# Knowledge assessment: Short answers

## Criteria

### Unit code, name and release number

BSBCRT404 – Apply Advanced Critical Thinking for Work Processes

ICTSAS432 – Identify and resolve client ICT problems

### Qualification/Course code, name and release number

ICT40120 - Certificate IV in Information Technology (1)

## Student details

### Student number

800406188

### Student name

Ryan “Lunar” Bassil

## Assessment Declaration

This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.

No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.

I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is your own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: 1.0

Date created: 01 December 2019

Date modified: 01 December 2019

For queries, please contact:

Technology and Business Services SkillsPoint

Location: Ultimo

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your knowledge of researching and implementing new technology. |
| **Assessment Event number** | 1 of 2 |
| **Instructions for this assessment** | This is a written assessment and it will be assessing you on your knowledge of the unit.  This assessment is in one part:   1. Short answer questions   The assessment also contains:  Assessment Feedback. |
| **Submission instructions** | On completion of this assessment, you are required to upload it or hand it to your assessor for marking.  Ensure you have written your name at the bottom of each page of this assessment.  Submit the following documents:  This assessment paper  It is important that you keep a copy of all electronic and hardcopy assessments submitted to TAFE and complete the assessment declaration when submitting the assessment. |
| **What do I need to do to achieve a satisfactory result?** | To achieve a satisfactory result for this assessment all questions must be answered correctly. |
| **Assessment conditions** | Assessment conditions will replicate the workplace, where the conditions are typical of those in an ICT working environment or workplace.  Assessment may be undertaken in normal classroom conditions, which is assumed to be noisy and similar to workplace conditions, or within the workplace. This may include phones ringing, people talking and other interruptions. |
| **What do I need to provide?** | A pen, if a paper version of assessment is provided  USB drive or other storage method with enough free space to save work to. |
| **What will the assessor provide?** | n/a |
| **Due date and time allowed** | Indicative time to complete assessment: One hour  Due Date: 26th April |
| **Assessment location** | This assessment will take place either remotely or in the classroom.  The student may access their referenced text, learning notes and other resources. |
| **Supervision** | This is a take home assessment. |
| **Reasonable adjustment** | If you have a permanent or temporary condition that may prevent you from successfully completing the assessment event(s) in the way described, you should talk to your assessor about ‘reasonable adjustment’. This is the adjustment of the way you are assessed to take into account your condition, which must be approved BEFORE you attempt the assessment. |
| **Assessment feedback, review or appeals** | In accordance with the TAFE NSW policy *Manage Assessment Appeals,* all students have the right to appeal an assessment decision in relation to how the assessment was conducted and the outcome of the assessment. Appeals must be lodged within **14 working days** of the formal notification of the result of the assessment.  If you would like to request a review of your results or if you have any concerns about your results, contact your Teacher or Head Teacher. If they are unavailable, contact the Student Administration Officer.  Contact your Head Teacher for the assessment appeals procedures at your college/campus. |

## Short answer questions

**Read the questions carefully. Each answer should be 75-200 words.**

**Expand the boxes as required.**

1. Describe the main characteristics of Critical Thinking, and how they can help to diagnose problems in the workplace

**Critical thinking** refers to the ability to use knowledge, facts, and data to effectively solve problems.

*"Critical thinking is the intellectually disciplined process of actively and skilfully conceptualizing, applying, analysing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action" (Scriven, 1996).* – University of Tennessee.

According to this statement from the university, critical thinking, in layman’s terms, is the act and process of taking a situation, problem, or circumstance and finding an alternative perspective on it and asking a series of questions from that perspective to give possible further insight, based on experiences, external information, analysis, and evaluation.

In the workplace, critical thinking can help to avoid impactful mistakes in the future and find solutions to ones that have already happened. It can also provide ways for teams to become more cooperative.

1. List and describe at least two **formal techniques** of Critical Thinking

The Pearson RED model:

1. **R**ecognise assumptions
   * What are the assumptions you’re making about the issue/situation; why are you making those assumptions; re-evaluating the circumstances and reasons that these assumptions exist.
2. **E**valuate arguments
   * Thinking through the arguments from all sides and reaching objective conclusions for each argument’s outcome; analyse your biases and re-adjust your arguments to be more objective; find all the pros and cons to every argument.
3. **D**raw conclusions
   * Using the arguments developed, find the most objectively appropriate and beneficial solution to the issue.

The DAE model:

1. Description
   1. The process of gathering surface level information on the issue at hand – what, why, who, where, and when.

<https://www.youtube.com/watch?v=ZLff7mN0kEw>

1. Analysis
   1. Focuses on the why, what if, and how the issue at hand came to be and the same questions can be asked about the sources looked into in the Description step.
2. Evaluation
   1. Collecting all the information and evidence gathered in the previous steps and formulating the most objectively logical and likely conclusion.
3. Explain the differences between **Policies**, **Procedures** and **Guidelines** within a work context, and give an example of each, and their scope/limitations.

Policies: the ethics, values, and philosophy that a company, organisation, or individual follows that impacts the culture of the entity in question.

Procedures: A series of steps to implement a routine, set of tasks; or a set of instructions to achieve a desired result.

Guidelines: A set of optional rules or advice to follow to achieve higher than mandatory objectives or goals for an entity, even if the objective is a policy or culture.

1. Give an example of at least 3 legislative requirements that may relate to workplace policies and procedures

Anti-discrimination and harassment policy:

This policy is all about defining what discrimination and harassment is, how it can take place, examples, what to do in the situation of witnessing or experiencing harassment, and where to find help on the topic. These guidelines on a ADH policy are set by the Human Rights department of the Australian government.

Privacy policy:

This policy covers the protection and legal use of an entity’s personal information, and an entity that is legally required to have said policy is covered by the Australian Government’s Privacy Act 1988. It requires details from the entity giving the policy, such as their name, what information they store, why they store it, etc.

Non-smoking policy:

This policy lists where individuals or staff members are allowed to smoke and not allowed to smoke on a physical premises. Often the rule is within 4 meters of a building owned by the entity. This follows the Smoke-free Environment Act 2000 from the Australian government.

1. In a studio environment, where might you find reliable information relevant to workplace procedures?

In a studio environment, one might find relevant information to workplace procedures at the Human Resource department, the Australian Government policies required by a company (entity), a workplace handbook, or your contract. Additionally, most workplaces provide supplementary documents containing their policies, if not included within a training portion of beginning a job at the company.

1. For the following assets within a gaming studio environment, indicate the likely frequency of maintenance required, and who within or external to the studio may be responsible

|  |  |  |
| --- | --- | --- |
| ASSET | MAINTENANCE FREQUENCY | RESPONBILILITY |
| Printer | 3 months | External if broken, internal staff if maintaining ink |
| Desktop Computer | Monthly | External |
| Hard Disk (HDD) Backup | Daily | Studio manager |
| Solid State Drive (SSD ) Backup | Daily | Studio manager |
| Battery replacement on devices | Fortnightly or Monthly | Studio staff |
| Software driver updates | Monthly to Bi-Monthly | Studio manager |

1. Briefly describe some of the more common diagnostic tests that can be undertaken within a studio/office environment on PCs.

* Running a simple dxdiag program on a Windows based PC will provide some beneficial information on the PC specs and recent logs of activities.
* Internet speed checks using apps or websites that are safe and commonly used such as: [www.speedtest.net](http://www.speedtest.net) . This will net you performance diagnostics of local and external connections.
* Running memory diagnostics built into many OSs (such as *Windows Memory Diagnostic* for Windows and using iOS’s *Utilities* menu on their memory tab). An additional way to check memory usage in your RAM is to use the Task Manager to monitor performances and memory usages.
* Disk error checks can be useful to finding problems in memory or operating storage devices.
* If you are working with a Hard Disk Drive it will likely need *defragging* at some point. Defragging is a way to re-optimise the search times for the device for files as the files get more fragmented over time. Due to the hardware nature of SSD’s it should *not* be carried out on them.

1. Given the Impact Analysis table below, determine the risk for the scenarios shown

Table

Description automatically generated

**For an online game that your company is responsible for:**

1. A long-term user is having trouble logging in to the game: High.
2. A long-term user is having difficulty accessing the leaderboard: Normal.
3. A recently enrolled user is having trouble logging in to the game: Medium.
4. No players are able to enter a particular building within the game: High.
5. One of the regional servers is down, affecting a group of players: Critical.
6. With reference to the previous question, how would you prioritise requests for assistance?

Prioritising by risk factor would be the first step. Following that, it is best that all players are able to access the game, even if the game is buggy, so prioritising the issues where multiple users cannot access the game is top priority. Second priority would be any major effects to gameplay that affect a large portion of users such as huge lag or strange character behaviour (phasing through walls and getting stuck).  
The next step would be to prioritise long-term users’ issues with any of the aforementioned bugs, otherwise the next priority would be smaller bug effects to gameplay and starting with long-term user priority as a sub-list.

1. How can you ensure sustainability when working within the ICT industry for example in a game studio using computers and other relevant equipment? Also discuss appropriate disposal of components. Are there any environmental guidelines or legislation that need to be followed?

Manufacturers are required to have manuals or guidebooks on how to properly handle and store their products. For example, *Energiser* have this as part of their storage guidelines on their batteries:

“…*practice proper battery storage by keeping batteries in a cool, dry place at normal room temperature. It’s not necessary to store batteries in a refrigerator.*”

Computer equipment have similar guideline provisions, and in order to prevent bad practices and potential harm to users, the studio must ensure these guidelines are followed.

As it stands in 2022, coal burning accounts for 75% of Australia’s electricity provision and hydro only 5%, meaning that a more sustainable approach to a game studio’s practices would be to:

* reduce paper usage as much as possible
* ensure lights and appliances are switched off when not in use
* and, if possible, to donate a percentage of profits to replanting trees and reserving forests.

Additionally, the studio can focus on using rechargeable batteries in battery-powered appliances, and properly dispose of all batteries by creating special bins specifically to collect expired batteries and to be taken to a recycling facility as listed by the Australian government.

The paper, cardboard, and plastic that is used within the company can be collected in special bins to be taken to a special recycling company much like the batteries.

The studio can encourage minimal use of plastics by investing in metal or bioorganic utensils and crockery, such as cups, straws, and water bottles.

The Australian government have set rules and regulations outlined in a few *Acts* (listed [here](https://www.epa.nsw.gov.au/your-environment/waste/waste-overview/waste-regulations)) that define what “waste” is for a company and how to dispose of it legally. The NSW Environmental Protection Agency has a number of useful resources (listed [here](https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse)) that aid in direction of recycling many materials, and while not legally required, they would go a long way to environmental sustainability and lessen the studio’s carbon footprint.

1. What are some of the advantages of using dedicated ITSM software, rather than simple spreadsheets?

Simple spreadsheets are great for storing data, performing calculations (such as in Excel), and sorting lists of data. Spreadsheets do not have specific algorithmic functions that relate to sorting how the data is presented relating to other data. It also does not have functions that assist in capturing live data that can also be accessed by multiple users at a time (such as an employee and a manager).

More sophisticated helpdesk or ServiceDesk software can handle the range of activities that a service desk operator needs to perform. ITSM software is specifically geared to capturing relevant data for its industry, sorting that data based on user input and values to display and calculate based on relevance to other data stored within it, and in some cases assisting with *solving* an issue by bringing to attention previous similar issues to the current one at hand, cutting down work time for a user.

For example, in a service desk situation for a car company, using a spreadsheet when receiving a call from a customer with an issue with their car. The employee would have to open a relevant part of the spreadsheet, locate the appropriate cell/column/row to input the *description* of the issue, then open another spreadsheet to find the caller’s details if they had previously been to the company and what their previous issues were.

If the employee was using an ITSM software, all that would need to be done is access their likely already-open software, search the user’s name or other defining details, bring up their record and create a new issue/comment/service request. Inside this request would be all the relevant sections such as the *description* the type of vehicle, the date, the employee’s name, the registration number, etc. All within one place and easily readable.

1. What is the main difference between a Help Desk and a Service Desk?

The main difference between a Help Desk and a Service Desk is the level of service provided. Help Desks are much smaller in objectives and operations, with their main objective to bring resolution to an issue as efficiently as possible. Service Desks have a broader objective of customer satisfaction and data gathering, solving issues and providing related information whilst collecting information about the issue at hand and the customer with the issue, making sure they leave satisfied.

1. Imagine you are working in a studio developing VR games. Using the table below:
   1. What are the main software programs you will need for both design and development
   2. What are the key functions and basic features of each of the software programs listed?

|  |  |  |  |
| --- | --- | --- | --- |
| Program | Main use/function | Features | Limitations |
| Unity 3D | Developing the game – coding, placing the virtual world objects, testing, etc | Scene view for visual editing - manipulating and adding objects (assets) into the game environment.  Game view for viewing the perspective of what the player would see in the current build of the game.  Physics engine for game objects to interact with each other and simulate real-world physics.  Plugins/libraries to extend functionality of the software based on user needs.  VR compatibility with exporting and importing projects. | No external code libraries – version control and collaborative work when using multiple code libraries in a project is very tedious with no out-of-the box way to centralise these code libraries. Causing potential file disarray.  Garbage collection is less efficient than competitor’s software.  Frequent updates means unless you use an older version for a length of time, your project will be breaking frequently and add to development/testing time. |
| Maya | 3D asset creation | 3D modelling  UV unwrapping  Animation  Multiple file type exporting  Skeleton setup up  Playback viewport to view animations of an asset. | Fairly buggy and performance heavy on computer resources. |
| GitHub | Version control | Easy project management  Collaborative coding  Code/project review  Public repositories for public sharing of projects | Push size limit to a repository is 2GB  Max size of each repository is 100GB  Individual files must be smaller than 2GB |
| Nuclino | Brainstorming, mood-boarding, and developing a dynamic Game Design Document collaboratively. | 2GB per team for items within the workspace  Workspace splitting using fields and items  Collaborative sharing of comments and workspace  Role assigning | Better features of Nuclino are in the paid version  Limits are 2GB for a workspace in the free version, and 10GB in the paid.  Requires online connection. |
| Trello | Task tracking and assignment | Role assignation  Task assignation  Task tracking in multiple workspaces  Collaborative work on task management in a project  Dark mode  Label creation to mark tasks | Requires online connectivity  A task/card is limited to one project  Readability gets a little poor with a large project and many tasks  Limited storage allowance. |

### Bibliography:

<https://www.utc.edu/academic-affairs/walker-center-for-teaching-and-learning/faculty-support-and-resources/pedagogical-strategies-and-techniques/ct-ps>

<https://dynamixsolutions.com/whats-the-difference-between-service-desk-vs-help-desk/>

<https://www.atlassian.com/itsm/service-request-management/help-desk-vs-service-desk-vs-itsm>

## Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor feedback

Has the Assessment Declaration been signed and dated by the student?

☐ Are you assured that the evidence presented for assessment is the student’s own work?

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***