

2016 VCE VET Interactive Digital Media examination report

General comments

Students showed a good understanding of the vocational nature of Interactive Digital Media (IDM) studies, particularly as a number of questions asked students to apply their theoretical knowledge to a workplace scenario. The majority of students attempted most questions and practical tasks. Students should be encouraged to carefully plan their use of time over the three sections of the examination to ensure they devote sufficient time to fully answer Section C.

Good preparation for the multiple-choice and short-answer components of the examination was to thoroughly revise each of the six units of competency. Students needed to develop a thorough understanding of not only the elements and performance criteria of the units, but also the required skills and knowledge for each unit. As always, students are strongly advised to prepare a glossary of key terms throughout the year to assist in their revision for the examination.

In the short-answer section, students should understand that while mark allocation can be a guide to the depth of answer required, it is most important to consider what the question stem requires. With questions that used 'list' or 'give' a relatively brief response was acceptable; however, questions asking students to 'explain' or 'describe' required more detail in the answer, although these types of questions often said, 'briefly describe' or 'explain briefly'. There was a tendency for students to write overly lengthy responses, to confuse their answers and to occasionally contradict themselves. Students need to practise writing answers that are succinct, precise and accurate. Students should also ensure that they answer all parts of a question.

Students who were able to answer more technical questions, such as those about preparing video assets, showed a good understanding. A similar trend was evident with CSS and HTML code-type responses.

Specific information

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	% No Answer	Comments
1	2	93	3	2	0	
2	26	35	6	33	0	It is important to understand the various roles in an interactive digital media team. Although all roles mentioned in this question play a part in ensuring website usability, it is the information architect who is particularly concerned with making sure the overall structure of the site allows users to efficiently gather the information they require. The information architect focuses on organising, structuring and labelling information in a way that makes retrieval by a web user as easy as possible.
3	10	3	29	59	0	
4	3	66	24	6	0	
5	79	4	4	13	0	
6	35	3	58	4	0	
7	18	54	16	11	0	
8	4	32	20	43	0	
9	35	54	6	5	0	Many students chose inks and washes, failing to note that the image was digitally altered. Inks and washes would generally be done by hand in hard copy. The major digital manipulation shown was the added sense of linear perspective (option A).
10	1	8	68	23	0	Visualisation (option C) would more accurately occur when an artist was trying to imagine the outcome/finished piece they are planning to create.
11	21	47	8	24	0	Rhythm (option D) is seen in the arrangement of the letters, rotated one way and another to suggest movement back and forth.

Question	% A	% B	% C	% D	% No Answer	Comments
12	30	7	9	54	0	The diagram could be typical of planning the overall structure of a website (as stated by label in the top right, 'site overview'). Not all pages are linked by arrows as might be expected in a flowchart, but there are some arrows indicating a flow chart-type arrangement. The diagram does not show the layout of a single page therefore option D –user interface design is not the best answer.
13	25	8	57	10	0	
14	13	38	15	33	1	Students should be familiar with alt tags as a W3C accessibility requirement, especially to assist those with low vision/who are using a screen reader to understand what is on a web page.
15	1	85	11	3	0	
16	2	3	3	92	0	
17	1	13	85	1	0	
18	1	1	98	0	0	
19	4	90	4	2	0	
20	54	13	29	4	0	

Section B – Short-answer questions

Question 1a.

Marks	0	1	Average
%	62	38	0.4

Students needed to explain why this vector image would be smaller than the bitmap by giving an answer such as: A vector is mathematically defined in terms of shapes. The computer only needs to recall the positions of the three points of the triangle and the fill colour, whereas with a bitmap the computer needs to recall the information (position and colour) for each pixel that makes up the triangle.

Another suitable response was that anti-aliasing (pixel feathering) of the bitmap creates a higher file size because various tones of colour are used to achieve this smoothing effect.

Question 1b.

Marks	0	1	Average
%	62	38	0.4

Change the file format from a TIFF to a GIF, PNG or JPG as these are web-suitable formats.

Some students responded by changing the file resolution, but did not seem aware that TIFF files are not appropriate for the web.

Question 2

Marks	0	1	2	Average
%	65	22	14	0.5

One mark was given for the answer 1 bit.

One mark was given for the explanation: This is a colour display in which each pixel is described by 1 bit of information. One bit is either on or off (1 or 0). If the pixel is 'on', it is a white pixel. If the pixel is 'off', it is a black pixel.

Question 3a.

Marks	0	1	Average
%	85	15	0.2

Moral rights are laws that protect the rights of a creator of copyright material even if they have sold, licensed or given away their work. Moral rights law protects the integrity of the creator.

This question was not well answered by students. It is essential that students understand the basics of copyright law as this is required knowledge for many aspects of this study. Many students responded to the word 'moral' by providing answers about writing honestly or behaving in a good way, which are admirable qualities but do not relate to copyright law.

Question 3b.

Marks	0	1	Average
%	78	22	0.2

An example of how a moral right is applied to a piece of creative work could be (any one of):

- right of attribution: this is the right of the creator to be identified and named as the creator of their work
- right against false attribution: this is the right of a creator to prevent others from being identified and named as the creator of their work
- right of integrity: this is the right of the creator to ensure that their work is not subjected to derogatory treatment; the *Copyright Act* defines 'derogatory treatment' as any act in relation to the work that is in any manner harmful to the author's honour or reputation.

Some students described an example, which was acceptable as long as one of the above points was described. For example: a photographer sold his copyright of a photo to an organisation that then used the photo in a racist poster; this was a breach of moral rights as his work was used in an offensive manner that harmed his reputation.

Question 4

Marks	0	1	2	Average
%	2	23	75	1.8

Any two of:

- change the text colour to something that stands out from the light background
- change the contrast in the background image to make the text stand out
- change the size of the text or move the text down
- make the text fit into the positive and negative shape of the background to help define the text
- add layer effects such as stroke or drop shadow to make the letters clearer.

As the question specified, the style of the image should have been maintained, so it was incorrect to suggest changing the font, for example, to sans serif.

This question was very well answered, although some students expressed the same solution twice. It is very important that when students are asked to give two ways, their answers are sufficiently distinctive to merit full marks.

Question 5**Creative thinking technique 1**

Marks	0	1	Average
%	55	45	0.6

Creative thinking technique 2

Marks	0	1	Average
%	66	34	0.4

This question was not well answered, even though it gave students scope to discuss two creative thinking techniques from a choice of four. Students were either not clear on two of the techniques given or they did not mention how the technique could be applied in the creative design process. Edward de Bono's Six Thinking Hats was most commonly chosen. The other three techniques were not well explained, with some students describing a combination of various aspects of each technique rather than clearly outlining the technique they chose for their answer.

Edward de Bono's Six Thinking Hats:

This process was described as metaphorically using a different coloured hat to consider a problem from a particular point of view. It was not necessary to describe each of the six colours and their meaning, although a number of students did this; however, to gain a full mark students had to say something like, 'The use of these hats forces people to look at a problem in different ways and therefore explore new and creative ideas' – that is, the student needed to apply the technique to the creative design process.

Morphological analysis:

This method breaks down a system, product or process into its essential components, with various possible characteristics for each component. For example:

shape	substance	texture	colour
round	timber	smooth	black and white
organic	paper	rough	bright
geometric, etc.	glass, etc.	prickly, etc.	pastels, etc.

Characteristics are then randomly combined to see what new, interesting ideas are developed.

Making associations:

This process generates creative ideas by using random words or ideas and freely associating them with other unrelated words or ideas to generate new concepts.

Use of metaphors:

A comparison between two unrelated or indirectly linked things is called a metaphor. Metaphors help make sense of the unfamiliar or create an interesting creative solution by comparing something to something familiar; for example, describing the movement of clouds as 'the clouds sailed across the sky' might develop a very interesting opening scene in an animation.

Question 6

Marks	0	1	2	Average
%	6	30	63	1.6

Students confidently described two ways occupational health and safety (OH&S) standards can be ensured for a web designer working on a computer for long periods of time; however, some students ignored or did not understand the question proviso that these not involve using ergonomic furniture and equipment. Possible responses included:

- taking regular breaks
- stretching/exercising/moving off chair
- changing eye focus
- maintaining good posture without reference to furniture – for example, feet flat on the floor
- having good lighting/reduce glare (but not by using a special shield over the screen)
- ensuring enough work space and that is clean and tidy
- positioning wrists correctly (without using special mouse or armrests)
- minimising tripping hazards
- preventing electrocution hazards
- minimising noise.

Question 7

Marks	0	1	2	Average
%	88	9	4	0.2

This was a very poorly answered question. A communication principle from the units of competency could include:

- communicates the message
- conveys meaning
- encourages feedback and interaction

- meets audience requirements
- promotes two-way conversation.

Many students described writing techniques such as the inverted pyramid, avoiding clichés, cutting word count, using active voice and so on. Others described presentation techniques such as the use of bulleted and numbered lists, captions, etc. These techniques help writers achieve the more general communication principles.

Question 8a.

Marks	0	1	Average
%	6	94	1

This question was very well answered, with possible responses including:

- voice recording
- narration/voice over
- dialogue
- special or sound effects
- Foley

Question 8b.

Marks	0	1	Average
%	5	95	1

Many appropriate responses were given. These included:

- create mood
- create anticipation
- storytelling
- set a pace
- indicate a geographical locale
- indicate a historical period
- clarify the plot
- define a character
- connect otherwise unconnected ideas, characters, places, images or moments
- heighten realism or diminish it
- draw attention to a detail, or away from it
- indicate changes in time
- smooth otherwise abrupt changes between shots or scenes
- emphasise a transition for dramatic effect
- exaggerate action.

Question 9a.

Marks	0	1	Average
%	95	5	0.1

The technique used to move the head back and forth was hinges, pivots or registration point. Students needed to carefully study the image provided to understand that the character's head was moving from side to side. The blue bounding box indicating a Flash symbol should have helped students to identify this movement.

No explanation of the technique was required.

Question 9b.

Marks	0	1	Average
%	95	5	0.1

Few students recognised the design composition technique of 'rule of thirds'.

Question 10a.

Marks	0	1	Average
%	68	32	0.3

An ID selector is used once on a web page and a class selector can be used more than once.

Some students explained further. For example, use the ID when you have a single element on the page that you wish to style, or use a class when you want to consistently style multiple elements throughout the website.

Question 10b.

Marks	0	1	Average
%	80	20	0.2

Class names must begin with a full stop and can contain any combination of letters and numbers; for example, .intro

It was not necessary to include examples of styles, as the question asked for an example of a class selector.

Question 11a.

Marks	0	1	Average
%	41	59	0.6

RGB or red, green, blue

Question 11b.

Marks	0	1	Average
%	67	33	0.4

White is created through full intensity/measure/strength of red, green and blue light.

Values of 255 for each channel was an acceptable answer.

Question 12

Marks	0	1	2	Average
%	26	38	36	1.1

The majority of students named one or two advantages of CSS. Possible answers included:

- can reduce amount of code
- faster download times
- browsers read code quicker
- easier to maintain/update
- more efficient therefore saves time and money
- current industry standard

- separates design from content
- can be reused on other sites and pages
- easy to read and edit content in code view
- more formatting options, for example, greater control of text and borders with things that HTML cannot do, such as leading and drop shadow
- can attach style sheets for different purposes, for example, printing, mobile, screen readers
- search engine optimisation benefits
- ease of presenting different styles to different viewers
- greater accessibility
- CSS is compatible with most web browsers; if not compatible, content will still be displayed with browser default styles.

Question 13

Marks	0	1	2	Average
%	37	39	24	0.9

Many students clearly understood the reasons for using media encoding software; however, some failed to clearly express their answer, making it difficult to discern the distinct reason/s being given. These included:

- video files can be very large and often need to be compressed for storage or transmission
- video often needs to be compressed for different platforms
- video encoders have a range of output formats
- can add metadata.

Question 14

Marks	0	1	2	Average
%	47	36	17	0.7

Generally, students understood and described the process of encoding; for example, data is encoded/compressed using codecs/algorithms into a specialised format for efficient transmission or storage, with unnecessary data being discarded. This makes the file size smaller.

However, students did not always understand that the data that was lost during encoding is not regained when the file is decoded; when the file is decoded, it does not return to its original form because some data has been lost.

Question 15a.

Marks	0	1	Average
%	69	31	0.3

Bits are assigned for each frame of video. High-activity frames are assigned more bits. Low-activity frames are assigned a smaller number of bits. Consequently there is better quality video overall.

Some students stated a variable bit rate resulted in higher file size, but this may not always be the case and needed to be explained in more depth and in relation to media quality to gain a mark.

Question 15b.

Marks	0	1	Average
%	77	23	0.3

Many students were unaware of the disadvantages of encoding with a variable bit rate. The main ones are:

- cannot accurately predict file size
- slower to encode
- quality break-up during bandwidth delivery.

Section C – Practical task

This section was completed by the majority of students. The step that students found the most difficult was Step 5 in the Animation section. With all animations in Flash, the adjusting of the stage size and fps rate is crucial. Students who do not get the first step correct will have great difficulty in getting full marks for subsequent questions, which rely on proper timing, when compared to the instructions and storyboard demonstrations.

Website

Step 1

Marks	0	1	Average
%	83	17	0.2

One mark was awarded for the correct use of HTML code to generate an email when a user clicked on the envelope icon.

Very few students correctly identified that the code to use was 'mailto:enquiry@hoopball.com.au' and instead used 'email:enquiry@hoopball.com.au'. Some students incorrectly created a hyperlink outside of the envelope, which was visible as text.

Step 2

Marks	0	1	Average
%	36	64	0.7

One mark was awarded for modifying the CSS so that the background image would be displayed.

The majority of students correctly modified the CSS so that the background image appeared in the correct position. When viewing the CSS code, it would show 'background-image:url(leftColumnBackground.png)'.

Step 3

Marks	0	1	2	3	4	Average
%	12	18	27	29	14	2.2

One mark was awarded for each of the following:

- resizing the picture to 200 pixels by 200 pixels
- extracting the basketball so that no background colours were visible around the edges
- removing the branding marks on from the basketball by any appropriate method
- creation of a drop shadow that was angled correctly and not solid grey.

Most students were able to resize the picture correctly. Removal of the brand marks was usually performed either by using a clone stamp or smudge tool. Removal of pixels from the outer edges proved difficult for many students; however, creating the drop shadow was usually done well.

Step 4

Marks	0	1	2	3	Average
%	38	21	22	19	1.2

For full marks, students needed to:

- create a background fill layer using colour #E6E6E6, with an outer stroke border of 2 pixels using colour #A54D25
- create a text layer of \$24.99 rrp, with any Arial font variant of size 24 (text colour should have been black)
- add a 1-pixel stroke to the outside of the text and fill correct colour brown (identical to the picture border).

It was evident that some students were not familiar with creating strokes on layers, and therefore attempted to create the border manually with mixed results. Almost all students used the correct font variant but many students did not follow the exact requirements for the text itself, with either the wrong prices used, the dollar symbol absent or spacing errors. The brown stroke on the text was the most difficult part of this step, with many students not correctly identifying that the text stroke position should have been set to 'outside' rather than 'centre' or 'inside'. Students are reminded to consult the instructions or examples to check for success.

Step 5

Marks	0	1	2	3	Average
%	24	32	26	18	1.4

One mark was awarded for each of the following:

- saving the picture as JPG or PNG less than 15 kilobytes – GIF format was not acceptable
- adding the picture to *index.html* in the correct location
- applying the correct alt tag '*hoopball price \$24.99*' in HTML.

A majority of students were able to correctly save the picture in the right format and have it in the correct file size range. Many students did not attempt to add the alt tag and those who did often omitted parts of the required text. It is imperative to match the instructions exactly so that the client is getting the correct product.

Step 6

Marks	0	1	2	Average
%	35	37	28	0.9

One mark was awarded for each of the following:

- duplicating *index.html* as *product.html* and adding 'Product' as the title
- creating a working link to *product.html* on the word 'PRODUCT'.

Most students duplicated the page but did not reword the page title correctly. This is a procedure that is often missed and should be a focus for students. Of those students who did reword the page title, many used a lower-case 'p' rather than a capital 'P'. Again, it is essential that students follow the instructions as written.

Step 7

Marks	0	1	Average
%	64	36	0.4

One mark was awarded for creating an ordered list using the paragraph text in *textbox2* of the About page.

Most students attempted this step but only a little over one third of students were successful. A successful changing of the HTML code required the list of words to be contained within an `` tag, with the words preceded by an `` tag. Some students used an unordered `` tag, which was not what was required.

Step 8

Marks	0	1	2	Average
%	50	40	10	0.6

One mark was awarded for each of the following:

- replacing the text in *textbox2* of *product.html* – ‘Hoopball specs’ must have been removed
- changing the quote only to italics – CSS should have been modified, not HTML.

Many students forgot to remove the ‘Hoopball specs’ heading. The most difficult step was using CSS to make the text italic. Many students attempted to use `<i>` or `` tags in HTML, which visually worked but it was not what the instructions asked students to do.

An example of a successful use of CSS would be:

```
<p style='font-style:italic; text-indent:15px;''>No airballs for me, 'cause shooting hoops is easy with Hoopball.'</p>
```

Span classes were another example of successful modification of the CSS code.

Step 9

Marks	0	1	2	3	Average
%	38	28	25	9	1.1

One mark was awarded for each of the following:

- separating the text into two paragraphs, with a minimum of three sentences or lines per paragraph
- positioning the text in *index.html* correctly
- rewriting the text into a factual style.

Very few students recognised how to change the style from a conversational ‘street slang’ excerpt into one that did not contain any first-person or second-person references. High-scoring students removed all instances of ‘I’ or ‘you’, and removed expressions such as ‘zero-chilled’ to simply state the features of the ball itself.

Animation**Step 1**

Marks	0	1	Average
%	22	78	0.8

One mark was awarded for setting both the stage size to 440 pixels × 265 pixels and the frame rate to 10 frames per second.

Some students had the width of the stage at 256 pixels, which indicated a mistyping of the dimensions. Another common mistake was leaving the frame rate at the default 24 fps. Students must check that stage dimensions and frame rate are set correctly, as this will impact greatly on the overall animation.

Step 2

Marks	0	1	2	Average
%	51	14	35	0.9

One mark each was awarded for the following:

- creating a linear gradient, either within Flash or by using an external program and importing it
- ensuring the colours and position were correct.

Many students were not able to complete this step successfully, suggesting that creating gradients is a skill many students are unfamiliar with. Occasionally students created gradients that were circular, rather than linear.

Step 3

Marks	0	1	2	3	Average
%	47	26	17	9	0.9

One mark each was awarded for the following:

- initial positions of library objects
- correct timing – student finished zoom at 2.0 s (frame 21)
- correct zooming – should be smooth, objects stayed relative (no shrinking/expanding).

Most students managed to have some success with this step, although many students incorrectly placed objects or had the size of objects incorrect. Timing is usually dependent on a correct frame rate, but a student gained marks if they matched the times rather than the frames if using an incorrect frame rate. Some students were unable to control the relative sizes/positions on the stage when zooming in, which suggests a need to understand how grouping of objects works.

Step 4

Marks	0	1	2	3	4	Average
%	38	22	19	11	10	1.3

One mark was awarded for each of the following:

- correct positioning and use of the 'bounce' and 'throw' symbols
- correct timing with hand going up at 3.0 s
- correct layering with ball under player's hand
- correct timing with hands down at 5.5 s and staying down to 7 s

Often students did not have enough control of the movement of the hands from the down/up stages, suggesting knowledge of swapping symbols or accurate symbol placement is lacking. Students were particularly successful in ensuring the ball was underneath the player's hand, showing a good understanding of layer ordering.

Step 5

Marks	0	1	2	3	4	5	6	Average
%	37	15	16	12	9	7	4	1.8

One mark was awarded for each of the following:

- making the basketball bounce twice
- at least one squash of the ball
- a curved throw where the ball should have travelled on/near the northeast corner of backboard, with the last bounce near gutter
- having the hoop layered correctly (ball should have fallen behind hoop)
- proper timing of last bounce where it bounces towards player at 5.1 s
- entire animation finishes at the 7 s mark.

Many difficulties were encountered by students. Incorrect timing was a major feature. Most students successfully squashed the ball and had it go behind the hoop, demonstrating a good grasp of tweening and layering. The use of motion guides to create smooth curved throws was evident in the higher-scoring examples.

Step 6

Marks	0	1	2	3	Average
%	58	19	15	9	0.8

One mark was awarded for each of the following:

- creation of a drop shadow, approximately 5 px in depth
- setting the alpha from 0% to 100%
- timing the fading in from 3.1 s and ending at 5.0 s.

Of those students who scored at least one mark for this step, it was usually for correct fading. Timing was impaired if the frame rate was incorrect. The correct use of drop shadowing was rare and contrasts to the relatively high rate of drop shadow usage in the Website section, suggesting that students are unaware of how to replicate this in Flash.

Step 7

Marks	0	1	Average
%	74	26	0.3

One mark was awarded for adding the exported .swf file to *product.html* in correct position.

Some students exported and placed the .swf successfully but failed to remove the existing h1 code from the HTML.