Enhancement Themes QAA Scotland
Building Resilient Learning Communities: Using Evidence to Support Student Success
#ETConf20

Negotiated learning plan: an employer-supported method to develop graduate skills

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Keywords: Graduate apprenticeship; metaskills; negotiated learning

Abstract: Graduate apprenticeship (GA) programmes provide degree-level study for employees, delivered in partnership with employers. Work-based learning is embedded in the BSc GAs designed by the OU, including via a series of Professional Practice modules. These modules incorporate a set of sprints – periods of time during which an apprentice completes agreed tasks relating to their workplace. Each sprint focusses on a single topic to enable the demonstration of core skills; it concludes with a sprint 'Review and Retrospective', allowing for detailed discussion of the work just completed. We will show how sprints can develop an apprentice's ability to reflect upon what has been learnt and plan what will be tackled next – key components of metaskills. Collectively the sprints form a negotiated learning plan (NLP) which can be adapted, by agreement, if flexibility is needed to reflect employability in the specific working context. We will show how an NLP can evolve as the academic year progresses e.g. to account for a change in workplace priorities (often important in the computing world) or a national crisis such as a pandemic, and how it is key to employer and apprentice engagement. Our design of sprint, review and retrospective, and NLP methods are applicable to subjects across the curriculum.

1. INTRODUCTION

Two Graduate Apprenticeship (GA) undergraduate programmes are offered by the Open University in Scotland: IT: Software Development and Cyber Security. Each work-based learning programme leads to an Honours degree, and each has been designed in accordance with the relevant Framework documents (Skills Development Scotland, 2017a, 2017b). Graduate apprenticeships are delivered by universities in partnership with employers; this paper describes an extension of that partnership to include the apprentices themselves as partners in the design and delivery of professional practice modules at each stage of their four-year degree. Whilst the Framework documents are clear that "most of an individual's time should be spent in the workplace on directed study", this approach outlined in this paper demonstrates an interpretation of that as including *partner*-directed study with a flexibility that has proved to be particularly effective in this year of pandemic crisis. One module during each of the four years of study focusses upon professional practice. The initial such module (SCQF Level 7) is described in this paper.

2. BACKGROUND

Graduate apprenticeship programmes by definition are work-based learning programmes and thus should satisfy established work-based learning principles, e.g. learning in work must be fully integrated into the delivery and assessment; support reflective learning; significant ongoing involvement and contribution from employers including curriculum development (SDS, 2016) and "the development of higher-level learning within both the higher education provider and the workplace. It is a two-way process, where the learning in one environment is applied in the other" (QAA, 2020). Similarly, QAA's Advice and Guidance for Work-based learning (QAA, 2018) includes guiding principles that emphasise partnership: "This partnership should include obtaining feedback from employers and students and involving them in the evaluation process". This paper outlines our approach to embedding partnership, flexibility and personalised learning in work-based learning.

3. NEGOTIATED LEARNING APPROACH

This section outlines the key features of our Negotiated Learning Plan approach.

3.1 Professional practice

TMXY125 is the initial professional practice module taken by students of the two GA programmes. Its learning outcomes feature four categories: knowledge and understanding, cognitive skills, key skills, and practical and professional skills. Table 1 presents two examples that particularly reflect the importance of partnership in the OU's GA programmes.

Table 1: examples of practical and professional skills learning outcomes

Use the workplace to identify, learn, practise and reflect upon agreed competencies.
Record, analyse and review ongoing learning needs to maintain and develop agreed competencies.

Our professional practice modules draw on agile concepts from software development: sprints, reviews and retrospectives. For the level 1 module, for example, the basic building blocks of the module are 12 sprints in which students learn and apply their learning, storing evidence of their work in an ePortfolio. A sprint takes place over a specified period of time and centres on a single topic. Learning in each sprint is organised around a set of tasks, each addressing one or more core skills corresponding to an apprenticeship Framework's learning outcome (such as "conduct a security risk assessment for a defined business context"). After completing each task, the student uploads their evidence to the ePortfolio.

3.2 Reflecting and planning

Each student has a personal tutor who will, during regular meetings, discuss their progress and any issues that have arisen, and agree the priorities in advance of the next quarterly meeting with the employer. (Meetings are normally a mix of face-to-face and online, but have been rearranged to be fully online during the pandemic.)

At the end of each sprint attempted, the student is asked to reflect upon their learning and then plan for the next sprint they will attempt – this is the sprint's 'Review and Retrospective' (R&R), the focus of which is captured by Figure 1.

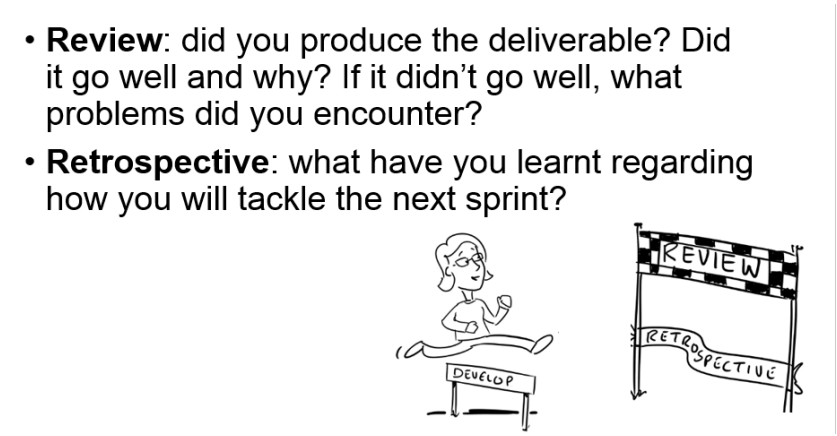

Figure 1: Review and Retrospective meeting with Practice Tutor

As well as describing the success, or otherwise, of each task (the review), the students are prompted to consider lessons learned (the retrospective). Prompts might be about their time management, relationships with work colleagues, studying whilst completing their "day job", finding resources for their academic work, how they are developing as an IT or Computing professional, or their technical understanding and progress. Effectively, the R&R meeting is a mini-viva. The student presents their work for scrutiny and the practice tutor asks questions and makes suggestions. Students are required to complete an R&R form before each meeting which is based around what they believe they should continue, start, and/or stop doing for the next sprint. This allows the practice tutor to formulate pertinent questions. During the R&R meeting, the student presents their evidence of learning from the sprint, the practice tutor gives advice and assesses the evidence, and together they agree details of the way forward for the next few weeks, based upon a menu of options. The R&R form also has a section for the student to complete after the meeting to summarise the tutor's suggestions.

3.3 Partnership approach

Our partnership approach includes short-term and medium-term planning of sprints and tasks. The OU provides a Standard learning plan to show how the standard sprints can be scheduled to relate to the student's learning from their other modules that year. (This includes making the first two and last two of the sprints of the year compulsory: they relate to preparing for and concluding professional practice studies for the year.) Nevertheless, as a result of the employer meetings and the review and retrospective meetings, a student and employer can personalise the forthcoming learning in any of three ways. Firstly, they can agree to substitute a scheduled standard sprint with a negotiated one (a "Solo sprint") based around some aspect of the student's job that can provide evidence for the same core skills as the standard sprint it replaces (Figure 2).

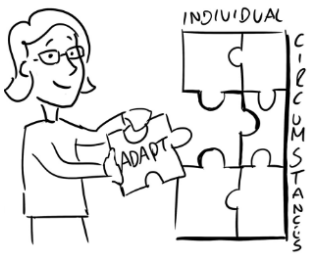

Figure 2: Solo sprint

Secondly, they can agree to rearrange the sprint sequence via a partnership-agreed 'Negotiated Learning Plan' (NLP), for example to better fit with workplace activities or

planned projects. (For example, one student negotiated moving a password guide presentation they had authored to coincide with briefings for newly recruited staff.) Thirdly, they can agree to adjust the study intensity in response to workplace-related challenges, such as known busy periods or shifting priorities. Some elements of the learning plan are negotiated therefore as differences emerge month-by-month; others result from anticipated and planned-for differences. In this way, the employer and the student partner with the OU to craft the best schedule for the student's learning.

3.4 Negotiated learning plan

Negotiation of a personalised learning plan is made possible by the design of sprints. Each sprint is targeted at the appropriate level of study with a notional study time, contains a topic corresponding to a learning outcome of the apprenticeship Framework, includes additional teaching material as necessary, and one or more tasks. It finishes with the prompt to complete the Review and Retrospective. Each sprint is independent, so there is no cross-referencing or technical progression between sprints. Every student's NLP can be adjusted in order to meet the needs of the employer and student; it can evolve as the year progresses – there is no need to agree the whole of the learning plan for the year at the outset, and it can change according to circumstances and an employer's changing priorities. Solo sprints can include existing tasks, tasks which have been adapted to relate more closely to the workplace, completely new tasks suggested by the employer or student, or Recognition of Prior Learning tasks, either certificated or non-certificated. Examples of such how the sprints of a Standard learning plan can be adapted are given in Figure 3, for example to suit intense and quiet periods at work.

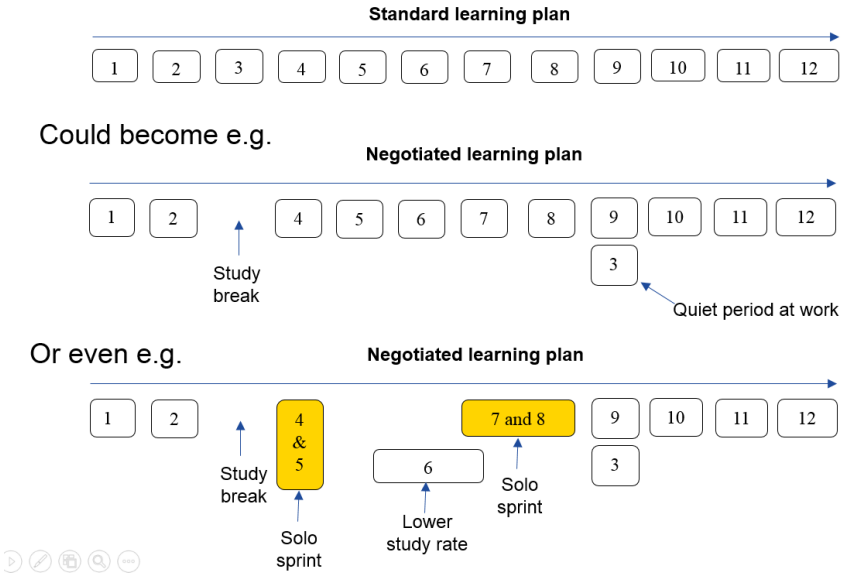

Figure 3: Examples of adapting a Standard learning plan

3.4 Quality control

It is important to establish that the student's work is actually their own. This happens through the R&R meetings, where the practice tutors explore the student's knowledge of the work they have carried out. The employer meetings act as a further check, as the student's progress will be discussed and the tutor can get a sense of how aware the employer is of the work being carried out. Completed R&R forms must be submitted as part of the module's assessment process, thereby also contributing to an audit trail of the student's performance.

4 EXPERIENCE GAINED

In this section, we reflect on the observations we have made over two cohorts of apprenticeships.

4.1 Reflection and planning metaskills – our observations

Numbers taking the apprenticeship programme have been limited in the first two years. Nonetheless, we see evidence of students developing the "self-management" metaskill (SDS, 2018) when we view their R&R reflection and planning summaries. Table 2 provides some illustrative examples.

Student #1 developed an early appreciation of the importance of developing their time-management skills, but not how to do this. Over the course of the next sprints, the student identified five different tactics to improve their time management, each one becoming more and more specific/detailed as the year progressed, as shown via sprints 5 and 9.

Student #2 similarly recognised at an early stage that appropriate study planning would lead to efficiency and success. As the extracts from sprints 6 and 10 illustrate, student #2 developed their planning in a more and more SMART way.

The frequency of sprints and the protocol of concluding with R&R meetings is helping students to establish a regular cycle of looking back, reflecting, and planning. The impression of practice tutors was that the final work formal assessment submitted by students showed examples of reflection that were superior to the level normally expected at SCQF Level 7. It may be argued that graduate apprenticeship students bring different experiences and skills to their studies and therefore the ability to reflect should not be unexpected. However OU students in general are not typical of campus-based universities: for example, the age of OU students on average is 25. Therefore it seems likely that the skills of reflecting and planning *had* been developed and refined by means of the sprints and had transferred across to the students' other assessments.

Table 2: selected extracts of R&R forms from students #1 and #2

Student/sprint	**What have you learnt from the experience?**
#1/1	I need to improve my time-management skills to juggle the different modules and plan out what I have coming up.
#1/5	'Now' may not be the best time to approach a section of learning and if it is not appropriate I could use that time to focus on another area of learning."
#1/9	A tidier notebook on code and functions would have made it easier to find the correct coding methods.
Student/sprint	**What should you start doing?**
#2/1	Planning my study time & monitor my progress closely.
#2/6	Build regular breaks into my studies.
#2/10	I should start looking at sprints in advance to check if they contain topics I am unfamiliar with or require me to engage with other members of my organisation. If I know in advance that I need to speak to someone from Senior Management or IT then it would give me enough notice to set up the required meetings

4.2 Negotiated learning – our observations

To date we have found that students who are relatively new to a role or an organisation have preferred following the Standard learning plan rather than negotiate different sequences or Solo sprints. Our present evidence suggests that Solo sprints may be better suited to students who are already confidently working in an IT environment or who are at a later stage in their Graduate Apprenticeship. Further work is needed to determine if this relates to

a student's confidence in their own ability, or the relationship with their line manager/ employer, or their familiarity with their working environment.

Solo sprints have been particularly successful where the employer has been fully engaged with the rationale and planning. Here we give two contrasting examples: the first was prompted by a student alone; the second was prompted by an employer and student jointly.

Example 1: a student sought to negotiate attendance at a conference as a solo sprint in place of one of the standard sprints. Discussion with the practice tutor helped the student to recognise that attendance alone would not demonstrate learning content or skills *that could be used with respect to their working environment*. The student needed to provide evidence that the activity met the sprint requirements and by which the core skills of the standard sprint could be assessed. The student chose not to continue with this as a solo sprint.

Example 2: an employer and student negotiated a Solo sprint to adapt one task: *The employer feels the tasks in sprint 6 are of value to both the student and the organisation. Task 1 is considered particularly useful and the sprint modification is only for task 2. The task 2 proposed would produce a guide to this system and process, which would be of value to all employees both old and new.* After reading the justification and confirming the adaptation accorded with the sprint's core skills, the module team approved the Solo sprint.

Finally, our observations are that virtually *all* the students recognised the benefit of negotiating the pace and sequence of their learning plan to suit their workplace and personal circumstances. Students and employers had ownership of their next steps: they appreciated the flexibility to tackle sprints in a different order or to delay the start of sprints, particularly when working hours were erratic and extended. For one student, this flexibility was noted as helping to "smooth out" workload during difficult months. We were aware this had benefit for business-as-usual issues, but it also proved extremely valuable in the trauma of Covid-19. Students were able to negotiate solo sprints that could be completed when working from home rather than in the "normal" work environment.

5 CONCLUSIONS

This paper has reported on the design of professional practice modules in which students apply the academic theory from their modules in their workplace, and evidence what they have achieved in an ePortfolio. Standard sprints are available and can be adapted into Solo sprints where appropriate to support specific workplace circumstances. After demonstrating core skills relevant to the workplace, the final part of each sprint – the Review and Retrospective – involves detailed discussion of progress and learning made, and what will be tackled next. Collectively, the sprints in the Negotiated Learning Plan enable a student to demonstrate that they have achieved the module's core skills.

Each student can have their own Negotiated Learning Plan, as agreed with their employer. This allows for adaptation of the sequence of Standard sprints to reflect workplace needs and schedules. Furthermore, the Negotiated Learning Plan can evolve as the year progresses, to account for changing workplace priorities.

As our students progress through their graduate apprenticeship programmes at SCQF Levels 8 and 9, we expect to report a reduced adherence to Standard sprints and an increased frequency of Solo sprints and customised Negotiated Learning Plan activity. At SCQF Level 10 we expect that students will negotiate the majority of their sprints, with the full support of their employer. We will continue to work with module teams to monitor this progression: we plan to report on the extent to which our negotiated learning plan model provides the resilience needed by graduate apprenticeship partners in a pandemic and post-pandemic world.

ACKNOWLEDGEMENTS

Our thanks are due to the TMXY125 module team and to Dr Mark Woodroffe, who led the production of this module.

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