T-LEVELS | Institute for Apprenticeships & Technical Education

Chief examiner's report

T Level Technical Qualification in Digital Support Services (Level 3) (603/6901/2)

Summer 2023 – Employer set project (Network Cabling and Digital Infrastructure)

NCFE

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Summer 2023 – Employer set project (Digital Infrastructure and Network Cabling)

Assessment Dates: 09–19 May 2023

Paper Number: P001651

This report contains information in relation to the externally assessed component provided by the chief examiner, with an emphasis on the standard of student work within this assessment.

The report is written for providers, with the aim of highlighting how students have performed generally, as well as any areas where further development or guidance which may be required to support preparation for future opportunities.

Key points:

- grade boundaries
- standard of student work
- evidence creation
- responses to the external assessment tasks
- administering the external assessment

It is important to note that students should not sit this external assessment until they have received the relevant teaching of the qualification in relation to this component.

Grade boundaries

Raw mark grade boundaries for the series are:

	Overall
Max	76
A*	67
A	58
B	49
C	41
D	33
E	25

Grade boundaries are the lowest mark with which a grade is achieved.

For further detail on how raw marks are converted to uniform marks (UMS) and the aggregation of the core component, please refer to the qualification specification.

Standard of student work

Learners' performance varied significantly across various tasks, resulting in a diverse distribution of grades. Stronger students demonstrated excellent responses, particularly in tasks one and three, which focused on applying knowledge and required higher-order skills. These tasks proved more challenging for students, and there were clear distinctions between those who grasped the concepts and those who did not.

While most students were able to communicate effectively during their interviews, many struggled to deviate from their prepared scripts, missing opportunities to ask follow-up questions. The email task revealed that many students needed more practice effectively communicating with technical and non-technical audiences and applying analytical thinking.

Furthermore, many students needed to improve in applying a logical approach to problem solving, which was evident in tasks one and three. Weaker students found it challenging to evaluate how well the outcomes aligned with the given brief (AO5), as they needed to have the necessary approach and structure to maximise their marks.

It is important to note that learners unnecessarily lost assessment marks for English and Mathematics skills (AO4) across all ability levels. Therefore, it is crucial to emphasise the importance of proofreading and encourage students to develop the habit of thoroughly reviewing their work in the future.

Evidence creation

Most providers submitted evidence well, making it easier to review. The audio files and documents were in a standard format (usually mp3 and pdf), ensuring compatibility. The WAV audio file format is discouraged as its playback proved problematic.

Unfortunately, hyperlinks provided by learners within documents did not work as all evidence is scanned, thereby removing the functionality of the links.

On occasion, some evidence was inadvertently not submitted by providers, causing delays in assessment; providers must ensure that this does not happen in future.

Responses to the external assessment tasks

Task 1: Troubleshooting document

Generally, this task was approached quite poorly by learners – a minority produced effective test plans, and a good proportion did not consider the supplied control documents, which pointed out the issues. Providers have focused on 'problem-solving techniques' and still need to cover the technical skills to identify the problems.

Many students identified the internal IP addresses in the Router Port Forwarding Configuration table were incorrectly assigned to services, including the VPN and attempted to solve it by assigning them to either the router (10.0.1.1) or the Server (10.0.1.250); either approach was fully credited.

Some students recognised the importance of rank and moved the DENY service down below the VPN service. Others turned off this service which was also credited as a possible solution.

Good responses also included changing the external port numbers to more appropriate ports, such as 1723 or OpenVPN TCP port 443, IPsec UDP port 500 etc. Some students recognised that the PPTP (Point-to-Point Tunneling Protocol) needs to be updated to a more secure protocol.

This task tested students' understanding of troubleshooting using a logical process involving relevant steps to identify network faults. Some students needed to understand the requirement to resolve all faults and stopped working after making a single recommendation.

Task 1: Test plan document

Most students understood how to structure a test plan but needed help to describe the logical sequence of relevant tests required to resolve the network faults.

Some students didn’t understand the need to run tests to verify that they had rectified the faults. For example, accessing remote files/folders and running the Ping and Tracert commands to connect to the VPN Server.

Task 2: Interview

Students' completion of this task was generally satisfactory, with approximately 80% earning three to four marks. Most students demonstrated reasonable communication techniques by employing a series of well-constructed questions to gather the required information. However, around one-tenth of the students received a band one mark, mainly due to their inflexible adherence to their pre-planned questions, which caused them to miss opportunities for follow-up questions or active listening.

Providers approached this task with considerable variability, ranging from offering answers that were not requested to reading directly from the provided material. The interviews were more successful when providers paraphrased the information and made the experience feel more realistic. These providers gave students answers based on the provided material or logically derived instead of simply stating, "I don't have that information."

Some providers were unhelpful to students and didn't give them any information or very closed responses such as "no". One response to the question, "What appears to be the issue with your network?" was, "It doesn't work". The learner followed up with, "What do you want from the network?" the teacher responded, "For it to work...". This response is not helpful to students.

Another centre fabricated pure fantasy, for example, they run Windows 13 on devices through a special arrangement with Microsoft. When questioned about VPN protocols, they responded, "Confidential; you need to sign an NDA". This same centre stated a storage requirement of 2000TB to one student and then 12TB per day to another and a budget of £2,000,000.

The quality of the recordings is the provider's responsibility, and everything should be done to ensure that students' voices can be heard. This was not the case with some centres; on one occasion, noise-cancelling headphones were used to cancel out the learner's voice, making it very difficult to access. One centre submitted one long audio file for all candidates, making the assessment tedious.

This variability between centres does not offer students parity in the assessment across the country.

Task 2: Emails

Around 70% of students achieved three to four marks for this task. While many students adapted their communication styles to suit both audiences, their efforts remained superficial. There needed to be more technical terminology in their responses. To achieve higher grades in this task, students must demonstrate excellent application of analytical thinking and problem-solving skills when addressing scenario-based problems. Unfortunately, such proficiency was lacking in most of the evidence, indicating an area for improvement across the entire cohort.

Approximately 30% of students scored in band one for this task.

Task 3: Project Proposal

This task enables students to demonstrate their understanding of the issues presented in the scenario and provide a resolution. It covers the current problems, potential solutions, network hardware, software, services, and associated cybersecurity evaluations.

Many proposals were brief and needed more detail and justification; only a few learners accessed beyond the lower two bands due to this. Some learners produced potentially good solutions but needed more explanation of the choices or how the components specified would fit together.

Around 30% of students achieved five to nine marks, while another 30% scored higher. Given its weightage of up to twenty-four marks, this task holds significant importance, as evidenced by the allocated four-hour completion time. Some students needed to understand the detail required to achieve higher marks and submitted insufficient evidence of only one to two pages, which should have covered the task's scope.

Approximately one-tenth of students achieved fifteen to nineteen marks.

Students frequently duplicate resources, such as purchasing multiple costly servers, while recommending a complete cloud solution. While hybrid networks are valid, care is needed when describing the purpose of each component.

Network diagrams often needed more detail to earn higher marks. It is essential to include all relevant elements, such as VPN, servers, cloud resources, and PCs, clearly identified within the diagrams.

Strong responses outlined cloud services, addressed cybersecurity issues, and provided detailed descriptions of all required hardware and software, consistently referencing the scenario's requirements throughout their evidence.

Task 3: Mathematics skills

In this task, students must showcase their numeracy skills within their proposal. Around 30% of students successfully obtained the full two marks. Slightly over one-third of students scored one mark, falling short of the maximum due to minor inaccuracies in their calculations.

Some students merely listed prices, sometimes in dollars, without providing any calculations, resulting in a score of zero.

Strong responses encompassed a table that included cloud services, hardware, and software costs. They also identified quantities when relevant, indicated whether the expenses were one-off or monthly, had subtotals, and provided an overall total.

Applying addition, subtraction, multiplication, or division operations was often sufficient to earn full marks; this is a crucial area for students to develop.

Task 4: Testing method - audience testing (sample satisfaction survey)

Some good surveys but often missing all elements as outlined in the indicative content, and a small minority of learners provided a link; electronic surveys are excellent practice, and to be expected, we need more than a link; they need to include a print of the survey.

Around 50% of students attained three to six marks in this task, with approximately 40% earning one to two. Notably, some students overlooked the survey's purpose and focused solely on the company and their network upgrade, disregarding the end user's perspective.

Strong responses featured well-structured and pertinent questions, employing a variety of question types to gather qualitative and quantitative data, with questions formulated using clear and concise language.

Task 4: Post-project review

Most students needed help to evaluate their performance here, often falling back to quite descriptive language rather than evaluative.

Significantly only some students related their solution to the initial problem and made judgments on how well (or not) it met the outline.

Around one-third of students achieved three to five marks in this task.

Tasks 2, 3 and 4: English skills

Some students needlessly lost marks in this category due to spelling, punctuation, and grammar errors in tasks one, two, and four. Students must develop the habit of thoroughly proofreading their work. Around 85% of students earned three or four marks, while 15% obtained two marks for their English skills.

Administering the external assessment

The external assessment is invigilated and must be conducted in line with our Regulations for the Conduct of External Assessment. Students may require additional pre-release material to complete the tasks. These must be provided to students in line with our regulations.

Students must be given the resources to carry out the tasks, and these are highlighted within the Qualification Specific Instructions for Delivery (QSID).