1) **Executive summary.** For many students in STEM subjects, carrying out their studies whilst working in a relevant job is the ideal way to continue their education. With around 4000 part-time students at London South Bank University, our focus has been on developing more vocational courses that support STEM subjects at Levels 4-6. The provision of loans for part-time students and (more importantly) the new higher and degree apprenticeship scheme provides a real opportunity to support higher-level skills in STEM subjects, in ways that are directly relevant to employers. We are planning to support around 2000 apprentices by the year 2020, graduating 600 a year with degree awards. Some of the issues concerning this are summarized below.

2) The new apprenticeship schemes offer a great opportunity for more students to develop the skills needed by business and, if delivered in the right way, will provide training that is ideally suited to both students and employers. It has led to a flurry of activity to develop the new ‘apprenticeship standards’, and could more than off-set the decrease in part-time students seen in recent years.

3) However, the apprenticeship schemes have been beset by a range of problems, including: a) highly variable cooperation and/or agreement between professional bodies and employer groups on the curriculum and skills required for a given apprenticeship qualification; b) problems with gaining approval for the standards, for reasons that seem inconsistent and often unnecessarily bureaucratic; c) limited engagement by most employers, because Brexit and other concerns are taking higher priority until the apprenticeship levy actually kicks in in April 2017; d) at Higher Apprenticeship level, major issues about aligning the training with higher level qualifications, and the huge amount of additional administration and cost that the apprenticeships are requiring.

4) At LSBU, we already have over 4000 part-time employer-sponsored students – more than any other UK university. We have therefore taken the decision to make a major commitment to Higher Apprenticeships, with the expectation that we’ll have around 2000 by 2020. We currently have 100-150 such students on the trailblazer pre-levy apprenticeships, and we are establishing a bespoke unit (Institute for Professional & Technical Education – IPTE) that will provide the administrative support and industry liaison necessary to grow the numbers, whilst the educational delivery itself will remain with the academic departments. We have been supported in this by 3 grants: £250k from HEFCE to develop new courses for 2017 intake; £3M from HEFCE to establish the administrative unit and enhance/expand the science/engineering facilities to cater for increased numbers; £5M from Southwark Borough Council to renovate a building to house IPTE and develop stronger links with employers and students in the area – a crucial factor if apprenticeships are to flourish. Most of our courses are in the engineering (building, mechanical, electrical).

5) A key feature of our strategy is to develop stronger links with FE, and other educational providers, so that we can better support students to successfully move into higher level education, if that is appropriate for them. We are doing this in part
through establishing a family of educational providers under the University ‘umbrella’ (currently an Engineering Academy, a UTC, and involved in formal discussions with a local FE college). Alongside this, we have a range of partnership agreements, so that we can guide employers and students through the best training route for them. So IPTE will become a one-stop-shop for employers and students, providing information and guidance, steering stakeholders to the best educational route, and overseeing all of the apprenticeship courses.

6) One major issue, which is poorly understood by many, is the link between educational levels and the qualifications. The apprenticeships identify standards within a vocational area, and specify the tasks and activities that an individual should be able to carry out successfully; at ‘higher level’, these are designated as Levels 4-6. University degrees also have many applied and job-related aspects to them, but need to meet the Higher Education Qualifications Framework standards set by the QAA and (usually) additional standards required from professional bodies. Despite the extensive overlap, this requires two sets of criteria (at least) for someone to achieve a Level 6 Apprenticeship and the ‘equivalent’ degree. There have been some who have suggested that FE can better provide higher apprenticeships, but this is potentially problematic for two reasons. Firstly, the finances barely stack up for universities to offer science and engineering degrees, because of the expensive facilities (in equipment, technical support, and running costs) needed to offer cutting edge education, so encouraging more institutions to provide this could harm all providers. Secondly, the skills developed at degree level really require 2 years of continuous study, in order to develop the complex skills required (higher-level problem-solving, synthesis of ideas, working in diverse teams, project management). Whilst some FE provision up to level 4 should be viable, universities will not in general by willing to offer one-year top-ups to Level 6 for which neither the finances nor the educational integrity stack up.

7) This call for evidence especially asked for examples of success. In this submission, we have focused on higher-level apprenticeships, for which the new levy schemes will only start in April 2017. Hence, at this stage, we cannot demonstrate that our approach has been successful. However, the funding that we’ve obtained from HEFCE and the local Borough Council indicates that they think our approach is exciting, innovative, and with a high chance of success. It involves a much higher level of integration between schools, colleges and universities than is generally the case in the UK, and an additional feature is the establishment of a ‘centre’ that will include community engagement, employer participation, and one-stop-shop facilities that we think will have a big impact on the take-up of apprenticeships in science and engineering.

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