys in specific 27 EU member states. In practice I personally negotiated requests for participation in the survey on behalf of the partners in many of the target countries. I conducted over 70 interviews and led the data collection in UK, Republic of Ireland, France, Germany, Belgium, Sweden, Hungary, Netherlands, Luxembourg, Austria and Finland. I conducted supplementary research in Denmark, Romania, Poland, Portugal, Slovenia and Spain after the official end of the project.

3.2.2 Survey results

Although careful guidelines were provided for participants, the project team members were not always able to control conditions for operational elements of the survey and participant selection was largely opportunistic.

By autumn 2013 just under 5,000 survey responses had been collected, which although substantive and sufficient, was much lower than the initial targets in the research design (minimum 1,809 maximum 61,000). Many reasons were given by individuals and institutions refusing to participate in the survey, including lack of policies to discuss and no cases of plagiarism known. More recent research has brought the total to well over 5000 responses.

The low volume of responses in some countries was problematic. However conducting interviews and analysing documentary sources meant that useful conclusions could be drawn for all countries even when sometimes based on limited data. The overlap between questions at different levels of the survey allowed triangulation across responses.

The results were presented in a detailed report for each of the 27 member states (IPPHEAE web site, project-results). Each partner was responsible for preparing the reports for the countries they were surveying. Reports were sent for peer review to researchers, other contacts and participants from each country. Careful proof-reading and external peer reviews were undertaken for every report before the final versions were released.

I conducted supplementary research, covering six countries starting in the autumn of 2013 and ending in spring of 2015, to ensure all project objectives

were satisfied and the required range of outputs were completed to a satisfactory standard. I created new reports for these counties, based on a combination of previous and additional research. In consequence, I was author of 16 of the 27 country reports and co-author or editor, proof-reader, review process coordinator for the remaining 11 reports.

I wrote the 28th report (Output 2) in autumn 2013 comparing results collected across the 27 countries surveyed. Since at this time some of the country reports had not been finished, the main statistics used in this report were based on my own independent comparative analysis of the IPPHEAE datasets.

3.2.3 Dissemination of results

Early support for the project from EU partner organisations, iParadigms / Turnitin, Higher Education Academy and consultant Jude Carroll, helped to secure participation and provide links to the global network of researchers in various aspects of research and academic integrity, many of whom remain in regular contact with the author relating to on-going research.

Although commercial companies such as iParadigms strongly encouraged and supported the research, there was no direct funding or influence that could compromise the findings or generate conflicts of interest.

Based on the range of contacts and interest in the IPPHEAE outputs from different parts of Europe, the author received many invitations to speak at various events, gaining a reputation as an authority on international policies for academic integrity, as summarised in Table 5.1. It is clear from recent on-going developments that the IPPHEAE research continues to have lasting impact across Europe and beyond.

The analytical content included in the five publications in this portfolio draws on a small sub-set of the available data. The IPPHEAE survey dataset is very rich and complex, comprising both qualitative and quantitative responses from four levels of participants. Excluding the personal and demographic data the questions included on each survey were:

students - 27 (on-line questionnaire)

teachers - 40 (on-line questionnaire)

managers - 24 (on-line - including many open questions)

managers, researchers and national respondents - 21 open-ended questions, semi-structured interviews

Student focus groups - 10 open-ended themed prompts, with sub-questions encouraging discussion

Analysis conducted on the data so far has been thorough, but there is still scope for more analysis and new revelations to emerge. In particular, there was very little time under the IPPHEAE project for conducting comparative studies across countries to establish whether there are meaningful common groupings; for example it would be interesting to compare pedagogy, assessment, approach to QA and transparency within national HE sectors, and analyse how that impacted on approaches to setting and maintaining institutional policies.

Using colour coding, Figure 3.1 summarises responsibilities for authorship / ownership of publications and outputs from IPPHEAE and, using the same colour coding, figure 3.2 indicates which partners were involved in data collection for the survey in different EU countries. The purple elements in Figure 3.1 indicate the extent of my own contributions to the main project outputs. The colour shading in Figure 3.2 is indicative of the efforts by the five partner teams rather than by individuals in the process of data collection. Purple shading indicates that the Coventry team was responsible and two-tone graduated shading is used where two partners contributed to the data collection on one country.

These illustrations show that in some cases the author of a country report did not conduct all the data collection. It can be deduced that the Coventry team was solely responsible for data collection in 13/27 countries and contributed to the data collection in a further 7 countries.

Figure 3.1 Authorship of IPPHEAE outputs

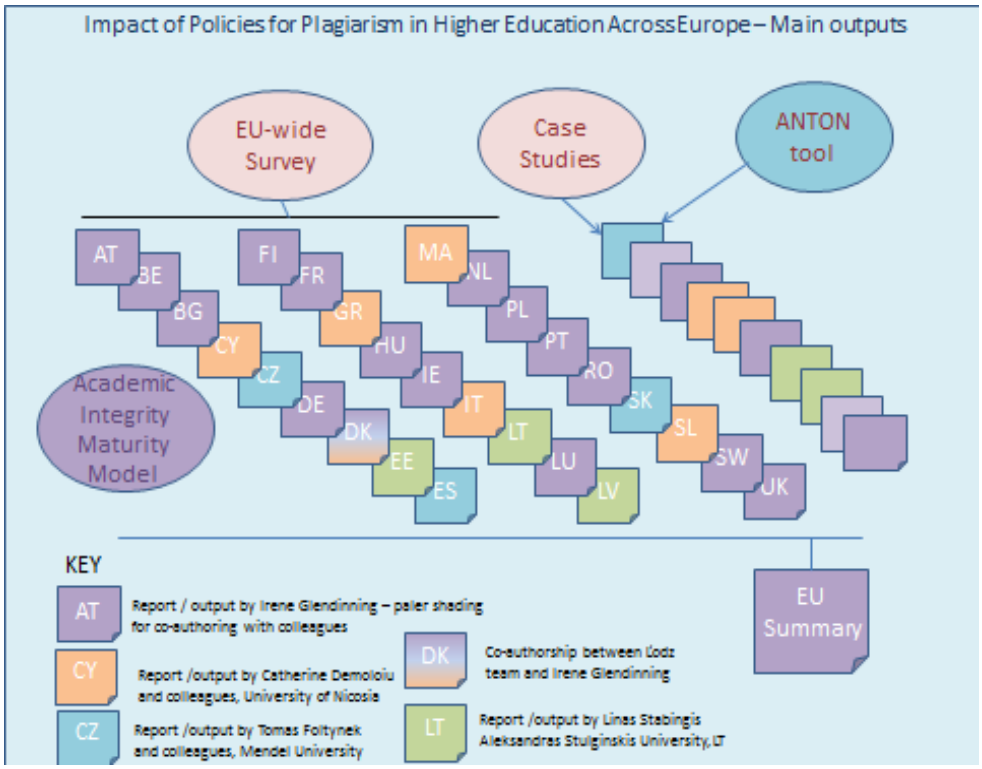
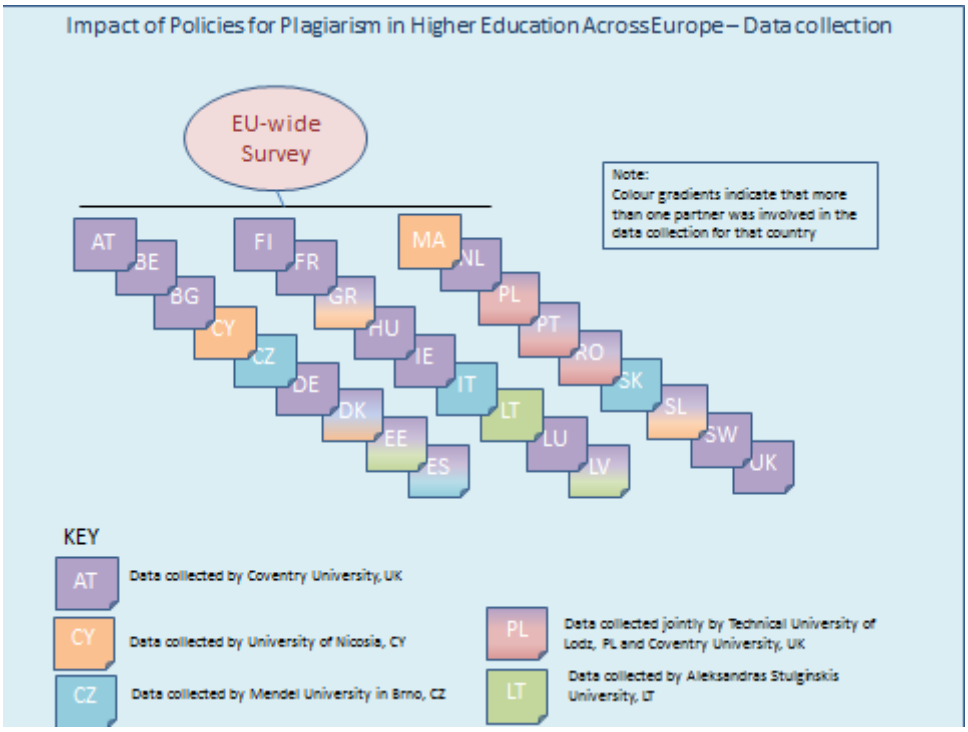


Figure 3.2 Data collection responsibilities, IPPHEAE



Key to country codes: AT Austria; BE Belgium; BG Bulgaria; CY Cyprus; CZ Czech Republic; DE Germany; DK Denmark; EE Estonia; ES Spain; FI Finland; FR France; GR Greece; HU Hungary; IE Republic of Ireland; IT Italy; LT Lithuania; LU Luxembourg; LV Latvia; MA Malta; NL Netherlands; PL Poland; PT Portugal; RO Romania; SK Slovakia; SL Slovenia; SW Sweden; UK.

3.3 List of Portfolio Outputs

Five outputs, listed below, were selected for this portfolio based on quality and focus of the contents and writing. The publications also reflect chronological developments of my personal research and ideas.

- Output 1: Glendinning, I. (2014a). Responses to Student Plagiarism in Higher Education Across Europe. *International Journal for Educational Integrity,* Vol 10(1) June 2014 pp. 4-20.
- Output 2: Glendinning, I. (2013). Comparison of Policies for Academic Integrity in Higher Education across the European Union.
- Output 3: Glendinning, I. (2014b). *Assessing maturity of institutional policies for underpinning academic integrity*, 6th International Integrity and Plagiarism conference, Sage, Newcastle, 15-18th June 2014.
- Output 4: Glendinning, I. (2016) Book Chapter: *European Perspectives of Academic Integrity* in the Handbook of Academic Integrity, edited by Tracey Bretag, publisher Springer Science.
- Output 5: Glendinning, I. (2015a) *Prevention and fight against plagiarism: How to set up an institutional response to individual misbehaviour. Policies in the United Kingdom*. International Institute for Educational Planning (IIEP) Policy Forum on Planning Higher Education Integrity. IIEP Paris, 18th – 21st March 2015.

As will be demonstrated in Chapter 5, although there are clear overlaps in the portfolio of work presented, each paper represents a specific aspect of my research achievements and associated outcomes.

As illustrated in Figures 3.1 and 3.2, although I was the sole author of all five papers, they all draw on research by colleagues in the Coventry team, IPPHEAE partners and more recent collaborations. It is important to recognise the contribution of IPPHEAE team to different aspects of the project, particularly the data capture through surveys and interviews.

Critical analysis of each output follows.

3.4 Output 1

Glendinning, I. (2014a). Responses to Student Plagiarism in Higher Education Across Europe. *International Journal for Educational Integrity,* Vol 10(1) June 2014 pp. 4-20.

This is the leading paper in a special issue of the journal. The other papers in this journal were selected papers presented at the June 2013 conference *Policies for Plagiarism across Europe and Beyond,* hosted by IPPHEAE partner Mendel University in Brno, Czech Republic, organised as part of the IPPHEAE project to disseminate key findings available at that time.

This paper made an important contribution to knowledge and understanding, being the first journal paper to be published about this unique EU-wide study. The editorial for the journal summarises the contribution to knowledge "IPPHEAE is possibly the broadest study of academic integrity in Europe ever conducted, with a comparative study of academic integrity policies and procedures in higher education institutions (HEIs) across 27 European Union member states" (Bretag 2014). My paper was written to summarise the findings towards the end of the project and highlight some important results emerging from the initial analysis. At that time not all national survey reports and case studies had been completed by partners, therefore the paper was based on the information to hand in the autumn of 2013.

The publication of this paper as the leading article in the journal, created significant interest in the project outcomes from a wide range of sources.

My own input to the project was to provide leadership and inspiration, not just in the management of the project, but also in steering the direction, nature and rigour of the research. In addition to securing ethical approval and putting in place measures to mitigate identified risks to the research, I provided guidance for the other partners, mainly through notes and exemplars I created, on most aspects of the conduct of the investigations, analysis and interpretation of the data, including a template for reporting and interpreting the findings for different countries.

Previous research into European educational policies and literature sources that influenced the design and conduct of the research, helped to inform the direction and focus of the surveys. Although there is huge body of research and publications around plagiarism and academic misconduct, prior to IPPHEAE very little research had been conducted about how plagiarism was viewed and was being managed in HEIs in most European countries. In their response when accepting the IPPHEAE project proposal, the European Commission's reviewers stated that "*Even if this topic is not mentioned as such in the EU modernisation agenda in Higher Education and Bologna process, it is a fundamental issue in quality assurance, which is a major priority of all policies and declarations for the construction of the European higher education area*".

The paper presents some examples of good practice discovered during the research and some less favourable examples, including intimidation of "whistle-blowers" and marginalising people promoting academic integrity. The report describes the need to tackle the culture of non-accountability leading to complacency and denial that pervades many institutions across all parts of Europe.

As this paper reports, the most fundamental barrier to developing internationally accepted policies on educational integrity is lack of agreement about what constitutes acceptable academic practice and conduct and how breaches should be penalised. Consensus on such academic values is needed on the journey towards comparable educational standards and outcomes across Europe, which I will expand on in my discussion.

This publication laments the lost opportunity of not including oversight of academic integrity policies in institutional quality and accreditation audits, which is the subject of key work I have contributed to recently (Daniel 2016).

The IJEI was taken over by Springer in 2015, retaining the same editor, which should serve to raise the profile of previous and future research publications. However Springer has imposed a publication fee for authors submitting work to the journal, which may deter some contributors.

The publication of this journal paper helped to raise my profile as the leader and driving force behind the IPPHEAE project and provided a platform to make a wide range of people aware of the early findings from the research. The publication was read by many influential people in different parts of Europe, which led to invitations for me to speak at events, allowing emerging findings and further analytics to be presented to different audiences (detailed in Table 5.1).

The whole of the IPPHEAE consortium of five partner teams contributed to the research project on which this paper was based. I was sole author of this journal paper and responsible for analysing and presenting the results. Since this was based on a common data-set there are potentially overlaps with papers written by other partners on slightly different themes or other papers written by the author, for example particularly useful graphs or statistics comparing results for different countries have been included in several journal and conference papers to emphasis different points.

3.5 Output 2

Glendinning, I. (2013). Comparison of Policies for Academic Integrity in Higher Education across the European Union.

Retrieved from http://plagiarism.cz/ippheae/

This research report was designed to compare and summarise the findings from the IPPHEAE project in an easily accessible and digestible format, combining the IPPHEAE survey results contained in the 27 country reports in a single report. The 28 reports represent a substantial body of work with input from different partners within the IPPHEAE project team. All 28 reports are openly available for download from the same web site **http://plagiarism.cz/ippheae/.**

This report includes a summary of the research design and methodology, which had been omitted quite deliberately from each of the country reports to avoid tedious duplication. The author needed to find a reliable and meaningful way to analyse and compare the results across the 27 different countries.

As described in Output 3 (Glendinning 2014a), I was inspired by the Capability Maturity Model (CMMI), familiar from my computer science teaching. The title Academic Integrity Maturity Model (AIMM) was a meaningful and memorable acronym. A workshop at the Brno conference in 2013 was used to present the nine categories from which the AIMM metrics are derived. A Canadian participant at the workshop suggested the use of a radar chart to depict the metrics for each country, for which I remain very grateful.

With assistance and ideas from Tomas Foltýnek, the leader of the Czech team, it proved possible to partition selected IPPHEAE survey questions according to relevance to the nine AIMM categories then refactor and scale the combined responses, applying different survey levels, using a weighted average to arrive at a score in the range 0-4 for each metric.

The EU-wide report presents results for each country as indicative rather than factual, and combined with more general conclusions extracted from country reports where they were available. I put together a set of Threats and Weaknesses versus Strengths and Opportunities (SWOT) for academic integrity policies and systems each country. The SWOT analyses were based partly on recommendations and good practice examples highlighted in IPPHEAE national reports, but drew heavily on additional research I conducted and comparative analysis statistics that I had put together myself utilising the main survey datasets. My statistics also served to verify the accuracy of the analyses in the IPPHEAE national reports.

The report's conclusion shows an overall comparison between the 27 countries using a stacked bar chart distinguishing the scores for the nine categories with different colours (Output 2, 37). The results and charts have generated great interest, particularly when included in presentations, workshops and keynote speeches delivered in different countries. The charts (duly acknowledged) are being adopted by iParadigms to help with their international marketing campaign in Europe in promoting the text matching tool Turnitin and related educational products.

Although IPPHEAE results data were retro-fitted to the AIMM model rather than purposely designed to create a national profile, feedback suggests that the single page set of results with the SWOT analyses, accurately encapsulate the status of policies for academic integrity in the 27 countries.

It is worth reflecting that another researcher may have selected different questions, categories and priorities on which to base a national profile, potentially generating different results. It is important to note that my own UK—centric cultural biases and values were influential in constructing the metrics and survey tools.

Clearly this is a research report rather than a peer reviewed academic paper. However the report was subject to peer review by other project partners and sent to several other researchers in academic integrity, with suggestions responded to before it was published. Since this report was made available via the project web site for downloading in autumn 2013, together with the 27 IPPHEAE national reports, it has been scrutinised by many people, with very favourable informal feedback.

The major claim for originality applies to both tools for analysis and scope and focus of research. The successful completion of IPPHEAE, with such a limited budget and timeframe, covering a huge scope, should be seen as a major achievement. I elaborate on the evidence of impact in chapter 5 (Table 5.1).

I devised the combination of SWOT analysis and AIMM tools as a means of comparing responses and evidence and presenting the results graphically, using a stacked bar chart for overall comparison and radar chart for each country's AIMM profile. In outputs 3, 4 and 5 I explain how these tools have been used as a starting point for developing a toolset for evaluating institutional policies for academic integrity.

While recognising the great achievement of creating new knowledge and information where none previously existed, it is important to consider limiting factors of the research:

- numbers of survey responses for some countries were low, therefore the components of some AIMM scores were based on unrepresentative samples;
- selected IPPHEAE questions from which the AIMM scores were calculated were "retro-fitted" to AIMM rather than having been purpose designed;
- decisions on what constitutes "maturity" of policies and systems favour the author's experience and perspectives of what is accepted as good practice based on her experience both in the UK and working with international partners;
- findings and values adopted in my research draw on concepts of "maturity" developed in English language scholarly research.

Taking these factors into account, the research has provided a good appreciation of what is good and less good about current policies in 27 different EU countries, based on national, institutional, faculty and individual perspectives.

3.6 Output 3

Glendinning, I. (2014b). *Assessing maturity of institutional policies for underpinning academic integrity*, 6th International Integrity and Plagiarism Conference, Sage, Newcastle, 15-18th June 2014.

The series of International Integrity and Plagiarism Conferences provide the major forum in the world for presenting research on academic integrity. Through this paper I was able to report to an international audience of key researchers in this field about the development of a unique toolset that was emerging from the IPPHEAE project outputs. My co-researcher Dr Tricia Bertram Gallant was a keynote speaker at the conference, therefore we were able to meet and gain important feedback from conference delegates about the perceived value of the toolset and associated metrics.

The collaboration with Dr Bertram Gallant began in January 2014. She works for University of California San Diego (UCSD) and represents the International Center for Academic Integrity (ICAI) based at Clemson University, USA. She had developed the Academic Integrity Rating System (AIRS) for institutional use in

the USA and elsewhere. This is a self-assessment tool only accessible to members of ICAI who are required to pay an annual membership subscription; therefore there had been very few requests and opportunities to apply the tools.

We agreed to share information about AIMM and AIRS to explore the potential for creating a hybrid tool. The aspiration was to create a toolset that could be applied globally as a means of benchmarking and evaluating maturity/effectiveness of institutional policies.

I had already adapted AIMM for use as an institutional policy evaluation tool and had tested the revised AIMM metrics extracting student and teacher data for several institutions from IPPHEAE datasets. When I shared the results with contacts within those institutions, the results were found to be meaningful and valuable, indicating strengths and weaknesses, directing priorities for improving policies.

This conference paper details the development and adaptation of AIMM early in 2014 to explore the usefulness of using the tool for evaluating academic conduct policies in institutions. The paper includes five examples of results from AIMM applied to (anonymous) institutional data. The paper was well received by a substantial international conference audience, with several follow-up contacts from participants requesting an institutional assessment.

The conference provided an opportunity for a meeting with Dr Bertram Gallant about developing the AIMM/AIRS hybrid, together with a feasibility study for combining AIRS and AIMM, and a brief comparison of the two tools. Neither of the tools emerged as superior or more complete than the other in the comparison, both tools had strengths and weaknesses. A major problem identified was the use of UK- and USA-centric terminology and need to make accessible for use in different educational systems across the world.

In February 2015 we jointly presented a workshop to a different international audience at the ICAI conference in Vancouver, Canada, entitled “Assessing and rating maturity of international policies for academic integrity”, designed to capture views and suggestions from international participants about the

AIMM/AIRS hybrid. Many of the participants expressed willingness to continue to review further drafts of the developing toolset and also volunteered to pilot the prototype tools within their institution.

Participants' reactions about the tools, and follow-up contacts since, left no doubt that this was viewed as a valuable and much needed resource, with useful suggestions and also great encouragement for us to continue with the development. As will be seen in Output 5, we have been designing a new tool, drawing from AIRS and AIMM, and in doing so taking into account recent research elsewhere in the world.

3.7 Output 4

Glendinning, I. (2016) Book Chapter: *European Perspectives of Academic Integrity* in the Handbook of Academic Integrity, edited by Tracey Bretag, Springer Science + Business Media Singapore 2015. DOI 10.1007/978-981-287-079-7_3-2.

Acknowledging the success of IPPHEAE, I was invited to contribute a chapter to this major publication on Academic Integrity, edited by Australian researcher Tracey Bretag. The chapter was subject to rigorous peer review and was published in Spring 2016.

It is too early to know how much influence this book will have on higher education globally, or specifically what impact the author's chapter will have. However considering the authority and experience that the range of contributors bring, it is anticipated that the Handbook will be perceived for some years to come as an essential global reference source for institutions developing policy and systems for academic integrity.

The Handbook includes contributions on a wide range of relevant specialist topics written by key players in the global academic integrity research network. Central to the author's chapter is the IPPHEAE research on EU countries. As the book has a separate chapter on academic integrity in the UK, I focused most of my chapter on other parts of Europe.

Output 4 begins with a historical perspective on political and sociological influences to higher education in Europe over the last 25 years, particularly the integration of eastern European countries into the European Union and the Bologna Process for harmonisation of higher education in Europe. I had not presented such a complete historical perspective in earlier publications and have not read an account with this focus and insight by any other author. I found it enlightening to explore and present information about underlying influences affecting the developments and variations in HE policies and practices across Europe.

Despite progress towards equivalence in European qualifications, it became abundantly clear from the IPPHEAE research, as reported in this publication, that huge differences remain in parts of the EU in teaching and learning, educational standards, quality processes and approaches to academic integrity.

In this book chapter I attempted to provide a balance between examples of effective and less effective policies and practices in different countries. Evidence collected during IPPHEAE is used to justify why the inconsistencies persist and what needs to be done to promote and encourage widespread adoption of good practice.

Also included in the Handbook is a chapter on Nigeria, written by former IPPHEAE research assistant, Dr Stella-Maris Orim.

Although the IPPHEAE research and my publications have largely focused on academic integrity in education (bachelor and taught master's degrees) the chapter includes discussion about integrity in research and developments in Europe in the related fields of research and publication ethics.

In summary, I am the sole author of this book chapter, which brings an original novel perspective for a global audience about what is currently happening in higher education in different European countries, together with the historical factors that influenced the status quo. The account draws on the findings from the IPPHEAE survey, presented in a way that should be meaningful and useful to a wide range of readers. I have brought together references to all other relevant

research and interventions that I discovered during my research in different (mainly non-UK) European countries that concern academic conduct and academic integrity policies.

The chapter recommends ways to address the corruption and unfair practices in education that I encountered both in the course of my research and in investigations by other people. It also highlights examples of progress and good practice in policy development and implementation.

3.8 Output 5

Glendinning, I. (2015a) *Prevention and fight against plagiarism: How to set up an institutional response to individual misbehaviour. Policies in the United Kingdom*. International Institute for Educational Planning (IIEP) Policy Forum on Planning Higher Education Integrity. IIEP Paris, 18th – 21st March 2015.

In March 2015 I was invited to present the IPPHEAE UK research findings at an international higher educational policy forum in Paris, organised by the International Institute for Educational Planning (IIEP), which is part of the United Nations Educational, Scientific and Cultural Organization (UNESCO). This paper was written according to a set of priorities identified by the organisers and is due for publication and wide circulation in December 2016 by IIEP/UNESCO.

The Policy Forum's major objectives were:

- *To pinpoint major integrity risks existing at the higher education level, and to discuss current and future challenges to overcome them;*
- *To assess the capacity of traditional monitoring mechanisms to allow integrity risks to be detected and monitored in a systematic way;*
- *To share knowledge on recent and innovative initiatives aimed at improving ethics and reducing opportunities for fraud or corruption at the higher education level;*
- *To discuss how to better coordinate efforts of regulatory bodies, ministries, HEIs, student movements and CSOs to maintain high ethical standards;*
- *To reflect on ways to assist countries to design and implement adequate strategies to prevent, detect, and mitigate integrity risks.*

This event presented a major opportunity to disseminate the findings of the IPPHEAE research and subsequent developments to about 60 people of major

influence within the global higher education community (representatives and chairs of Council of Europe, non-government organisations (NGOs), quality bodies, vice chancellors, researchers, broadcasters).

A strategic view was needed of what was learnt through IPPHEAE about policies and provision in UK HEIs surrounding academic integrity. As requested by the Policy Forum organisers, this paper draws heavily on the findings presented in my IPPHEAE UK report (Glendinning 2013). The paper also incorporates findings from research and developments since the project ended.

The paper presents a novel definition of "mature policies" for academic integrity, including how this definition aligns with the 10 categories of the developing AIMM/AIRS hybrid model and suggests how mature policies can be identified (pages 7-10). These concepts were derived by me as part of my work developing the AIMM /AIRS hybrid toolset for evaluating institutional policies.

The AIRS / AIMM hybrid model has now been assigned a working title of Scorecard for Academic Integrity development (SAID). The SAID characteristics, as presented in Output 5, form a candidate set of benchmarks for institutional academic integrity policies.

The development of SAID is the result of collaboration between me, Dr Tricia Bertram Gallant ICAI / UCSD, and Dr Jennifer Eury from Pennsylvania State University. I was responsible for elaborating the underlying policy characteristics as set out in Output 5. Extracts from this paper have been included in a white paper about SAID, with the aim of securing long-term funding for the development work and implementation.

The recommendations from Output 5 provide an international, realistic perspective on how lessons from countries such as the UK can help other countries to develop effective and mature policies throughout their HE sectors. The Paris forum, and future circulation of the published paper, provide excellent opportunities for the author's research to reach a highly influential audience with the power to make significant impact internationally.

It was important that the paper and presentation on 19th March 2015 were made relevant to participants attending and the wider readership. Responses during and contacts following the event confirmed this had been achieved. Many delegates have consulted me since the forum to discuss involvements in future work and access to IPPHEAE results and data.

The Council of Europe (CoE) representative's presentation to the IIEP Paris forum on 20th March 2015 included specific notification of the decision to "extend the IPPHEAE survey to Transition Countries". The author was subsequently invited to present results from all the IPPHEAE research at the Council of Europe's Prague Forum on 1st October 2015. More details about this and follow-up developments are included in Chapter 7.

Output 5 will be published by the IIEP as part of a synthesis publication about the policy forum that will be circulated to UNESCO members interested in educational policy globally, (due December 2016).

3.9 General discussion on originality of all five outputs

Prior to the IPPHEAE project there was no evidence available to compare how plagiarism and academic misconduct were being managed in higher education institutions or at federal or national level across different parts of Europe. As a result of my leadership and vision in directing and steering this research, a much clearer picture has emerged of the enormous challenge that faces the European higher education sector.

IPPHEAE was funded by the European Commission in 2010 because they recognised this deficit in knowledge and saw the value of the proposed research to capture this information. In 2014, after the completion of the project, the European Commission was satisfied that the project had met all the agreed objectives and full funding was released. The IPPHEAE project was a massive undertaking and research involved teams of researchers in five institutions, as detailed earlier.

I led the whole project both as project manager and principal investigator. I also led the small team of young research assistants and student advocates at Coventry University, most of whom have since become academics and researchers themselves. Contributions to the research from partners and individuals within the partner teams were documented in great detail in the formal IPPHEAE project report. A summary of these details is included in Chapter 6, supported by statements from co-researchers in Appendix 4.

The two Coventry research assistants each registered for a PhD project based on the IPPHEAE project. Stella-Maris Orim successfully defended her thesis in March 2015 based on research into plagiarism policies in Nigeria. Having studied part-time, Anna Michalska is due to submit her thesis on EU student perspectives on plagiarism early in 2017. I was part of Stella's supervisory team and I am Director of Studies for Anna's PhD.

Although many other research projects have been completed about aspects of academic integrity, no other research has had such extensive scope and the same geographical and research focus as IPPHEAE. The extent of novelty and originality for this research relates to:

- The survey methods and questions that were designed specifically for this project, led by the Coventry team, but with some input from partners;
- The unique investigation of national and institutional policies for plagiarism and academic integrity across the EU;
- The geographical scope of the research into 27 EU member states;
- Capturing over 4000 questionnaire and focus group responses from HE students;
- Collecting views from about 800 teachers by questionnaire;
- The 70+ interviews I conducted with academic integrity researchers, senior HE managers, national representatives of organisations concerned with quality and integrity;
- The robust approach to analysis and evaluation of the data collected, designed specifically for this research by me;

- Analytical tools to compare results, inspired by CMMI, were conceived and designed by me and bespoke to this project;
- The concept of levels of "maturity" in policies that emerged from my analysis of the IPPHEAE survey data;
- My authorship of 16 out of the 28 reports that present the findings from the IPPHEAE survey.

In summary, although the initial IPPHEAE research was by definition collaborative, in my central role as principal investigator I was responsible for making key research decisions, formulating and monitoring the research strategy, scholarship and direction, conducting substantial amounts of the data collection, analysis, interpretation, creating novel tools for analysis and presentation and effectively communicating the findings.

Since the IPPHEAE project finished, as evidenced in Tables 2.2 and 4.1, I have continued to conduct research into new facets of this broad domain and develop, publish and disseminate. These factors justify the inclusion of my five publications as substantive, novel and original research contributing significantly to the body of knowledge.

Chapter 4: Research methodology and underpinning theory

4.1 Methodological approaches for research relating to this portfolio

4.1.1 Research paradigm

It is important to be clear about the overriding research paradigm and associated ontological and epistemological considerations that framed the research, but I will first set the context by reviewing each of my research objectives.

- To investigate the effectiveness of national and institutional policies and procedures for managing and discouraging plagiarism and academic misconduct in different countries.

The IPPHEAE survey focused on investigating HE institutional policies. Subsequent research continues to extend, apply and adapt what has been learnt from IPPHEAE.

The next two objectives concern influencing future policy based on understanding of current practices:

- To conduct research and develop strategies to improve consistency in practice, quality and systems in higher education institutions;
- To encourage consensus in the development of a global culture of scholarly values and practice for academic integrity in education and research, informed by research from across the world.

Since 1999 the Bologna Process has been harmonising educational practices and systems across Europe. However I was aware at the outset of this research, from my activities in Europe and internationally, that great differences still exist in educational practices, but also traditions, cultural values and priorities in different parts of Europe. Therefore any small move towards an international consensus on academic integrity would be a major achievement.

Having explored the reality of HE institutional policies in EU countries during IPPHEAE and later extending both geographically and in the scope of research (for example taking an institutional view on academic integrity and corruption), theoretical models were developed, based on available evidence.

The final two research objectives apply the theoretical models in the form of benchmarks and evaluative tools for improving institutional policies and systems.

- To develop and implement tools and benchmarks for evaluating maturity and efficacy of institutional policies for academic integrity;
- To influence the development and adoption of robust institutional and national benchmarks, standards and policies for upholding integrity in educational and research contexts.

The focus of the research was to *understand* the social reality of institutional policies and practices from different perspectives and create new theoretical models that can help to bring about positive change. A strong theme of interpretivism emerges from the constructivist and relativist nature of the knowledge being sought from different sources (Corbetta 2003, 14).

According to Cousin "the point of research is to enable us to make judgements about what *might* be going on within and beyond the situations we are researching" (Cousin 2011, 13). The complexity of the domain of study and different viewpoints within the domain determine that we will not arrive at a single simple truth. In consequence the dominant paradigm followed throughout this research has been interpretivism. The following discussions consider the underlying philosophical and practical connotations of this paradigm.

Constructivism applies in terms of the emergent outputs from capturing, appreciating and comparing perspectives in different countries. National and institutional policies and practices are influenced by how the concepts of student plagiarism and academic misconduct are understood and valued by various members within the national and institutional communities. Capturing the relativistic "multiple realities" (Corbetta 2003, 14) within an HEI provided evidence of how different members of the community perceive and understand the institutional policies and their impact and practical implications for their own role.

Cousin describes ontology as "… conceptions about our positionality in the world and the effects this has on what is knowable" (2011, 6). In contrast Mason

(2002, 14) explores a researcher's ontological perspective by asking them to question "… the nature of the phenomena or entities or social 'reality'" on which the research is focused.

Taking the second definition, the phenomena at the centre of my research for this thesis are the policies implemented by different HEIs that relate to academic integrity. The principal social realities being explored are what people and institutions view as policies, how policies differ between institutions and geographical regions and how effectively the policies in place are operating.

From the perspective of Cousin's definition on what is "knowable", at the beginning of the IPPHEAE project, as a researcher in a relatively senior academic position within my own institution, leading a team-based EU funded project with four other EU partner institutions, I had limited powers to persuade institutions or national agencies to engage with the research and provide the information we needed to collect. However the track record of success from the earlier research, combined with recent developments within the research domain (including the recognised rise in use of technology in examination cheating and growing influence of contract cheating and paper mills), and some clear benefits to institutions from participating in research in this area (for example the access to an AIMM institutional profile), support a convincing argument persuading potential participants to contribute to the more recent research, thereby unlocking access to the required information.

One of the major unknowns at the outset of the research was how different members of the educational community in different parts of the world view key concepts such as plagiarism, integrity and ethics. The perceptions and values of students, academic teachers, institutional managers and educational leaders have great bearing on behaviour, compliance, interpretation of policies, implementation and content of policies and the general shared ethos within the educational communities under study.

Another perspective on the "knowable" is how willingly, reliably, honestly and accurately participants in the research will convey their perspectives, views and understanding about the subjects under study. Matters concerning academic

conduct can be viewed as controversial, therefore the data capture and analysis needed to be designed with this in mind. Equally important is the viewpoint of the researcher and how that influences the interpretation of what is found.

Cousin's definition of epistemology concerns "conceptions about the nature of knowledge and ways of coming to know" (2011, 6), compared to Mason's "difficult question" that encapsulates a researcher's epistemological position by advocating consideration of "what might represent the knowledge or evidence of the entities or social 'reality'" that is under investigation (2002, 16).

The evidence we were trying to capture about policies could be gathered to some extent by examining institutional documentation, where available. The documentation can tell us what policy elements are included or missing, to what levels of education they apply (bachelor's, master's, doctoral studies, research), who has responsibility and how the policies should operate. However the documentation cannot answer questions about how and whether the policies have been applied in practice and how they are communicated and understood within an institution. To answer these questions it is important to explore the perceptions of different institutional stakeholders: students, academics and management, plus external contributors to integrity and quality assurance, where relevant.

If an institution has no available policy statements then this absence could indicate a culture of secrecy or it could point to the lack of value placed on academic integrity by the institution; again, the only way to uncover the social reality is to ask different stakeholders.

In keeping with the need for researcher reflexivity in qualitative research, it must be acknowledged that my own background and that of my co-researchers have influenced the design of the research, analysis and interpretation of results. As detailed in chapter 2, my background and experience working in higher education, particularly working with overseas partner HEIs, kindled curiosity in this research subject over many years and provided the skills and knowledge to win the initial and subsequent research funding.

The perspectives of my international co-researchers during IPPHEAE and since have been important in helping to counter the tendency for me to view the findings from a UK HE perspective. It has been essential throughout to adopt an open-minded approach and to broaden the research in terms of methods, comprehension and interpretation. It is important to acknowledge that my personal values and norms continue to have influence, but also that my own position has shifted as a result of undertaking the research.

In the course of the five years between project proposal development and final delivery and associated in-depth background research, the project team made contact with a range of researchers from across the world, which significantly broadened my own knowledge of this domain and challenged many of my pre-conceptions about plagiarism and academic misconduct. The research done by other people, particularly research into policies for academic integrity, standards and quality, was a major influence on the research I led for IPPHEAE and has inspired the personal and collaborative research I have been involved in since.

I have on-going concerns about whether it is appropriate to encourage the adoption of UK-centric strategies and policies to institutions and countries that have a very different educational culture and ethos. However I think there is an important world-wide role for academic integrity researchers in promoting ethical values and practices without demanding compliance. Such an approach should focus on supporting teachers to help students to develop requisite skills and knowledge that can be reliably assessed to internationally acceptable standards.

The inclusion in the research team of research assistants who were PhD students helped to create objectivity, both in designing the research and particularly when operating student focus groups. I involved many academics as critical reviewers for the research design and later for the outputs. These factors influenced the reliability and quality of the research and the accuracy, presentation and interpretation of the results.

4.1.2 Research approaches

The decision to focus on policies for plagiarism and academic misconduct for the IPPHEAE project rather than some other aspect, such as looking at reasons for plagiarism, attitudes or cultural differences, was taken after advice from Jude Carroll, who was acting in a consultative capacity from the initial conceptual stage and throughout the project. The reasoning was that other aspects were well understood through previous research (for example Park 2003, Hayes & Introna 2005, McCabe 2005, Abasi & Akbari 2008), but there was an important gap in the evidence about institutional policies in most European countries.

Other than research and initiatives in the UK (for example Carroll 2005, Tennant & Duggan 2008, Rowell 2009) and studies by Carroll in Sweden (Carroll and Zetterling 2009) and Lithuania, understanding what policies were in place and how they operating in different countries had not been a subject of any research up to that point. In addition, highlighting and sharing examples of effective practice found during the research could make a huge difference to how institutional policies in the countries studied could be encouraged to develop in the longer term.

When beginning a research study it is important to consider alternative approaches to ensure the most suitable methodology and methods are selected. In the case of IPPHEAE we wanted to understand about the nature and detail of institutional policies, but also whether they were operating as intended and how effective they were at detecting, managing and deterring academic misconduct.

It was important to collect a wide range of evidence about the processes of decision-making on academic conduct allegations and appropriate penalties in different countries and institutions. By exploring how students, academic tutors and managers understood different concepts about pedagogy, quality, standards and academic integrity, any disparities seen from different perspectives could illuminate aspects such as the levels of transparency and consistency in the policies and processes. Such evidence could provide an appreciation of local practices.

We required an approach that could be achieved by the project consortium within the given timescale and budget. We needed to communicate non-trivial concepts to a range of different research participants, many of whom could not be expected to be familiar with English. The travel budget was limited to only necessary journeys and precluded travelling to all 27 countries to collect data. To represent local and national differences and similarities on a range of concepts required a significant volume of responses from a range of participants in each of the 27 countries in the study. The data analysis needed to be conducted in a largely language-neutral way to allow for comparison within and across countries in the study.

A possible way to capture the required information would have been to conduct an immersive study within a few selected institutions, for example using Evaluation Research (Cousin 2009 pp227-239), Phenomenography (Marton 1986, Cousin 2009 pp183-199) or Appreciative Inquiry (Cooperrider: website, Cousin 2009 pp167-181), with on-going dialogue, unstructured or informal interviews with different stakeholders (students, academic tutors and managers) and observation of the key policies and procedures in action.

However as the project budget, resources and timescale were very limited, a study of this nature across 27 countries, involving communication and analysis of large amounts of qualitative data in multiple languages, was beyond the capacity of the research consortium members. The low expectation of gaining the required level of access, to witness specific activities in a range of institutions in all countries, combined with the resource-intensive nature of these research methods, made these very risky options. Although institutions that agreed to participate may have benefited significantly from the interventions, the outcomes from such research would have been limited to at most one or two institutions in each country, therefore not satisfying the project requirements for capturing a country-by-country profile of policies and responses in HEIs.

Several interesting alternative approaches such as Action Research (Cousin 2009, pp149-166), Critical Theory (Cousin 2009 p13-14) were discounted because they

were not ideally aligned with the aims and objectives of the IPPHEAE project or the background and experience of the IPPHEAE consortium members.

In consideration of the requirements and limitations, factoring in philosophical and practical requirements of such a study, after comparing all possible research approaches it was concluded that the most appropriate way to proceed for the first half of the project would be to conduct a wide-ranging survey using a range of different methods. Several interesting examples would then be identified through the survey results that would then become detailed cases studies. The team also agreed to develop materials and resources that could be delivered as workshops for students and teachers during institutional visits. Details about options for surveying and justification for the selected methods are provided below.

4.1.3 Research methods IPPHEAE survey

Project resources and timescale, given the vast geographical scale and complexity of the research area and the ephemeral nature of the target knowledge, determined the amount of data that could be collected.

Keeping broadly in line with the interpretivist framework, but factoring in practical limitations, a pragmatic approach was adopted to the selection of research methods. Robson (2011) prefers the term *multi-strategy research* to *mixed methods* to describe "real-world" research that, for pragmatic reasons, draws upon and brings together a range of different methods for collecting and analysing data.

In her introductory chapter Cousin (2011, 2-6) acknowledges that "research methods are in the service of the research, not vice versa" and that educational research often does not fit well within rigid methodological frameworks. She advises researchers not to be constrained by a methodology, but rather to apply methods that are most suitable according to the nature of research and the knowledge to be captured (ibid).

The interpretivist research paradigm I have adopted acknowledges that the knowledge emerges indirectly from understanding and deriving sense and meaning from the views of different respondents. The ethos of the institution

emerges by capturing and triangulating different viewpoints within an institution, given in the context and identities of different participants.

Although creating a generalizable national profile for the 27 EU countries was beyond the scope of the research, within the interpretivist tradition, IPPHEAE generated 27 very useful national perspectives based on the data collected, which I summarised using the AIMM metrics and tools in the form of an EU-wide comparative study (Output 2).

New knowledge emerges inductively from this research in different ways: firstly in the sense that the very act of asking questions about academic integrity can challenge beliefs and encourage reflection and changes to practice; secondly because sharing good practice and encouraging positive change remains central to the research; thirdly, theoretical models have emerged from this research in the form of candidate benchmarks for indicating what constitute maturity in academic integrity policies.

The research for IPPHEAE was designed to facilitate the capture of new knowledge about "social reality" in educational policy and practices in European HEIs, where none existed previously, rather than confirming an existing theoretical model or framework. The research building on IPPHEAE continues to develop tools and techniques to explore other geographical regions and to continue to influence policy decisions in HEIs and nationally, throughout the world.

The first theoretical framework, the Academic Integrity Maturity Model (AIMM), emerged from the analysis of IPPHEAE survey data, with nine categories identified to provide a measure of maturity of institutional policies (Output 2, Output 3). The concept of maturity was influenced by Carnegie Mellon's Capability Maturity Model (CMMI), which rewards and values a culture continuous improvement, self-regulation and reflection.

The Scorecard for Academic Integrity Development (SAID), which is currently being piloted, is the next generation of theoretical model and evaluative toolset. This tool, developed jointly with Dr Bertram Gallant and Dr Eury both USA academics, is being designed for use in different educational systems and

cultures. The pilot operations will help to validate and refine the international nature of the tools.

4.1.4 Research methods for IPPHEAE and since

On deciding which sources of data are important, Mason asks the researcher to consider:

> *How well does the use of these data sources match [their] ontological perspective on what constitutes the social world and [their] epistemological perspective on how knowledge about the world can be produced (Mason 2002, 53)*

The comparative research from 2010 about policies and practices in European HEIs was unprecedented in subject focus, scale and scope. The uncertainty about what could emerge from the investigations necessitated use of a flexible rather than pre-defined approach (Robson 2011), staging the research and building on successive results.

Several important points emerge from consideration of practical, ontological and epistemological factors:

- the "reality" about institutional policies rested in the perceptions of different members of the community within HEIs;
- there was a tension between the desire for collecting rich, detailed qualitative responses and high volume quantitative data which is relatively easier to manage and analyse, but less rich in content;
- the international forum for this research and the range of participants, made it essential for survey questions to be made available in different languages, which would complicate analysis of qualitative data;
- the requirement for a high number of student and teacher participants discouraged the use of open questions for their surveys, because of resource requirements to analyse large amounts of qualitative data in multiple languages;
- due to workload demands, senior managers and people with influence nationally and internationally within education would be unlikely to complete an on-line survey, but some may agree to be interviewed.

In consequence the decision was taken to collect a mixture of qualitative and quantitative data in the survey. Although using a quantitative data collection method may appear to be contrary to the interpretivist tradition, the questions being asked using all methods were designed to capture participants' perceptions, which required interpretation in order to generate meaning. Mason prefers the term "data generation", to imply the interpretivist nature of creating new knowledge from the raw data collected (Mason 2002, 25-6).

For the student and teacher survey almost all the questions were designed to produce quantitative or coded answers, which allowed data to be analysed and compared irrespective of the language used in the survey. A few open questions were included and space was allowed with many of the quantitative questions for optional additional comments, which adds to the evidence and helps to "get at more layers of meaning" (Cousin 2011, 51, 72).

The senior management survey consisted largely of open questions, but was made available both as an on-line survey in different languages, and as a semi-structured interview with questions in English.

The national survey was in the form of a semi-structured interview in English. In practice the national survey proved useful for interviewing senior managers, since most respondents could represent both institutional and national viewpoints.

For student focus groups a set of prompts in the form of open questions with sub-questions were designed (and normally delivered) by the research assistants.

The three questionnaires were made available on-line in 14 different languages via the Bristol On-line Surveys (BOS) platform, which is a secure platform for research data collection (42 questionnaires in total). Almost all national and senior management interviews were conducted by me (in English), either by telephone, Skype or face-to-face. A few interviews were conducted by partners, either in their native language or in English, as detailed in some national reports, but no transcripts from these interviews were made available for the IPPHEAE datasets.

A case study approach was adopted for the second phase of the IPPHEAE project. The motive was to highlight good practice in detail and to evaluate interventions during in the project. A total of 12 case studies were included in the IPPHEAE results portfolio, but not all were complete and very few of these have resulted in journal or conference publications to date.

Further analysis of IPPHEAE data has continued since the project finished. After conducting and evaluating a trial analysis of institutional data from the dataset it was determined that AIMM could be usefully applied to provide institutional policy maturity profiles. Since then further institutional surveys have been conducted and AIMM profiles created on request from specific HEIs.

4.1.5 Ethical framework

Cousin (2011, 17-29) describes the need to create a strong ethical framework for research, serving to protect the trustworthiness of the research and to facilitate the capture and interpretation of the necessary evidence (ibid, 17). This is particularly pertinent for a project that focuses on ethical conduct.

The Coventry University procedures for ethical approval of research were fully followed for the IPPHEAE project and in all aspects of the author's research. The approval process was conducted incrementally, with more detail added as the project progressed.

As research focused on investigating policies for honesty and integrity it was particularly important that the researchers placed themselves beyond reproach regarding ethical considerations. All IPPHEAE partners other than my team were led by academics that had either doctoral or higher doctoral qualifications. Therefore at the outset of the project it was surprising to discover only CU had any procedures for ethical approval.

I asked all partners to follow the RESPECT code of conduct (RESPECT 2004) and where possible to align with CU requirements regarding ethical standards and approval. However the reasons behind this requirement were not fully understood by the whole consortium. The main ethical issues that needed to be taken into account during the IPPHEAE research and subsequently are

a) The requirement to ensure anonymity for participants in the research;
b) The perceived consequences that individuals and institutions could face if they were identifiable through the research results; This was highlighted by respondents in countries such as Romania and Bulgaria and affects whistle-blowers from any country;
c) Lack of anonymity for institutions in countries with only one university (Malta and Luxembourg);
d) Knowing whether on-line questionnaire respondents were genuine;
e) Ensuring all participants were voluntary and understood the concept of "informed consent";
f) Presenting unbiased and fair results, minimising preconceptions and personal prejudices;
g) Working with researchers and participants with very different backgrounds and values;
h) Ensuring that all outputs were of good quality and rigorous standards of academic practice and conduct were applied;
i) Security, management and retention of all data associated with the project.

Statements about informed consent, anonymity and retention of data were included for both on-line and face-to-face participants. It became apparent that fellow researchers and some participants found the statements intimidating or confusing, despite accurate translation. It emerged that, contrary to international best practice for research, this type of statement was unusual for some participants.

The initial project plan included a strategy for targeted sampling from the huge population of potential EU participants, comprising higher education stakeholders, in order to arrive at a representative mix of different types of institutions, stages of bachelor and master's degree education and subjects.

People invited to participate were existing educational partners of the IPPHEAE consortium members and new contacts secured through networking and dissemination activities throughout the project. Several national and international organisations helped the team to contact institutions (for example:

the Higher Education Academy, iParadigms (Turnitin Europe) and the Österreichische Agentur für Wissenschaftliche Integrität (Austrian Agency for Research Integrity)). However, for many different reasons, persuading institutions and individuals to respond to the survey proved very difficult.

As can be seen from Table 4.2, the 2013 IPPHEAE dataset included almost 5000 responses, but there was an uneven spread of respondents across the 27 countries being studied, with very limited evidence collected from some countries such as Netherlands and Italy, but a more comprehensive view of the situation in other countries including UK and Austria.

Considering the actual responses collected, the dataset should be viewed as an opportunistic sample, rather than being representative of the whole population. It is important to understand what this implies about the accuracy and reliability of the results.

The findings are very likely to show a much more positive picture than is actually the case, because many institutions that were approached where systems and policies were weak refused to participate for fear of reputational damage (despite reassurances about anonymity). Several institutions in different countries explicitly excluded themselves from the survey on the grounds that they had no policies to report or that they had never found any cases of plagiarism or cheating. Conversely institutions that were proud of their internal practices were much more likely to take part and take an interest in the research. In Poland, although the number of responses is higher than for most national data sets (726), almost all the responses represent only one institution, therefore cannot be viewed as typical of HEIs in the whole country.

I personally conducted over 70 interviews with researchers, bloggers, senior HEI managers, government officials and representatives of national and international organisations concerned with quality assurance, integrity and higher educational policies. I directly approached specific individuals to request interviews. Other contacts came about through recommendations and via intermediaries. The main points of the discussions were recorded by me in the form of shorthand

notes during the interview, occasionally backed by a voice recording, and then transcribed more fully after the meetings.

The set of 21 questions used for the interviews was similar to those included on the senior management questionnaire, but the semi-structured nature of the interview allowed variation and expansion into areas of interest, experience or expertise of the interviewee. Where interviewees were unable to answers they often nominated other people for interview who could provide the information, or sometimes forwarded documentation after the interview.

4.2 Participant selection

Omission of personal details in on-line questionnaire responses suggested that some respondents did not believe reassurances that their answers would be kept anonymous.

Links to the different questionnaires and language versions were made available on the IPPHEAE web site and the web URL was sent out to specific potential participants, individuals and institutions.

To ensure that some high-profile individuals, who could potentially be identified as participants from the nature of their contributions, were not disadvantaged, reports containing their responses were sent to them to review for both accuracy and anonymity. Project outputs were subject to independent peer reviews and carefully proof-read before being released via the project web-site.

Data collected using the survey tools since the IPPHEAE project finished have not been consolidated with the IPPHEAE results. The additional data came mainly from surveys conducted at the request of specific institutions. The responses were used to create institutional profiles showing strengths and weaknesses in policies and systems, using an adaptation of the AIMM tool (for example institutions 157 and 160 in Output 3, 7-12) that I had first created to compare the IPPHEAE national datasets. In addition to the data analysis and recommendations for prioritising policies changes, the anonymous datasets were

made available to these institutions to allow them to conduct their own detailed analysis.

Table 4.2 Summary of IPPHEAE Survey Responses 30/09/2013 (App 2 Output 2)

Country		SQR*	TQR*	SMQ*	Inter*	SFG*	Total Particip'ts	Orgs & Insts*
Austria	AT	543	87	0	2	4	636	17
Belgium	BE	2*	3	0	3	1	9	5
Bulgaria	BG	93	6	1	1		101	5
Cyprus	CY	323	33	5		5	366	6
Czech Republic	CZ	351	195	10	2		558	26
Denmark	DK	13	2	0	1		16	5
Estonia	EE	48	8	2	2		60	6
Finland	FI	172	12	0	4	10	198	12
France	FR	129	8	1	3	15	156	16
Germany	DE	51	8	2	14	25	100	21
Greece	GR	64	14	0	2		80	8
Hungary	HU	5	21	2	2		30	14
Irish Republic	IE	82	14	2	2	12	112	4
Italy	IT	10*	3	0			13	4
Latvia	LV	16	7	0			23	3
Lithuania	LT	119	22	0	2		143	4
Luxembourg	LU	1	0	0	3		4	2
Malta	MT	71	16	0	6		93	3
Netherlands	NL	2*	2	0	1		5	2
Poland	PL	633	68	15		10	726	7
Portugal	PT	189	43	7			239	6
Romania	RO	430	39	7	3	4	483	5
Slovakia	SK	201	35	2			238	7
Slovenia	SI	40	2	0	1		43	2
Spain	ES	44	1	0	2		47	11
Sweden	SE	10*	1	1	3	6	21	4
United Kingdom	UK	338	52	8	26	24	448	35
EU total		3980	702	65	85	116	4948	240

**SQR=Student questionnaire responses; TQR=Teacher questionnaire responses; SMQ= senior management questionnaire responses; Inter=semi-structured interviews; SFG=student focus group participants; Orgs & Ints = number of participating organisations and institutions*

I conducted additional semi-structured interviews for Poland, Netherlands, Denmark, Austria, Romania and Portugal, after Output 2 had been completed and made public, in order to complete the outstanding country reports.

4.3 Data management

The data collected from the research were made anonymous by deleting all identifying information and by coding the participant institutions and individuals. The codes were kept separate from the coded data. The (soft copies of) datasets (quantitative and qualitative data) have been archived in a secure password-protected area on Coventry University's data server. Copies of the anonymous IPPHEAE data were also sent to the funding organisation (EACA) as part of the project results and supporting evidence.

The on-line survey data was coded on downloading from the BOS platform by the survey tools. There were 42 different versions of surveys, covering 14 languages and three levels (students, teachers, managers). Each language version potentially contained responses from participants studying or working in different countries. These had to be identified and extracted and consolidated with the appropriate national responses. Additional identity codes were added to each response to ensure they were added to the correct dataset.

The reconciliation and data cleansing process was done manually by the Coventry team, consisting of the two research assistants and me. Although most of the data was coded, therefore could be combined and analysed together, complications arose because the survey tools did not actively support all the character sets needed for instructions and free-format answers (particularly Polish, Czech, Bulgarian and Hungarian), leading to misalignment and distortion of some results. It was a very time-consuming and tedious process that we had not anticipated, but the accuracy of the results depended on it. It was further complicated by additional data arriving in small batches after the main dataset had been "cleansed".

4.4 Data analysis

The teacher and student results were organised into separate national datasets: 27 for students, 26 for teachers (missing Luxembourg). The management surveys were combined into one dataset. The (semi-structured) interview

responses I had collected were combined and organised into national datasets according to the nature of responses.

After initial analysis via SPSS the country datasets were further processed in Excel to create graphical representations, conduct comparisons between country results and to triangulate across categories of participants, particularly comparing student and teacher responses to related questions.

Thematic analysis was conducted on the interview data and selected open questions from the questionnaire, making use of Google Translate and ad-hoc support from language specialist colleagues where required. As mentioned earlier there is great scope for further useful analysis of both the qualitative and quantitative datasets.

Some candidate themes were identified very early in the research design through literature and advice from existing experts in the field, which formed the basis for survey questions and prompts (yielding both quantitative and qualitative data). Research assistant Anna Michalska tabulated survey questions against themes she identified to support the analysis.

Candidate themes were then combined and grouped in the course of my data analysis, eventually to form a reduced set of five major themes listed below. I found these themes be useful for structuring the national reports. This allowed the combination and comparison of qualitative and quantitative responses, taking into consideration students, teachers, managers and national respondents:

- Higher education culture
- Quality assurance, teaching learning and assessment
- Academic integrity policies
- Perception and understanding of concepts
- Examples of good practice

Sub-themes within each of the major categories provided further structure to the analysis. These came directly from analysis of the qualitative responses and

helped to ensure comparability of the national reports, (for example under the theme of *Perception and understanding of concepts* sub-themes included *Student support and guidance*, *Plagiarism as a public concept*, *Reasons for plagiarism*, *Academic writing conventions* and *Is plagiarism always cheating*). Not all sub-categories applied to all countries, for example not all countries used digital tools for checking coursework, particularly when reliant on formal examinations for assessment.

As discussed earlier, the AIMM tools and metrics were created as a means of quantifying the evidence collected during IPPHEAE to measure relative success of the 27 countries in developing effective strategies and policies for countering academic misconduct. The nine AIMM categories (transparency, fairness and consistency, standard sanctions, communication, training, digital tools, prevention strategies, knowledge and understanding, research) emerged from a combination of sources: categories began to crystalize during the design of the survey questions, literature review and the development of teaching and training materials; influences from earlier activities, research and surveys; again, the analysis of IPPHEAE participants' free-format responses contributed to partitioning of different aspects of policy and practice.

Since the project finished the AIMM tools have been developed and applied for analysing HE institutional policies. Initially, as reported in Output 3 (Glendinning 2014), data relating to specific institutions was extracted from the IPPHEAE dataset to test the viability and usefulness of AIMM for institutional evaluation. Since then the IPPHEAE surveys, sometimes in conjunction with the AIMM analytics, have been used by several institutions in different parts of the world asking for help in understanding their institutional culture or reviewing institutional policies. When the BOS platform on-line surveys were used for institutional evaluation, I customised the surveys and conducted the initial analysis to create an AIMM profile for the institutions, and I have retained access to the anonymous additional data collected.

In parallel, as reported in Outputs 3 and 5, I have been working in collaboration with Dr Tricia Bertram Gallant of the ICAI / UCSD to design a purpose-built set of

analytical tools with global reach, based on the same principles as AIMM and the ICAI's Academic Integrity Rating System (AIRS) (Glendinning 2014a, Glendinning 2015a, ICAI), with working title Scorecard for Academic Integrity Development (SAID).

4.5 Theoretical foundations

4.5.1 The research community influencing aspects of academic integrity

There is a relatively well-connected global community of researchers in the field of academic integrity that has had major influences on the direction and nature of my research. The research domain is growing and evolving as challenges to academic integrity change. The research has very practical purposes, underlying which are the needs to understand the nature and root causes of academic misconduct and to identify effective ways to discourage it.

Specialist areas of research and development can be separated into several overlapping categories. Table 4.3 considers major influences and contributions to knowledge for each category in turn, identifying citations included in the five publications making up my portfolio.

Table 4.3 Major influences according to category of academic integrity research

Academic Integrity category	Major players and influences and key publications; Personal Research and Portfolio references
Academic writing skills and knowledge; Patchwriting, intertextual borrowing; first and second language writing (L1, L2), use of sources, citation; academic perceptions	**Output 1**: Abasi & Akbari 2008; Borg 2009; Ireland & English 2011; Pecorari and Shaw 2012. **Output 3**: Neville 2007, Pecorari and Shaw 2012. **Output 4**: Pecorari 2008, 2012, 2013; Pecorari & Shaw 2010, 2912; **Output 5**: Davis 2011; Ireland & English 2011; Pecorari & Shaw 2012; Robinson-Pant 2009; Stappenbelt et al 2009 **Other influences:** Patchwriting, intertextual borrowing: Fairclough 1992, Currie 1998, Howard 1999; Chandrasoma et al 2004, Flowerdew & li 2007, Abasi & Akbari 2008, Borg 2009, L2 writing: Pennycook 1996, Leki and Carson 1997, East 2009, Howard et al 2010; Ireland & English 2011; Pecorari & Shaw 2012 Use of sources: Shi 2010, Jamieson, Howard, Serviss: The Citation Project Academic perceptions: Sutherland-Smith 2004
Software tools for detecting plagiarism; Developing, evaluating materials and resources and tools	**Output 1**: Appelgren Heyman et al 2012; Chudà et al 2013; JISC; Larsson & Hansson 2012; Neville 2010; Rowell 2009; Sousa-Silva 2013; Vesely & Kolomaznik 2013 **Output 2**: SURF **Output 3**: Rowell 2009 **Output 4**: Roes 2004, Rowell 2009, SURF; Weber-Wulff Plagiats Portal **Output 5:** Davis 2009; JISC, Rowell 2009 **Other influences:** Neville 2007, 2010
Self-assessment and surveys for students,	**Output 1**: McCabe 2005; Park 2003 **Output 2**: CMMI

teachers and institutions	**Output 3**: AIRS, ICAI; CMMI; Foltynek & Glendinning 2014; Glendinning 2013 (output 2) **Output 4**: Glendinning 2013 (output 2) Glendinning 2014a (output 1); Glendinning 2014b (output 3); IPPHEAE 27 national reports; McCabe survey web site; Pieters et al 2005 **Output 5**: AIRS 2015; Bertram Gallant & Drinnan 2008; Foltynek & Glendinning 2014; Glendinning 2013 (output 2) Glendinning 2014a (output 1); Glendinning 2014b (output 3); ICAI, CMMI
Policies, strategies, sanctions, penalties, including teacher education	**Output 1**: Bretag et al 2011; Carroll et al 2005; Carol & Zetterling 2009; Högskoleverket 2011; HRK Moore 2008; Morris 2011; Park 2004; Tennant and Duggan 2008; Tennant and Rowell 2010 **Output 3**: Carroll & Appleton 2001, Carroll 2005, East 2009, Foltynek & Glendinning 2014, Glendinning 2013 (output 2), Morris 2011, Macdonald & Carroll 2006, Moore 2008, Park 2004; Tenant & Duggan 2008; Tennant & Rowell 2010 **Output 4:** Carroll and Appleton 2001; Carroll 2004; Carroll & Zetterling 2009; Foltynek 2013; Glendinning 2013 (output 2) Glendinning 2014a (output 1); Glendinning 2014b (output 3); IPPHEAE 27 national reports; IUA 2914; Macdonald & Carroll 2006; Morris 2011, Park 2004; Tenant & Duggan 2008; Tennant & Rowell 2010; Universitets-och högskolerådet; Universities UK 2012; Wittenberg 2006 **Output 5**: Bertram Gallant & Drinan 2008, Bretag & Mahmud 2014, Carroll 2005; Carroll & Appleton 2001; Macdonald & Carroll 2006; Morris 2011, Park 2004; Tenant & Duggan 2008; Tennant & Rowell 2010 **Other influences:** East 2009, Davis 2011, Newton, Fishman, IIEP/UNESCO. CHEA
Best practice, specialist research (medicine, music, art, computer programming code, art)	**Output 1**: Davis 2009; OIA 2011; Woolf 2011, plagiarism by translation: Pataki 2012 **Output 5**: OIA 2011, 2013; Davis 2011 **Other influences:** Code plagiarism: Joy, Sinclair, Boyatt, Yau, Cosma (2013)
Ghost-writing, internet auction sites	**Other influences:** Lancaster, Newton, Clegg & Flint 2006, ICAI working group on contract cheating;
Examination cheating, use of smart technology	**Outputs 1, 2, 4**: Mazodier et al 2012
Student-centred research into academic conduct and misconduct	**Output 1**: McCabe 2005; Park 2003; Razera et al 2010, **Output 4**: Michalska 2013 **Output 5**: Davis 2011 **Other influences:** Orim (Nigeria), Joy et al 2013 (code plagiarism)
Academic integrity as a component of quality assurance, Ethical frameworks	**Output 1**: Högskoleverket 2011; Hochschulrektorenkonferenz 2012; Hungarian Accreditation Committee 2013; **Output 2**: Respect 2004 **Output 4**: European Science Foundation (ESF) 2008; Králíková 2009; Kyrk 2013; Universitets-och högskolerådet; Universities UK 2012; 2012; Hungarian Accreditation Committee 2013; **Output 5:** European Science Foundation (ESF) 2008; RESPECT 2004; EHEA ministerial communiques and qualifications frameworks; QAA, OIA 2011, 2013 **Other influences:** Daniel 2016, COPE (Committee on Publication Ethics), CHEA (Council for Higher Education Accreditation), IIEP/UNESCO, Transparency International
Pedagogical practices for discouraging plagiarism and dishonesty	**Output 1**: Davis 2009 **Output 5**: Davis 2011; Ireland & English 2011 **Other influences:** Vygotsky 1962, Gibbs (2014), Bretag (2016 project for Australia), Newton
Whistle Blowers and Bloggers	**Output 1**: Weber-Wulff – blog Copy-Shake Paste; Archeologie-Copier-Coller; Füzessi 2013; le Plagiat, Moore 2008; Plagionintitutkija Blogspot, Vroniplag, **Output 4:** Bergardaa - Blog: Responsable; Darde - Blog: Archéologie du "copier-coller"; Füzessi 2013; Mauriel-Indart – blog: Leplagiat.net; Retraction Watch; Vroniplag wiki; Weber-Wulff – blog Copy-Shake Paste; **Other influences:** Moore, Wronski 2012, , IIEP/UNESCO – ETICO website
International and cultural dimensions to academic misconduct	**Output 1, 4, 5**: Hayes & Introna 2005 **Output 2**: Mazodier et al 2012 **Output 3**: Martin 1994 **Output 4:** Michalska 2013 **Output 5**: Robinson-Pant 2009; Stappenbelt et al 2009 **Other influences:** Matalene 1985, Pennycook 1996, IPPHEAE project
Plagiarism as a concept, terminology, viewpoints,	**Output 5:** Sunday Telegraph 2011 **Other influences:** Issue of "Intention": Pecorari 2001, 2008; Sutherland-Smith 2011, Petric

connotations, morality or ethical issue, honour codes	2004; Terminology: Scollon 1995, East 2009, Ison 2012, Cheung 2014, Park (2003)
Corruption, misconduct in education, research and doctoral studies, publications, retractions, "Degree Mills", admissions, appointments	**Output 1**: Robinson-Pant 2009; OIA 2011; Woolf 2011; Weber-Wulff & Isolen 2012; **Output 4:** Retraction Watch; Transparency International 2013 **Other influences:** European Science Foundation (ESF) 2008; COPE, CHEA, IIEP/UNESCO

Each specialist area described in Table 4.3 has a part to play in the academic integrity landscape. However, clearly, this is a very broad field and not all categories have had equal prominence in the research I have undertaken to date.

In my experience progress in this research area is highly dependent on the tenacity and commitment of different research teams and their interconnectedness. I have had the great fortune of being in regular communication with many of these key people from 2009 when the research ideas were formulated, starting with Jude Carroll. Their generosity, with encouragement, ideas, opinions and answers to difficult questions, has helped to steer the research and developments. Their support has ensured that the research remained current, relevant and useful.

Many of the key players feature in the five publications of the portfolio, either named as important sources of information (particularly Jude Carroll, Tracey Bretag, Donald McCabe, Teddi Fishman, Debora Weber-Wulff, Tricia Bertram Gallant), or through their influential research and publications (especially Tennant and Duggan 2008, Rowell 2009, Pecorari, Borg 2009, Macdonald and Carroll 2005, Morris 2010, Mahmud and Bretag 2014, Neville 2007, 2010, Appleton and Carroll 2001, Davis 2011).

Plagiarism and academic misconduct are not new phenomena, but I have found very little early theory that has relevance to strategies and policies for academic integrity in higher education in the twenty-first century. The publications cited in Table 4.3 and the list of references with this thesis are all relatively recent because most relate to the post-World-Wide-Web era of education, when easy access to information changed the dynamics of accessing academic sources and encouraged use of technology.

I included in the table a seminal text by Lev Vygotsky (1962) that focuses on the importance of culture, language and inner reflection to how children learn, together with a more recent publication by Graham Gibbs (2010) that explores how deep learning takes place. Both have become key influences on educational practices, for appreciating how the classroom experience directs student learning. I have drawn on the work of both authors in my work on pedagogy and assessing deep learning. Both publications raise awareness of the limitations of didactic teaching, still widely practiced in many of the countries I investigated, and encourage scholarship and originality in assessed work. This theory aligns with an emerging theme from the surveys responses from Europe and Nigeria, that teaching by rote implies to students that verbatim copying, with or without acknowledgement of sources, is acceptable academic practice.

The inspiration for AIMM, applied throughout Output 2, arose in the search for a method to present and evaluate the IPPHEAE results for each country. It occurred to me that some institutions and countries could be considered to have more "mature" policies than others, reminding me of concepts behind the Capability Maturity Model Infrastructure (CMMI), developed by Carnegie Mellon University for application in software engineering. The extended model and related commercial machinery, now a widely respected mark of business process quality adopted across a range of industry sectors, is based on assessment against series of criteria that generate a maturity level in the range 0 (low) to 5 (high). There is more information on the creation of AIMM in Output 2 (8-9). I will revisit and expand on this topic and development since IPPHEAE in chapter 7.

Late additions to this table were the Council for Higher Education Accreditation (CHEA, based in Washington DC) and the International Institute for Educational Planning (IIEP-UNESCO, Paris). I have been working with these organisations as an expert witness to help construct an advisory statement on corruption in higher education for global distribution, aimed at governments, quality and accreditation bodies and HE institutions, authored by Sir John Daniel, released on 29th July 2016 via the sponsoring organisations.

This table demonstrates the vast scope of the research domain and illustrates how much research and practical activity is being undertaken to address the known and evolving threats to standards and qualifications in higher education.

4.5.2 Focal points for concepts and theory past and present

As Table 4.3 demonstrates, in this very broad field different researchers have focused on specific categories of academic integrity, all contributing significantly to the overall body of knowledge. However there are many so far unexplored angles to this very broad research domain. In this section I will detail a few of the many possible areas that have been explored to some extent already and briefly indicate areas where I believe more research is needed, particularly where the research involved a specific perspective.

The influence of cultural dimensions in different parts of the world when designing and implementing policies for academic integrity.

In order to conduct research with or about people in different countries and cultures it is useful to appreciate what factors are important to them that might influence their attitudes, situation and decision-making. In considering what would come into play when designing and implementing policies for academic integrity in different national and cultural settings, Tompenaars' model of 7 Dimensions of Culture and related research, building on earlier work by Hofstede (1980), is of great relevance (Trompenaars & Hampden-Turner 1997). The model revolves around seven paired orientations that throw light on possible tensions that could arise in a working or social environment, in creative team-working or research, for example whether people are inclined towards *Individualism* rather than *Collectivism* and whether their involvement in some activity is through *Loyalty rather than Utilitariaism.* It is of specific interest to my research in Europe that related research by Smith, Duggan and Trompenaars (1996) included participants from Eastern European countries. It would be very interesting to explore how these findings align with the results from the IPPHEAE project, but also whether the findings resonate with from my experiences of leading and participating in multi-national, multi-cultural project teams.

Quality assurance aspects – in what way do breaches in academic integrity affect institutional quality and standards in higher education.

Although I touched on this aspect in each of the national reports I wrote for IPPHEAE, I believe a more detailed comparative study across a broad range of countries and cultures would be highly informative and useful for raising standards. A recent global Advisory Statement that I contributed to (Daniel 2016) called for HE quality assurance and accreditation agencies across the world to take responsibility for oversight of institutional academic integrity as part of their routine processes. Maintaining academic quality and standards was the main driver for my own research into academic integrity, so I was surprised to find that many of the international researchers I regularly communicate with did not immediately see the connection.

The Quality Assurance Agency's UK Quality Code for Higher Education requires that HE providers "recognise that effective learning occurs when students are enabled to …. understand sound academic practice and behave with integrity" (QAA 2015 Part B Chapter B3 p9). Chapter B6, Indicator 14 requires "Higher Education providers [to] operate processes for preventing, identifying, investigating and responding to unacceptable academic practice", which is followed by obligations for HEIs set out in detail (QAA 2015, Part B Chapter B6 p21). Although many EU countries have strong national or regional quality assurance regulations (for example in Sweden and Hungary), my research in Europe has not uncovered any evidence in any of the 27 countries studied of routine scrutiny during accreditation or quality audits, to assess how academic policies in HEIs are operating in practice. As I have observed several times before, I see this as a missed opportunity. I believe that more research into synergies between policies for quality and integrity would be a rewarding way to highlight what more could be achieved to improve institutional responses to academic misconduct in a cost-effective way.

Contract cheating: what can be done to detect it and stop it?

Contract Cheating *(*defined simply as: *having a third party complete an assessed piece of work*) is a deliberate and extremely serious form of academic

misconduct. The companies that offer such services make up a huge and growing global industry that poses a great threat to the security of assessed work, affecting academic standards at all levels of education, in all parts of the world (Lancaster & Clarke 2007, 2012, 2014, 2016). Although many studies have been conducted in this area, there is still widespread mistaken complacency in academe that such behaviour is uncommon. Acquired work is normally not detected by text matching software, because it is specifically designed to deceive such tools, therefore finding proof of this type of misconduct can be difficult. However there are ways to gather evidence that are not widely understood (Ibid).

I am a member of an international working group on Contract Cheating that first convened at the ICAI conference in Vancouver on 1st March 2015. The group has: created a toolkit about how to tackle this very serious form of cheating (ICAI Toolkit 2016); been encouraging local and national governments to make contract cheating companies and services illegal; and organised an International Day of Action (IDOA) on Contract Cheating on 19th October 2016 (IDOA, ICAI 2016). I was directly involved in planning and organising the IDOA.

A report by the UK's Quality Assurance Agency (QAA 2016) echoed the aims of the working group about governments introducing legal measures to close down such companies. The report drafting included a consultation with a team of experts in this field, who were able to influence the QAA report and incorporate views and ideas from the working group in the final version.

I am continuing to contribute to developments in this very important area. There is scope for new studies focusing on gathering and disseminating ideas for discouraging such practices and finding different ways to obtain evidence that students have acquired rather than written their own assessments.

Student perceptions about academic integrity and underlying motivations.

There have been many studies into student views, attitudes and reasons for plagiarism and academic misconduct (including McCabe's surveys, Park 2003, Davis 2009), but I believe there is much more scope for further research with specific angles within this area.

Two of the PhD students I have supervised conducted student-focused studies into aspects of plagiarism and academic misconduct (Orim 2015, Michalska PhD thesis in progress). Both studies have yielded novel evidence about student views of integrity, plagiarism and institutional support in different countries.

Dr Stella-Maris Orim compared the views of Nigerian students studying in UK HEIs to views of Nigerian students who had not studied elsewhere and found significant differences in their understanding of concepts relating to academic integrity, which informed her mitigation model for use in Nigerian HEIs.

Anna Michalska collected evidence from student focus groups in nine EU countries as part of the IPPHEAE project, which she has combined with new comparative analyses of the student data from the IPPHEAE online questionnaires, comparing results for 27 EU countries with those for the nine selected for her own study. Her analysis is investigating whether there are differences in understanding of concepts and also in students' attitudes to integrity between participants in different countries. Where differences have been identified, she is exploring the underlying reasons. One of her emerging concepts is that a hierarchy of loyalties can be a driver for student behaviour when faced with choices about ethical issues. She is drawing on the theories of Sykes and Matza (1957), who studied the underlying reasons for re-offending behaviour of "delinquents". Sykes and Matza created the concept of five "Techniques of Neutralisation" that offenders were found to use to justify why they commit crime (ibid). Anna has found evidence that link one of the five Techniques of Neutralisation: "Appeal to Higher Loyalties" to responses she collected from students during her focus groups. She is still refining her ideas for her thesis, but this appears to be an area worthy of further research.

The idea of s*tudents as drivers for promoting integrity* is not new, but it is an under-explored way of promoting ethical practice in HEIs. The principle behind honesty pledges common in USA campuses is based on appealing to students to set a good example to their peers in all aspects of integrity and citizenship. The University of Canberra employs students as "Integrity Champions" to work with their peers in guiding and signposting ways their fellow students can receive

support for understanding scholarly practices, such as academic writing conventions and appropriate use of sources (Awdry 2014). Many institutions appoint student representatives as members of policy review groups and some students are members of academic conduct panels, particularly in Scottish Universities. I believe much more could be achieved in promoting good academic practice to students through the leadership of students working with their peers. I therefore highlight this as another possible focal point for more research.

Consideration of change management models to develop effective policies that bring about a culture of integrity.

Several research studies have included guidelines for *management of change* to improve academic integrity in HEIs (including Carroll 2001, Park 2004). More recently Morris with support from Carroll developed the case-study-based Policy Works (Morris 2011) and Bretag and Mahmud led the Australian Exemplary Academic Integrity Project, which concerned development of the Academic Integrity Toolkit (2014). As part of the IPPHEAE research I conducted a case study into the change management process to implement an institution-wide strategy on academic conduct at a UK HEI, to serve as an exemplar, but this had not yet been published. All these resources include guidance on change management approaches that help to develop an holistic and inclusive institutional culture of academic integrity.

With the exception of a toolset under development by Professor Peter Okebukola (2016) and Dr Stella-Maris Orim's Conceptual Model (2015), both of which relate to Nigerian HEIs, the existing change management models I have identified for academic integrity have been derived from an Anglophone perspective, targeting USA, UK and Australian HEIs that generally have more established policies in place compared to many parts of the world. It is a priority for more research to be conducted to find effective ways to support the majority of institutions around the world that have not yet started to establish any coherent policies for academic integrity.

The AIMM / AIRS developments, in the form of the prototype SAID (Scorecard for Academic Integrity Development), is a tool designed to evaluate institutional policies and practices in any country and to support institutional change, based on benchmarks for effective policies. The piloting of SAID in different institutional settings is crucial for testing how appropriate the benchmarks are for use in different countries.

In summary, the above examples are just a few ideas out of many possibilities that illustrate the diversity and richness of existing research and opportunities for valuable new research in this fascinating and complex field of study.

Chapter 5: Impact of the research and contributions to knowledge

5.1 Impact of the research

I have accepted many invitations to present research findings at different events, summarised in Table 5.1. The number of invitations and the prestige of some of the forums I have addressed, particularly the Council of Europe and the International Institute for Educational Policy (part of UNESCO) and Council for Higher Education Accreditation International Quality Group, demonstrates the opportunities to influence policy and practice at all levels.

Table 5.1 Impact of Research

Level	Activity
Coventry University	Member of working group on policies for academic conduct; contributed to policy, guidance and regulation development, staff consultation, policy dissemination 2011-16; Co-leader Academic Conduct Officer training for Coventry University, CU London Campus, Coventry University College 2012; Staff development for academic staff and academic conduct officers Faculty of Engineering and Computing 2012-2016; Student workshops, guest lectures run regularly – on-going; Contributed to development and implementation of Good Academic Practice Quiz; Conducted two-year review of Academic Conduct policies 2013 – IPPHEAE case study; Workshop on Preventing Plagiarism with Sarah Wilson-Medhurst February 2014; Workshops for international partners June 2013, June 2014; CPD for Link Tutors 2015-16.
UK	Invited speaker Turnitin UK User Group 2011 and 08/02/2012; Invited speaker University of Warwick Educational Research Group 27/02/2012; Invited speaker London Metropolitan University staff development 01/06/2012; Meeting with the Chief Executive of the Office of the Independent Adjudicator Invited speaker, University of Warwick, 12th November 2014 Developing Policies for Good Academic Practice; Guest speaker BCS Coventry Branch, topic: Use of technology in student cheating and in its prevention, 20th May 2015; Symposium co-leader, Assessment in Higher Education Conference, Birmingham, jointly with Phil Newton (Swansea) and Mary Davis (Oxford Brookes) 24th, 25th June 2015; Invited speaker University of Leicester 4th May 2016;
Europe	Keynote Speaker, University of Luxembourg 02/10/2012, research integrity policy launch; Invited speaker, Trinity College Dublin, 22/10/2012; Great LX conference, Lisbon 16/09/2013, by video conference, with Tomas Foltynek; Invited speaker and panellist National seminar, Dublin Institute of Technology, April 2014; Workshop for European Research network, Brussels May 2014; Invited speaker for National seminar, National University of Ireland in Galway May 2014; Invited Keynote Speaker European Network on Research Careers, 20th May 2014, Brussels; Invited Speaker, CONUL Teaching and Learning Seminar (National Association of University Librarians), Trinity College Dublin, 10th June 2014; Presentation as expert witness to address Council of Europe 1st October 2015, Prague forum - IPPHEAE results; Institutional review, AIMM profile for HEIS in Lithuania (October 2014), Greece (Dec 2015); Latvia (March 2016);
International	Invited workshop coordinator staff development SCOPE Hong Kong June 2011; ICAI conference Florida, joint publication, presented by Tomas Foltynek; Invited panellist Pre-session seminar for 6th International Plagiarism Conference, Newcastle on Tyne, June 2014 (specialist on Europe); Invited speaker, Policy forum on Planning Higher Education Integrity, UNESCO / IIEP, Paris 18th-20th March 2015 – UK policies;

	Workshop presenter jointly with Dr Tricia Bertram Gallant, ICAI conference Vancouver 28th February 2015 – AIMM/AIRS development; Invited Keynote and session chair: Policies for Plagiarism Across Europe and Beyond Conference, Brno, Czech Republic, 10th-12th June 2015; Webinar Academic Integrity Maturity Model, South East Asia, 13th October 2015, iParadigms; Invited to run workshops for HEIs in Nigeria – pending; IPPHEAE survey provided for institutions in Pakistan, Malaysia 2014-15. Invited as expert witness by Council for Higher Education Accreditation International Quality Group, IIEP , UNESCO to an Expert meeting on Quality Assurance, Accreditation and Academic Corruption, Washington DC, USA, 30th-31st March 2016. Invited speaker academic Integrity and quality assurance Johannesburg July 2016

Clearly the degree of influence and scale of impacts vary according to audience and location. In many conversations with different people in the course of the above events, but also at conferences, during data collection, whilst disseminating findings results, leading training courses for teachers, managers and students, I have tried to emphasise that strong and effective policies for deterring academic misconduct are necessary for maintaining and raising academic standards.

In addition to invitations to speak and join working groups and research consortia, evidence about my status within the research community has arisen in different forms, for example I was:

- appointed to the editorial board of the *International Journal for Educational Integrity*, now part of the Springer Group;
- invited to write the book chapter on Europe for the Academic Integrity Handbook (Output 4);
- invited to lead or take part of several different consortia for funding applications on aspects of academic integrity;
- asked for AIMM and the IPPHEAE surveys to be adapted for use in new research projects;
- asked by many individuals and institutions for the survey questions and IPPHEAE outputs.

It is particularly rewarding that many of the outputs from research I led are being used by other individuals and institutions to improve policies and understanding.

5.2 Press and media coverage of the research

The IPPHEAE project results have been the subject of many newspaper articles and media coverage, helping to disseminate the research findings and recommendations. I was personally interviewed and named in many articles, summarised in Table 5.2.

As can be seen, articles about the research were published in Romania, Sweden, Norway, Finland, Czech Republic, Portugal, UK and USA (targeting international audiences) and Europe.

Table 5.2: Press and Media Coverage	**Date**
Article about IPPHEAE in Romanian newspaper http://www.vestic.ro/articol_30689/peste-jumatate-din-studenii-din-romania-au-plagiat-concluzioneaza-un-studiu.html?	11/06/ 2013
Article about IPPHEAE in Romanian student on-line newspaper **Campus Cluj** http://www.campuscluj.ro/stiri/334-50-dintre-studentii-nostri-afirma-ca-au-plagiat.html	10/06/ 2013
Article about IPPHEAE in Romanian newspaper **Adevarul** http://adevarul.ro/news/eveniment/studiu-european-jumatate-studentii-romani-plagiat-mod-deliberat-neintentionat-1_51b20402c7b855ff566b2aad/index.html	20/06/ 2013
Article about IPPHEAE in Romanian newspaper **Arad Online** http://www.aradon.ro/peste-jumatate-din-studentii-din-romania-au-plagiat-concluzioneaza-un-studiu/1298235	20/06/ 2013
Times Higher Education article http://www.insidehighered.com/news/2013/06/07/study-finds-plagiarism-among-students-all-across-europe	07/06/ 2013
Times Higher Education article Quotations from IG about policies for proof-reading in HEIs Times Higher Education 15th August p9 "Does it cross the line to get help dotting the i's and crossing the t's" http://www.timeshighereducation.co.uk/news/lack-of-guidance-on-foreign-students-use-of-proofreaders/2006507.article	15/08/ 2013
New York Times 17th June 2013 http://www.nytimes.com/2013/06/17/world/europe/17iht-educbriefs17.html?_r=0	17/08/ 2013
8 Local newspaper and television coverage of IPPHEAE conference in Czech Republic – Interview by Dr Tomas Foltynek and Prof Debora Weber-Wulff	12/06/ 2013
Times Higher Education article Thursday 10th October 2013 http://www.timeshighereducation.co.uk/news/uk-leads-europe-in-the-fight-against-plagiarism/2007981.article	10/10/ 2013
10 Norwegian University newspaper article here is the link to the article. http://pahoyden.no/2013/10/ingen-felles-plan-mot-fjusk The article has also been republished by www.forskning.no http://www.forskning.no/artikler/2013/oktober/370579 Ida Bergstrøm	25/10/ 2013

Swedish Newspaper article Karin Bromander Reporter Studentliv (+46)70-332 45 25 karin.bromander@tco.se Web-based version in Swedish: http://www.studentliv.se/nyhet/sverige-tredje-b%C3%A4st-i-eu-p%C3%A5-att-hantera-fusk-8082	25/11/ 2013
Case study about the IPPHEAE project in the 24th edition of the UK Higher Education International Unit's *European Higher Education Funding Bulletin,* published October 2013 http://www.international.ac.uk/news-centre/events-diary/2013/10/accessing-non-framework-programme-european-funding-opportunities-2014-2020.aspx	31/10/ 2013
Articles about the IPPHEAE conference online: http://www.eprofil.cz/2012/10/18/evropsti-odbornici-v-boji-proti-plagiatorum-se-sejdou-v-brne/ http://www.ibrno.cz/zajimavosti/51038-evropsti-odbornici-v-boji-proti-plagiatorum-se-sejdou-v-brne.html http://www.ictmanazer.cz/2013/05/konference-o-plagiatorstvi-v-evrope/	15/06/ 2013
Dina Margato (JN/djn) dina.margato@jn.pt Hello, Irene Glendinning, I am Dina Margato, a journalist in a Portuguese daily and I'm trying to write an article about your report. I saw this in Times Higher Education – [Portuguese article followed]	2014
Karjalainen newspaper Finland - Article by journalist Anna Sievälä in Finnish	28/12/ 2014
Mention of IPPHEAE project in article about plagiarism in doctoral theses pre 1994, THES 20th August 2015 p11 "Study suggests plagiarism is overstated".	20/08/ 2015
Mention of IPPHEAE in article about Contract Cheating, Coventry Evening Telegraph.	02/06/ 2016
Article about plagiarism in speech by Melania Trump linked to findings of IPPHEAE survey: http://www.slate.com/blogs/browbeat/2016/07/19/maybe_melania_trump_s_plagiarism_was_just_scholarship_european_style.html	19/07/ 2016

5.3 Links between the outputs

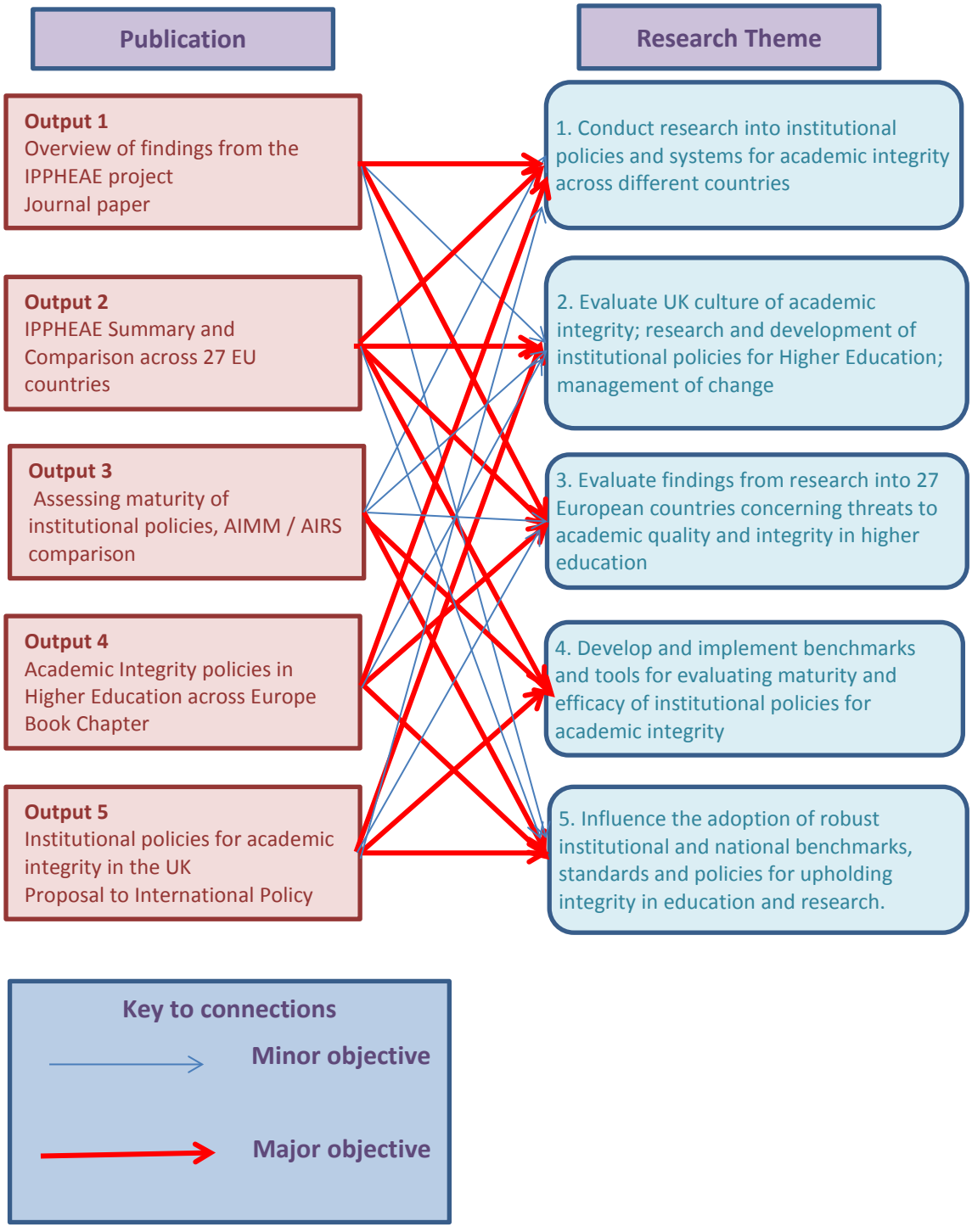
Figure 5.3 summarises how the portfolio outputs are linked to five research themes, indicating weak and strong logical links outputs and aims and objectives of the research. The red arrows signify that the publication strongly aligns with the stated theme and the blue arrows indicate weaker connections.

It can be observed that all five publications link to ***Themes 1, 2, 3*** and **5** which concerns the IPPHEAE project research, with Outputs 2, 3 and 5 specifically focusing on benchmarking ***Theme 4***.

Theme 2 in Figure 5.3 relates to academic integrity in the UK, which for many reasons has policies distinct from other countries in Europe. Outputs 2 and 5

include a specific focus on UK policies, with some coverage in Outputs 1, 3 and 4. The book chapter (Output 4) deliberately omitted detail of UK developments because the handbook includes a specific chapter on the UK.

Figure 5.3 Logical Links between elements within the portfolio of evidence



The analysis of the results for the 27 EU countries studied, ***Theme 3***, was a strong element of Outputs 1, 2 and 4, with rather less focus on this in Outputs 3 and 5.

The AIMM tool was designed to compare national results presented in Output 2 (2013). Output 3 (2014) presented concepts and proposals about how AIMM and AIRS could be usefully combined and developed for institutional use and Output 5 (2015) reported on progress since that time. All three papers make major contributions to ***Theme 4***.

Theme 5 links all five outputs, but with the strongest contributions from Outputs 3 and 5, which are concerned with the on-going developments of benchmarks and tools.

The publications making up the portfolio present different facets of my research into academic integrity and policies, targeting different audiences. They also demonstrate the chronological development of ideas, tools and publications, sometimes directly attributable to me, sometimes in collaboration with other people.

5.4 Contributions to the body of knowledge

As already discussed, the IPPHEAE project was an ambitious initiative that received EU funding after a speculative proposal was submitted. The evaluators agreed that there was a gap in knowledge about plagiarism in EU countries and recognised the importance of the research. Without trying to diminish the contributions of other people, the successful delivery of the IPPHEAE project objectives was largely due to my vision, perseverance, persistence, hard work and strong leadership, in the light of several very difficult situations that arose during the project. However the contributions of most of the partner institutions, and particularly colleagues from Coventry, were substantial.

The identified gap in knowledge about EU states has to a large extent been filled by IPPHEAE findings, which identified strengths and weaknesses in policies and practices for each of the 27 countries studied. The IPPHEAE national reports made recommendations for prioritising actions by teachers, institutional

managers and to the national policy makers. I am aware through mainly positive feedback that the executive summaries for most of these reports have been widely read by the targeted audience.

The AIMM tools that I conceived and developed were central to the dissemination process. Output 2 summarised all the findings, using a single A4 page per country, applying the AIMM tools to graphically and numerically convey national profiles in an easy-to-digest format. However these tools have a life beyond the IPPHEAE project.

I regularly receive requests for access to the IPPHEAE survey tools and advice about how to determine the effectiveness of institutional policies and systems. In the last two years the modified AIMM tools have provided useful information to three institutions, with more requests outstanding.

The longer term project is to develop a set of internationally recognised benchmarks that define characteristics of mature and effective policies and strategies for upholding and encouraging academic integrity. This will be based around the SAID toolset. I will expand more on this work in Chapter 7.

I have taken advantage of many excellent opportunities provided by invitations to events and meetings in Paris, Prague and Washington D.C., through the working groups and collaborative research organised by ICAI, IIEP, CoE, through on-going contacts with researchers from across the world, to contribute significantly to strategic developments on the global stage.

5.5 Citations in other people's publications

From Google Scholar 12/10/2016, Citations for Irene Glendinning's publications:

Citation indices	All	Since 2011
Citations	69	65
h-index	5	5
i10-index	1	1

Glendinning: IJEI article 2014 cited by 19 (Output 1)

Glendinning: IPPHEAE EU Comparison 2013 cited by 6 (Output 2)

Glendinning: 5th Plagiarism conference (2012) cited by 7

Orim et al: Exploring Nigeria (2015) cited by 8

Wilson-Medhurst & Glendinning Winning hearts and minds (2009) cited by 8

Glendinning et al: Enhancing the student experience (2008) cited by 5

Dunn & Glendinning: Supporting Learners (2010) cited by 4

Glendinning 6th Plagiarism conference, Assessing Maturity (2014) cited by 3 (Output 3)

Glendinning and Hood: Adding Value (2010) cited by 2

Glendinning: IPPHEAE report on Finland (2013) cited by 1

Glendinning: IPPHEAE report on UK (2013) cited by 1

The IPPHEAE report on Republic of Ireland was distributed to all delegates at the seminars in Dublin and Galway in 2014.

The IPPHEAE UK report (Glendinning 2013) was cited and discussed in a UK-wide conference organised by the Higher Education Academy about plagiarism policies *Academic integrity and student development: Exploring dimensions for improving practice* at University of Leicester.

http://www.heacademy.ac.uk/events/detail/2013/21_November_Academic_Integrity_Leicester (Morris Keynote).

IIEP / UNESCO March 2015 Paris, IPPHEAE project results were cited as evidence that action is needed on integrity by Dr Ian Smith on behalf of CoE.

CoE Prague Forum October 2015, Charles University, Prague, announced that the IPPHEAE survey would be extended to other parts of Europe as part of a new initiative to promote integrity in education. Mendel University in Brno and Coventry University will begin the first part of the new research to cover Balkan countries in July 2016, with target for reports to be completed by February 2017.

Chapter 6: Statements on the contributions of other people to the research

I was sole author of all five selected publications in this portfolio. However many other people contributed in different ways to the research on which the publications were based. I discuss the key people I worked with below with a brief summary of their contributions.

6.1 Contributions to the IPPHEAE research

I led the development of the IPPHEAE project after the initial idea for the project was established in June 2009 to the final delivery of the project outputs in May 2015. Not only was I responsible for day-to-day operational matters (managing, designing the research methods, securing ethical approval throughout, monitoring and general oversight of the research), but I personally provided the vision and inspiration for the research and conducted a large percentage of the design, investigation, analysis, interpretation and dissemination that ensured the success of the project. The IPPHEAE project was 75% funded by the European Union's Lifelong Learning Programme, under Erasmus, Modernisation of Higher Education, with the partner institutions contributing the remaining 25% funding.

The research was supported by teams from each of the five institutions making up the consortium. Figures 3.1 and 3.2 indicate which partners were involved in data collection in different countries (Figure 3.1) and analysis and interpretation of the findings (Figure 3.2).

- Coventry University team:
  - Richard Gatward contributed to the project from June 2009 until June 2012. He brought together they key players from UK, Sweden and Lithuania, from whom the initial ideas for the project emerged. He organised the early meetings in 2009 in Lithuania and Czech Republic to establish the IPPHEAE consortium. He contributed ideas for the project proposal, planning and implementation and attended project meetings when feasible.

- Anna Michalska (formerly Domanska) – Full-time Research Assistant, currently writing up her own PhD based on part of the research from the IPPHEAE project that she personally led, focused on data she collected from student focus groups conducted in nine different European countries and drawing on her own analysis of student responses from the IPPHEAE questionnaire. I am her Director of Studies. Her expected graduation date is early 2017. Anna (with Stella) was instrumental in uploading and formatting questions for the on-line versions of the IPPHEAE questionnaires, particularly organising the 14 different language versions of all three levels of survey (42 on-line questionnaire variations in total). They also contributed to testing and piloting questionnaires to ensure the wording was clear and unambiguous. Anna's contribution was particularly valuable when downloading data in different languages, to handle formatting errors with special character sets used in many languages. Anna joined me on data collection visits to Germany and Republic of Ireland and herself visited Poland and France to collect data. She attended project meetings in Coventry and those hosted by partners.
- Stella-Maris Orim – Part-time Research Assistant has now successfully completed her PhD focused on plagiarism policies in Nigerian HEIs. I was part of her supervisory team. Her analysis drew on data collected during the IPPHEAE project from UK-based Nigerian students to add to the data she collected from a survey in Nigeria. Stella and Anna were instrumental in formatting questions for the on-line versions of the IPPHEAE questionnaires, particularly uploading the 14 different language versions of all three levels of survey (42 on-line questionnaire variations in total). They also contributed to testing and piloting questionnaires to ensure the wording was clear and unambiguous. Stella (with Dr Liz Cox) created and implemented the Good Academic Practice Quiz, based on an Open University quiz. She attended project meetings in the UK and in Czech Republic.
- Other contributors included Business Development Support Office (administrative support), student advocates and translators.

- Lodz University of Technology, Poland (Professor Krzysztof Jóźwik, Mrs Agnieszka Michałowska-Dutkiewicz, Mrs Aneta Ciepielewska): The team provided input to the survey questions, testing and piloting the survey; Polish language translation of the 3 institutional levels of survey; made visits in Poland, Portugal, Romania for data collection for the survey; co-authored the report on Denmark, which contributed to the EU-wide report (Output 2).
- Mendel University in Brno, Czech Republic (Dr Tomas Foltýnek, Dr Jiri Rybicka, Mr Ondrej Vesely, Ms Dita Dlabolova, Ms Petra Pecinkova): The Mendel team were responsible for data collection in Czech Republic, Slovakia, Spain (Tomas, Dita) and Italy (Dita), analysis and interpretation of results from Czech Republic, Slovakia and Spain and writing reports (Tomas), which contributed to the EU-Wide report (Output 2); Tomas helped with calculations in the AIMM metrics for the category scores.
- Aleksandras Stulginskis University, Lithuania (Dr Linas Stabingis, Neringa Cepaitiene) Linas and Neringa were involved in testing and piloting survey questions; procuring language translation of the 3 institutional levels of survey into Lithuanian; Linas conducted the survey in Lithuania, Estonia, Latvia; interviewed national level participants; conducted analysis and authored reports for 3 countries and executive summaries, which contributed to the EU-wide report (Output 2).
- University of Nicosia, Cyprus (Dr Catherine Demoliou, Dr Angelika Kokkinaki, Dr Melpo Iacovidou). The team contributed to design, testing and piloting of survey questions; procured Greek language translation of the 3 institutional levels of survey; responsible for conducting the survey in Cyprus, Greece, Malta; Conducted analysis and interpretation and write reports for Cyprus, Greece, Slovenia, Italy and Malta, which contributed to the EU-wide report (Output 2); negotiation for national level participants; Oversight of the QA aspects of the IPPHEAE project.
- Jude Carroll, researcher and consultant, supported formulation of the project proposal and helped in the early stages of the survey design to focus on the important issues, i.e. for policies on plagiarism and academic

conduct. She supported the research throughout the project, and provided links to active researchers in parts of Europe.

The quantity and quality of research that was completed for IPPHEAE would not have been possible without the international team collaboration and the EU funding. My role in providing the vision, inspiration and direction, coordinating and directing the many contributions were critical factors leading to successful completion of the project. It was my responsibility to establish and maintain the focus of the research, ensure the project tasks were completed within the given timeframe, that research was conducted ethically and analysis and interpretation of results were balanced and presented to the highest possible standards.

Overall the PI role for IPPHEAE was a very complex and stressful five year period for me, but the substantial rewards for taking on the responsibility are great.

6.2 Co-researchers post-IPPHEAE

- From January 2014 Dr Tricia Bertram Gallant from ICAI / UCSD and I compared AIMM/AIRS and have been developing the hybrid model (Outputs 3 and 5). I estimate the division of labour between so far to be 65% (IG) 35% (TBG).
- Tricia and I were recently joined by Dr Jennifer Eury, of Pennsylvania State University, who suggested the working title *Scorecard for Academic Integrity Development* (SAID). Jen contributed to draft a white paper to use in funding bids to USA-based charitable foundations.
- Tomas Foltýnek, Mendel University in Brno, has lead successful applications to the European Union and Council of Europe to fund projects that will establish the European Network of Academic Integrity and extend the IPPHEAE research to Balkan countries. I supported Tomas on these bids and related activities, including coordinating peer reviews for a conference in Brno in June 2015.

Chapter 7: Conclusions and Future Research.

7.1 Conclusions

This portfolio provides evidence of the research I have conducted in this domain since 2009. My research objectives remain very ambitious; the evidence presented in this thesis addressing the five objectives has made a clear contribution to the body of knowledge about policies for academic integrity in Europe and beyond. The research methods and tools developed for IPPHEAE have been adapted and applied by other researchers in different parts of the world, a lasting legacy of the effective planning and design of successful and effective research.

Below is a brief summary of the findings from the research to date:

- There are great variations in maturity of policies and practices across different institutions and countries for managing academic misconduct and encouraging academic integrity at bachelor and master's degree levels;
- There is no common view across different countries about what constitutes acceptable academic practice in student teaching, learning and assessment and in academic and research conduct;
- A high number of recorded cases of plagiarism and academic misconduct generally means that effective institutional *detection* policies and systems are in place, but …
- … more needs to be done to reduce such conduct through a culture of academic integrity across the whole community in every institution and country studied;
- No quality assurance or accreditation agencies were found that routinely monitor the efficacy of institutional policies for academic integrity;
- There are great variations and inconsistencies in sanctions imposed on students found to be cheating within institutions where there is high academic autonomy or when institutional policies are weak or ignored;
- There is no advantage or incentive for underpaid and overworked academic staff to follow up on suspected academic misconduct cases;

- In some institutions / countries there is a “shoot the whistle-blower” mentality towards reporting academic malpractice;
- The scale of change needed in some institutions / countries (to bring about academic integrity) is seen as prohibitive in terms of resourcing and reversal of cultural norms;
- In some institutions / countries there is denial about the existence of any form of academic misconduct;
- Staff in some institutions are over-reliant on or misinterpret the evidence from text matching software for detecting plagiarism;
- Ghost-writing services and use of technology for examination cheating are huge and growing threats to academic integrity and quality, but are largely unacknowledged in some institutions / countries.

In contrast, evidence of generally effective practice was identified in some countries:

- UK and Republic of Ireland - great awareness, long-term investment in research and policy development nationally and within most institutions;
- Sweden - national policy and system on academic conduct and sanctions;
- Austria – training and guidance for students;
- Slovakia – nationally implemented software tools for final thesis and effective guidance for students.

In addition specific institutions with effective policies, (for example implementing honour codes), were found in some other countries.

My work continues to encourage the development of strong, consistent, proportional and transparent policies in higher education in every institution and country studied. The tools AIMM and SAID have been designed to evaluate and support this development towards mature, self-sustaining policies underpinning institutional academic integrity.

7.2 Personal perspectives

My reputation has been established as the authority on European HE institutional policies for academic integrity. Working together with national and international agencies for policy change and like-minded researchers, I am in a strong position to begin to shape and influence the development of robust policies and systems institutionally, nationally and internationally, within Europe and beyond. I am under no delusion: the process of change will be long and difficult, but not impossible.

This research is just the beginning of the journey, there is a very long distance to travel before transformation of cultures and practices can begin in many of the countries studied. Different ways that students find to cheat are evolving rapidly, typically exploiting social media, communications, internet and smart technology to by-pass learning and assessment. Complacency and inertia are the biggest barriers to progress. I believe that allowing any form of cheating or academic misconduct to go unchallenged is a major threat to academic standards and an affront to the efforts of genuine hard-working students.

7.3 Future Research

Since 2007 I have conducted investigations and published in many specialist fields of educational research and my interests in all these areas continue. The many valuable contacts I have forged since my academic career began have served me well both personally and professionally.

Although this portfolio focuses on academic integrity policies, I am actively engaged in other research and PhD supervision:

- I am researching and supervising PhD research into STEM outreach (Yamuna Bagiya, PhD awarded subject to minor corrections July 2016) and working with teachers to evaluate the impact of recent school curriculum changes to STEM subjects in English primary and secondary schools through BCS, CAS and other organisations such as Think Higher.

- I am Director of Studies for Anna Michalska's PhD, researching student views of plagiarism in 9 countries, which is due for submission in January 2017.
- I retain strong interests in research and developments in equality and diversity, both in education and in society in general, including running training on unconscious bias for BCS committee members in different parts of the UK. There are clear connections between my interest in integrity in the broadest sense and my professional body activities, which are fundamentally about social justice, driven from perspectives of both professionalism and education.
- Although not formally part of my academic career, my other great interest is archaeology. As secretary of Rugby Archaeological Society (RAS) since 1992, I have been responsible for fund-raising and editing and publishing books, articles and papers about the fieldwork and related research of the Society of volunteers (amateurs and professionals) (Glendinning 2004, Lucas 1998, Lucas 2005). I regularly give talks about the excavations and research we conducted into the Roman settlement of Tripontium. I personally submitted two successful nominations for the Society to the British Archaeological Awards in 1994 (highly commended award) and in 2004 RAS was winner of the Pitt Rivers award for best voluntary society in the UK.

Despite many other interests and activities, my research into academic Integrity continues to occupy much of my time and interest. I am part of an international working group led by Dr Tricia Bertram Gallant exploring specifically how to combat the threat of contract cheating and "paper mills".

I continue to lead the development of the SAID tools, supported by colleagues in USA. I am planning to present SAID at the ICAI conference in Athens in September 2016. The next stage will be to conduct some pilot institutional evaluations in volunteer HEIs, then refine the tools according to the feedback from the pilot runs. Funding is needed to further develop and test the platform that will host the SAID institutional assessment tools and associated benchmarks that define characteristics of mature policies.

The significant impact to date from the initial work I have been involved in on integrity gives me confidence that this research is highly valuable to education globally and will help to raise standards and generate fair and proportional outcomes for students and institutions. There is strong evidence of demand from institutions for these tools, which will be offered in English language initially, with the plan to provide language translations for different countries according to funding and demand.

An important prerequisite to the validation and acceptance of these tools is for academics across the world to reach a common consensus about where the borderline lies between acceptable and non-acceptable academic practice. Judging by the experience of the AMBeR project (Tennant and Rowell 2010), it may not be possible to reach broad agreement about how breaches to academic integrity should be managed and penalised. However I am conducting a new EU-wide analysis using the IPPHEAE data to expose the disparities in practices for penalties across the EU. This will be the subject of a paper for the iParadigms conference planned for March 2017 in Bangkok. By comparing the situation in EU countries to what has been achieved already in countries such as UK and Australia, should provide encouragement for HEIs in other countries to begin to develop their own strong policies and institutional culture of integrity.

The IIEP-UNESCO / CHEA working group that I contributed to recently is advocating that quality assurance and accreditation bodies expand their remit to address corruption in higher education. This creates an unprecedented opportunity for me to directly contribute to policy in education on the world stage. This exciting initiative links my interests in integrity, equality and quality assurance, applied to education. The advisory statement authored by Sir John Daniel, summarising input from the eleven invited participants at the Washington DC expert witness meeting I attended in March 2016, was circulated in July 2016 (Daniel 2016), addressing major players in the global higher education sector.

I hope to continue to play a part in future initiatives, including the activities of the new European network ENAI. I am working with the ICAI to organise an

international day of action to raise awareness about the huge threat from the contract cheating industry to higher education standards across the world.

The next phase of the extended IPPHEAE project, to look the Balkan region, will begin shortly, led by three researchers from Mendel University in Brno, supported by two researchers from Coventry University, with funding from CoE.

The overwhelming message from the IPPHEAE research is that there is too much complacency across Europe about different forms of corruption and malpractice in higher education. I know from regular contact with other researchers that this is a global phenomenon. More can be done in every institution, where possible supported by national initiatives, to ensure that students, teachers and managers, in HEIs and in earlier education, agree on acceptable conduct and follow good academic practice.

7.4 Final thoughts

I am very fortunate and privileged to have been given the opportunity to submit this portfolio of publications and the overarching critical analysis for my PhD. I am grateful for the support of colleagues and associates who contributed to all the research I have conducted during almost 26 years as an academic.

I fully intend to continue to develop and apply my research ideas for the benefit of higher education quality and integrity across the world.

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Appendix 1: Terminology and Definitions

As with any specialist area of research, certain terms and jargon are in common usage within the community of researchers into plagiarism, cheating, academic misconduct and related topics. To be clear what meaning is intended by each of the terms used in the context of this thesis, brief definitions are provided below and further discussion around these terms is included in chapter 1.

A1.1 Academic Integrity, Research Integrity, Educational Integrity: In the context of this thesis these terms refer to different aspects of practice, ethos, strategy and policy for maintaining the security of standards and conduct within an institution or nationally.

A1.2 Plagiarism: The following definition was developed by a working group for academic conduct policies at Coventry University, which is appropriate for the purposes of this research:

"*Plagiarism is intentionally or unintentionally reproducing (copying, rewording, paraphrasing, adapting, etc.) work that was produced by another person(s) without proper acknowledgement in an attempt to gain academic benefit. Intentionally or negligently allowing such reproduction to happen may also constitute plagiarism.*

"Work that can be plagiarised includes: words (language), ideas, findings, writings, graphic representations, computer programs, diagrams, graphs, illustrations, creative work, information, lectures, printed material, electronic material, or any other original work created by someone else." (Quoted from the HEA web site, accessed in 2012).

"Proper acknowledgement means following the accepted conventions of scholarly academic writing practice. Proper acknowledgement is necessary to ensure that due credit is given to the originator of the material."

A1.3 Self-plagiarism, auto-plagiarism: These terms concern unacknowledged reuse or republication work by the same author, specifically where a student or researcher is attempting to gain further credit by reuse of the same work.

A1.4 Academic misconduct, academic dishonesty, cheating: are synonyms for unacceptable conduct relating to students' assessed work or research that undermine the integrity of research, assessment and the institution. In the context of this thesis such conduct includes, but is not confined to: deliberate plagiarism, cheating in examinations, auto-plagiarism, data fabrication, falsification of results, inappropriate collusion for assessment, impersonation for assessment purposes and aiding other students to cheat.

A1.5 Research misconduct: is a subset of the above definition relating to research activities (postgraduate students, research staff, academic staff, post-doctoral researchers) and rather than to student assessment.

A1.6 Ethical conduct, ethical code of practice: Although academic integrity includes ethical and fair conduct and practice, the two terms are not synonymous because the definition provided for academic integrity is much broader. Generally ethical conduct implies following (implicitly or explicitly) a code of

conduct or practice such as RESPECT (2004) or Stewards of Integrity (European Science Foundation 2008).

A1.7 Ethical approval: Ethical approval is a process involving scrutiny of research design submitted by researchers, including students, before they embark on a specific piece of research. Approval must be granted by a designated authority or panel before the research can begin. The process aims to ensure that the intended research and conduct complies with a set of predefined ethical principles.

A1.8 Copyright: Copyright is often confused with Intellectual Property Rights and the two terms are conflated in some definitions of plagiarism. For this thesis a formal UK definition will be adopted: "*Copyright applies to work that is recorded in some way; rights exist in items such as literary, artistic, musical and dramatic work as well as films, sound recordings and typographical arrangements. It gives the author specific rights in relation to the work, prohibits unauthorised actions, and allows the author to take legal action against instances of infringement or plagiarism*" (UK Copyright Service).

A1.9 Intellectual Property Rights (IPR), Intellectual Property (IP): Referring to the same source as above for distinguishing copyright and IPR, IP "*refers to creative work which can be treated as an asset or physical property. Intellectual property rights fall principally into four main areas; copyright, trademarks, design rights and patents*" (UK Copyright Service). To summarise, IPR is a broad concept that includes copyright. Infringement and plagiarism can apply to all categories of IP.

Appendix 2 – Portfolio Outputs

A2.1 Output 1

Glendinning, I. (2014a). Responses to Student Plagiarism in Higher Education Across Europe. *International Journal for Educational Integrity,* Vol 10(1) June 2014 pp. 4-20.

Responses to Student Plagiarism in Higher Education Across Europe

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Key words: Student plagiarism, academic integrity, plagiarism survey, research ethics, academic conduct, European Higher Education

Abstract

A significant amount of research has been undertaken in response to high levels of student plagiarism in higher education institutions (HEI). New models have emerged over the last decade for strategies and systems for detection, penalties and mitigation, based on deeper understanding of the underlying reasons behind student plagiarism. Most research has been initiated by academics from English speaking countries, particularly from the UK, North America and Australia.

When the proposal for the IPPHEAE project (Impact of Policies for Plagiarism in Higher Education across Europe) was developed during 2009 very little research had been conducted about the policies for academic integrity adopted by HEIs in the majority of countries in Europe. IPPHEAE, funded by the European Commission (2010-2013), included a comparative study of policies and procedures in place in HEIs across 27 European Union (EU) member states for handling aspects of academic integrity, focusing specifically at bachelor and master's levels. The survey instruments were on on-line questionnaires, student focus groups, structured interviews and analysis of documentary evidence, designed with a view to capture a range of quantitative and qualitative responses from different perspectives.

Almost 5000 responses were captured for the survey, mainly from on-line questionnaires, made available in 14 languages. Different questions were asked of students, teaching staff and senior managers, to determine how well institutional procedures were understood, to what extent they were operating as intended and whether there was consistency of outcomes within and between institutions. Interviews with researchers and people associated with national bodies and agencies responsible for HE quality or academic integrity explored broader perspectives on issues such as national policies and how responses to plagiarism aligned with policies for quality and standards.

This paper presents results from the survey that focus specifically on institutional policies, highlighting examples of good practice and also areas of concern. The findings suggest that different approaches should be adopted according to the maturity of existing policies and systems in all the countries surveyed, to promote more effective assurance of quality, standards and academic integrity.

Introduction

This paper reports on research undertaken for the project *Impact of Policies for Plagiarism in Higher Education Across Europe* (IPPHEAE), which was funded through the European Commission's Lifelong Learning Programme, under the Modernisation of Higher Education agenda during 2010-2013. The project was designed to investigate how student plagiarism was being addressed in Higher Education Institutions (HEIs) throughout 27 countries of the European Union (EU).

The research was designed to fill the gap in the knowledge about policies and procedures for maintaining standards of academic integrity at bachelor and master's levels in different parts of Europe. The survey explored whether policies were being applied as intended and whether they were fit for purpose. However the project was also concerned with applying knowledge and ideas emerging from the research and sharing examples of effective strategy, policies,

procedures and resources, to influence regions and institutions where there was seen to be less engagement with challenges presented by student plagiarism and academic misconduct.

This paper reports on the EU-wide IPPHEAE survey, detailing the research methodology, design and implementation. Results about institutional policies are presented, with reference to some of the data collected from different sources. The key findings are discussed together with a summary of the recommendations and conclusions for EU overall.

IPPHEAE project context

The IPPHEAE project operated from October 2010 until September 2013, with a consortium of five institutions. The author was principal investigator, leading a team from Coventry University (CU), UK, and partners from Lodz University of Technology, Poland, Mendel University, Brno, Czech Republic, Aleksandras Stulginskis University, Lithuania (ASU) and University of Nicosia, Cyprus. UK plagiarism expert Jude Carroll contributed to the project in a consultancy capacity. A challenging aspiration of the IPPHEAE project was that "*Influencing national and local strategy will be much harder, but not impossible".*

Research activities for the project comprised three major strands: a cross-Europe survey of HEIs, the subject of this paper; development of software tool ANTON for searching a national e-library archive; in depth case studies of interventions, strategies and policies in selected countries and HEIs across the EU.

Review of literature

The focus of earlier research into plagiarism and academic dishonesty has spanned reasons for plagiarism, investigations about attitudes and also policies for addressing plagiarism, including the implementation of digital tools. Earlier research into policies was initiated by academics in English speaking countries, particularly UK, North America and Australasia (for example Tennant and Rowell 2010, Tennant and Duggan 2008, East 2009, Bretag et al 2011).

Some researchers, notably McCabe, have particularly focused on the attitudes to plagiarism in North America (2005) and Canada (Abasi and Akbari 2008). A few researchers have investigated plagiarism in European countries, particularly Sweden (Carroll and Zetterling 2009, Razera et al 2010, Pecorari and Shaw 2012). Hayes and Introna (2005) explored cultural influences to plagiarism in international students studying in an English university, drawing comparisons between students from UK, Asia, Greece and China.

Procedures and policies in UK HEIs are the subject of several publications (Macdonald and Carroll 2006, Park 2004, Neville 2010, Morris 2011), which commonly advocate a holistic institutional response to academic integrity. The evidence from this wide range of research has increased understanding of why plagiarism occurs, proposed different methods for dealing with different breaches to academic integrity and suggested what can be done to encourage good scholarship.

Recent Swedish research has included innovative ways of applying software tools for similarity checking (Appelgren Heymann et al 2012, Larsson and Hansson 2012). Pataki reported on a research project about the development of search tools and techniques for addressing the prevalence of plagiarism in Hungary by translation of sources from other languages (2012). Plagiarism by translation also featured in a paper by Sousa-Silva from Portugal that focused on a forensic detection approach using linguistic analysis (2013).

In several countries software tools and resources were being developed for aiding the detection of plagiarism. Hungary, Czech Republic, Slovakia, Poland and Lithuania were found to be at different stages of developing national digital libraries of postgraduate theses and supporting systems for making use of the established repositories for aiding the detection of student plagiarism (Chudá et al 2013, Veselý and Kolomaznik 2013, IPPHEAE reports for Lithuania, Poland and Czech Republic).

Blogs and Wikis provided a rich source of information about plagiarism policies in some EU universities, but it emerged that some contributors chose to remain anonymous for fear of intimidation. Several blogs contained topical developments about high profile plagiarism cases, but also highlighted systemic failures and encouraging reform of policies across all levels of higher education governance (Archeologie-Copier-Coller, Copy-Shake-Paste, Le Plagiat.net, Plagionintitutkija Blogspot, Vroniplag Wiki). Some of these sites disseminated research results, for example comparing anti-plagiarism software tools (Weber-Wulff and Isolen 2012).

Methodology

As the literature review suggests, prior to the IPPHEAE project very little information was available about the nature and effectiveness of policies and procedures for dealing with plagiarism or academic dishonesty in the majority of HEIs in EU countries. The EU-wide survey was designed to capture evidence of current practices by exploring views at four levels covering a sample of HEIs in all 27 EU member states. Information was collected from students (bachelor and master level) academic teaching staff, senior management, people with responsibility nationally for quality or academic integrity and documentary sources at national and institutional levels.

A few questions from earlier research were found to be applicable to this research, for example exploring *Why do student cheat?* (Park 2003, p479-480) and investigations into self-reported plagiarists (Hayes and Introna 2005, p219-222). However, most IPPHEAE survey questions were designed specifically for this study. Draft surveys were checked, translated and piloted within partner institutions as a paper-based exercise. The final versions of the surveys were then released for full language translations.

The scale and volume of the data collection, the geographical scope and range of languages for participants made it essential to have on-line questionnaires designed for quantitative analysis. Questions for senior managers were available both as a structured interview and on-line questionnaire with language translation. The senior management survey had fewer, mainly open questions compared to student and teacher questionnaires. Some questions for national participants were similar to those for senior management, with some additional questions exploring national educational strategies. The interviews were conducted face-to-face, by Skype, telephone, and occasionally by email.

In order to ensure the questions were understood by EU participants, fourteen language versions of the on-line questionnaires were created and phrasing and nature of questions varied according to intended respondents and the survey method. Question wording needed to be understood when translated across languages and any jargon meaningful and consistently interpreted in different educational systems and cultures. For teacher and student questionnaires many questions use a five point Likert Scale with rubric from “strongly disagree” to “strongly agree”. Responses from students and teachers were coded and language-neutral, reducing the need for retranslation into English, although additional free-text feedback was invited for most questions.

A mapping of similar questions across the different survey methods ensured that responses could be compared for analysis and evaluation. The survey questions were based on the following themes:

- Understanding and awareness of academic integrity
- Experiences of plagiarism and academic dishonesty
- Knowledge of institutional policies, systems and procedures for academic integrity
- Views on plagiarism deterrence and detection
- Understanding academic writing conventions
- Institutional characteristics for assessment and study
- National initiatives for academic integrity

Considering the potentially sensitive nature of the data being collected the use of coding helped to secure the required level of anonymity for encouraging participation of both individuals and institutions. “Informed consent” forms and associated guidance notes were made available to participants in different languages and built into the on-line questionnaires.

It was important to try to capture feedback from a representative sample of the student population in different types of HEIs in every EU country to try to obtain a set of institutional profiles that could be compared within a country and between countries. However the reluctance of many institutions to participate in the research made a comprehensive EU-wide investigation of HEIs unrealistic. Instead an opportunistic sample of responses was collected from participants and HEIs in each country who were willing to complete the survey, drawn from the very large number HEIs and individuals contacted. Student participants from each HEI could be a mixture of residents from the country being studied, from other EU countries and international non-EU students.

Reports were prepared for the 27 EU member states, summarising the survey responses and also drawing on previous research, government reports and on-line materials. National survey participants provided reviews and feedback for these reports. Each report incorporated a set of recommendations nationally, institutionally and for individual academics.

The findings from the 27 country reports were combined to provide an EU-wide comparative summary of policies and procedures for plagiarism and academic misconduct in different countries. All reports are available via the project web site.

Research Findings

Almost 5,000 responses to the survey were received in total. The on-line questionnaire responses were reorganised from the language sets into country datasets, then coded and made anonymous of individuals and institutions.

For some countries the relatively small sample size compared to overall HE student population sizes and the low number of participating institutions made it impossible to draw any general conclusions from the data. However the responses provided an interesting snapshot from which to formulate some useful recommendations.

Student responses for each country were typically largely from students normally resident there plus a small number of international students studying in that country. Although the research focus was on bachelor and master’s students, participants were from all HE levels, covering a wide range of subject disciplines. Responses from people working and studying outside the 27 EU countries were not included in the analysis.

Notably the profile of UK students differed from that of other countries with 51% of UK student respondents from outside the EU and only 25% normally resident in the UK. The UK ratios reflect the student populations of many universities, particularly affecting postgraduate level.

Monitoring, Reviewing and Revising cases of academic misconduct

Of the teachers’ responses across all EU countries 9% *strongly disagreed* and 14% *disagreed* with the statement *Our national quality and standards agencies monitor plagiarism and academic dishonesty in HEIs* with 52% *not sure*, 18% *agreeing* and 4% *strongly agreeing*. However in other evidence from teachers and national and senior management participants it emerged that very few EU countries had implemented national level policies and procedures for monitoring aspects of academic integrity at bachelor and master’s levels.

In Sweden HE institutions have been required to provide annual statistics for the government agency on the number and type of academic misconduct cases, which were summarised every four years in a national report (Högskoleverket 2011). Although this system of monitoring is to be welcomed to provide some insight into national trends and progress in academic integrity, survey participants questioned the accuracy and comparability of the institutional data.

National participants from Austria also spoke of national policy and systems. However only 11% of Austrian teachers responded positively to the statement *Our national quality and standards agencies monitor plagiarism and academic dishonesty in HEIs,* with 56% *not sure* and 22% *disagreeing*. Of Austrian teachers responding to the question about who monitors *plagiarism policies and procedures (tick all that apply)*: 5% selected *By the national quality agency*, 17% selected *By our institutional quality manager,* 34% opted for *At faculty or subject level* and 47% of participants said they did not know. These responses suggested that any national policy and systems in place in Austria were not effectively communicated.

By comparison, of the responses from teachers in UK and the Republic of Ireland (RoI) to the same question about who has responsibility 14% of UK and 13% of RoI teachers selected monitoring b*y national quality agency*; 55% of UK and 50% from RoI chose *institutional quality manager*; 55% of UK and 31% of RoI selected monitoring *at faculty or subject level*; and 29% UK, 25% RoI said they did not know. This feedback and other supporting evidence from national and institutional responses suggest that most institutions in the UK and RoI had policies in place for academic integrity and that cases of academic misconduct and plagiarism were normally recorded at some level (departmental or institutional). However, as was the case with all other countries in the survey, many of the UK and RoI responses indicated that there was little confidence in the consistency between and sometimes within institutions about what data was recorded and at what level it was held, and no means of comparing similar statistics across institutions.

Many teacher respondents said they *did not know* at what level their policies for plagiarism were monitored (45%), reviewed (50%) and revised (54%). The most commonly selected level for policy responsibility was *faculty or subject level* (41% monitoring 34% reviewing and 25% revising). The strongest response to this question was from UK teachers confirming that policy monitoring most often takes place at institutional (55%) and faculty or subject level (55%), with responsibility for reviewing policy also split between institutional (51%) and faculty/subject levels (51%), but revision of policy was more likely to be conducted at institutional level (55%) than faculty/subject level (39%).

Policies and procedures

Survey responses suggest that most of the institutions engaged in the survey had some policies at institutional or departmental level for academic misconduct and plagiarism. However several contacts from different EU countries declined to respond to the survey, saying their institution had no effective systems in place. This factor introduces a degree of bias in the data collected towards reporting on institutions that have positive messages or more mature practices.

In response to the statement *This institution has policies and procedures for dealing with plagiarism* 35% of all EU teachers agreed and 36% strongly agreed, with 14% not sure and 14% disagreeing. On considering country responses a less positive picture emerged (25-100% respondents disagreeing) in Italy, Spain, France, Portugal, Belgium, Finland, Bulgaria and Germany although the low response rate for some countries made it impossible to draw general conclusions.

According to feedback from interviews Finland and parts of Germany were planning introduce national or regional standards and policies for research ethics at postgraduate and post-doctoral levels, but these were at a relatively early stage and there little evidence emerged of active systems for monitoring or enforcement. The Hungarian Accreditation Committee (HAC) responsible for quality monitoring in higher education, established and published their 2013-15 strategy for auditing the quality process and systems of HEI (Füzessi 2013). However this appeared to be a missed opportunity as the strategy made no mention of academic integrity.

Some countries had national policies in place or had been supported nationally for acquiring digital tools for aiding plagiarism detection (UK, Finland, Austria, Sweden and Slovakia). The UK's JISC Electronic Plagiarism Project is a particularly pertinent example of how a national initiative for digital tools in HEIs had a lasting impact on institutional policies (Rowell 2009).

In the largest of the German Bundesländer, NordRhein-Westfalen (NRW) the Rectors Konferenz for Fachhochshculen has published a policy for using software to detect plagiarism (HRK 2012). However it emerged that in most EU countries it is uncommon for essays, formative work and written assignments to be subjected to digital checks. Where tools were in use, typically only the final student thesis was checked.

A report was published for the French Minister of Higher Education and Research about fraud in higher education (Mazodier et al 2012), in which section 3 concerned plagiarism. The report made clear that France lagged behind some other European countries (naming Norway and UK) in having no visible policies for examination fraud and plagiarism and advocated a more cohesive, consistent and proportional policy response for France.

From Bulgaria one respondent stated "here there are no measures" and that there is "not a single case of a student being dismissed for plagiarism". However other responses from teachers and students suggest that some Bulgarian institutions do have policies and procedures in place.

Most EU participants were against the idea of having national or regional policies or directives to institutions for responding to plagiarism, favouring preservation of institutional autonomy. However in some countries particularly France, Germany, Bulgaria, Romania, participants advocated introducing a set of national guidelines across all HEIs to kick-start the process of institutional reform for developing policies to respond to plagiarism.

Responsibilities for identifying misconduct cases

Teachers were asked about where the responsibility rests for decisions on culpability for student plagiarism, inappropriate collusion and exam cheating.

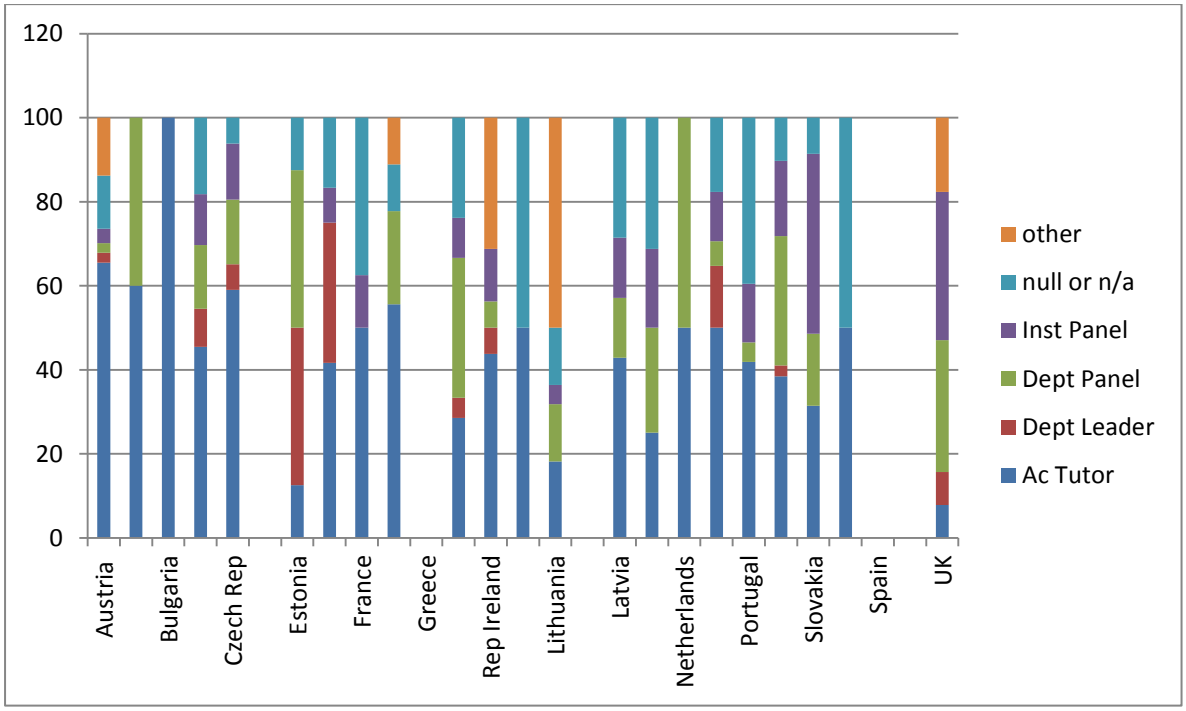

Figure 1: Teachers' responses to: Who decides whether a student is guilty of plagiarism?

Concerning who takes decisions about whether a student has committed plagiarism, Figure 1 shows that the individual *academic tutor* (47% of EU teachers) was by far the most commonly selected option. In some institutions it emerged that a committee or panel took the decision on whether plagiarism had occurred, either at departmental or institutional level, (as is the case in Sweden). Figure 1 shows teachers' responses for most EU countries. In "other" feedback 6% of teachers said the responsibility rested with an individual, often the dean, dean of students or rector.

The responses from UK teachers show a very distinct difference with only 8% of participants selecting the *academic tutor*. In some institutions in UK and RoI teachers, managers and national responses indicated that an institution-wide system of trained experts had been established to respond in a timely, consistent and systematic way to breaches in academic integrity. These posts were normally departmentally based and typically called Academic Conduct Officers (ACOs), following Macdonald and Carroll (2006) and documented in UK national guidance (Morris 2013).

When teachers were asked who takes decisions on exam cheating the responses were very similar to those in Table 1 for plagiarism, but with more teachers (55%) selecting the *academic tutor* option than for decisions on cases of plagiarism.

The responses to the question about inappropriate collusion showed differences to plagiarism and exam cheating. Overall 38% of respondents selected the academic tutor, 7% said the *departmental leader* made the decision, 13% overall said an *institutional panel* was responsible, 13% said *departmental panel*, with null responses from 23% of respondents. Again deans, ACOs and rectors were mentioned in 6% "other" feedback.

Responsibilities for deciding on sanctions for academic dishonesty

The responses from EU teachers (Table 1 and Figure 2) suggest that for Plagiarism the sanctions or penalties were most likely to be decided by an institutional panel (26% overall). For exam cheating (30%) and inappropriate collusion (21%) the responsibility for sanctions most commonly rests with the academic tutor (Table 1) according to EU teachers.

Interview feedback at institutional and national level suggested that collusion between students was not viewed as a problem in some countries, but instead was often seen as the normal way students support each other in their learning. This may be reflected by almost half of respondents selecting *not applicable* (23%) or not responding to the question (24%) concerning decisions and penalties for collusion (Table 1).

In many countries institutions are free to set their own penalties for misconduct (for example Bulgaria, UK, RoI, Romania, Spain, Cyprus, France, Germany, Lithuania). In Finland and Sweden the penalties are restricted to a formal warning letter or a period of suspension, between one week and one year, after which the student would normally continue their programme. According to participants from both countries, in rare cases when a suspension was applied it was normally at the low end of this range and the hearing could be almost a year after the decision was taken to investigate.

	Null	Academic tutor	Department Leader	Department panel	Institution panel	other	Not applicable
Plagiarism	9%	17%	15%	20%	26%	6%	8%
Exam cheating	7%	30%	12%	13%	18%	3%	3%
Inappropriate collusion	11%	21%	13%	17%	20%	5%	13%

Table 1: Teachers' responses EU-wide - Who decides on sanctions for academic misconduct?

Students and teachers were asked: *What would happen if a student at your institution was found guilty of plagiarism in their assignment*? Table 2 summarises the responses.

Some respondents said that the penalty would depend on the severity of the offence. The most common penalties selected were rewriting the work, zero mark and verbal warning. The "other" feedback indicated that sometimes new work or a different project must be completed, often with the initial assessment having been awarded zero or reduced mark. In some regimes a "cap" was imposed to limit the final mark, typically to the threshold pass mark. However in some institutions students resubmitting work to had access to the same range of marks or grades as for their first attempt (national interviews Romania, Bulgaria).

The percentages of teacher and student responses (Table 2) were similar for the lighter sanctions, but there were differences of perception concerning the application of more serious sanctions. This result suggests that there may be a deterrent effect in evidence, because

student respondents tended to think the sanctions were more draconian than they actually were.

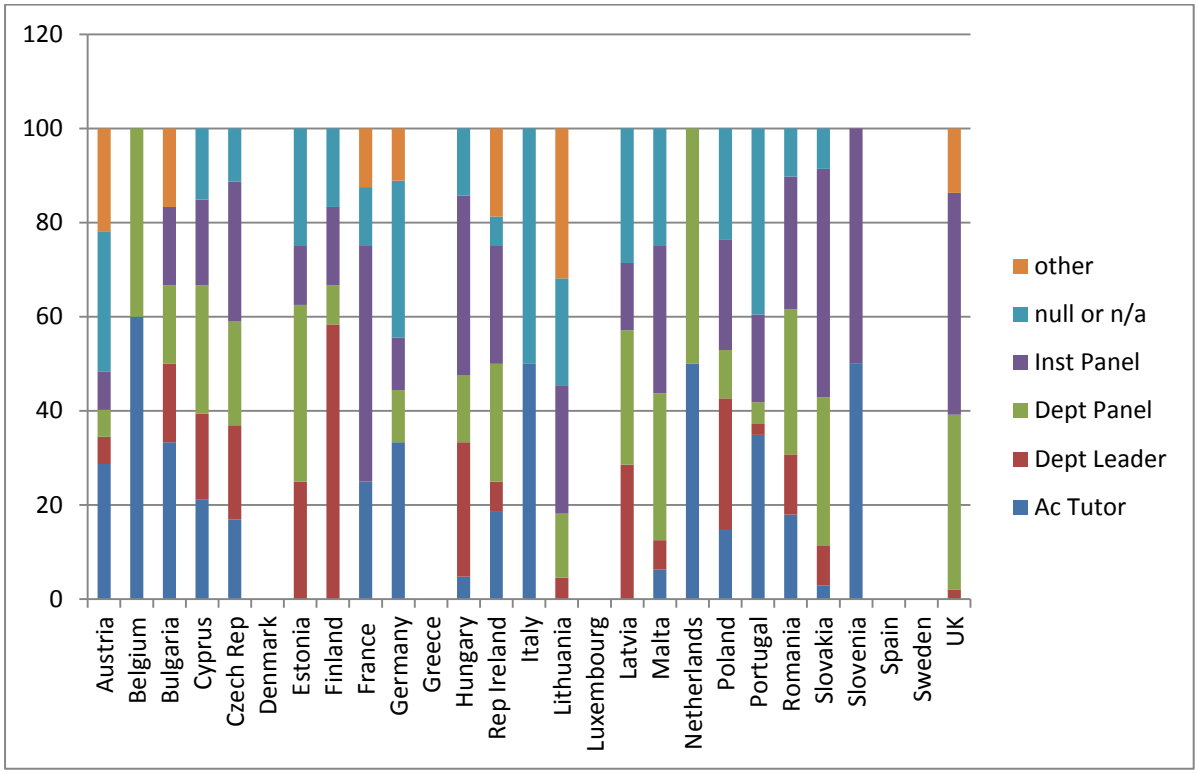

Figure 2: Teacher responses to: Who decides on the penalty applied to students for plagiarism

Assignment		Project or Dissertation		Students n=3906 Teachers n=687
Student	Teacher	Student	Teacher	
21%	16%	5%	5%	*No action would be taken*
50%	48%	15%	20%	*Verbal warning*
27%	17%	27%	20%	*Formal warning letter*
52%	54%	35%	49%	*Request to re write it properly*
54%	52%	42%	42%	*Zero mark for the work*
38%	33%	26%	25%	*Repeat the module or subject*
38%	30%	28%	24%	*Fail the module or subject*
11%	6%	19%	10%	*Repeat the whole year of study*
13%	9%	33%	21%	*Fail the whole programme or degree*
14%	5%	19%	9%	*Expose the student to school community*
14%	8%	29%	18%	*Suspended from the institution*
12%	2%	30%	4%	*Expelled from the institution*
13%	1%	20%	2%	*Suspend payment of student grant*
11%	8%	10%	8%	*Other*

Table 2: Sanctions for Plagiarism – EU-wide Responses

The JISC funded AMBeR project investigated penalties in place for different categories of academic dishonesty across different institutions in the UK (Tennant and Duggan 2008) and then proposed a tariff of penalties for different types of academic dishonesty that could be adopted nationally by institutions (Tennant and Rowell 2010). Although this tariff has not been adopted universally by UK institutions, the research feedback from UK and RoI national participants suggested that this research often formed part of the body of evidence considered during institution or department reviews of policy.

Strategies for discouraging plagiarism and academic dishonesty

The most commonly mentioned prevention strategy for academic dishonesty was the use of digital “plagiarism detection” tools. Many teachers, senior managers and national respondents

(UK, RoI, Finland, Germany, Austria) implied that providing this facility together with the threat of sanctions was a sufficient deterrent. In particular three UK senior management respondents expressed confidence that there was no problem with consistency in detection or decision making because a standard procedure required all work to be submitted through text matching tools.

In formal trials (Weber-Wulff and Isolen 2013) and practical experience reported by some respondents (national interviews Finland, UK, Germany), it has been established that software tools in use have different strengths and limitations that can vary according to the language. Characteristics of some European languages (for instance Finnish) can make it easy to deceive the algorithms for matching. Sometimes matching was hampered by an immature or incomplete repository of sources. Some tools relied on an institution-based repository therefore could not match to external sources. Respondents reported that a few of the tools need further investment to begin to match the capabilities and reach of the commercial market leaders. It appears from the survey evidence that misplaced confidence in the capability of software tools has led to some complacency through over-reliance on software as the primary means of both discouraging students from plagiarising and detecting it when it arises.

Encouragingly overall for the EU 47% of teachers agreed and 31% strongly agreed that *it is possible to design coursework to reduce student plagiarism*, with 14% *not sure* and 6% *disagreeing* and this agreement was reflected in most country responses, with more negative responses from Czech Republic (24%), Belgium (20%) Slovakia (17%). "Designing out" techniques recommended in "other" feedback included deploying active rather than passive learning approaches that naturally lead to application of knowledge and different outputs for each student or team. Several respondents alluded to research about formative use of digital tools during classes for academic writing and research skills (following research of Ireland and English 2011, Davis 2009).

In the case of theses or project work the close relationship with the supervisor was viewed by many respondents to be the best way to determine the originality of the students work. This factor was reflected in the recent report to the French Government: "The best technique to prevent plagiarism is organizing frequent appointments between teacher and student throughout the dissertation writing or thesis and of course regular oral questions about some details of the work presented" (translated from Mazodier et al 2013 p45). However such approaches were refuted as impracticable by a Hungarian respondent who asserted that it was impossible to include labour-intensive assessment practices with class sizes of 500 and a Swedish respondent agreed that this was impractical with large numbers of supervisees.

Communication with all stakeholders about the policies, procedures and consequences of plagiarism are essential elements of strategies for deterring academic dishonesty. The high percentage of respondents (students and teachers) across all countries that were not sure about policies and systems in their own institution indicates that more should be done to disseminate and inform academic communities about policies that directly affect them. However, given the many respondents, at all four levels who asserted that the majority of student plagiarism is accidental, there was a clear acceptance about the need to develop academic writing skills, promote good academic conduct and practice and instil ethical values.

There were mixed views on what development and training was currently being offered within institutions and what more could be done, for example some teachers in Germany expressed disbelief at the idea that professors needed any further training. Some respondents said they already provided high quality student and staff development sessions in this area. However most of the respondents over all countries accepted that better access to knowledge of policies and further training in academic integrity was essential for both staff and students.

Efficacy of policies for academic integrity

Uncertainty was expressed by respondents from across the EU about effectiveness of institutional policies because of lack of statistics and other evidence. One participant from Finland said that plagiarism was "commonly known so they should be doing something about

it". According to a participant from Germany "There are no institution-wide policies, therefore it can't be effective", "even if you tell them about plagiarism they will still do it", but the "use of software tools [to aid detection of plagiarism] is seen as a threat" by students. In Bulgaria "the penalty code … defines plagiarism as a crime, but as with most of these regulations, this is just on paper" (national interview).

In several countries there had been recent developments in academic integrity policies, but initiatives typically focussed on postgraduate and post-doctoral levels for example Finnish Universities of Applied Sciences (polytechnics) were required to publish theses on an open repository called Theseus.

Information from interviews and documentary sources in several counties (including Sweden, Greece) highlighted that cheating in examinations was a big problem, often through a lax approach to invigilation. In France: "*It was reported to us by so many doctors they had passed all exams of the second to sixth grade in a lecture theater surrounded by the same friends*" (Mazodier et al 2012 p33, translated); and in Bulgaria exam cheating was described through various means including use of hidden technology (national interview).

It was suggested that the culture of rote learning in some institutions encouraged students to memorise notes for examinations, discouraging critical thinking and innovation. It emerged that where this was normal practice, plagiarism in essays and dissertations was not viewed as wrong by students and often condoned by teachers, particularly at undergraduate level (student focus group, France).

A more optimistic message came from RoI citing: "evidence that [policies] are much more effective than they were" (national interview, RoI). However further evidence, based on two interviewees' contact with other HEIs, implied that some RoI institutions may have less effective policies for academic integrity than those involved in the research.

It is important to recognise the maturity of policies and systems in much of the UK following significant investment in research and development starting about 2002. Teams and individuals from several UK HEIs, implemented and evaluated strategies and policies for responding to plagiarism (for example universities of Lancaster, Oxford Brookes, Northumbria). The excellent practices have permeated down to many UK HEIs and have influenced other countries. Responses from many UK participants included reference to this research and confirmed that institution-wide policies have been introduced in recent years based on the holistic institutional "Oxford Brookes Model", involving Academic Conduct Officers (Carroll 2005, Macdonald and Carroll 2006) and variations on the AMBeR Tariff (Tennant and Rowell, 2010).

A high level of awareness was evident across UK national participants about the need for strategic approaches for detecting, responding and discouraging plagiarism. Most UK national interviewees were far from complacent, accepting that the nature of the threat to academic standards from plagiarism and other forms of academic dishonesty evolves over time, requiring HEIs to adapt their systems and processes accordingly. This was particularly true of UK institutions with a high percentage of international students, acknowledging that the extent to which academic writing conventions are understood varies according to previous educational experience (Davis 2009, Hayes and Introna 2005, Robinson-Pant 2009)

Conversely clear evidence emerged that in a small number of UK institutions, typically some of the research intensive universities, there was no way of knowing how individual academics responded to suspected cases of plagiarism, because no system of oversight or uniform policy existed for dealing with assessment, academic dishonesty or plagiarism in different parts of the institution. A common theme emerging from national interviews was that professors strongly defended their high degree of academic autonomy and there was little opportunity to challenge their decisions on either assessment or academic integrity. A similar picture emerged from parts of Germany, France, Finland and Bulgaria.

Several participants from different countries made reference to "the press" as a direct influence on awareness about plagiarism at all levels of education, citing high profile cases of

plagiarism including the Romanian and Hungarian Prime Ministers and two national German government ministers (Vroniplag Wiki).

70% of senior management respondents expressed doubt about consistency of approach to penalties for student plagiarism. The following response from the UK suggests a number of reasons for lack of uniformity:

> *"Most teachers follow the system, but some find ways around it, ignore cases of plagiarism mainly don't care, too lazy to be bothered, or think they can deal with it themselves. Sometimes tutors who are not native English speakers find it difficult to spot plagiarism, but Turnitin can help them; Interviews with colleagues for research have provided evidence to support my views" (national interview UK).*

Continuing threats to academic integrity

Experience in the UK, Ireland and Australia has demonstrated that, even after strong preventative measures have been taken and robust policies and procedures have been strictly applied, plagiarism and academic dishonesty will remain a threat to academic standards. There will always be the need to remain vigilant and to respond to new and evolving threats.

It was reported that in some countries, such as Lithuania, Romania, Czech Republic and Bulgaria, the low pay and lack of job security forces academics to take second and third jobs. In other countries such as Hungary, Spain and Italy, large class sizes make personal contact with students difficult. As several participants indicated, such factors increase the prospect that plagiarism and academic dishonesty cases may not be detected or appropriately addressed.

The prevalence of ghost-written student work was of concern to several respondents. However other interviewees had no knowledge of this phenomenon and seemed oblivious that students may be submitting work that was not their own. The ghost writer may be a friend, colleague or relative, or students may commission work to order from a so-called "paper mill" for payment. Although the clear intent to defraud elevates the seriousness above normal plagiarism, the lack of originality may not be detected by software tools or by manual checks. As some respondents indicated, ghost-writing can present a particularly difficult problem when assessing distance learning programmes. More generally, it is no known how much ghost-written work is currently going undetected in higher education assessment.

The continuum between genuinely original student work and ghost-writing can include aspects of proof-reading, editing and even translation between languages. Where the borderline lies between acceptable practice and plagiarism is a grey area for both students and teachers. In the 2010 annual report of the Office of the Independent Adjudicator, the ombudsman for student complaints in England and Wales, called for HEIs to develop policy in the light of "*Lord Woolf's landmark Inquiry Report into the LSE's [London School of Economics] links with Libya*", that presented a "*key challenge for all universities to remove … ambiguities associated with permissible assistance for postgraduate study*", (OIA 2011 p5). The Woolf report referred to allegations that former LSE student Saif Gaddafi received an unfair level of external support for preparing his PhD thesis (Woolf 2011). The OIA report recommended "*removing ambiguity, clarifying guidance and enforcement of the rules of academic misconduct not only help to protect the reputation of universities, but… also protect the interests of the student*" (OIA 2011 p6).

It is clear from the survey feedback that many students and teachers have observed examples of plagiarism from academic colleagues and also from prominent people in public life. The need for public figures and academic staff to set a clear example to young people about what constitutes good practice in writing and research has never been greater.

Discussion

Many institutions had policies and procedures implemented for dealing with plagiarism at institutional or departmental level, but well informed participants in each country confirmed

that not all these policies were enforced or applied consistently. In addition, based on feedback from national authorities and from the questionnaires, it emerged that there were HEIs in every country surveyed with no coherent strategies or policies implemented for dealing with plagiarism.

Evidence emerged of heightened awareness within the last two years at national level particularly in Germany, Finland, France, Romania, Hungary, Luxembourg and Austria that actions need to be taken across the HE sector to respond to the threats to academic integrity. However in some other countries including Belgium, Spain, Italy, Greece, Netherlands, there was reluctance to contribute to the research and very little evidence was found of developments in HE strategy and policy at any level.

Whatever the assessment regime, the academic teacher is at the front line for identifying possible irregularities and makes an initial decision about whether there needs to be further investigation. Individualism and lack of transparency leads to inconsistencies of student outcomes and unless there is some moderation process can be inherently unfair to students.

Great variability in understanding of what constitutes plagiarism and what was deemed acceptable academic practice was very evident in responses to several questions. Participants from different countries (particularly Germany and Finland) had encountered situations where students were encouraged to directly embed writing of their supervisor in their own work, a practice which would be considered to be plagiarism in most academic circles. Conversely there were cases raised of academic supervisors who published results from their students' research without acknowledgement.

Apart from the high profile bloggers mentioned earlier, several participants with interest in plagiarism research said they were viewed by colleagues as trouble-makers or whistle-blowers, preferring to keep a low profile. Several interviewees from Bulgaria, Finland, France and Germany expressed fear of the consequences of identification by colleagues for participating in the research. Evidence emerged of coercion and intimidation by academic colleagues, asking them to drop cases of plagiarism or to be softer in their approach, much of this was anecdotal but a few cases were supported by documentation (Moore 2008). It is not helpful for fear and stigma to be associated with activities connected with upholding academic standards.

On a lighter note, the research revealed many excellent initiatives in the areas of developing effective systems for detecting, managing and discouraging plagiarism and academic dishonesty. A great deal of good practice emerged from the survey responses concerning "designing-out" plagiarism through effective pedagogy and assessment strategies, some of which was unpublished. Several suggestions concerned adopting a positive stance towards scholarship and the joy of learning rather than emphasising what not to do: "It is about creating a culture of intellectual curiosity and honesty - leading by example" (senior manager UK).

When asked to describe good practice, many respondents referred to early work led by UK academics including Jude Carroll, Chris Park and Colin Neville, which provided a solid basis of good practice that is still being applied today in helping to understand the complex nature of plagiarism. There were also many references to funding from JISC for the AMBeR project tariff, plagiarism.org and guidance from the Higher Education Academy for England and Wales (Morris 2011). All such initiatives continue to have profound impact far beyond the UK.

Surprisingly responses from national interviews, teachers and senior managers confirmed that none of the EU national or regional quality and standards agencies systematically monitored or audited either the effectiveness of policies or the number of academic misconduct cases arising. However the terms of reference for most of these organisations, for example the UK's Quality Assurance Agency (QAA), recently reorganised agencies in Sweden and Hungary, provide the remit to do this if they so choose.

Conclusions

This research revealed new information about how different EU institutions and countries were responding to the challenge of student plagiarism in the Internet age. The data for some countries is limited, which make it difficult to generalise. However the simple act of contacting an institution to discuss research, even if they chose not to participate, helped to elevate the issue of how plagiarism was being handled, encouraging reflection and action. It was apparent that all participating institutions viewed high levels of plagiarism and academic dishonesty as problematic and people were interested in the research and in hearing about the results of the project.

The findings confirmed that HEIs in many parts of Europe had poorly defined policies and systems for assurance of academic integrity. In some countries and institutions where policies were in place, there was little evidence of monitoring and review. The lack of comparable statistics was seen by many participants as a great impediment to understanding the "big picture". However, making policies stronger and more consistent is a pre-requisite for generating comparable statistics.

Perhaps the greatest impediments to progress in academic integrity across the EU are the lack of consensus over what constitutes plagiarism, differences in academic standards, expectations of academic tutors and educational priorities. It is hoped that the IPPHEAE research and recommendations will help to highlight ways to begin to address the ineffectiveness and voids in policies and provide a focus for national and institutional education leaders.

The recommendations to the 27 EU countries varied according to an assessment of the maturity of their current situation, based on the survey results. Many examples of innovative practice emerged from the research, which countries and institutions with less developed policies have been asked to consider adapting for local needs.

The IPPHEAE team knows that this research has already made a small but important contribution to understanding the European landscape of academic integrity, but a great deal more work needs to be done to move towards an equitable EU system for higher education particularly in terms of consistency of quality and standards.

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A2.2 Output 2

Glendinning, I. (2013) Comparison of Policies for Academic Integrity in Higher Education across the European Union.

Impact of Policies for Plagiarism in Higher Education Across Europe

Comparison of policies for Academic Integrity in Higher Education across the European Union

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Impact of Policies for Plagiarism in Higher Education Across Europe

Comparison of policies for academic integrity in Higher Education across the European Union

A2.3 Output 3

Glendinning, I. (2014b). *Assessing maturity of institutional policies for underpinning academic integrity*, 6th International Integrity and Plagiarism conference, Sage, Newcastle, 15-18th June 2014.

Assessing maturity of institutional policies for underpinning academic integrity

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Abstract

Most higher education institutions would claim to have policies for handling academic misconduct and plagiarism. However there are important questions to explore for every institution about how consistently and fairly the policies have been implemented and whether they are effective at discouraging, detecting and penalising cases of plagiarism. It is suggested that it would be useful to have access to tools for evaluating and comparing good practice for institutional policies.

The Academic Integrity Maturity Model (AIMM) was developed for comparing the national results from 27 EU countries from the EU funded project (2010-2013) Impact of Policies for Plagiarism in Higher Education Across Europe (IPPHEAE). The assessment of "maturity" of policies at national level was based on data captured from various elements of an EU-wide survey of institutions and national agencies using nine criteria: research, training, level of knowledge, communications, prevention strategies, use of software tools, consistency of sanctions and of policies and transparency of processes.

This paper demonstrates how AIMM can be adapted for institutional use by applying the criteria to some anonymous institutional datasets from EU Higher Education institutions extracted from the IPPHEAE survey results. The AIMM tool is presented as a candidate for auditing institutional academic integrity processes. Evidence from the application of the tool at national and institutional level is presented and evaluated.

Feedback will be welcomed from conference participants on how to fine-tune the metrics and assessment criteria before developing on-line assessment mechanisms for more general use, both by HE institutions and at national level.

Keywords: Plagiarism Policies, Academic Integrity, IPPHEAE project, Higher Educational Institutional assessment tools

Background

The three-year project Impact of Policies for Plagiarism in Higher Education across Europe (IPPHEAE) completed in the autumn of 2013 was conducted by a consortium of five university partners from differ parts of the European Union (EU), which was led by the author. IPPHEAE, funded under the EU's Lifelong Learning Programme, investigated the policies implemented in 27 EU member countries for managing plagiarism and academic misconduct at bachelor and master's degree levels (IPPHEAE website, Glendinning 2014, Foltynek and Glendinning 2014).

The Academic Integrity Maturity Model (AIMM) was devised by the author as a means of comparing and summarising national results from the research for the EU countries studied. It was surmised that the tool could be usefully adapted and tuned for evaluating policies within higher education institutions. Further, if made accessible on-line, the tool could provide a way to encourage institutions to conduct self-assessment and use the resulting information to improve their responses to student plagiarism and cheating.

This paper shows how the tool was applied to data selected from the IPPHEAE surveys to provide profiles of policies for different (anonymous) EU institutions. The resulting profiles and the AIMM metrics are then interpreted and analysed to assess how they could support institutional development.

Literature review

It emerged from analysis of IPPHEAE responses that differences between EU countries in their response to plagiarism and academic misconduct were generally not based just on the existence of strategies, policies or systems but on how effective and mature the processes were for developing, implementing, applying, monitoring and adapting them. This finding suggested that it would be useful to develop a model and tools for assessing the maturity of policies and systems for academic integrity in the spirit of the Capability Maturity Model Infrastructure (CMMI).

CMMI was developed by Carnegie Mellon's Software Engineering Institute in the late 1980s, initially to evaluate and improve "performance management" in software engineering (CMMI Institute). Since then CMMI models have been developed for other sectors including CMMI for Services and CMMI for Acquisition. A huge industry of products, publications and services has built up around the CMMI brand, which has become an internationally adopted and respected commercial product for driving up quality and standards.

Capability Level	Focus	Key Process Areas
5 – Optimising	Continuous improvement	Process and technology change management; Defect Prevention; Causal Analysis, Resolution
4 – Quantitatively Managed	Product & process quality	Quality Management; Quantitative Process Management
3 – Defined	Pro-active engineering process management	Organisation process focus; peer review; training; product engineering
2 – Managed	Project management focus but largely reactive	Requirements Management; Project Planning, tracking; QA;
1 – Initial	Little control, poor planning	No Key Process Areas

Figure 1: Capability Maturity Model Integration, Capability Levels (adapted from CMMI model)

Fundamentally CMMI models encourage companies to adopt "mature" processes through a culture of continuous improvement. The CMMI appraisal process normally determines the "maturity level" of an organisation or unit, with a score from five maturity levels as depicted in Figure 1. Although CMMI provided the inspiration for AIMM, the model is not directly applicable to Academic Integrity policies and systems. Crucially, in the development of AIMM "the author was keen to provide a

simple, usable and accessible tool and to avoid the bureaucratic and commercial hinterland that has developed around CMMI" (Glendinning 2013 p41).

In the quest to develop metrics and criteria for AIMM the author drew on a wide range of publications and research into polices for upholding academic integrity (Carroll and Appleton 2001, Carroll 2005, East 2009, Macdonald and Carroll 2006, Moore 2008, Morris and Carroll 2011, Neville 2007, Park 2004, Pecorari and Shaw 2012, Rowell 2009, Tennant and Duggan 2008, Tennant and Duggan 2010).

The publication Policy Works (Morris and Carroll 2011) provided particularly good insights through a series of case studies into policies for academic integrity adopted by different UK institutions. A set of recommendations in this publication set out suggestions for developing workable and effective policies, including the associated change management processes.

An early prototype model of AIMM was presented for discussion to an international audience of researchers in academic integrity and plagiarism at a conference workshop in Brno, Czech Republic in June 2013. The concept was well received and participants made constructive contributions to developing the assessment categories and presentation methods.

When the AIMM model was being conceived and developed, the author was not aware of any available similar tools or products for this purpose. When a colleague presented a paper about the IPPHEAE project at the International Centre for Academic Integrity Conference, Florida in March 2014 (Foltynek and Glendinning 2014), he was approached by a team from the International Centre for Academic Integrity (ICAI) who had been developing a similar tool to AIMM called the Academic Integrity Rating Systems (AIRS). Their tool had been applied and evaluated in a few institutions in the USA (ICAI web site). This system "provides measurements to campuses to assess and rank their level of academic integrity institutionalization, both so they can compare themselves to other institutions and so they can benchmark their own progress and make plans for change" (ICAI AIRS p1).

AIRS assessment centres on a series of self-rated questions which produce a score and rating (Platinum, Gold, Silver and Bronze). The assessment categories for AIRS are:

- Policies and Procedures
- Academic Integrity Groups/Committees
- Academic Integrity Structural Resources
- Student Organization
- Education for Students
- Education for Academics/Faculty and administrative staff
- Communication to the general public
- Process Evaluation
- Data Collection

(ICAI AIRS p4-10)

Interestingly, although organised and focused slightly differently, the independently derived nine AIMM categories incorporate similar areas of policy and processes as AIRS.

Methodology

AIMM version 1 was created to compare and evaluate policies in EU countries based on the data collected at institutional and national levels for the IPPHEAE survey. Through a process of consultation with other researchers, with significant influence from relevant literature sources concerning policies for academic integrity identified earlier, nine criteria were identified on which the national evaluations would be based:

- Transparency in academic integrity and quality assurance
- Fair, effective and consistent policies for handling plagiarism and academic dishonesty
- Standardisation of sanctions for plagiarism and academic dishonesty
- Use of digital tools and language repositories
- Preventative strategies and measures
- Communication about policies and procedures
- Knowledge and understanding about academic integrity
- Training provision for students and teachers
- Research and innovation in academic integrity

Both quantitative and qualitative data was used to derive the metrics that produced an AIMM country score for each category. Each metric, with components scores averaged across all responses, was put into the range 0-4 (low to high) to create a spider or radar chart for each country (Figure 2). The 9 metrics were then added together (equally weighted) to provide a maximum score of 36 overall for each country. The radar chart helped to highlight strengths and weaknesses. AIMM results for the 27 EU countries studied and an overarching comparison of scores for all countries were presented in the EU-wide report for IPPHEAE (Glendinning 2013). An example of AIMM results (Czech Republic) is shown in Figure 2 and the overall scores for 27 countries are shown in Figure 3.

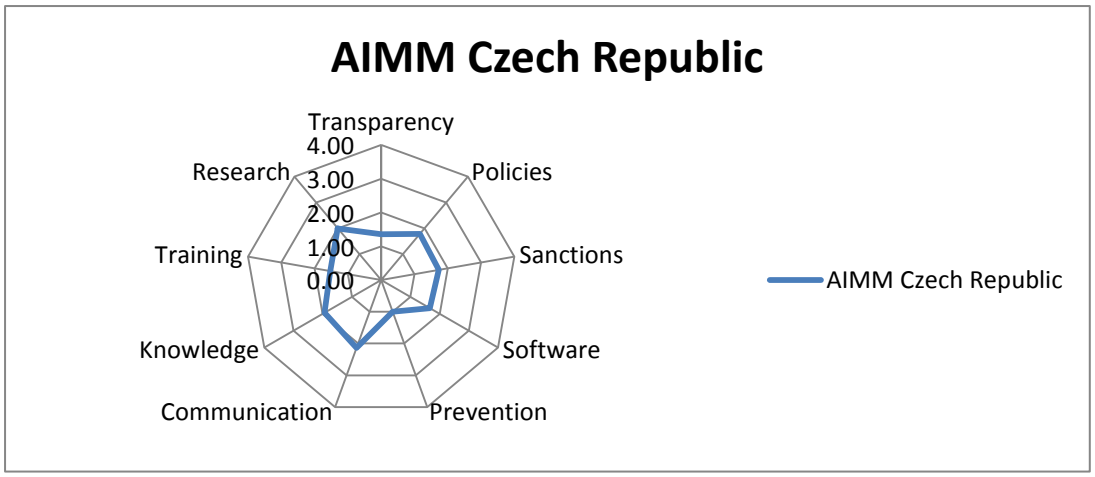

Figure 2: AIMM results for Czech Republic October 2013 (Glendinning 2013 p14)

The metrics for AIMM were based on responses to the IPPHEAE survey questions, with 5000 anonymous responses from Higher Education students, teachers, managers and national representatives. The on-line surveys were made available in fourteen languages and pilot runs checked whether terminology used was consistent and meaningful to the different participants. Other sources such as documentary evidence, web-sites and blogs were also used to supplement the information in some categories.

The number and completeness of the responses varied significantly between countries, which impacts on the reliability of some results. Therefore although these results are not generalizable, they provide an indicative snapshot for discussion about what is happening in different countries and institutions across Europe.

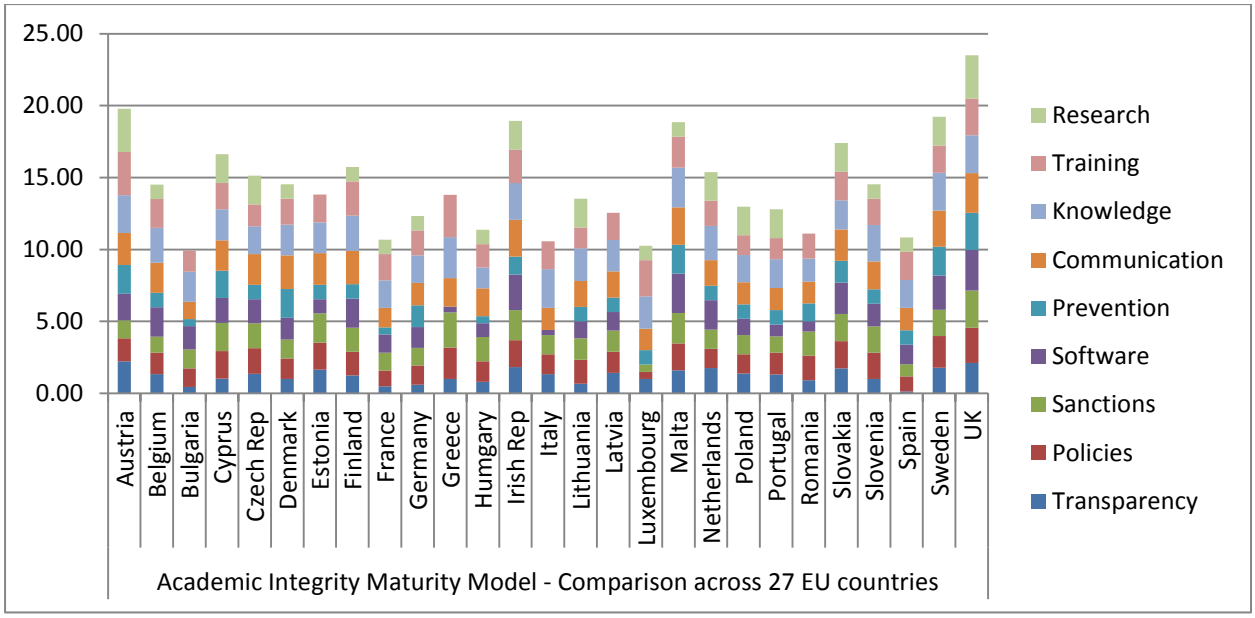

Figure 3: Comparison of Academic Integrity Maturity across 27 Countries (Glendinning 2013 p 37)

Clearly further analysis is possible to compare maturity in different categories across the 27 countries, but this is beyond the scope of this paper.

Developing AIMM for evaluating institutional policies

As described, AIMM served a useful role for the IPPHEAE project, but even during the development of the tool it became clear that it would make sense to adapt the model to assess policies implemented within HE institutions. A tool and associated guidance for institutional use, whether used institution-wide or at departmental level, would be more targeted and precise than the assessments at national level. However as there was no time to pursue this idea until after the IPPHEAE project was finished, the author has developed this idea for this paper.

The IPPHEAE on-line questionnaire responses included substantial datasets from students and teachers for many EU HE institutions, which provided a readily available source of institutional profile data on which to test the tools. The data from five anonymous EU institutions was extracted and analysed, as far as possible applying the AIMM criteria to student and teacher data. This data produced the metrics and AIMM scores for seven of the nine AIMM categories. It was not possible to score the two remaining categories for *preventative strategies* and *research and innovation* because the AIMM scoring based the assessment of these categories on institutional senior management, which was not always available, and national interview data, which is not specific to an institution.

The five institutions are from four different EU countries and they were selected because responses were available from a sizeable cohort of students and some teachers. The results for each institution are presented and discussed in turn below.

Institution 52: The profile for Institution 52 in figure was based on responses from 9 teachers and 169 students. The overall AIMM score was 19.48/28, with arithmetic mean score 2.78/4.

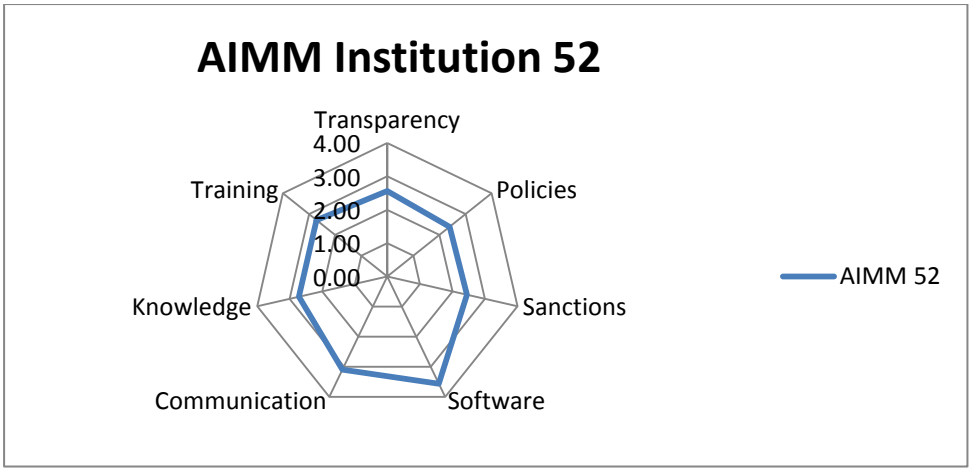

Figure 4: AIMM Profile for Institution 52

This institution appears to have no serious weaknesses and is very strong in the use of digital tools. The responses from students and teachers indicate that communication within the institution about academic integrity, skills and policies is good, but that more could be done to strengthen consistency of sanctions and application of policies.

Institution 136: The profile for Institution 136 in Figure 5 was based on responses from 162 students and 18 teachers. The overall AIMM score was 18.39/28 with arithmetic mean of 2.63/4.

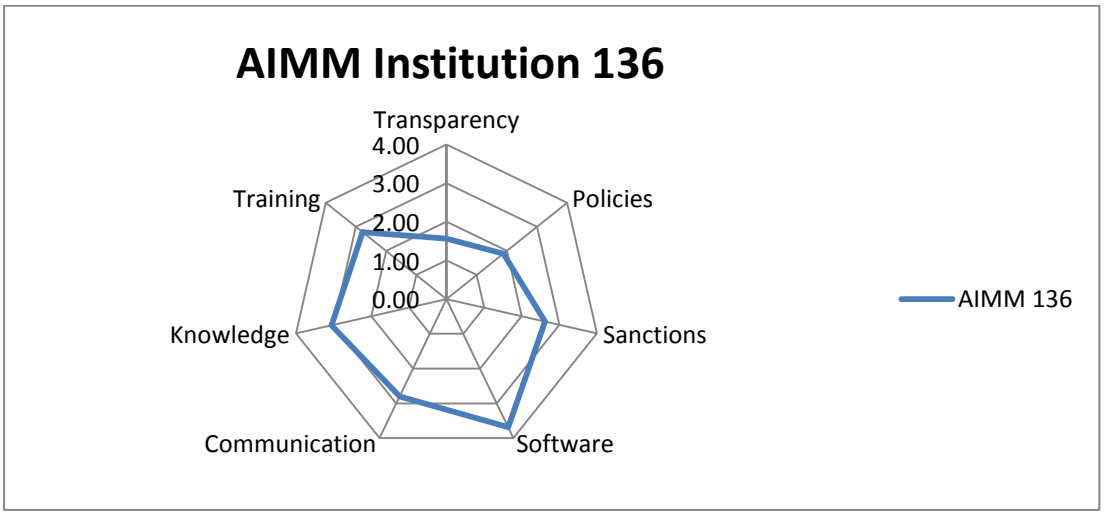

Figure 5: AIMM profile for Institution 136

The profile show exceptionally high score in the use of digital tools. This level of score reflects systematic use of the tools, awareness in the student population and applying the tools for educational purposes, not just checking for plagiarism. Institution knowledge and communication also scored well. However the analysis of responses suggests that this institution needs to work towards more consistency and transparency in policies and sanctions.

Institution 139: The profile for Institution 139 shown in Figure 6 was based on responses from 81 students and 27 teachers. The overall AIMM scope was 11.02/28 and the arithmetic mean score was 1.57.

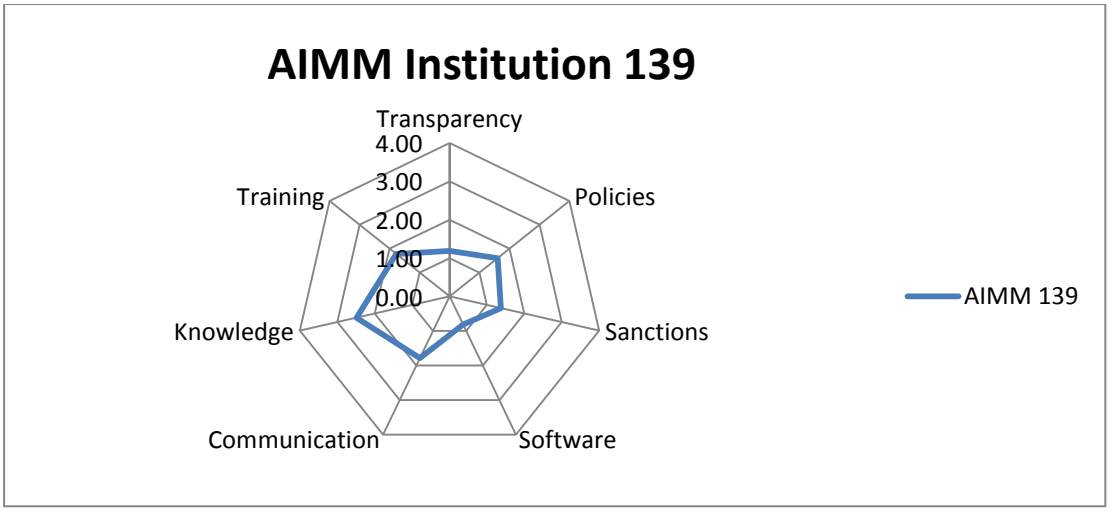

Figure 6: AIMM profile for Institution 139

Although Institution 139 has no specific strengths in the categories being evaluated, the highest scoring category was the level of knowledge about plagiarism and academic integrity. However the low scores for all other categories suggest that the policies and sanctions are not consistently applied and there is very little evidence of transparency of process. Some training is available for students, but there is scope for much more support to be provided for students and teachers in the area of academic integrity and avoiding plagiarism. The lack of any strategy for using digital tools in this institution is behind the lowest scoring *Software* category. The acquisition of free or commercial tools, implemented together with a set of institutional policies for their use, would begin to address the current deficits and highlight in the learning community the need for more action in this area.

Institution 157: The profile for Institution 157 in Figure 7 was based on responses from 124 students and 15 teachers.

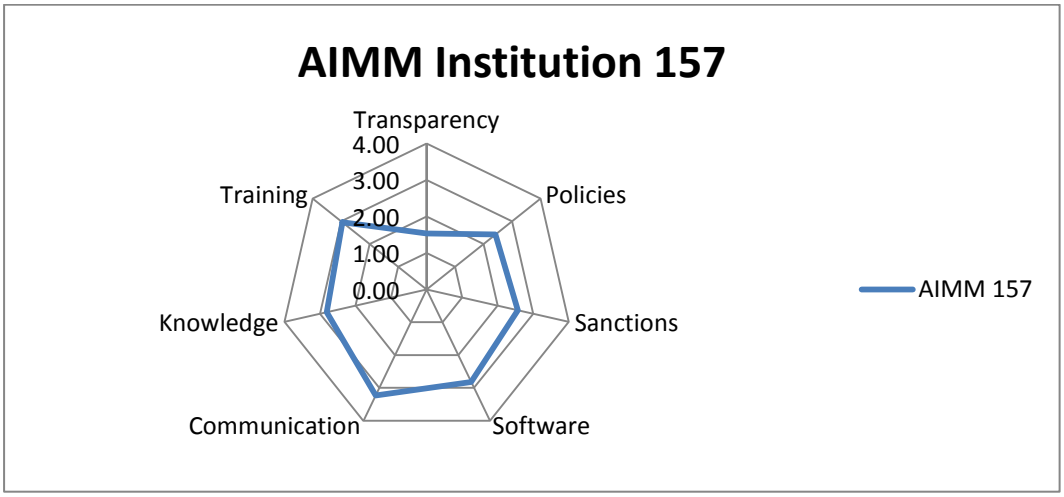

Figure 7: AIMM profile for Institution 157

The overall AIMM score for this institution is 18.32/28 and the arithmetic mean score is 2.62/4. This institution is strong in all categories except transparency, with particularly high scores for communication, training, knowledge and software. Feedback from student and teacher participants suggests that this institution has a great deal to be proud of in way they have developed strategies

and policies for managing plagiarism. The student knowledge about plagiarism is particularly encouraging. However without transparency of process, there is no way of knowing whether students accused of misconduct are subject to fair and equal processes and outcomes.

Institution 160: The profile for Institution 160 in Figure 8 is based on responses from 411 students and 24 teachers. The overall AIMM score was 14.23 and the arithmetic mean score was 2.03.

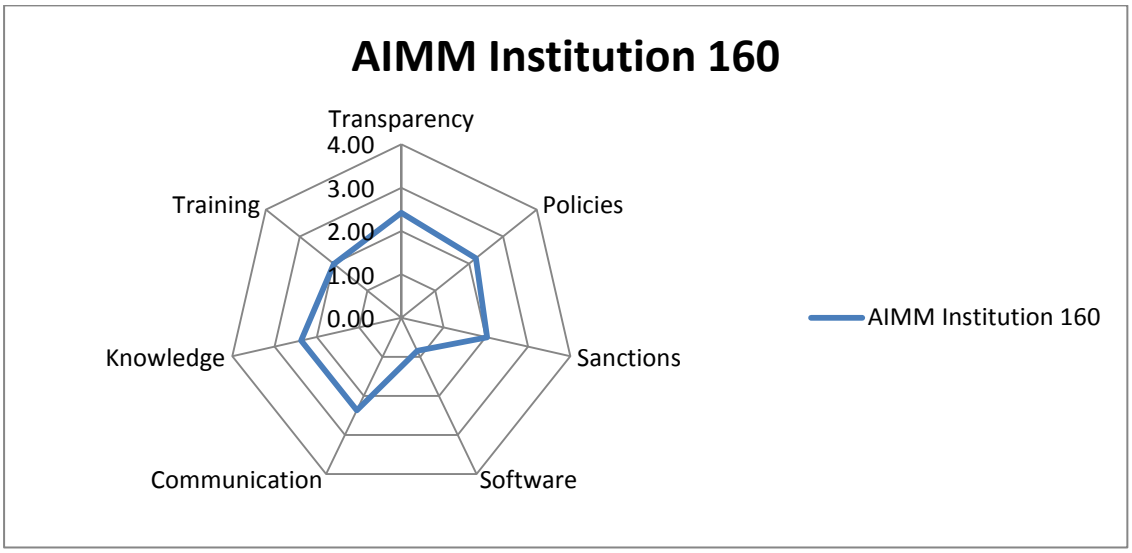

Figure 8: AIMM profile, Institution 160

There are no particular strengths for this institution, but the overall profile shows there are transparent processes and a reasonable degree of knowledge and communication about academic integrity within the institution. Scores for Institution 160 are very low on software and quite low on training. The institution does not use any digital tools for either matching student work to academic sources or for supporting training of students in academic writing. Although some training is offered for students, the institutional profile indicates that more could be done to support both teachers and students in raising awareness of plagiarism and developing academic writing skills.

Overall comparison of institutions

Figure 9 compares the results for the institutions under evaluation. Institutions 136 and 157 are quite similar in overall profile, but the scoring in specific categories helps to pinpoint different areas in each where more development is needed. Even institution 52 showing the most mature processes has some scope for improvement in all areas.

The absence of digital aids to support the detection of plagiarism in institutions 139 and 160 had a marked impact on their institutional scores, but this aspect may have affected other categories, such as training and policies, because introducing any new tools normally drives a review of strategy and revision of policies and systems.

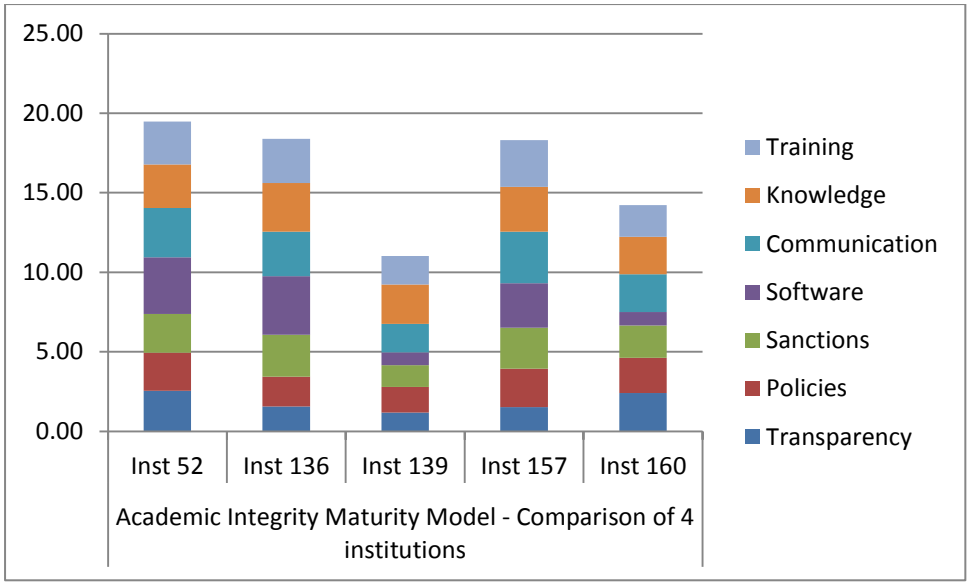

Figure 9: Comparison of the AIMM institutional profiles

Discussion

This exercise demonstrates that it is possible to extract useful information about an institution's academic integrity policies using the AIMM tool and the existing IPPHEAE dataset. However it was not possible to evaluate all nine categories using the current data.

The profiles generated demonstrate distinct strengths and weaknesses for each institution. Further development of the tools needs to incorporate guidance notes to help with interpretation and suggest strategic actions that should be taken to improve maturity.

As the IPPHEAE data was collected over more than a two-year time-frame during 2011-2013, it can be assumed to be reasonably current, but the earlier responses may be slightly out of date if institutional policies have changed during that time.

Participation by institutions and responses from individual students and teachers were all voluntary and the questionnaires were quite long and complicated. It is accepted that the respondents who successfully completed the questionnaire were most likely to be people with interest in this topic and from institutions where the subject is taken seriously. This factor suggests the data is likely to have a positive bias with institutional processes more mature than they would be for that country as a whole.

The low volume of responses at institutional management level on the IPPHEAE survey drove the decision to base these pilot analyses on just student and teacher data. This omission meant that two important categories, prevention strategies and institutional support for research into plagiarism and academic integrity, were not included on the institutional profiles. Any future development should include ways of capturing this information.

Future development

At the time of writing this paper, the institutional profiles generated have not yet been shared with contacts at the unnamed institutions. However there are plans to have such discussions before the June 2014 conference. This exercise will help to verify accuracy of findings and highlight possible deficiencies in the data or the AIMM process.

Although AIMM has to date used the IPPHEAE datasets on which to base evaluation of policies at both national and institutional levels, the tool would be much more accessible if it was available via a web-based platform and provided access for institutional self-assessment. Further work is needed to establish ways to achieve this, preferably while retaining the benefits of capturing three or four levels of input: teachers, students, institutional managers and nationally active representatives, agents and researchers.

Discussions with the USA team developing the Academic Integrity Rating System (AIRS) will try to build on the strengths and good ideas from both systems. There may be a need to optimise on language and concepts to fit local needs and constraints of different countries. The major differences between the current status of AIRS and AIMM are tabulated in Figure 10.

Factor	**AIRS**	**AIMM**
Concept	Rating and benchmarking	Maturity of process
Respondents	Based on an individual's responses to a series of questions about institutional policies	Currently draws on questionnaire data from student and teacher respondents
Scoring	Self-scoring with scores very transparent to the respondents	Based on a complex formula, averaging responses to a number of questions
Criteria	Ten categories	Nine categories/piloted as 7 categories
Rating	The rating is Bronze, Silver, Gold or Platinum, based on numeric value	The rating is a real number between 0 and 4
Institutional results	Numerical score for each category	Radar or spider chart, depicting overall score for each category
Benchmarking, comparison	Scores and ratings	Stacked bar chart
Feedback, Guidance	Detailed notes available against each category and sub-categories	Not yet developed
Administration	Plans to develop web-site	Plans to develop web-site
Funding	Self-funded	Funding applied for via Erasmus + 2014

Figure 10: Comparison between AIRS and AIMM

The author has recently submitted a project proposal under the European Commission's Erasmus+ initiative, for a follow-on project to IPPHEAE called Plagiarism Outreach (PlagOut) that includes funding to develop AIMM for institutional use. If successful this project will commence in September 2014.

Conclusions

Considerable interest has been expressed in AIMM already by researchers in academic integrity who have read publications or contributed in different ways to the IPPHEAE research. Further research

and development it needed to create a usable and accessible toolset and related resources to allow institutions to assess the effectiveness and maturity their policies and systems.

It is encouraging to find that another team has independently identified the need for such a resource and has started to develop a toolset with very similar characteristics to AIMM. Planned discussions are imminent between the author and members of the USA team to establish whether it is possible to combine forces in order to create a universal toolset. It is anticipated that the 6th Plagiarism conference will provide the ideal forum for capturing feedback from interested participants about AIMM and AIRS.

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A2.4 Output 4

Glendinning, I. (2016) Book Chapter: *European Perspectives of Academic Integrity* in the Handbook of Academic Integrity, edited by Tracey Bretag, Springer.

Handbook of Academic Integrity
DOI 10.1007/978-981-287-079-7_3-2

European Perspectives of Academic Integrity

Irene Glendinning*
Academic Manager for Student Experience, Coventry University, Coventry, UK

Abstract

This chapter presents evidence about how academic integrity is perceived and managed at tertiary level across the European Union (EU). Despite the moves during recent decades to harmonize EU higher education (HE) through the Bologna Process, governance of HE in different parts of Europe remains diverse and complex.

The project Impact of Policies for Plagiarism in Higher Education Across Europe (IPPHEAE 2010–2013) aimed to explore how academic integrity was understood and managed in different parts of the EU. The geographical scope of the research was confined to the then 27 member states of the EU. The main focus was on assessment for bachelor and master's degrees rather than on research and doctorial level studies.

The evidence presented in this chapter is based on previous and concurrent research, documentary sources, and analysis of almost 5,000 responses to the IPPHEAE survey, with views from higher education students, academic teachers, senior managers, and individuals who were able to provide national and international perspectives.

Some common themes emerged from the research relating to academic integrity. In addition to some examples of good practice, there were indications across many of the countries and higher education institutions (HEI) studied of lack of awareness and immaturity in institutional responses for assuring integrity and academic quality affecting all parts of the educational process.

This 3-year study, taken together with related research elsewhere, showed that some EU countries, particularly the UK, Sweden, Austria, Republic of Ireland, and Slovakia, have taken significant steps, at national and institutional levels, to identify and address threats to academic standards. However, the findings indicated that much more could and should be done in every country studied to strengthen policies for encouraging scholarly practices and implementing consistent but proportional measures for deterring malpractice in both education and research.

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A2.5 Output 5

Glendinning, I. (2015a) *Prevention and fight against plagiarism: How to set up an institutional response to individual misbehaviour. Policies in the United Kingdom*.

Prevention and fight against plagiarism: How to set up an institutional response to individual misbehaviour. Policies in the United Kingdom.

Irene Glendinning, Coventry University, UK

Abstract

A recent study has demonstrated how research in the UK over the last fifteen years has improved understanding and responses in higher education institutions towards student plagiarism and other breaches in academic integrity. Results from the EU funded project Impact of Policies for Plagiarism in Higher Education Across Europe (IPPHEAE, pronounced Iffy) showed that policies for academic misconduct and plagiarism in the UK were more "mature" than those developed in higher education institutions in any other of the 27 EU member states studied.

This paper, written by the principal investigator for IPPHEAE, explains the concept of maturity in the context of policy development, then explores how historical investment in UK research into aspects of student misconduct has helped institutions to develop more effective policies.

Using information captured during the EU-wide survey for the IPPHEAE project, the major challenges, threats and weaknesses to current policies in different parts of Europe will be revealed. Evidence suggests that failure to deal with such issues almost certainly impacts on academic standards and quality across the HE sector in Europe and beyond.

Recommendations are presented, based on good practice and successes observed during the research, about what more needs be achieved at different levels, from the European Commission down to individual teachers and learners, to uphold and enhance integrity in both education and research.

Key words: Integrity, academic misconduct, plagiarism, policies for academic integrity, quality assurance, Higher education modernisation.

Appendix 3 – Ethical Approval Evidence

Approval code	Research title	Date
n/a	Impact of Policies for Plagiarism in Higher Education Across Europe	Aug 2010
n/a	Impact of Policies for Plagiarism in Higher Education Across Europe	Dec 2010
P3801	ALL for Masters (HEA teaching development grant)	2011-12
P3802	VAPVoS – Vocational Academic Platform for Vocational Schools	2011-12
P7195	ALL for Masters (HEA teaching development grant)	2012-13
P7196	IPPHEAE code plagiarism case study	2012-13
P17299	CU Academic Policies case study	2013-14
P43082	Scorecard for Academic Integrity Development (SAID)	Jun 2016

Appendix 4 – Statements from Co-researchers

1. Ms Jude Carroll
2. Dr Catherine Demoliou
3. Dr Jennifer Eury
4. Dr Tomas Foltýnek
5. Dr Tricia Bertram Gallant
6. Mrs Anna Michalska (nee Domanska)
7. Dr Stella Maris Orim
8. Dr Linas Stabingis

Jude Carroll
10 East Street
OXFORD OX2 0AU

19 April 2016

A Statement in support of the submission by Irene Glendinning for a PhD by portfolio

I have worked with Irene Glendinning over many years and was pleased to offer comments and support for the specific projects under discussion here, that is in relation to her leadership of the IPPHEAE project. I began discussions with Irene and her team at the start of the project, when questionnaire design and overall focus were being agreed. Through meetings, email exchanges, comments on drafts and so on, I was able to comment and hopefully to clarify some of the questions and much of the terminology used in the IPPHEAE. I was basing my input on a wide range of work I had been doing on this topic across Europe, from about 2003. My contacts also facilitated introductions to others who were active in the field in the European countries where I had worked. I hope my (shared) contacts contributed to what I consider to be the primary importance of the IPPHAE project – that is, raising awareness and allowing a unique oversight and investigation of an issue that had, hitherto, rarely stirred national interest and certainly not pan-European thinking.

I continued to be involved as Irene wrote up the findings, editing and suggesting additional comments. I was impressed by her patience and persistence in this work, showing how determined she was to gain maximum benefit for participants by creating useful documents in a common format.

I think it is fair to say that not all IPPHEAE participants were as focussed or persistent as Irene. I can bear witness to her quiet diplomacy in attempting to keep a very ambitious and wide-ranging investigation on track, despite the diverse cultural and language issues arising from cross-boundary work plus the varied motivations of participants. The results are the better for her efforts and are well summarised in this submission.

Jude Carroll
Independent educational development consultant
formerly, Principle Lecturer, Oxford Brookes University (1990-2011)

UNIVERSITY OF NICOSIA
ΠΑΝΕΠΙΣΤΗΜΙΟ ΛΕΥΚΩΣΙΑΣ

To whom it may concern,

RE: Irene Glendinning PhD by Portfolio: "**Evaluation of Policies for Academic Integrity in Higher Education: an International Perspective"**

On behalf of the Cyprus team of the IPPHEA Erasmus project on Plagiarism, I would like to state that Ms. Glendinning's PhD Thesis and portfolio represent accurately her contributions to the IPPHEAE project research, analysis, outputs, dissemination and publications. Furthermore, Ms. Glendinning has accurately represented the contributions of the rest of the team participants to the IPPHEA project.

Ms. Glendinning mastery in directing the project research and her intellectual contributions to plagiarism-related aspects identified in the thesis as important and to be taken into consideration, (if plagiarism is to be prevented), have resulted in quality research output and publications.

The research output presented in the thesis identifies perspectives for adopting in order to develop policies in Europe and worldwide, which should promote quality education and the respect of intellectual property.

The Cyprus Team IPPEAE project coordinator.

Dr. Catherine Demoliou, PhD

Professor- Biochemistry

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April 29, 2016

To whom it may concern:

It is my understanding that Irene Glendinning has referenced my involvement with a project we are working on together, in her thesis. The purpose of this letter is to recognize Irene's efforts in this project and to articulate my involvement with this project.

In spring 2015, I attended a session at the 23rd Annual International Conference on Academic Integrity: Integrity in the Real World," where Irene and Tricia Bertram Gallant gave a presentation titled, "Assessing and Rating Institutional Maturity for Academic Integrity." The presentation showcased two tools—Academic Integrity Rating System (AIRS) and the Academic Integrity Maturity Model (AIMM)—that Tricia and Irene, respectively, developed to help educational institutions adopt best practices in academic integrity. During the presentation, they shared that the development of an integrated toolset was under consideration.

After the meeting, I contacted Tricia to learn more about the possibility for an integrated toolset, and subsequently, I had a meeting with Tricia and Irene to discuss avenues for getting involved and supporting these efforts. Since then, I have been working with Tricia and Irene to review and combine the two tools and develop supporting materials (e.g., glossary) for a pilot launch; to develop a white paper; and to explore potential funding sources for our new tool.

I am excited about the potential for the integrated toolset, and I am grateful for the opportunity to work with Irene and Tricia on this initiative. Should you have any questions about our project—from this year—please do not hesitate to contact me.

Sincerely,

Jennifer L. Eury, Ph.D.
Honor and Integrity Director
Smeal College of Business
The Pennsylvania State University

Faculty
of Business
and Economics

Irene Glendinning
Faculty of Engineering and
Computing
Coventry University
Priory Street
Coventry
CV1 5FB

Brno on 22. 4. 2016

Statement of a co-researcher

On behalf of Mendel University's IPPHEAE project team I hereby confirm that:

My contributions and the contributions of other people to the IPPHEAE project research, analysis, outputs, dissemination and publications are accurately represented in Irene Glendinning's thesis.

Irene Glendinning acted as principal investigator in the IPPHEA project and led the project properly. She significantly influenced the intellectual content and quality of and direction research conducted.

Although the IPPHEAE results were produced by whole project team, Irene Glendinning did the most of the work in all project stages.

Mgr. Tomáš Foltýnek, Ph.D.
IPPHEAE project coordinator at MENDELU

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May 11, 2016

To Whom it May Concern –

I am writing this letter as a co-researcher with Irene Glendinning who is submitting her Ph.D. Portfolio to Coventry University.

I have reviewed Irene's thesis and papers and agree that she has accurately represented my contributions to her research. I also agree that Irene has made a substantial contribution to the research on effective policies for addressing plagiarism and academic misconduct in higher education. Irene's AIMM tool is a much needed tool in both research and practice and it formed a strong foundation for us combining together AIMM and AIRS into a comprehensive, globally applicable, tool to help colleges and universities improve their policies and practices.

Thus, I support Irene's thesis and portfolio as sufficiently significant outputs in the awarding of a Ph.D. by portfolio.

Sincerely,

Tricia Bertram Gallant, Ph.D.
Director, Academic Integrity Office
Lecturer, Rady School of Management

Recommendation Letter for Irene Glendinning

I met Irene in 2008 when I started to work for Coventry University as a Student Advocate. At that time Irene was already involved in research concerning enhancing student experience. As my line manager she helped me develop my interpersonal skills, as well as understand the nature of academic environment. Irene showed me how important examining student experience is and guided me through the ways in which it can be improved.

In 2010 I joined the IPPHEAE project team (*Impact of Plagiarism Policies in Higher Education Across Europe*) which Irene was leading as the Principal Investigator. She had a difficult job of coordinating a dynamic team of people with strong characters and diverse ideas on how the project should be conducted. She managed to lead the project successfully and meet all the targets set up by the European Union. The reports on the analysed countries were prepared with great precision and vast amount of detail. In the duration of the project Irene proved her ability to design, carry out and lead a wide-scale research project, as well as shown her analytical and numerical skills in writing the research outputs.

In 2011 Irene became my Director of Study giving me a lot of help and guidance in meeting my research objectives. As an expert in the field of student plagiarism, Irene's help is invaluable. During our meetings Irene shares her research experience and makes sure my work is at the appropriate academic level.

Working together for many years, I consider Irene a great manager, meticulous researcher and a caring Director of Study with extensive experience and knowledge in plagiarism policies, as well as educational systems of the majority of the European Union countries.

Sincerely,

Anna Michalska
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Statement by Co-Researcher

STELLA-MARIS ORIM

Irene Glendinning was the Principal Investigator of the IPPHEAE Project which I worked on as a Part-Time Research Assistant. She was an excellent project manager and contributed immensely to the successful completion of the project. She provided a lot of motivation to the different partners and facilitated the effective collaboration of all the partners.

As she is a very detailed person, she ensured that the quality of the work was impeccable; including the research design, design of the questionnaires and interview schedule, translation of questionnaires and interview schedule, the piloting of the tools, actual administration of the tools, collection of the data, analysis of the data and writing of the reports for all the Countries.

In her thesis, she has accurately represented my contributions and the contributions of other people to the IPPHEAE project research, analysis, outputs, dissemination and publications. Her thesis and portfolio with very relevant outputs represent her achievement in the academic and social sphere as her work has had a very great impact both Locally and Internationally.

During this period (2010 - 2014), Irene also supervised my doctoral study with the same amount of vigour and assiduity used in managing the IPPHEAE Project. With her skill of meticulous attention to detail, she brought outstanding support to my doctoral research leading to a successful completion.

Stella-Maris Orim

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From:	Linas Stabingis
To:	Irene Glendinning
Date:	14 June 2016 16:02:06

According PhD portfolio

Dear Irene,

I carefully red yours PhD portfolio and scientific publications, included in it. I am keen in scientific methodology in social sciences – economics and management, but not so keen in humanitarian sciences like education. I know the CMMI as method which was created and successfully used for enterprises management quality evaluation. You have used this method for evaluation of quality of policies on academic integrity and seems, successfully adopted it in area of yours investigation. As far as I know it is novelty, showing yours competence to receive the degree of PhD.

I hope this letter reach you in time to be useful in yours nomination process. In case my opinion on this issue has be presented with deeper argumentation or expressed in more formalised form, please, not hesitate let me know and I should prepare other document.

Wishing success in receiving PhD.

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