Name of Provider: Harper Adams University
UKPRN: 10040812

TEF Year Three provider submission

1. Provider Context

1.1 Our submission sets out a claim for a Gold rating, based on consistently outstanding educational provision described herein and as evidenced by both our TEF3 metrics (improved on our TEF2 metrics) and the outcome of our TEF2 assessment. The University's mission is to provide 'World leading higher education and research for the delivery of a sustainable food chain and rural economy'. Our academic focus is on food production, managing natural resources and the environment, animal science and welfare and aspects of renewable energy production. The University was founded in 1901 to teach 'practical and theoretical agriculture' and has successfully built on these principles through the quality of its academic provision and graduate outcomes. As a specialist institution we serve a community of students, often with rural or farming backgrounds, who wish to pursue a vocation in the agri-food sector and closely related industries. The University has a rural location and its campus is at the heart of its farm estate which is heavily used for teaching, research and knowledge exchange. These features make the University distinctive and one of only a small number in the UK with a strong institutional emphasis on rural higher education.

1.2 The Director of Learning and Teaching, a member of the University's Senior Management Team, is responsible for the elements of the institution's Strategic Plan that relate to educational provision and quality enhancement. The Strategic Plan is supported by a Learning, Teaching and Student Experience Strategy, with performance indicators to drive improvement covering the broad themes of student characteristics, curriculum delivery and student satisfaction, graduate outcomes and staff development and professional qualifications. Our Financial Strategy has resulted in sustained and cumulatively impactful investment in support of our educational objectives. Other University strategies, for Research and Knowledge Exchange, Estates and HR, complement the Learning, Teaching and Student Experience Strategy and support its objectives.

1.3 The University has 5 academic departments, covering the major disciplines that comprise the entire agri-food chain (animal and veterinary sciences; crop and environment sciences; agricultural engineering; land, farm and business management and food science). Undergraduate provision is delivered on a matrix system, whereby course managers co-ordinate and oversee modules provided by teaching staff from across a range of departments. This addresses the multidisciplinary demands of courses which, for example in agriculture, require contributions in various science disciplines, aspects of engineering technology and farm enterprise management. The University offers sandwich honours and foundation degrees and has the largest proportion of such provision in the UK higher education sector[1]. For the three years covered by the TEF3 metrics, close to one-third of new students enrolled, initially, on a full-time foundation degree and a little more than two-thirds on an honours degree. We have a small number of part-time learners on veterinary nursing degree programmes.

1.4 Our student recruitment is national, a result of the thinly spread distribution of our largely rural UK student population and the strong reputation of the University as a rural, agri-food chain specialist provider. The University has a broad academic and social student profile, with close to a third (31%) of our total population holding vocational qualifications[2] and one fifth (21%) with a disability[3]. Around 78% of our students have a rural background, with 30% originating from the most rural and isolated wards[4]. Nationally, 18% of the population live in rural areas and only 3% in the most rural and isolated wards. This means that the University often has very low numbers of students in some of the TEF3 split metrics, specifically those from a BME or POLAR Q1 or Q2

[1] 2015/16 HEIDI reports 98% for Harper Adams, 15% for Agriculture and Related Subjects and 12% for the sector. Our 2% balance comprises one year 'top-up' and mature students with recognised pre-enrolment experience.
[2] Compared to 23.8% nationally, according to UCAS acceptances data issued in December 2017.
[3] Notably 16.4% with a specific learning difficulty compared with 5.9% nationally across all subjects and 10.6% in Agriculture and Related Subjects, based on HEIDI data.
[4] Using the Office for National Statistics classification, 'Rural hamlets and isolated dwellings'.

background, neither of which are well represented in rural wards, and which are, accordingly, subject to large percentage fluctuations from small numbers of students in our split data sets[5].

1.5 We have strong links with prestigious international universities (examples include Cornell University, Kansas State University and China Agricultural University) through which student exchanges and joint courses expose our UK and international students to a global perspective in food production and the management of the environment. Our approach to curriculum design and learning and teaching is highly regarded amongst specialist Chinese agricultural universities. This is evidenced, most recently, by our leadership in designing and running a 3 week teaching development programme in 2016 to improve the skills of 18 Chinese tutors, who have subsequently been updated throughout 2017 with online guidance in assessment design, digital forms of assessment feedback and the use of web-based tools.

2. Teaching Quality

2.1 The University engages closely with student representatives to monitor and improve the quality of its teaching activities. Student course representatives provide a conduit for feedback to and from the wider student community, and are brought together by the Head of Educational Development and Quality Enhancement (HEDQE) to discuss issues of common interest through a Student Academic Group. Students are surveyed about their experience of joining the university and, later, on teaching quality and their experiences on placement, to drive improvements in teaching performance. Students are represented on major committees where they contribute their perspectives on the University's learning and teaching activities. These include course committees, programme review and validation panels, the Learning, Teaching and Student Experience Committee and our Quality and Standards Committee (QSC). The views of student members of the Academic Board and Board of Governors are of particular importance, given that these bodies are where the strategic direction of learning and teaching developments are agreed. The five student members of the Academic Board, the Learning, Teaching and Student Experience Committee and the Quality and Standards Committee, plus the Students' Union President (on Academic Board and also a governor) commented on and endorsed our TEF3 submission. We have drawn on Student Academic Group members to contribute to key policies, including our Community Charter, our Guide to Inclusive Learning and Teaching and our Professional Scholarship Programme. The Vice-Chancellor, University Secretary and Student Services Manager meet fortnightly with senior members of the Students' Union Executive, where learning and teaching matters can be considered outside the committee schedule, enabling a more rapid response to points of immediate concern and to facilitate planning of the wider student experience. All of our NSS 2017 optional questions on 'social opportunities' received upper quartile responses, with 96% of students indicating they had significant scope to interact socially with other students, an important contributor to student wellbeing, sense of community and academic success.

2.2 Internal student survey results, continuation, academic achievement, graduate destinations and external measures of performance, such as the National Student Survey (NSS) and external examiner reports, are consolidated in an annual process of course review. The Academic Board considers aspects of potential concern for every course. When reviewing 2016/17, we moved to more finely grained metrics covering every stage of the student journey, to be better placed to identify and intervene at key points or for specific student groups, including by gender, age, disadvantage measures, disability and ethnicity, alongside other characteristics of particular relevance to our specialist context (including vocational qualification holders and urban, as opposed to rural, background). Each course team is expected to address any concerns and their responses are monitored by our Quality and Standards Committee and by the Academic Board.

2.3 The positive impact of these mechanisms can be seen in annual internal surveys of all student cohorts, where performance in the three years of the TEF3 metrics, and subsequently, has

[5] Only 5% of the rural population are BME against 23% of the urban population in England and Wales. 31% of all wards are rural but only 10% of Q1 and 22% of Q2 wards are rural, based on our analysis of ONS and HEFCE data.

been consistent with our positive NSS results. In the NSS, since 2012, the University has been in the top quartile of institutions for overall satisfaction. In 2017, our overall satisfaction measure was 93% compared to the sector mean of 84%. For 18 of the 27 compulsory questions in the 2017 survey, we also achieved scores in the top quartile across six of the eight themes. In all of the questions that relate to 'teaching on my course', 'learning opportunities', 'academic support', 'organisation and management', 'learning resources' and 'learning community', our 2017 NSS results also reflected performance above the sector mean.

2.4 Measures of assessment and feedback were more variable although remained above the sector mean for the theme overall. A discussion with student representatives on the timeliness of feedback on student work confirmed that this did not concern published marking turnaround times, but some instances of missed dates for feedback. Marking turnaround times are now monitored with a view to driving consistency. The score for this aspect has improved 13 percentage points since 2014, with increases in each successive year, so we are confident that our interventions are making a difference. These interventions have included internal and externally hosted staff development to promote effective, but manageable, feedback approaches and the addition of peer review observations of feedback quality into marking workflows. Our in-house PgC on Teaching & Supporting Learning in HE has a strong focus on assessment and feedback and requires staff to engage with innovative assessment approaches. Based on our evaluations of impact[6], staff on the programme have reported transformations in their own practices. Our assessment model for new staff development was recently included in an HEA guide[7]. An expanded trial of digital marking and feedback tools, as well as media-rich assessment techniques, is helping to continually maintain stretching and authentic assessment tasks[8] while balancing the need for reasonable tutor workloads. The University's new Delivering Excellent Learning, Teaching and Assessment (DELTA) programme has provided mobile devices for most tutors to, in part, further develop our sophistication in online assessment submission, marking and feedback. Our assessment and feedback TEF3 score remains above our benchmark and is very close to achieving a positive flag.

2.5 Our academic staff are assisted by a Learner Support team which gives individual attention to students with gaps in their study skills, a disability or who need assistance in their transition from a vocational to an academic, but applied, learning environment. This work contributes to overall continuation rates which compare favourably with our benchmarks in the TEF3 metrics for full-time honours and foundation degree students, although our enhancement plans retain a particular focus on improving the retention of foundation degree students. Particularly pleasing is that the retention rate for foundation degrees, with higher levels of disabled, mature and disadvantaged students than honours cohorts, improved by 5 percentage points in 2016/17, over 2015/16. Likewise, continuation of all first year disabled students improved to a five-year high of 94% in 2016/17, as did that for mature, female and urban students. In Autumn 2017, we agreed to ensure that male student success rates improve at the same rate as females; project work to identify appropriate actions has been initiated by our Academic Board. A mix of tutorials and seminars, in support of lectures, means that students are taught in a variety of settings, and group sizes, to broaden their learning experience and to encourage full engagement in their studies. In a standard teaching week, a typical first year student would spend eight hours in a large class and eight hours in a small group tutorial, seminar, farm class or workshop setting, alongside the opportunity for an hour

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[6] Arnold L (2017) The craft of feedback in a complex ecosystem. *The Higher Education Journal of Learning and Teaching* 1(1). Arnold L (2016) Lecturers' experiences of developing feedback practice using technology. *Paper delivered to SOLSTICE Conference, Edge Hill University.* Kennard C & Arnold L (2016) Staff and Student Experiences of Electronic Marking and Feedback. *The International Journal of Assessment and Evaluation* 23 (3), 35-47.

[7] Jones-Devitt S, Lawton MJ & Mayne W (2017) *HEA Patchwork Assessment Guide*. York: HEA.

[8] Some 2017 external examiner comments: "*There is a very good range of assessments. They provide interesting scenarios for students to work on, encouraging them to problem solve, collaborate and apply their knowledge in different and innovative ways, rather than just regurgitate facts and figures*." (Vet Nursing); "*A number of links within assessments to commercial practice, which makes the learning experience richer for students.*" (Agri-business); "*The assignments that reflect professional practice are excellent and allow students to… deal with a real world problem."* (Agriculture)

long one-to-one session with one of thirteen dedicated support and guidance tutors. Personalised one-to-one sessions for second year students support placement preparations and, for final year students, focus on major research project completion, further facilitating high engagement.

2.6 All undergraduate courses incorporate a Professional Scholarship Programme to ensure students are equipped with academic and research skills and personal development and career planning tools to benefit fully from their learning opportunities. Students are encouraged to achieve their full academic potential with a variety of authentic and stretching industry and research-related activities and participation in national and international industry-sponsored events and competitions (see paras 3.9-3.10). Examples from 2017 include: a Valuation module where two national chartered surveying companies specify the brief, interview the finalist students and provide a prize; an Agricultural Tenancy module in which a local law firm advises on prize winning submissions; a Management Consultancy module sponsored by the Highland Cattle Society; a Managing the Countryside module assessment involving the National Trust, Shropshire Wildlife Trust and the Severn Gorge Countryside Trust; and a local food chain supplier which provided the brief and products to test packaging to improve meat shelf life.

2.7 Our sandwich placements are an integral part of the Professional Scholarship Programme and provide another means to stretch and challenge students by addressing the knowledge, skills and understanding to equip them for their future career. Many students work in a micro-business or SME, which, alongside studies in business practice and extra-curricular opportunities (see para 4.10) serves to develop entrepreneurial skills[9]. A placement preparation programme is organised by course-specific Placement Managers, with the support of a cross-University Placement Office, to guide students towards a suitable year long position. All foundation degree courses incorporate professionally relevant vocational practical skills, making good use of the University estate, to ensure students are 'placement-ready' after only a year of campus-based studies. Most placements are paid positions, requiring students to commit to a real-world job and to be measured on their performance by their placement supervisor and a company representative. In almost all cases students are expected to apply, be interviewed and be offered a placement position, thereby giving them real-life experience of the job application process. Placements, of which there are around 550 in a typical year, are based across the UK. Some are international, requiring specific support arrangements from the University. All placement students are assigned a Placement Supervisor who visits the student and the employer (or maintains regular contact by video for overseas placements) to assess progress, based on employer reports of performance. This has the further benefit of keeping members of our academic staff, and other placement supervisors, including members of the University's senior management team, in touch with the latest industry developments. Placement students complete a career development assignment and a company project based on a topic that the student and employer wish to address. Company projects often form the basis of, or inspiration for, final year research dissertations, enabling students to reflect on their placement period during the remainder of their degree programme and build on the skills, knowledge and confidence they gained from the workplace. Our close connections with placement employers mean that our students are well prepared for work and for career development, and are supported by staff scholarship in this area[10]. In our 2017 NSS optional question set, all five questions on work placements scored above the sector mean and 96% of students indicated that their placement improved their general life skills.

2.8 Our students greatly value their placement role, which makes a substantial contribution to their work-readiness, employability and academic maturity, as well as linking research with

[9] Feedback from 2016/17 sandwich returners in 2017/18 indicated that 78% of them had 'a more entrepreneurial attitude' as a consequence of their placement experiences (81% previous year).
[10] For example: Parrott P and Arnold L (2017) Encouraging a positive culture around social media through the concept of 'Brand-Me'. *Solstice and CLT conference proceedings*. 5-6th June 2017; Parrott P (2016) Sector enhanced talent supply chain through managed collaborative placement scholarships. *WACE 2nd International Research Symposium*, University of Victoria, Vancouver, Canada, 12-15th June 2016; Manning L and Parrott P (in press) The impact of workplace placement on students' entrepreneurial attitudes. *Journal of Higher Education, Skills and Work-Based Learning.*

professional practice. External examiners and others frequently comment on the confidence engendered in our students by their placement experiences and our placement arrangements are praised externally[11]. These experiences contribute to final year in-class discussions, where students can challenge orthodox thinking and contribute real-life case studies. The placement element of our degree programmes is also of value to the recognition of our courses by professional, statutory and regulatory bodies (PSRBs). All but two (Agriculture and Food) of our nine course suites, covering 23 of our 42 individual programme titles, enjoy full professional body accreditation. Where there is no relevant overarching PSRB, we have worked with other organisations so that our curriculum and associated teaching and assessment are as industry-relevant and challenging as possible. For example, Agriculture students can study modules to prepare for external specialist 'licence to practise' qualifications in pesticide and fertilizer application, while Food students have access to food hygiene and HACCP (hazard analysis and critical control point) courses to an advanced level.

2.9 Our External Examiners are appointed from other leading academic institutions. All courses also benefit from the advice of an appointed Professional Advisor, from industry, who is able to judge how our curriculum prepares students for future employment. External Examiner reports, which include judgements on academic standards and reflections on meetings with students and the quality of submitted work, are considered by the Vice-Chancellor and then by the relevant course teams, as part of our annual course monitoring and periodic review processes. Benchmarking of our degree standards with other HEIs is of particular importance, not least because employers in the agri-food sector pay close attention to the quality of our student applicants, and our reputation for high-quality graduates is very strong within that sector. We have a particular focus on recognising the high performance of some of our students whilst managing, through rigid application of our quality assurance systems, the risk of grade drift (see para 2.16).

2.10 Positive feedback from our External Examiners also reflects the contribution of our academic staff and our Educational Development Team to pedagogic innovation, and our commitment to valuing those who support teaching to provide positive student outcomes. From 2005 to 2010, the University led the *Aspire* Centre for Excellence in Teaching and Learning for land-based subjects. This programme drove developments in academic and professional skills, disability support and technology enhanced learning, alongside placement and work-based learning, and thus supported improving student achievement levels. Since the end of that programme we have continued to invest in learning and teaching developments and in financial awards for staff, to recognise their valued contributions to teaching and student support and encourage and reward projects on innovative teaching practice. The *Aspire* Excellence Awards are based on annual nominations from students and staff, with categories for 'Teaching Excellence', 'Feedback Hero' and 'Excellence in Supporting the Wider Student Experience'. Since 2013/14, a total of 33 awards have been made. In 2017, we introduced another award for 'Sustained Excellence' for staff who had frequently been nominated over the years but had not received one of the more established awards, resulting in six additional award holders across the scheme.

2.11 Other innovative projects have emerged from staff research for teaching qualifications, including those supported by an internal small grants scheme of £15,000 annually for pedagogic research and development. Examples of the most recent innovations include: the introduction of a

[11] Shortlisted for a 2015 National Undergraduate Employability (NUE) award; 2017 external examiner comments include: *"Harper Adams students are being prepared for graduate careers in specialist fields, and they are benefitting from current knowledge and current practice in the classroom and in many contexts outside it. The placement year is effectively demonstrating how the two interact, and strengthens classroom learning. I believe that they enter the job market with a competitive advantage*". (Food); "*The placement year is undoubtedly an essential part of the course and student experience. Students valued this not only in terms of developing their own employability prospects, but also in connecting their placement experience to the classroom and the opportunity to share and learn from the experiences of others".* (Agri-business).

360º user-controlled video for laboratory induction; exemplars to assist in strengthening international students' understanding of academic practices; development of a 'virtual cow' using augmented reality, 3D models and Microsoft Hololens technology; development and refinement of remote interactive teaching techniques (showcased this year at the HEA Annual STEM Conference); the use of GoPro cameras for practical competency assessment in veterinary courses and laboratory dissections; and the use of 'response clickers' for in-class teaching and associated learning analytics. The latter example led to publication of the results and dissemination at applied economics conferences in the UK, the USA, Greece, Spain and Canada[12]. Other examples of our dissemination of pedagogic developments include: web-based reusable learning objects[13], the implementation of flipped classrooms[14], the transformation of engineering curricula[15] and the development of 'wrapper modules' for in-work learning across all levels[16].

2.12 The impact of this work is seen in our survey results and the academic progress of our students, and the take-up of such techniques is monitored by course teams and encouraged in a variety of ways. For the last three years an annual Learning and Teaching Conference has augmented our termly Learning and Teaching Forum, to share examples of best practice amongst our academic community. This year, 113 members of academic staff, from a total population of 150, attended the conference, in addition to external participants. Attendees were shown, in break-out sessions, the work of their colleagues and examples of good practice from other universities. Leading experts have contributed, such as Professors Tansy Jessop and Kay Sambell on assessment and feedback practices, Professor Ron Barnett on the purpose of university education and Professor Sally Brown on effective feedback practices. Learning and Teaching Forum day-long events enable staff to learn from other teaching professionals about developments in teaching practice. The DELTA programme has actively supported colleagues to participate in, and lead, sessions at other institutions[17], recognising their value to participants and the practice they bring home for the benefit of our students. To ensure colleagues are aware of external opportunities, a new internal publication signposts relevant events and promotes DELTA funding for participation. We have a number of tutor-led initiatives intended to share and develop good practice. An *Aspire* R&D Grant has recently fostered a cross-institution community of practice on the use of exemplars. A pedagogic interest group shares insights on specific topics, over coffee in the University Common Room, in regular 30 minute sessions. A Pebble Pad User Group has also been established by tutors to enable e-portfolio practice to be showcased and refined.

2.13 All members of academic staff are appointed to substantive full or part-time posts. The University makes limited use of Visiting Lecturer/Professor positions, but does not engage academic staff on zero-hours contracts. Career progression for academic staff recognises contributions to teaching and related academic service. Promotion from (post-92) Senior Lecturer can take a route to Reader for staff primarily engaged in research, and to Principal Lecturer where the focus is on teaching. In each case, applicants are expected to demonstrate excellence in

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[12] Presented at: National Conference on Teaching and Research in Economic Education (CTREE), 2015, Minneapolis; CfDP 2015 Conference on Digital Pedagogy, University Centre Doncaster; 17th Annual INFER Conference, 2015, University of Bedfordshire; 2nd Annual International Conference on Social Sciences, 2015, Athens; IISES 3rd Teaching and Education Conference, 2016, Barcelona; Canadian International Conference on Advances in Education, Teaching & Technology, 2016, Toronto.
[13] Chapman-Waterhouse E, Silva-Fletcher A & Whittlestone K (2016) Examining the Use of Web-Based Reusable Learning Objects by Animal and Veterinary Nursing Students. *International Journal of Web-Based Learning and Teaching Technologies* 11 (3).
[14] Mu H & Paparas D (2016) Ready for the flipped classroom? Preliminary experiences of the new approach in teaching economics to non-major students. *Applied Economics and Finance*. 3 (2), 45-53.
[15] Allan D & Rowsell G (2017) Industry-ready graduates through curriculum design. *New Approaches to Engineering in Higher Education: Proceedings of the Engineering Professors' Council Conference,* 22 May 2017. London: Institution of Engineering and Technology/EPC.
[16] Chapman-Waterhouse E and Arnold L (2017) The Use of the Wrapper Model in Veterinary Postgraduate Professional Development. *Widening Participation & Lifelong Learning* 19 (3) 42-52.
[17] Including in 2017: SOLSTICE Learning and Teaching Conference; Assessment in Higher Education Conference; the HE Academy Annual Conference; Prague Learning and Teaching Conference.

teaching practice. Promotion to Professor can be based primarily on research excellence or on outstanding teaching practice. Senior and Principal Fellowship of the HEA is incorporated within promotion criteria, as a clear way in which excellence in teaching and the support of learning can be demonstrated. In addition to the work of the Educational Development team, a full programme of staff development is available to our staff. Some activities, such as events covering mental health and wellbeing, resilience building, safeguarding, unconscious bias and effective presentations, support the wider student experience and complement our work on teaching and assessment development.

2.14 Since 2003, the University has actively encouraged, and supported, existing and new academic staff to gain recognition via the UK PSF and/or a teaching qualification. From 2013, an in-house PgC, aligned with the University's accredited UK PSF CPD scheme, has been offered. Data produced by HEFCE in 2016 indicated that the University had the seventh highest proportion of academic staff with a teaching qualification or HEA recognition amongst English HEIs (at 78%). Our most recent HEA accredited scheme report shows that 79% of our tutors are now recognised at one of the three Framework levels, well above the 38% sector average also reported therein. To complement our high level of teaching-qualified academics, we have supported other staff, such as librarians, laboratory technicians, teaching assistants and careers advisors, who also contribute significantly to student achievement, to obtain HEA accredited qualifications.

2.15 The quality of our learning, teaching and student experience has been recognised with several high profile rankings and awards. In late 2017 we were awarded the Queen's Anniversary Prize for Higher and Further Education in recognition of our pioneering work in agricultural technologies. A major element of our submission concerned developments in engineering teaching where we had sought to meet industry requirements for graduate skills in mechatronics. In April 2017 we came first in the *Times Higher Education* Student Experience Survey, and first in the categories for industry connections, student welfare and academic experience. In April 2017 we were named the *WhatUni?* Student Choice Awards 'University of the Year', becoming the first university to win the award two years in a row. We were also first in the categories for job prospects, student support and courses and lecturers. In September 2017 we were the highest ever ranked post-92 university (33rd) in the *Sunday Times/The Times Good University Guide 2018* and were named the Best Modern University. This outcome was especially impressive because it was based primarily on our indicators for teaching rather than research.

2.16 The successful delivery of our Learning, Teaching and Student Experience Strategy has resulted in improved attainment of our students (see Table 1). Honours degree classification (A/B HDC) outcomes improved, from 52% in 2007-8 to a three year mean for 2015-17 graduates of 57% and reached an all-time high of 60% in 2016/17. We are confident that our award outcomes are the result of improved academic performance by our students, driven by the concerted institutional efforts described in this submission since 2005[18]. Nonetheless, given external scrutiny of this topic, we have reviewed our academic standards to ensure that our progress is not related to grade inflation. Our position below the UK mean[19] adds further weight to our conclusion, even after accounting for a lower proportion of higher classifications in Agriculture and Related Subjects because of the broad and inter-disciplinary nature of studies in this field[20]. External examiners routinely commend the ways in which we apply rigour in our assessment arrangements whilst stretching all of our students, with their diverse range of abilities, to achieve their full potential[21].

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[18] Our last QAA (2010) Institutional Audit included a commendation that, "...the institution's approach to quality enhancement is informed by strategic direction."
[19] Most recently reported at 73% for 2015/16 in HESA's First Statistical Release, 12 January 2017.
[20] Agriculture and Related Subjects consistently generate fewer first and upper second class degrees than all subjects, based on HESA tables of HE qualifications analysed by subject of study.
[21] Endorsements from 2017: "*My observation is that Harper Adams University has higher rates of achievement than the national average. I am not surprised personally as I witness the institution's support and investment in student satisfaction; coupled by the excellent teaching support".* (Engineering); "*I can confirm that Harper Adams students are achieving well against subject benchmarks. Subject specific knowledge is demonstrated clearly and it is being applied in a wide range*

Table 1 Profile of undergraduate degree qualifications awarded

Note: Cells shaded grey calculate automatically by formulae and cannot be edited. Please return data to unshaded cells in columns C, E, G and I only.

	Degree classification awarded	2007-08		2014-15		2015-16		2016-17		Change: 2016-17 % compared with 2007-08
		N	%	N	%	N	%	N	%	
(A)	First class honours degree (1st)	18	6%	54	11%	53	11%	84	15%	Increase of 9 percentage points
(B)	Upper Second class honours degree (2:1)	134	46%	227	48%	203	41%	251	45%	Decrease of 1 percentage points
(C)	An honours degree classification of Lower Second (2:2), Undivided Second, Third, Fourth, or Pass	115	40%	168	35%	173	35%	174	31%	Decrease of 8 percentage points
	An unclassified honours degree; a general or ordinary degree (resulting from a non-honours course); or an aegrotat degree (to honours or pass)	24	8%	28	6%	61	12%	49	9%	Increase of 1 percentage points
	Of which:									
(D)	An enhanced degree with Distinction		0%	7	1%	12	2%	6	1%	Increase of 1 percentage points
(E)	An enhanced degree with Merit	2	1%		0%	6	1%		0%	Decrease of 1 percentage points
(F)	An enhanced degree with Pass		0%		0%	1	0%		0%	No change
(G)	A general degree		0%		0%		0%		0%	No change
(H)	An ordinary degree	16	5%	21	4%	42	9%	42	8%	Increase of 2 percentage points
(I)	Any other unclassified degree award	6	2%		0%		0%	1	0%	Decrease of 2 percentage points
(J)	**Total number of Level 6 undergraduate degree qualifications awarded**	**291**	**100%**	**477**	**100%**	**490**	**100%**	**558**	**100%**	

2.17 Our Board of Governors is able to test our claims for excellent teaching. Most recently (November 2017), this involved an informal meeting between our Board and the Students' Union Executive to discuss their experiences as students and the role the Students' Union plays in supporting the wider student community.

3. Learning Environment

3.1 The recruitment of students from diverse academic backgrounds means that we pay particular attention to their transition into higher education. A comprehensive academic and social induction programme is offered to all students at the start of their first term. Routine engagement by tutors ensures that early interventions are continued, and assignment patterns are designed to ensure that we can monitor the way in which students are responding to the transition in the first few months of their course. Overseas students have a longer induction period to allow them to acclimatise to a UK university setting. Where we provide joint degree courses with an overseas university, students may already have been taught in their home country by visiting Harper Adams staff. As in previous years, the internal 2017 survey of new students indicated that 91% thought their induction period was good or excellent, with only 1% saying it was below their expectations.

3.2 Our inclusive entry requirements lead to a student profile which necessitates strong guidance and support interventions. For example, of the 2016/17 entry cohort, 21% were disabled, 34% entered with a vocational qualification and, overall, 75% were assigned to an OFFA-countable characteristic of disadvantage or under-representation, despite relatively low levels of students from a BME or POLAR Q1 or Q2 background (see para 1.4). The relatively high tariff scores assigned to many students in TEF3 contextual data masks the UCAS tariff over-valuation of many vocational qualifications, such as BTEC awards. These data show 18% of Harper Adams full-time undergraduates in the High Tariff band, although 54% of our 'High Tariff' students in 2015/16 (TEF year 3) possessed BTEC entry qualifications. This is at odds with HEFCE's unpublished High/Medium/Low Risk classification of our students, within which all BTEC entrants are considered to be at High Risk of non-continuation. HEFCE's categorisation of our 2015/16 student population, which takes into account the widely acknowledged transition difficulties that BTEC qualified entrants face, identified 24% of our students at High Risk of not continuing[22].

3.3 The University Executive routinely considers data on self-withdrawal by students and, where appropriate, investigates action, in-year, to deliver improvements to social or academic

of commercial decision-making contexts at levels five and six." (Food); *"The standards...are excellent, generally surpassing the expected standards of the relevant benchmark statements and the achievement of comparable students in other institutions I am or have been associated with historically."* (Vet Nursing).

[22] HEFCE Funding and Monitoring Data outputs, based on the 2015/16 HESA Student Collection.

support arrangements. This information is also used to improve admissions decision-making, to ensure that applicants know our expectations and can make a fully-informed decision about their choice of course and institution. Our recently launched Access to Agriculture Programme is now providing first year students from POLAR Q1 and Q2 backgrounds with a unique opportunity to gain entry without our normally expected pre-enrolment work experience. The scheme provides access to practical skills training, and our network of employers, to enable students to obtain commercial experience during their first year of studies, supported by both an academic and student mentor. This programme will underpin our continuation, attainment and employment objectives for students currently under-represented at Harper Adams.

3.4 Since 2013, our pre-enrolment Transitions Conference has supported vocationally qualified entrants in their move to higher education. Success with the initial cohort of foundation degree students encouraged us to extend the event to honours degree offer-holders. Students who have voluntarily participated in these events told us that they found the time well spent in better understanding the expectations of HE, in forming networks and in helping them meet their study potential. We saw improvements in the achievements of those who participated, but were also keen to work with those who did not take part. In 2014/15, we developed a method to identify the student characteristics that, over the previous three years, were associated with a higher level of early leaving or poorer achievement levels. We assigned risk levels to individuals, some of whom were then targeted for early interventions from a combined team of specialists, including three health and wellbeing advisors, one student advisor, four academic guidance tutors and nine learner support tutors, alongside programme senior tutors. We believe this work has contributed to a 7% year-on-year increase in the number of foundation degree students who continued with us into their second year, since 2013/14. A report to our Academic Board in June 2017 concluded that students highly valued the personalised on-course support they received and that it made a 'vast difference' to their confidence and performance levels. Our Guide to Inclusive Learning and Teaching was co-developed with students and introduced in 2015/16. This has been another important means to encourage tutors to align their practice with the University's expectations and to support, in particular, disabled students and those from a vocational qualification background, given our high proportions of both. Staff focus groups, exploring the extent to which the Guide improved practice, found that it provided a clear set of expectations for new lecturers while offering a framework for experienced staff to reflect on their teaching. Staff especially noted how the Guide has changed the way they create, arrange and use resources on our virtual learning environment.

3.5 Paragraphs 2.6-2.8 explain the integrated ways in which professional practice and research are central to our curriculum design and teaching. Staff recruitment over the last seven years has seen academics with world-leading expertise join the University from institutions such as Imperial College London, the University of Warwick and Purdue University. Importantly, these are staff who, like longer-serving employees, share our enthusiasm to provide high quality, research-informed teaching to our students. Our course development and approval process involves employers to ensure that course design is relevant to the needs of the industries with which we work. In addition to the involvement of Professional Advisers and our widescale contacts with industry through sandwich placements, we involve industry representatives in teaching delivery to provide up-to-date insights into commercial working practices. The development of the 2016 *Times Higher Education* Award-winning Dairy Crest Innovation Centre on our campus, with the company's team of 40 food technologists and new product development specialists, is one example where students can witness a company R&D environment, while Dairy Crest staff participate in our teaching. Other industry experts are regular contributors to our academic programmes, and to other events where students can hear the latest developments from industry. The student-run Harper Forum holds weekly meetings with topical presentations and debates from company representatives. The Vice-Chancellor's office arranges a series of lunchtime lectures and round-table discussions where senior industry representatives, academics, politicians or industry commentators can engage with students on policy matters of importance to our subject areas. Recent events have included a representative from the Cabinet of the EU Agricultural Commissioner; all of the senior team from the National Farmers Union; New Zealand's High Commissioner; and the Agricultural Counselor of the United States Embassy. Meetings between

students and DEFRA Ministers, including the Secretary of State for the Environment in 2017, have added to the direct contact our students have with senior Government figures. These events, drawing on the expertise of national and international leaders in their fields, provide a rich and stretching environment for all students, across years and courses.

3.6 Our engagement with employers is further evidenced by our long established annual careers and placement fairs where students are introduced, on-campus, to employers from across the disciplines we offer. In two day-long events during one week in November 2017, 174 employers visited our campus, many of them bringing alumni from the University to encourage the next generation of our students to undertake a placement or embark on a career in their business. The employers ranged from smaller companies such as MSD Animal Health and The Anglesey Salt Company, to national brand names such as The Co-Op, Waitrose and Natural England, as well as multinational companies such as JCB, John Deere, Cargill, Muller, Bakkavor and the Kerry Group.

3.7 Our work on creating an all-encompassing learning environment extends to the integration of research in our undergraduate curriculum. Students are involved in research methods training at an early stage of their course, including in preparation for their placement period, which can provide a route for research data gathering and the final year research projects required of all students. Our educational approach still places an emphasis on practical application. So, for example, our agriculture students engage in laboratory analyses and dissections as well as real-world farm projects, while our engineers develop concepts, design, build and test new equipment and vehicles. This approach enables our students to readily appreciate the research process, the way in which it feeds into the creation of new ideas and knowledge and how they can make a real impact in our partner industries[23]. Our academic staff involved in research contribute fully to modules across the curriculum. In some instances, our staff are co-authors of university level textbooks[24] based on research developments and scholarship within their discipline. In other cases, staff engaged in research may make use of extensive University facilities to demonstrate how theoretical principles operate in practice. This is particularly the case with farm-based research where students benefit from large-scale research facilities within walking distance of our classrooms. Since 2013, to ensure that we maximise the connection between research and teaching we have supported 54 research students and postdoctoral researchers to complete our in-house 'Researchers Who Teach' programme. In 2017, in the NSS optional question, 92% of our students agreed that their learning had benefited from modules informed by current research. As in previous years, this represents a sector upper quartile result.

3.8 Most students are required to produce posters about their final year dissertation plans. The posters are displayed in a series of events where other students and staff can discuss the project with the student investigator, to help students fine-tune their research proposals. Students are supervised by academic staff during their research project and their dissertation is subject to a *viva voce* examination as part of the formal assessment process. This provides two examiners with the opportunity to explore the students' work in more detail and to replicate the conditions and experience expected of researchers for higher degrees. Whilst resource intensive, our students advise us that this arrangement provides an extra academic challenge, but also an opportunity for their commitment and enthusiasm for their research topic to be recognised. Students may also be formally engaged in staff research projects. Examples include involvement in engineering projects where they have contributed to the development of new precision farming equipment by helping to design and create components of new farm implements or test new concepts in farm machinery. Students sometimes form part of the team providing progress updates to industry-based research

[23] A 2015/16 external examiner commented: *"The project and placement are a further opportunity to develop an understanding of how professional practice and academic research support each other, and it adds a meaningful strength and a clear advantage across the student cohorts*." (Engineering).
[24] Examples include: McDonald P et al (inc Sinclair L, Wilkinson R) (2011) *Animal Nutrition*. 7th Edition. London: Prentice Hall. 692p; Orgiazzi A et al (inc Jeffery S) (2016) *Global Soil Biodiversity Atlas*. Luxembourg: EU Commission. 176p; Black G and Al-Kilani M (2013) *Accounting and Finance for Business.* London: Pearson. 501p. Eastham L, Aguiar L & Thelwell S. (2017) *Contemporary Issues in Food Supply Chain Management.* Oxford: Goodfellows. 256p

funders or collaborators. Group-based research projects of this nature enable students to develop team-building skills whilst also contributing to the applied agri-food system research activities for which the University is particularly well known. Where appropriate, undergraduate students, with the support of academic staff, are encouraged to publish their research in professional journals and academic peer reviewed publications, or present at academic conferences[25].

3.9 Tutors encourage students to demonstrate their skills, at national and international level, in industry settings. Selected students are routinely invited, and supported financially by the University, to attend conferences in the farming and food sectors (eg the annual Oxford Farming Conference and the 2016 Royal Agricultural Society of the Commonwealth Conference, held in Singapore) and to act as 'scholars' where industry sponsored places are available. This provides our students with direct contact with senior industry figures. Other events addressing issues affecting the next generation in the agri-food sector are held regularly and our students are encouraged to take part. These activities have included BBC Radio 4's Farming Today debate on the future of farming in May 2015, the 2016 Farmers Weekly Conference on Agri-Food Careers and the 2017 British Guild of Agricultural Journalists Brexit debate with a panel consisting of key political and industry figures. Students make use of the wide range of industry scholarships available to them via the University's Development Trust or directly from leading companies. These awards are competitive and give students the opportunity to experience an application process and interview with industry representatives. Sponsors include NatWest Bank; Rabobank; the Duchy of Lancaster; the Charitable Foundation of the German agricultural machinery manufacturer CLAAS; seven of the UK's major poultry production companies; six of the UK's leading pig production companies; leading multinational nutrition companies such as Alltech from the USA and Devenish from Northern Ireland; and major national and multinational brands such as Agrii, Dalehead Foods and Velcourt. In 2016/17, 110 students received awards totalling £413,000.

3.10 The quality of our students, developed by the supportive and professionally relevant education they receive from the University, is exceptional. Examples of recent successes, when competing against students from other universities, include the following major industry-led awards: UK winners and European Finalists in the Ecotrophelia Food Innovation Student Awards in 2013 and 2014; winner and runner up in the European 'Farming by Satellite' competition in 2013, and team second place in 2014; third place in the European Field Robot competition in 2015, and second place in 2016; winner of the British Farming Awards Agricultural Student of the Year in 2013, 2014, 2015 and 2016 and second place in 2017; winner of the RABDF/MSD Dairy Student of the Year in 2015, 2016 and 2017; second place in the Cereals Challenge 2017, and winners of the Agricultural Journalists Award for writing the best report on their strategy for the competition; winner of the Institute of Agricultural Management Farm Planner Award in 2016 and 2017; and winner of the Farmers Weekly Agricultural Student of the Year Award 2017. All of these activities provide further 'stretch' for some of our outstanding students by enabling them to compete and succeed against other top students from within the UK and, on occasions, across Europe.

3.11 The application of theory to advanced professional practice in our student learning is backed up by significant University physical resources that have undergone sustained development in the period since 2003, often with support from industry and charitable sponsors. These include the Bamford Library, which provides a major hub for IT resources and the main base for our library and IT teams, as well as state of the art IT facilities for engineering design projects.

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[25] See, for example: Pope T, Gundalai E, Elliott L, Blackshaw R, Hough G, Wood A, Bennison J, Prince G & Chandler D (2015) Recording the movement of adult vine weevil within strawberry crops using radio frequency identification tags. *Journal of Berry Research***.** 5:197-206; Wright C and Baugh S Effectiveness of providing a box or partially covering the cage front on reducing cat stress levels post hospital admission*. Proceedings of the ISFM World Feline Congress 2017*: Brighton 28 June-2 July 2017. 8 (1); Marsh S, Bleach E, McGowan R and Knight P (2017) Evaluation of feeding elevated levels of milk replacer on the performance and health of artificially reared beef calves to 12 weeks. *Advances in Animal Biosciences.* 8. Paper 87; Clark J and Manning L (2017) What are the factors that an opportunity sample of UK students insinuate as being associated with their wastage of food in the home setting? *Resources, Conservation and Recycling*. Volume 130, 2017-2018: 20-30.

The building was assisted with investment from JCB and GKN. A student services centre was constructed in 2008, with assistance from one of the UK's largest poultry production companies, Faccenda. This building houses our Registry, Learner Support and Academic Guidance Services, our Careers and Placement Offices, Student Services (incorporating health and wellbeing, participation, residential accommodation and international student advice) and Students' Union offices, as well as nine one-to-one guidance rooms and two group study rooms, plus social and meeting space and IT facilities in a 'one stop shop' for students. Our Food Academy was completed in 2009, bringing food product development, processing and sensory evaluation facilities together with teaching accommodation, primarily in support of students on food courses, but enabling others to witness how primary farm products are processed and prepared at secondary level. The University Farm, our 'outdoor laboratory', was also developed at that stage, with a new 400-cow dairy facility and a pig production unit. We adopted a novel approach to redevelop our poultry facilities in 2010, bringing on board a private sector partner, the largest egg producer in Europe, to re-equip and operate our facilities, whilst providing much improved access for teaching and research. In 2013 we opened the Agricultural Engineering Innovation Centre which provided improved engineering teaching accommodation, including practical laboratory areas for advanced engineering subjects such as mechatronics.

3.12 In 2013 we also reorganised and improved other teaching facilities with the opening of the Weston Building, which provided a 260 seat lecture theatre, a range of other teaching rooms and open access IT facilities. In 2014 we expanded our animal facilities with a new Veterinary Services Centre, and we constructed an Entomology Laboratory. We have recently opened a £2.8m laboratory building, funded in part from philanthropic donations, providing state-of-the-art accommodation for practical laboratory teaching, and adding significantly to the central laboratory facilities that support our curriculum. Other recent projects have included an investment in renewable energy power and heating infrastructure across the campus of £4m, and the creation of the Dairy Crest Innovation Centre, another £4m project, both of which act as demonstration or underpinning research facilities for our teaching and major project supervision activities. Our work to position agricultural engineering as a vital discipline in tackling global food security was influential in the development of the Government's National Strategy for Agricultural Technologies. This led to funding of £5.7m to construct two projects: a new centre for research and knowledge exchange in precision farming applications and their transfer into farming practice, and a new 'smart dairy' unit to act as a demonstrator for a range of robotic and sensor technologies. Access to agri-tech research has already begun, with students being introduced to world-first initiatives, such as the growing of crops using autonomous vehicles in our Innovate UK-funded 'Hands-Free Hectare' project, which the BBC covered as the crop was grown, and which has since attracted worldwide media coverage. These investments and activities, together with additional student accommodation and social space, help deliver the highest quality student experience. Our internal student survey routinely asks students to rate the extent to which our specialist facilities have supported their studies. The 2016/17 survey confirmed that 74% of all students made effective use of specialist farm and estate facilities in their studies and that 80% of students indicated that the science laboratories were appropriately and effectively used to support their learning .

3.13 A number of companies now wish to forge closer 'programme' links to support our work. Most recently, in 2016, a new industry partner provided a rent-free, long-term loan of 8 tractors and agricultural vehicles, worth a total of £294,500. We offer extra-curricular practical skills programmes so that students can be licensed to operate particular machinery, or undertake specialist farm tasks, before going on placement. These skills are highly valued by employers and are a useful addition to the *curricula vitae* of our students. Our 2017 NSS performance in the optional question assessing the extent to which, 'practical activities on my course have helped me to learn', was upper quartile, at 87%. In other cases, especially when students are expecting to work in overseas placements, we supplement the curriculum with evening language classes in German, Spanish, French and Mandarin Chinese. We use student native speakers, wherever possible, to assist staff in running these activities. This extends the skills of the student contributors to the programme and serves to reinforce the value of an international student community. The classes are popular and significantly broaden the learning experience.

3.14 The University uses the Moodle VLE ('The Learning Hub') to complement and augment classroom based teaching activities. The VLE is an established part of all provision. Our analysis shows that student usage increased fifteen-fold over the ten-year period to 2016. By 2014 all modules had exceeded the University's benchmark for online presence, as set out in our Learning, Teaching and Student Experience Strategy. Consequently, the requirements were redeveloped, in conjunction with students, with a focus on developing digital pedagogies, use of the VLE for active learning, accessibility, inclusivity, the provision of media-rich content and the timeliness of resource availability. The VLE benchmarks are a central component of our Guide to Inclusive Learning and Teaching. In our 2016/17 internal survey, 94% of all students reported that the VLE effectively supported their studies. Tutors are supported in their use of the VLE and other technologies by our Educational Development Team. This team is being supplemented, over the period to 2020, with a major investment to further develop our digital educational capacity.

4. Student Outcomes and Learning Gain

4.1 In 2016/2017, our internal survey indicated that 92% of students found their course intellectually stimulating and that it encouraged them to work hard to improve their understanding and skills. Our outstanding teachers and unique learning environment, combining practical activity with research informed teaching, alongside our exceptional links with employers who support both the taught and sandwich components of our curriculum, result in engaged students with successful learning outcomes. Our TEF3 split metrics indicate that our continuation and employment outcomes are positive relative to our benchmarks across the majority of student characteristics, including BME students. Our own internal monitoring data shows that first year success has improved by 6% since 2012/13 for disabled students (to a high of 94% in 2016/17, see para 2.5). The same period has also seen a sustained 4 percentage point improvement for mature students. Our Success and Retention Plan is drawing in all areas of the University, with the aim of improving continuation rates for all groups of students at the same rate, including those from POLAR Q1 and 2 backgrounds. The University's latest graduate employment rate was 98%, the fifth highest in England in the DLHE census. Our three year average in the TEF3 core metrics is 97.7%, placing us ahead of our benchmark. The Economist's new guide to universities that have the greatest graduate earnings impact on their students (taking account of student background, schooling and institutional location) placed Harper Adams eighth in the UK[26].

4.2 We actively monitor 'Learning Gain' for students across the University, and particularly for under-represented groups. One of the five pilot methods[27] (Grades) has been included in the University's Access Agreement targets and is monitored annually by the Academic Board. The University has incorporated this measure in an analysis of the 'student lifecycle', encompassing access, progression, and success, for groups of students with a variety of characteristics, for example disability. HEFCE's commissioned report suggests that this method is readily measureable, regardless of the pilot study outcomes. Our analysis and interventions covering the period under review showed that on both First Degree and Other Undergraduate courses, those with vocational entry qualifications, from disadvantaged backgrounds and with disabilities were more likely than their peers to fail first year examinations.

4.3 We therefore took extensive targeted measures to assist these students with learner support interventions to narrow the attainment gap between under-represented students and their peers. In our First Degree cohort in scope for TEF3, disabled students, those from disadvantaged areas and those with vocational entry qualifications all narrowed the gap, with more achieving A and B grades, and failing fewer examinations in TEF3 year three. The learning gain of our disabled students, from their early achievement to their final awards stands out, with continuing improvement of good honours degrees by 15 percentage points, so that their attainment was

[26] The Economist (2017) Which institutions provide the most value for their students? *The Economist,* 10th August 2017. [Online] Available from: https://www.economist.com/blogs/graphicdetail/2017/08/daily-chart-5 [Accessed 19th December 2017]
[27] McGrath C, et al (2015) *Learning Gain in Higher Education*. Cambridge: Rand. 21-23.

identical to that of other students in 2016/17 and contributed to the improvements in Table 1. The three year attainment levels of mature and POLAR Q1 and 2 students up to 2016/17 were also slightly above the mean. Accordingly, we believe we have been effective in supporting successful learning outcomes for all.

4.4 The companies seeking our students are extremely competitive and expect to recruit graduates of the highest calibre. Our Careers Service provides a series of interventions to ensure that final year students who have not already secured employment through their placement or sponsorship are aware of other opportunities available to them and can be helped to prepare for the job application process. In addition to major Careers and Placement events (see para 3.6), a cross-institutional programme, 'Becoming a Professional', includes: briefings on industry sector requirements; individual practice interviews and feedback sessions provided by industry professionals; events on job applications and CVs, working overseas and applying for further study; and a Mock Assessment Centre to replicate the experience of applying to larger-scale employers such as JCB or the major food retailers. This programme is augmented by one-to-one guidance for individuals who either self-refer or who are referred by a Senior Tutor or Placement Supervisor and so also supports successful outcomes for all.

4.5 Whilst our overall employment outcomes are outstanding, the proportion of part-time students going into 'Highly Skilled Employment or Further Study', at 56.1%, (above the benchmark of 51.9%) is lower than for full-time students, hence the flagged exclamation mark in the core metrics. Virtually all the part-time cohort are Veterinary Nursing students (see para 4.7).

4.6 'Other Undergraduates' are also marginally below their benchmark (-0.3) for 'Highly Skilled Employment and Further Study'. This is explained by the propensity for our Foundation Degree graduates to go into employment upon graduation, rather than continue in further study through a Bachelor's 'Top-Up' programme. Our review of sector data[28] covering the TEF3 period, showed that 60% of our 'Other Undergraduates' progressed into employment, and 38% continued with further study. In Agriculture & Related Subjects across the rest of the sector these figures were reversed, at 39% and 58% respectively. 'Other Undergraduates' from Harper Adams are more likely to be in professional employment (SOC codes 1-3) than is the case for those across the sector. For the TEF3 period, 44% of Harper Adams 'Other Undergraduates' obtained professional employment, against 18% elsewhere in Agriculture & Related Subjects. Over the same period, 1.7% of our 'Other Undergraduates' have been unemployed, compared to 3.1% elsewhere. We believe the achievements of our Foundation Degree students in securing highly skilled work to be undervalued in the conflated 'Highly Skilled Employment and Further Study' metric used in TEF3.

4.7 Standard Occupational Classifications (SOCs) have also not kept pace with agri-food sector workplace practices, especially at 'Other Undergraduate' level where some highly-skilled agricultural roles remain classified as 'non-graduate' because of their job title. The Wakeham Review of STEM Degree Provision concluded that, 'A more thorough investigation of the employment outcomes of Agriculture graduates' was needed, to 'help clarify the extent of the issue of role classification'[29]. Another important career aspiration for around 8% of our students is to enter the veterinary nursing profession. This successful course area enjoys a six year mean employment rate of over 99% into veterinary nursing careers. The SOC2010 coding of this profession as 'non-professional' is currently being reconsidered by the Office for National Statistics, given the widely held view, strongly supported by the Royal College of Veterinary Surgeons, that it should be re-categorised as 'professional' ('highly skilled' in TEF3 terminology).

4.8 We note within the LEO supplementary metrics the positive flags for full-time earnings, including for POLAR Q1 and 2 graduates, as well as the green asterisk for part-time sustained employment. We also note the negative flag for sustained employment for 'Other Undergraduates'. We believe the use of this measure is misleading for the agricultural sector into

[28] HEIDI data drawing on the three year DLHE survey outcomes.
[29] Wakeham W (2016) *Review of STEM Degree Provision and Graduate Employability*. London: BIS. 88p.

which many of our graduates enter (as opposed to 'Related Subjects' against which 'Agriculture' is benchmarked) because LEO 'sustained employment' requires HMRC recorded (self) employment for at least one day in five of the six months between October and March. UK primary production is clearly seasonal and, thus, discounts quite significant proportions of active employees, who are highly economically active during summer peak periods. This contention is based on our own extensive experience of working within our sector and government data sources[30].

4.9 Despite concerns about the employment related TEF3 metrics, the measures we have adopted to support all of our students show that they overwhelmingly achieve positive employment outcomes and have a significant impact within the industries with which we work. Our graduate destination contextual maps reveal the contribution of our work to the rural economy across the UK. Some of our alumni occupy senior positions in multi-national companies and organisations, such as John Deere's Director of Product Marketing, the Head of Agriculture, Europe, the Middle East and Africa at SAI Global and the Director General of the International Egg Commission. Our graduates also have a major influence on industry policy-making, in positions including the Director of NFU Wales and the Chief Executive of the Soil Association. Other alumni have created major businesses, such as Faccenda, one of the UK's largest privately owned food companies, with a turnover of £500m+ and a UK workforce of 3,500 people. Our younger graduate-run businesses also have an enviable reputation. One example, Warner Edwards, a gin manufacturer, was recognised as one of the Government's 50 most promising food and drink entrepreneurs and was shortlisted in the 2015 BBC Food and Farming Awards. A 2017 *Farmers Weekly* 'Rising Stars' article featured graduates with the potential to lead developments within the agri-food sector; seven of the thirteen highlighted individuals were Harper Adams alumni.

4.10 Our work on graduate entrepreneurship is backed up by business owning alumni who return to the University to speak to students. Rural business entrepreneurship is embedded in our curriculum to foster opportunities for students to begin their own enterprises and contribute to the rural economy. Over the three-year period, 8% of our graduates who went into work were starting their own business or were self-employed, compared to 7% of those in all Agriculture and Related Subjects and 5.8% of all graduates. Of these, 78% said that Harper Adams had prepared them for self-employment well or very well[31]. Extra-curricular 'Growing Your Own Business' sessions encourage students to consider new business ventures. Our alumni association and our Women in Rural Enterprise (WiRE) business network of over 800 members are involved, as participants and session leaders, to ensure that there is a connection between our student body and future support mechanisms for early stage entrepreneurship.

4.11 The relatively small size of our community plays a significant role in enabling our students to achieve a successful outcome. Staff from across the institution work closely together so that the management of difficult student cases, as well as the provision of support for higher academic performers, can be conducted in a professional, team-based approach. The shared responsibility for student progression, attainment and graduate success is commented upon by our students in the feedback that they provide about the University being an open and welcoming educational environment. In the optional NSS 2017 question set on career planning, 92% of our final year students reported that they believed their course had improved their career prospects and all three questions achieved an upper quartile satisfaction rate. We believe that our institutional performance provides an outstanding experience for our students that they value, and that it equips our graduates to deliver a major contribution to society, by addressing the challenge of feeding a growing world population whilst managing the impact of humanity on the natural environment.

[30] DEFRA Farm Structure Survey 2017: Only 51% of Farm Holders work the full year, and around 30% only work around a quarter of a year. Only 74% of salaried Farm Managers work a full year.
[31] DLHE 2015/16 graduating cohort data.