

Research Report

Position on Resources and Equipment for Modern Digital Construction

February 2022



PREFACE

Digital technology and the move to a larger proportion of construction projects being delivered by off-site manufacturing techniques is driving a fundamental change in the skills needed in the industry.

To support this BACH's members will need investment in resources and equipment so they are able to support the training needs of the sector. Crucially they will also need to be able to recruit tutors and assessors with the update knowledge and skill to train our learners. This against a background of rising pay in construction and skills shortage in the industry, particularly at Level 2, which are making recruitment of tutors and assessors ever more challenging.

BACH has therefore carried out a research project involving a survey of its members on the challenges. This short paper sets out the findings of this work, which are like those of a recent Association of Colleges survey which looked across a number of curriculum sectors.

Graham Hasting-Evans, President and Chief Executive of NOCN

Lee Mills, Chair and Head of School: Innovation Technical Centre, Milton Keynes College

David Wilkins, Director – Construction & Building Services, Bedford College Group



SUMMARY

The construction industry faces two inter-related challenges. One is major skill shortages following Brexit, particularly in skilled trades and occupations, and the second is the need to up-skill the workforce to support more productive modern SMART methods as well as a move to more off-site manufacturing and site assembly. All of which requires sufficiently knowledgeable and equipped training capacity to be in place.

For a while, BACH members have been reporting significant concerns over the availability of adequate funding to match the investment needed as well as the difficulties in recruiting and retaining suitably experienced tutors and assessors.

Accordingly, BACH decided to survey its members to try to gain an insight of the scale of the challenges. The research survey, which took place at the end of 2021 and early 2022, looked at the following key aspects:

- Range of construction training provision;
- Level of Investment in digitalized delivery and modern methods;
- Level of expenditure for materials and course content;
- Staff vacancy rates;
- Additional pay being offered to attract new staff;
- Use of structured market supplements; and
- Most difficult occupations to recruit.

To set some context, the situation in the construction sector post Brexit there are high demands particularly for operational Level 2 competencies. Skilled trades, such as bricklayers, carpenters, plasters, plant operatives, civil engineering groundworkers and plant operatives are crucial for the industry's success. At present they represent 60.4% of the workforce (i.e. 1.37 million people) and some 75% of these are at level 2 or below. Even by 2024 skill trades and plant operatives will still be 59.9 % of the workforce (1.42 million people). This is an increase of 49,000 level 2 and below jobs; plus of course the replacements needed for retirement.

Whilst welcoming the investment by the Westminster Government, on Construction Occupational Traineeships at Level 1 and the Design, Surveying and Planning T Level, there also needs to be continued investment in Level 2 apprenticeships and qualifications. In addition we also need to establish clearer progression routes that can facilitate over-time a move from Level 2 to practical competencies at Level 3 for more of the workforce.

We also need to start to investment in the new digital methods of working as well as off-site manufacturing the on-site assembly skills.

The report sets out the results of the survey. In summarised our findings are:

Investment and expenditure levels

- Nearly three quarters of colleges report that investment levels, in equipment to support the new digital SMART technologies and modern methods, needed to increase or in the case of 12% were completely inadequate;
- Only 36% of colleges consider that there is enough expenditure available for materials and course content in order to properly deliver courses;

Staff retention and recruitment

- Staff vacancy rates are quoted as 10% to 40%; with most colleges stating they are 15 to 25%;
- Colleges are having to offer improved packages, golden hello's, market supplements and higher pay in the range of 10% to 30%;
- Just under half of respondents' report that their college is now paying market supplements; and
- There are difficulties in recruitment across all occupations.

As a result of the challenges colleges are starting to have to curtail provision in some instances.

We consider that a wide range of urgently needed changes must happen for us to tackle the challenges and we able to support industry so that employers get the people with the skills it needs, including:

- Funding rates to set to adequate levels to fully cover the additional costs for resources, materials and staffing;
- Capital investment is increased so that all areas of the country have proper access to adequate funds;
- CITB levy is leveraged where-ever practical to address the challenges and provide support to the training providers and the employers; and
- Employers and the Colleges work together at the local level to share resources such as seconding or guesting people from industry to contribute to teaching particularly in the new digital, off-site and green skills part of the curriculum.

The Construction Leadership Council (CLC), CITB and BACH members are planning to work to identify how the challenges and possible solutions can be progressed. To this end we have organised a joint conference to work through the best way forward for May 2022.



FINDINGS

Survey Lines of Enquiry

The survey is addressing two specific areas of concern for colleges that are delivering training and apprenticeships to the construction industry. These being:

- Are we investing and spending enough on new equipment and materials to deliver the skills for the new digital SMART construction industry of the 2020s and 2030s?
- Are we able to recruit tutors and assessors with the right skills sets when remuneration in the construction industry overall is rising rapidly?

Range of construction training provision

The range of provision for the Colleges responding to the survey covered three areas building, civil engineering and building services engineering.

Colleges offered courses up to and including Level 3 in one or more of the three areas which indicates good coverage for the operational workforce. Several Colleges report they are delivering the T Level in design, surveying and planning.

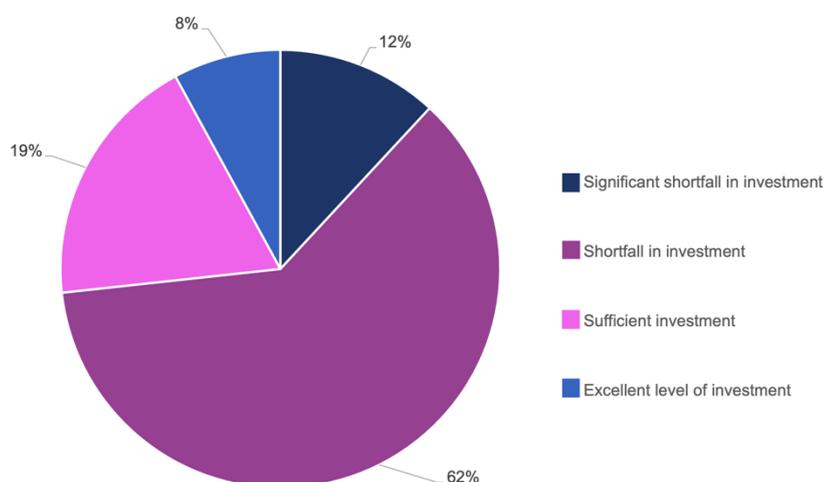
Around half reported offering courses at Level 4, a third at Level 5 and less than 20% at Level 6. This is not surprising as most Level 6 provision is delivered by universities that prepare people for progression into the construction professions.

A few colleges also reported they were starting to develop courses or modules on green and sustainability skills.

Level of Investment in digitalized delivery and modern methods

Around 8% of colleges felt that the level of investment was very good/excellent with 19% saying the investment was at the appropriate level. Some 74% of colleges reported that investment levels needed to increase or for 12% were completely inadequate.

Chart 1: Availability of Investment to Support Construction Skills



Respondents have indicated that significant new investment will be needed for T Level and green skills as well as more investment for digital SMART screen technologies.

“Investment is only made when funds can be bid for e.g. T Levels. There is little scope to request capital funding for other items within the year”

**Modern methods require more investment to meet the needs of the environmental legislation”*

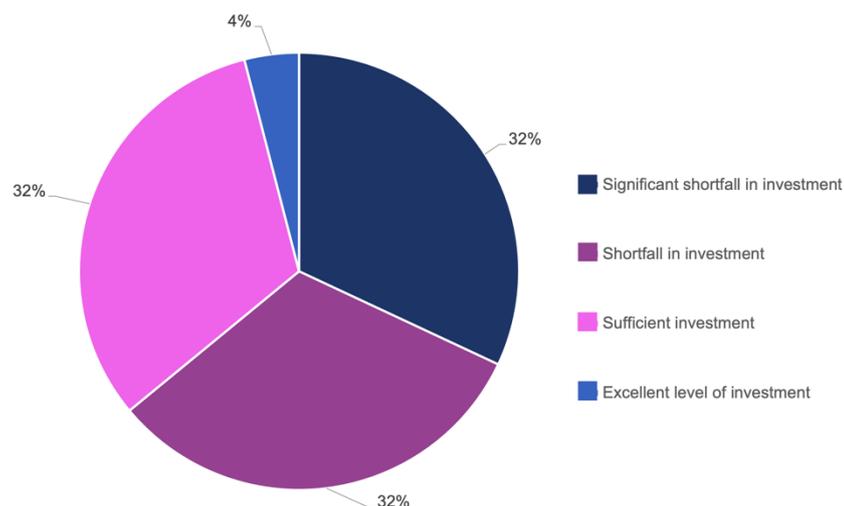
“With the evolution of qualifications and moves to greener technologies we need to be able to give learners access to the latest technologies and equipment. This is going to require considerable investment in this financial year”

Level of expenditure for materials and course content

The level of expenditure in materials and course content is reported to be in a better position that investment level for the new technologies/

Some 36% of colleges consider expenditure is at an appropriate level of very good. Conversely 64% report more expenditure is required.

Chart 2: Availability of Funds for Materials and Content



There is concern over price rises for materials which are stretching budgets; although college finance teams are working to address the challenges in some cases.

“The inflation for construction materials has not been recognised in budgets.”

“The foundation qualification requires much more in way of the material resources for both practice and assessment.”

“Increasing materials cost are having a negative impact on budgets and are not sustainable.”

Staff vacancy rates

Staff vacancy rates are quoted as 10% to 40%; with most colleges stating they are 15% to 25%.

“I cannot recruit staff in most areas where there is a vacancy, even agencies have stopped trying to recruit for construction vacancies.”

“I have needed a bricklayer tutor for at least 12 weeks.”

“Difficulty to source staff in all parts of the curriculum.”

Additional pay being offered to attract new staff

The respondents indicate that some colleges are offering improved packages, golden hello's, market supplements and higher pay in the range of 10% to 30%.

However, some report that their colleges will not address the pay challenge so that recruit has become very difficult if not impossible.

Use of structured market supplements

Around 45% of respondents' report that their college is now paying market supplements.

Most difficult occupations to recruit

There appears to be difficulties in recruitment across all occupations with particular concern for the high-volume trades such as bricklaying, carpentry, electrical, engineering services, painting & decorating, plastering, plumbing and heating/ventilation.

