# *Assessment approach at programme level: a case study in food science*

# Assessment approach at programme level: a case study in food science

Practitioner Research
In Higher Education

Online First pages 22-34

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**Abstract**
The objective of this project was to promote and implement a cultural and practical shift to a programme focused assessment strategy. In the programme under study the modular compartmentalisation and the limited coordination between module convenors and the programme director in the design and delivery of assessment resulted in high volume of assessment tasks and an uneven deadline distribution. Transforming the Experience of Students through Assessment (TESTA) methodology was used to develop an evidence-based approach, considering students' (n= 35) and staff's voices (n=18). The assessment load and diversity were analysed. Student perspective was gathered through questionnaires and focus group; results showed that students struggled to manage the completion of different tasks at the same time, forcing the adoption of a grade-focused and surface learning approach. The level of knowledge integration from different core subjects and knowledge application to real case scenarios is crucial in the development of graduates in applied science disciplines. During workshops with staff specific changes were proposed to achieve a Programme Learning Assessment Strategy including the development of honours and bigger modules, to achieve a horizontal and vertical integration of knowledge, the reduction of small superficial assessment tasks, the development of formative assessment activities that clearly link to summative ones and the use of programme assessment maps to ensure an even distribution of assessment deadlines. This collective work enhanced the sense of community and ownership in the programme which helped the promotion of changes towards authentic assessment and a more rationalised use of assessment tasks at programme level, improving students and staff experience in Higher Education.

**Keywords**
TESTA; programme focused assessment strategy; summative.

## Introduction

The assessment strategy implemented in a programme influences both the way lecturers deliver the knowledge ('backwash effect') and the way students approach the learning process, i.e. how they study, how much time they invest, and how widely they study the curriculum (Bloxham and Boyd 2007; Villarroel et al. 2020,). Having small assessment tasks set within a module results in only a small number of concepts assessed, which leads to losing the holistic perspective of the subject area, the fragmentation of knowledge, and promotion of superficial learning such as memorisation of content. This type of assessment strategy results in failing to promote study practices leading to higher order learning and forcing students to adopt a grade-focus or tick-box approach (Harland et al. 2015; Rust 2017; Tomas and Jessop 2019). In this project, we studied the assessment strategy of a Higher Education undergraduate programme in Food Science. The programme was restructured a few years ago by integrating modules into knowledge-content themes to promote contextualised learning. Theoretical modules were merged with practical modules in which the knowledge was applied in a food science context. This learning approach promotes the development of employability skills such as critical thinking, group work and communication and prepares graduates with the right skills and knowledge for the food and drink industry (Giannou et al., 2015). However, the reorganisation was done mainly at module level, which caused an

**Citation**
Rodriguez Garcia, J., Green, A. and Mariner, T. (2024) 'Assessment approach at programme level: a case study in food science', *PRHE Journal Online First*, pp. 22-34.

increase in student and staff workload. When programme content is fragmented in small modular units the assessment volume increases, student learning gets compartmentalised and limited to the material covered in lecture sessions (Tomas and Jessop 2019). Therefore, this project responded to a departmental level need to promote a cultural shift from 'my module' to 'our programme'.

Staff-student partnerships have several benefits to offer including student engagement, motivation and learning, student-staff relationship development, and graduate attributes development (Cook-Sather 2014). In a useful framework for partnership in teaching and learning (Higher Education Academy, 2014) it has been argued that 'Engaging students and staff effectively as partners in learning and teaching is arguably one of the most important issues facing higher education in the 21st century'. Partnership was at the centre of our project, as it was crucial to get a real understanding of the experience of the key stakeholders on the assessment strategy at programme level. In the education sector, student voice is pivotal for the success of the system, student-staff partnerships for designing teaching and assessment approaches increase student engagement in the programme (Gray, Swain, and Rodway-Dyer 2014; Lowe and El Hakim 2020a, 2020b).

The main objectives of the project were:

1. To analyse the distribution of assessment tasks and their impact on student experience across the programme;
2. To reflect on the weaknesses and strengths of the programme to then develop collectively, students and staff, changes, and initiatives to achieve a sustainable programme level assessment strategy.

**Method**

In this study, the Transforming the Experience of Students through Assessment (TESTA) research approach was applied with some modifications. TESTA is a process to investigate assessment patterns across a programme, understand students' perceptions of assessment and identify what improvements could be made at programme level to support student learning experience (UCL 2019; University of Strathclyde n.d.). The original TESTA research (Jessop et al. n.d.) entails three methods: a programme-level audit in which programme leaders consider and analyse the curriculum, assessment and feedback plans; an Assessment Experience Questionnaire (AEQ) to gather final year students' perception on clarity of goals and standards, effort invested in the programme, and the effectiveness of the assessment and feedback strategy; and focus groups with final year students discussing key aspects flagged up in the audit and the AEQ (Jessop, El Hakim and Gibbs 2014). Interventions on the assessment strategy at programme level have been performed using the TESTA methodology in more than fifty universities worldwide with very successful results (Tomas and Jessop 2019). However, it is common practice to further develop and adapt the methodology to meet specific requirements at different institutions (Pazio, 2016; Walker et al., 2019). In this project, the original TESTA methodology was carried out with some adjustments to meet the project needs. The first method used was the programme audit in which we narrowed down the focus of the analysis on assessment volume, distribution, and type. The original method evaluates feedback volume (words received per student per programme); however, we considered this task was out of our scope as feedback practice and quality will be considered for evaluation in a future project. We believe that when analysing feedback, the number of words may not be a representative value of its effectiveness and quality, thus other factors should be considered such as type (oral, written, peer-feedback, etc), structure (things done well, things to improve, etc), and consistency among staff. The second research tool used was a student questionnaire, which built on the original AEQ and included sections to evaluate the connection and progression of learning concepts and skills through the programme. The development

of employability skills was also evaluated in our questionnaire as they were a crucial part of the programme learning outcomes (LOs). However, we decided not to evaluate the effort students put in assessment as suggested by the original AEQ (Jessop et al., n.d). To gather reliable information on the effort invested in assessment other factors should be consider along with time. Although students are exposed to a wide range of assessment methods through a programme, learning styles differ among students, and thus learning effort will vary from one student and assessment task to another. The third method implemented was focus groups with students.

TESTA teams are usually made up of data analysts and researchers from educational development units with little understanding of subject specific knowledge, which limits the interpretation of the gathered data and relevance of the proposed intervention (Walker et al., 2019). However, we thought that to achieve a real shift in module-to-programme perspective academic staff should be involved in the TESTA process, promoting discussions with module leaders, programme leaders and administrators about assessment strategy. In addition, students from all programme years participated in the project as part of the TESTA team collaborating in the interpretation of the audit data and leading focus groups. From our experience, having student representation of all years for the questionnaire and focus groups allowed a better insight of their learning journey rather than just collaborating with last year students, as the original TESTA proposes.

The education sector is organically evolving due to several factors: behavioural differences among students of different generations current needs of the society and the industrial sector, economic pressures from the sector, and changes in the natural environment. There are three main areas involved in creating change: people, culture and process (CQSD, n.d.). For the changes to be successful, the process needs to be adjusted to the culture; teamwork and leadership are also necessary; modifications to processes already in place should be allowed to introduce the change; and good communication is needed at every stage (JISC Guide, 2015). The TESTA methodology allowed for the integration of these three aspects for the review of the programme under study.

Regarding the culture of the department, the project was recognised as one of the main priorities of the department at Teaching and Learning (T&L) level and in line with the University T&L strategy. There was a 'module' culture, with module coordinators working in isolation and with limited vertical (in themes across programme years) and horizontal (in the same programme year) coordination and collaboration. For the success of this project an evidence-based approach was taken in which analytical data on assessment load, student voice and staff engagement were part of the programme design process.

*Programme audit*

The main challenges when designing a programme level assessment strategy (PLAS) is how to do it in an effective, efficient, inclusive, and sustainable way (PASS, 2009). In this project, the programme audit was performed in several steps. Firstly, assessment tasks and LOs at module level were linked to LOs at programme level (data not shown). We wanted to understand when and how programme-level LOs were developed and integrated through assessment tasks to determine how effective and efficient the assessment strategy was (PASS, 2009). Secondly, the assessment pattern across the programme during two academic years (2019-20 and 2020-21) was analysed to evaluate how efficient and sustainable the current approach was. During the audit process we developed a programme assessment map that was used as a visualisation tool to increase staff awareness of the student experience in terms of assessment timing and weighting at programme level. Similar approaches were developed by the research teams of the TESTA@Greenwich (Walker et al., 2019) or the ESCAPE project (Rusell et al., 2019) to create a programmatic perspective of assessment that would stimulate discussions on assessment distribution.

These analyses were done in Excel (Microsoft Office 365, Microsoft Corporation) by manually recording and gathering information in tables from module description reports and discussions with module leaders.

There are different ways to measure assessment load for student and staff (Scott 2015). In this study we mapped the following parameters: the number of summative assessment tasks per week and year, the weighting percentage of each task per week and year. Assessment tasks were classified in the following six groups: report, oral presentation, test (understood as multiple choice questionnaires (MCQ)), laboratory book, essay, and exam. The number of times each of these type of assessment tasks were done through the programme were quantified. Data analysis was carried out to understand assessment load and diversity horizontally and vertically throughout the programme. Results from both academic years were very similar and due to the fact that we just run one focus group in 2020-2021 we decided that for reporting of the results data from 2020-2021 was going to be used as representative data of the whole project.

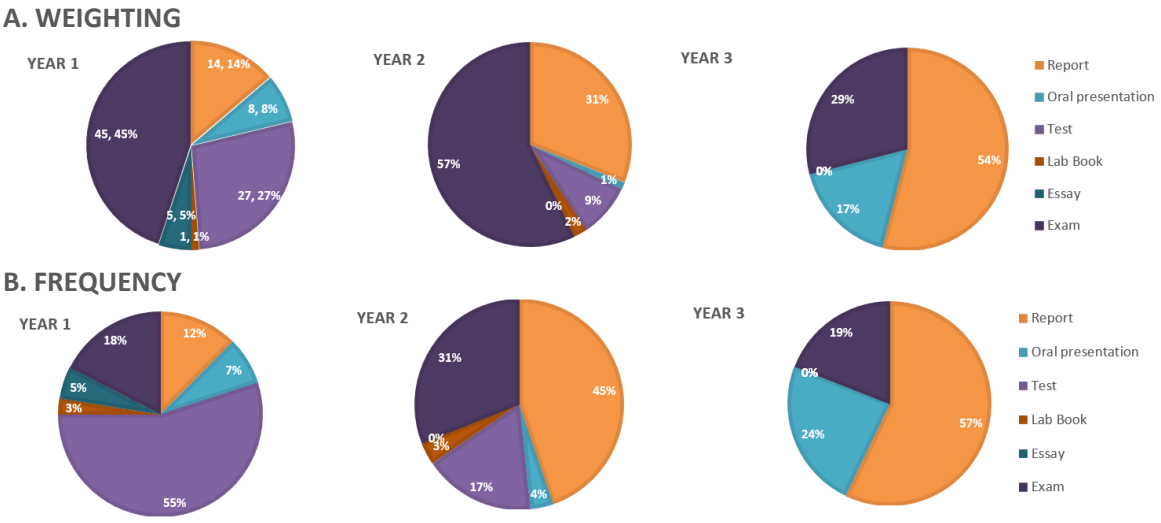


**Figure 1**. A) Weighting and B) Frequency of each type of summative assessment task per programme year in %.

*Student Questionnaire*

An AEQ was carried out with several modifications from the originally proposed as part of the TESTA method (Jessop et al., n.d.). There were no questions about feedback or quantity of effort and open questions were included to gather more qualitative information from students about their experience in certain types of assessment tasks. The questionnaire had 20 questions with alternate open questions and Likert Scale type question. The areas of the questionnaire were: assessment for learning, skills development through assessment completion, challenges during assessment completion, assessment progression, assessment integration, and cohesion in assessment. The online questionnaire was distributed to students at the end of the two academic years (2019-20 and 2020-21) using Microsoft forms (Microsoft Office 365, Microsoft Corporation). In 2019-2020, 26% of the cohort completed the questionnaire (n=18; 28% of the answers were from year 1 students, 28% were from year 2 students and 45% were form year 3 students). In 2020-21 24% of the cohort completed the questionnaire (n=17; 35% of the answers were year 1 students, 41% were from year 2 students and 24% were from year 3 students). Questionnaire responses were evaluated by giving a numerical value to the Likert Scale options (Strongly agree=2; Agree=1; Neutral=0; Disagree=-1; Strongly Disagree=-2) and calculating the frequency of

response for each question. Open questions were analysed using a thematic analysis, categorising the response according to their main content.

*Student focus group*

At the end of the academic year 2020-21, student voice was collected in a focus group. Students across all the programme years participated in the focus group (n=4; one student from year 1, one student from year 2 and two students from year 3. 60% were makes and 40% females. One of the functions of focus groups is to mitigate the authority of the researcher and allow participants to take ownership of the dialogue to get to a deeper understanding of the topic area (Kamberelis and Dimitriadis 2013). Therefore, to create a more relaxed and open discussion about assessment we decided that one of the students co-leading the research was the focus group lead, after being previously trained. Participants volunteered to take part in the focus group session after an email invitation. The participants were informed before the sessions that all data would be anonymous and fully confidential, that participation in the session was not going to impact progression in the programme, and that they had the right to withdraw at any time. The focus group lead guided the discussion into the following areas: how assessment has enabled them to promote learning; what were the main challenges the faced when completing an assessment task; the relevance of formative assessment; and how the assessment calendar impacted the way they learned and performed. The participants received the study information sheet and they all signed consent forms before the session. The focus group session was 1 h long, was conducted using Microsoft Teams (Microsoft 365, Microsoft Corporation), and the video and transcription were recorded, with the participants consent. The transcription of the discussions held during the focus group was analysed using a thematic analysis, categorising the response according to their main content and year of study of the participant.

*Participants*

A student from year 1 and another one from year 2 were involved in the project design and delivery as project co-leads during the two academic years of this study; these students were recruited through emails, and they volunteered to take part in the project. Undergraduate students across the programme completed questionnaires (n=18 in academic year 2019-20; n=17 in academic year 2020-21) and participated in the focus group (n=4, 2021). Staff from the teaching team (n=18) were also involved in workshops. The study was conducted in accordance with the Declaration of Helsinki (WMA 2022) and all participants had full details of the study, provided informed written consent, and were informed that all data would be anonymous, fully confidential, and of their right to withdraw. The study was given a favourable ethical opinion to proceed by the School of Chemistry Food and Pharmacy Ethics Committee of the University of Reading (Study Number – 21/2020 (Amendment 13.05.2021)).

*Workshop with staff and students*

The main results obtained through the programme audit, questionnaires and focus group were presented to and discussed with teaching staff involved in the programme (n=18). The one-hour workshop was facilitated by one of the students co-leading the project. Our rationale was that listening to students talking about the impact that the current assessment strategy was having on student experience could engage staff both from an intellectual and an emotional level (Lane 2007), thus promoting a more insightful discussion and encouraging staff to agree on an action plan. During the workshop session several areas for improvement were discussed and potential interventions and changes were proposed to improve the assessment strategy at programme level. The participants received the study information sheet and they all signed consent forms before the session. The workshop session was conducted using Microsoft Teams, and the video and transcription were recorded, with the participants consent. The transcription was analysed using a thematic analysis, categorising the response according to their main content.

**Results and Discussion**

*Effective and efficient assessment*

There were a total of eighteen programme LOs, which were divided into four categories: knowledge and understanding, intellectual skills, practical skills and transferable skills. After linking module LOs and assessment tasks to programme level LOs it was observed that 31% of the assessment tasks were linked to the 'knowledge and understanding' LO category, and 30% of the tasks were linked to the 'intellectual skills' LO category. However, the assessment strategy was not very efficient as the number of assessment tasks associated to these specific LO categories were 88 and 85, respectively. The other two programme LO categories were allocated 39% of the assessment tasks, with a total of 109 assignments. This proves that many resources were allocated to assess the same skills, mainly due to poor planning and not enough cross-modular communication. An efficient assessment strategy ensures that duplication is done strategically (PASS 2009). To improve the effectiveness and efficiency of the programme-focused approach, a more integrative assessment strategy, both horizontal and vertical (PASS 2009), should be considered for this programme, and this is discussed in the following sections.

*Volume of assessment*

A summary of the volume of assessment tasks per year and how the tasks were distributed depending on module size (number of credits) is shown in Table 1. One credit equates approximately to 10 hours of learning and work). We observed a decrease in the number of tasks when comparing the volume of assessment tasks between programme years. In Year 1, 44% of the summative assessment tasks of the whole programme took place; in Year 2 32% and in Year 3 23% of the programme assessment tasks were planned. These results could be explained by two main reasons. Firstly, the programme under study had 35% of its modules of 10 credits modules, and the remaining 65% modules were 20, 30 or 40 credits. In average, modules of 10 credits had double the assessment tasks than modules of 20, 30 or 40 credits. Thus, the inflation of the assessment volume was highly influenced by the prevalence of 10 credit modules. As it has been observed previously within literature, module size impacts the assessment load (O'Neil, 2019). Staff sets small assessment tasks to keep students' time focused on their modules. This practice is known as the pedagogy of control and refers to staff competing for students' time and attention (O'Neil, 2019). Secondly, in year 2 of the programme there was a focus on assessment tasks that promoted practical skills and on year 3 on tasks that taught independent learning and knowledge integration, thus more time was given to students for these activities, putting less pressure through workload. We further discussed how assessment type was distributed through the programme in.

**Table 1.** Summary of volume of assessment tasks per type of module (from 0 to 120 credits) per year in the programme.

| Credits per module | Average number of assessments per module | | | Maximum number of assessments per module | | | Number of modules | | |
|---|---|---|---|---|---|---|---|---|---|
| | Year | | | Year | | | Year | | |
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 0 | | | | | | | | 1 | |
| 10 | 4 | 4 | | 5 | 5 | | 4 | 3 | |
| 20 | 6 | 4 | 4 | 10 | 7 | 5 | 4 | 3 | 4 |
| 30 | | 4 | | | 4 | | | 1 | |
| 40 | | | 5 | | | 5 | | | 1 |

In 2020-21 there was a 9% reduction in the volume of assessment tasks in comparison to 2019-20. Reports and tests were the main type of coursework that was removed, and the assessment weighting increased on exams instead. We discussed with module leaders the initial findings of this study in 2019 which motivated them to review their module assessment plan to avoid two of the main problems: load and duplication. However, due to the COVID-19 pandemic the review of the assessment strategies was overtaken by the emergency remote teaching strategy. Around the world the COVID-19 pandemic precipitated changes in assessment processes to ensure students continuity in their qualifications. However, that brought an excellent opportunity to the higher education sector to change its assessment practices for good (Brown and Sambell, 2020a). In fact, institutional initiatives took place to develop blended learning and assessment strategies for the future (UoR, n.d.). So, although these initial changes in the assessment load were in the right direction, a more profound restructure of the assessment strategy at programme level was still needed.

*Distribution of assessment*

The distribution of assessment tasks (volume and weighting) through the academic year was very uneven in every year of the programme (Table 2.). In year 1 and 2 exams during summer term were contributing the most in terms of weighting across those years of the programme (46% and 53%, respectively). Regarding coursework during term time, year 1 had the busiest week at the end of the autumn term with up to 6 assessment tasks worth 10% of the year in one week. In year 2 there was also a week at the end of autumn term that students were assessed for 7% of the total weighting of the year through two tasks. In year 3 the busiest pair of weeks were at the end of the spring term, when all the assignment deadlines of the 'honours' module took place. 'Honours'/cornerstone/capstone modules are focused on integrating learning and assessing that integration (Rust, 2017).

**Table 2.** Summary of assessment tasks distribution in terms of volume and weighting per programme year.

| Year-Term | Volume of summative assessment tasks (num) | Assessment weighting per week per year (%) |
|---|---|---|
| Year 1-Autumn | 6 | 10 |
| Year 1-Exam period | 5 | 40 |
| Year 2-Autumn | 2 | 7 |
| Year 2-Exam period | 7 | 51 |
| Year 3-Spring | 4 | 15 |
| Year 3-Exam period | 3 | 20 |

During focus groups and questionnaires students recognised as one of their main challenges to complete assessment tasks on time. Students that took part in the focus groups said:

> The biggest thing with them (assessment deadlines) all being the last week is that it gets very hard to balance your time; I find it harder to pay attention to lectures and turn out all the lectures because your time is better spent getting a better grade on the coursework.

It's just difficult to focus on lots of different assessments at the same time.

These results showed that students approach to assessment was influenced by other assessment tasks, both in terms of timeline and form (Bloxham and Boyd, 2007; Boud, 1995). Students adopt a learning approach that sacrifices meaningful learning as part of an overall grade strategy when they have many assessment tasks to complete in the same period of time (Harland et al., 2015). A lot of comments gathered from students during focus groups and questionnaires highlighted their 'grade approach' for which they calculated the amount of time to be spent per assessment task depending on their weighting. Although this is a very strategic and pragmatic approach, it results in students suppressing their own intellectual motivations. Students do not factor into account their own education needs or interest in this type of practices, and it is just the final grade that drives their daily efforts; this is detrimental for the development of self-directed lifelong learners that will be able to work independently (Harland et al. 2015).

*Type of assessments*

Type of assessment tasks and occurrence through the programme is shown in Figures 1A. and 1B. Reports increased in volume and importance (weighting) over the programme years. Reports, such as laboratory reports, were one of the preferred assessment tasks by students according to the data gathered through questionnaires. Students preferred assessment based on practical applications with some real-world context. In the focus group, students explained that reports allowed them to demonstrate in their own words their understanding of the theory and their ability applying it to solve a case study. Similar results have been reported in literature, when students were asked about 'the type of coursework assignments they learn the most from' and students replied that large inquiry-type projects were more insightful than small tests (Harland et al., 2015). In this programme, students' preference for reports could be linked to the higher frequency of this type of assessment task through the years of the programme, allowing them to apply feedback received and experience a progress in their performance. When feedback has an effect on students learning it is highly valuable (Boud and Molloy, 2013; Rust, 2017). A future evaluation of the quality of feedback, students engagement with feedback and feedback forward approaches in the programme will be done in the near future.

Oral presentations, although present in year 1 in small amount, were almost absent in year 2, to then become the second most frequent type of assessment task in year 3. Students recognised that public engagement and communication were two of the main skills they had developed during their programme. In fact, food information communication is crucial nowadays to avoid unbalance information, ensure consistency and avoid contradictions from messages given from governments or the industry (Wall, 2018).

Even though essays just appeared in year 1students stated that one of their preferred assessment tasks were essays, as this task allowed them to focus and explore a particular topic in depth. Essays were used in the programme as an integrated assessment task, that required additional reading, argumentation, critical thinking, and reflection (Harland et al., 2015). However, students highlighted the fact that there were not enough opportunities in the programme to develop these skills, and thus, further work on critical thinking and essay writing should be considered for implementation in year 2 and 3.

Tests (MCQs) were the most frequent task in year 1, the third in year 2 and there were none in year 3. Some students linked test completion to a sense of satisfaction due to the rapid feedback received. Students like to know if they are doing well, and small assessment tasks as part of a continuous assessment strategy is a way to get that feedback at the expenses of higher workloads and questionable effects on performance (O'Neil, 2019). Other students, reflected on their approach to tests in the following way:

Tests and exams also feel unnatural and make my focus more directed on individual marks rather than doing things for the enjoyment of it.

These results point out the need to revise the validity, authenticity and relevance of tests and exams currently administered to students in the programme and transform them to authentic assessment tasks (Brown and Sambell, 2020b).

As pointed out before, the exam-coursework ratio varied among parts. Exam weighting and frequency were higher in year 2, followed by year 1, and then year 3. This assessment strategy could be linked to the need of academics to check student's academic integrity through examinations. However, some limitations of exams are that they encourage surface learning as they are usually not linked with students' motivations to learn or about 'doing' (Race, 1995). Therefore, exam design should focus on exposing students to new scenarios for them to prove their ability to respond to new challenges, rather than just evaluating their memory.

*Proposed strategy to implement an assessment approach at programme level*

The results of this study demonstrated how the assessment approach was promoting a compartmentalised learning and pushing students to a grade-approach. In Food Science, the level of knowledge integration from different core subjects and knowledge application to real case scenarios is crucial in the development of graduates (Hollis and Eren 2016; Weston et al., 2021). Therefore, fragmenting students' learning in small assessment tasks limits their understanding of such a multidisciplinary area. These results increased staff awareness of the main weakness of the assessment plan and motivated the discussion about gaps to be covered and changes to be done to achieve a Programme Learning Assessment Strategy (PLAS). During the workshop we discussed with staff the following topics:

- to promote assessment tasks for knowledge integration
- to develop a holistic understanding of the subject area
- to relate their learning to real world scenarios in which student are intrinsically interested and motivated to understand, to develop their critical thinking
- to apply professional practice and ethical approaches to solve problems

To achieve a Programme Learning Assessment Strategy, a series of changes in the assessment culture of the programme were proposed for implementation:

1. The review of each assessment task to evaluate their compliance with authentic assessment principles, such as (i) validity, if it assesses the LO you aim to evaluate; (ii) authenticity, if is it a 'real world' task; and (iii) relevance, when the student understands why they are learning that concept (Rust 2017). Staff expressed their concerns about removing too many tasks through this process, leading to programme-level LOs not being met. These comments indicate staff resistance to change. However, with all the information gathered during the programme audit and a continuous communication between module coordinators and programme lead the implementation of an effective and efficient programme assessment strategy will be successful.
2. Horizontal integration within programme years through the development of authentic assessment tasks with the objective to develop high order thinking skills (PASS 2009; UCD 2018).
3. Vertical integration with the creation of honours modules in year 1 and 2. This could be achieved through combination of content delivered in small modules (10 credits) to create

bigger ones (20-30 credits), promoting a more cohesive programme with less modular fragmentation (Rust 2017). These modules will allow more opportunities to develop critical thinking, research skills and autonomy; these skills were recognised by graduates as challenges and limiting factors when completing an assessment task.

4. Reduction of the assessment volume. Small, fragmented assessment tasks promoting superficial learning and tasks that duplicate the achievement of specific programme level LOs will be removed.
5. Design formative assessment tasks that could improve student assessment literacy, learning journey and performance (feedforward) (Harland et al. 2015; Race 1995; UCD 2018).
6. Even distribution of deadlines through terms and programme years through a more strategic formative/summative assessment plan.

Staff agreed in the proposed strategy and commented on several important aspects. The need to revisit the programme LOs to ensure the knowledge and skills developed were up to date with the Food and Drink Industry needs. To develop inclusive assessment practice evaluating the same skills through different assessment tasks. We also discussed that different students have different interests, thus there is a need of developing strategies to engage these different audiences. The student participating in the workshop did an interesting comparison of our T&L strategy with Dungeons and Dragons role-playing game; in this game, small tasks along the journey are set, and different players will feel more attracted to interact with certain tasks than other players. After interacting or completing the task the player gets rewards. Similarly, in our programme we could develop different tasks assessing the same skill that will appeal to different type of learners with different interests, to achieve and maintain their engagement. We will have to develop a more in depth understanding on how to engage with students with different needs and interests to understand their expectations, previous experience, how do they learn, or how do they interact with material (Hahn and Curtis, 2016).

**Conclusion**

The development of an evidence-based approach with the inclusion of student voice and the creation of a staff-student collaboration was crucial to facilitate and achieve a change in staff mindset from module level to programme level. The TESTA methodology was used as the scaffolding of this approach, offering a base line to gather assessment information at programme level and student voice. The original TESTA method was amended and adapted to meet the needs of our project. Aspect related to feedback and effort were not included in our research; however, we evaluated the acquisition and progression of employability skills, and we created a research TEAM with representation from the subject specific programme and the student cohort aiming to draw on conclusions that were specific and fit-for purpose.

We proved that there was not enough cross-modular coordination and planning as many resources were allocated to assess the same programme LO. We observed that the prevalence of small modules gave place to assessment volume inflation and promoted a pedagogy of control from module leaders. These facts along with bunching of assessment deadlines were encouraging students to take a grade approach instead of promoting their own intellectual motivations and independent learning. Students expressed their preference for inquiry-type tasks in which they could demonstrate their knowledge to solve real world problems.

Therefore, we concluded that in order to achieve a programme level assessment strategy the was a need to implement authentic assessment to promote higher order thinking skills, to integrate knowledge to promote high order thinking skills (horizontally and vertically), to relate knowledge to real world problems and to improve student motivation and independence. The reduction of assessment volume and an even

distribution of deadlines could be achieved through the implementation of the changes proposed along with the use of formative assessment tasks. We will stablish a strong communication system to ensure a cohesive staff community. New processes for reporting weaknesses, strengths and changes at module level will be implemented to ensure that the programme-level structure remains effective, efficient, inclusive, and sustainable through future years.

**Funding**
This research was founded by the University of Reading PlanT project 'Co-creating a Programme Level Approach to Assessment in BSc Food Science'.

**Acknowledgments**.
The author would like to acknowledge the support received by Dr Nina Brook and Prof Colette Fagan.

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