

2020

Mid-Term Evaluation of the Technocamps Operation

Report Revision 2.0 dated August 2020

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Mid-term evaluation
undertaken by CIOTEK
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Executive Summary

This mid-term evaluation report describes the findings of an independent assessment of the Technocamps operation. The report encompasses the operation at the mid-term and assesses progress to date and makes recommendations that should be considered for the final phase and future direction of Technocamps. The mid-term evaluation has evaluated the operational context and structure; reviewed outputs, results and data collection methods; reviewed cross cutting themes progress, evaluated any constraints and challenges faced to date and examined future opportunities and impact. The report will form a platform for the final evaluation and how the findings to date will shape the final evaluation and the methodological decisions. In addition, the final evaluation will examine the recommendations made in this evaluation to assess their progress and implementation.

To achieve the objectives of this evaluation programme, CIOTEK undertook a comprehensive desk research exercise with the aim of understanding Technocamps activities and achievements to date, to review the Technocamps logic model and monitoring and evaluation processes to identify any changes since the Inception evaluation.

Evaluation Summary of Findings

The Technocamps operation has to date, been highly successful in meeting its objectives in encouraging participants to engage with STEM subjects. In particular with computing at GCSE level and beyond. The mid-term evaluation evidenced that the Technocamps operation remains directly aligned to Welsh Government aims and objectives. The evaluation also noted the support of the Welsh Government and its recognition of the importance of computer science. This was underlined by a pledge made by Kenneth Skates in June 2014 who was at the time Deputy Minister for Skills and Technology for Wales¹. The pledge was that “Wales is going to have a teacher in every high school by September who is able to offer coding”. Regretfully, this ambition has not been realised as it will take considerable training (or re-training), time and investment to achieve this target. It should be noted, however, that in the absence of suitably qualified computer science teachers, the Technocamps initiative is helping to provide the skills that were recognised by Ken Skates and the Welsh Government as being so important. The evaluation confirmed that the Technocamps initiative aligns directly to this statement and is supporting schools directly in developing these STEM skills and ambitions in pupils. Additionally,

¹ <https://business.senedd.wales/documents/s28553/12%20June%202014.pdf>

although not a part of the ESF funding, Welsh Government funding is providing teacher skills development via the Technocamps CPD training for STEM skills and enrichment programmes for pupils.

Both the strategic and operational management of Technocamps has been exemplary with good communication, a clear and shared vision and a swift and proactive response to Covid-19. It has been evidenced that the Technocamps operational and delivery team are highly motivated and committed to delivering a high quality and inspiring programme of support to students. During Covid-19 the Technocamps operation has worked together effectively and creatively to overcome the Covid-19 challenge. This resulted in the speedy design and creation of digital activity packs which have been made accessible to participants online via the Technocamps website².

Technocamps has continued to engage with pupils and teachers effectively both before and during the ongoing pandemic as well as engaging and working along with STEM Gogledd and Trio Sci Cymru. During the mid-term evaluation, members of the Technocamps management and operational team were interviewed along with external experts and Welsh government representatives. A specific teacher-oriented questionnaire was designed and issued across Wales to 136 secondary school teachers from whom we received a response of 62.

The Technocamps team, external expert and Welsh Government representatives all confirmed that Technocamps is strategically important for pupils, teachers, schools and for Wales. It was also noted that the Welsh Government has been very supportive and is promoting Technocamps achievements.

Team members were clear in their roles and responsibilities and confirmed that:-

- the management structure was excellent in supporting them;
- all members of the team are approachable and timely in answering queries;
- clear guidance and support have continued throughout the current Covid-19 pandemic.

It was confirmed that the market need for Technocamps is still high and the operation takes a multi-strand approach to promotional activities by utilising both traditional and digital channels of communication. It was also evidenced that Technocamps has made excellent progress towards delivering upon their CCT indicators. It was confirmed that a reprofile application for a no cost extension of one year was submitted. It is currently on hold due to Covid-19.

² <https://www.technocamps.com/en/activity-packs>

The external view was that teacher CPD courses is an absolute necessity as the knowledge base of teachers in the school system is seen as poor in Computer Science. The external view is, that one of the main factors impacting the sustainability of Technocamps would be an end to the current funding with no vision or commitment to a seamless transition into the next phase. The concern is that any form of “break” in the funding is likely to result in a loss of momentum, loss of key staff and loss of commitment from the schools.

The skills gap has and will continue to have a huge impact on the economy of Wales. If not addressed, it will impact the growth of businesses in Wales and will be a concern to inward investment by organisations identifying this shortcoming. A new report commissioned by The Open University in early 2020³. revealed:-

92% of organisations surveyed in Wales struggled to find workers with the right skills over the past 12 months.

The Open University Business Barometer, which monitors the skills landscape of the UK, reveals that employers in Wales are paying a high price to ensure their organisations have the skills required to remain productive. The shortfall is now costing organisations an extra £355 million a year in recruitment fees, inflated salaries, temporary staff and training for workers hired at a lower level than intended. Organisations in Wales are not optimistic, 68% feel the skills shortage has worsened in the last 12 months, this is higher than the UK average (61%) suggesting the shortage is felt more keenly in Wales.

The GCSE entries in Wales showed that the percentage share of GCSE ICT entries from girls has decreased from 41% in 2012/13 to 29% in 2018/19. The Welsh Government have commissioned a publication at the start of 2020 which reports back on this issue with suggested proposals on how it should be addressed, which is expected to be published by the end of 2020. Although not under the ESF funded programme the CPD courses align with and complement the Technocamps programme and are an excellent way to embed skills within the teaching profession and within schools in Wales.

Teachers who had collaborated with Technocamps were interviewed as a part of the mid-term evaluation. Overall, the opinion of Technocamps from the teachers was very positive with 98% of the teachers rating the Technocamps support as Excellent (77%) or Good (21%).

³<http://www.open.ac.uk/wales/en/news/skills-shortage-costing-welsh-organisations-over-%C2%A3350-million>

Recommendations

The following recommendations have been developed resulting from a detailed review of the Technocamps operation and the evidence collected during the mid-term evaluation. Evidence is provided in Section 4 (Findings) to substantiate these recommendations.

Recommendation 1 – Ongoing promotion of STEM Subjects

It is recommended that the overall promotion of STEM subjects in Wales needs to be an ongoing process and not an intermittent intervention. Wales still lags England with current statistics showing that only 11% of girls follow through beyond A level on STEM subjects. The investment needed for a continuous promotion of STEM subjects is an investment in the future wellbeing of Wales through addressing the current skill gap.

Recommendation 2 – Re-profile

It is recommended that the Technocamps operation is re-profiled with immediate effect to allow enough time to deliver against objectives now that schools are returning to “normal” delivery. A delay in reprofiling runs the risk of Technocamps losing key staff with the added complexity of needing to employ a skilled person/s into a key position/s in the final stages of delivery.

Recommendation 3 – STEM ambition

An early decision needs to be made as to when this project will receive ongoing Welsh Government or WEFO support. Universities are no longer in the financial position of being able to bridge the decision gap as they have been in the past. A delayed decision will lead to Technocamps losing both momentum and credibility. It needs to be recognised that this will set back the STEM ambition in Wales and run the risk of falling even further behind England.

Recommendation 4 – Importance of Face to Face interaction

It is recommended that (when possible) the inspirational and motivational aspect of the personal face to face involvement and interactive delivery (even if this is online) is re-established as far as possible, as seeking to replace it entirely with technology (recorded sessions) will lead to a significant number of students disengaging with the programme.

Recommendation 5 – Further Funding

Provide funding for Technocamps to:-

i) widen their engagement with industry and recruit role models (in particular female) from the sector who are prepared to give up their time to speak about their careers and the career opportunities that exist through following a STEM based education profile. This will lead to more students being inspired to study STEM subjects and take a career in respective roles.

ii) develop their mentoring service to support pupils with group activities and one to one support to ensure grades are attained and STEM interest is maintained. Supporting not only their academic journey but providing option support and progression support via undergraduate students who have already taken a STEM career pathway.