Design and Technology

GCSE

D&T: Graphics

Delivery Guide

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CONTENTS

Introduction	Page 3
Curriculum Content	Page 4
Thinking conceptually	Page 5
Thinking contextually	Page 6
Learner Resources	Page 14

Introduction

Delivery guides are designed to represent a body of knowledge about teaching a particular topic and contain:

- Content: A clear outline of the content covered by the delivery guide;
- Thinking Conceptually: Expert guidance on the key concepts involved, common difficulties students may have, approaches to teaching that can help students understand these concepts and how this topic links conceptually to other areas of the subject;
- Thinking Contextually: A range of suggested teaching activities using a variety of themes so that different activities can be selected which best suit particular classes, learning styles or teaching approaches.

If you have any feedback on this Delivery Guide or suggestions for other resources you would like OCR to develop, please email resourcesfeedback@ocr.org.uk.

KEY

Click to view associated resources within this document.

Click here

Click to view external resources

Curriculum Content

Demonstrate creativity:

- Identify the principles of good design and relate products to the needs of the user.
- Identify the significance of trends in existing products.

Develop and demonstrate designing skills:

- Identify complex associations linking principles of good design and technological knowledge.
- Produce a creative and considered response to a design brief.
- Produce a detailed specification for the product.

Thinking Conceptually

Approaches to teaching the content

This area of the specification is all about looking at the design of existing graphic products. Students will need to identify good design, investigate trends in design, and decide how well the designs meet the needs of their intended users. They will consider their findings along with the design brief and write a detailed specification for their chosen product.

Whilst teaching this unit, it is important to bear in mind that students will need to know and understand the principles of good design before they can explore and identify aspects of good design in existing products.

This area of the specification is usually covered in the 'creativity' section of the controlled assessment Unit A531and the activities relate to ways in which students can meet the necessary criteria in this section to achieve marks in the 'high ability' bands of the mark scheme.

Common misconceptions or difficulties students may have

This area of the specification is commonly misunderstood or mis-interpreted by centres and many students struggle to display relevant, high quality evidence for this aspect of the controlled assessment tasks. Many students will research existing products using the internet and analyse them in terms of their individual properties but do not identify any principles of good design within the products. Students will often compare existing products but show no evidence of identifying trends in the designs. User needs are one of the most difficult aspects to identify and evidence. These are commonly explored through the use of class surveys or questionnaires which often lead to few relevant conclusions and demonstrate limited understanding of the intended users.

Conceptual links to other areas of the specification – this gives us useful ways to approach this topic to set students up for topics later in the course.

There are clear links in the activities to key parts of the specification for Unit A535:

- Identifying how good design and product choice improves the quality of life
- Examining the way that designers respond to changing styles, tastes, and technological advances
- Eco-design and environmental pressures faced by the designer
- Establishing the function of commercially manufactured graphic products; determining what the product was designed to do
- Comparing a variety of products designed to meet the same need.

The activities in this guide may be useful tools in preparation for the A535 exam. Teachers can use and adapt the activities as a stimulus for practice exam questions or as an alternative to traditional revision exercises.

ACTIVITIES

The activities in this guide are designed to help students explore and understand all aspects of 'design'. Although most of the activities relate to graphic products the activities could easily be adapted to apply to a wide range of other product types and design areas for example:

- Products using textiles (clothing, fashion, furnishings, sportswear etc)
- Products using resistant materials (furniture, electrical items etc)
- Manufactured products (cars, motorcycles etc)
- Architectural products (houses, office blocks, schools etc).

Wherever possible students should be encouraged to investigate 'real life' examples of products rather than relying on the internet. Activities are designed to be flexible and cater for a range of ages and abilities.

The activities can be adapted to work as individual tasks (including homework), paired tasks or whole group activities. It is up to the individual teacher to decide how to use the resources in order to support the learning of students, develop their understanding of good design and demonstrate evidence of applying this knowledge to their own design task.

Thinking Contextually

Activities	Resources
Learning Objective: To understand what is 'Good Design' Students are asked to think about what makes a 'good design'. In pairs they discuss this and are given 3 minutes to come up with 3 things that are needed for a design to be successful. Students then share their thoughts with the rest of the class. Key points from each group can be noted on the board or a large sheet of paper. Discuss findings with class. Explain that for designs to be good they need to have certain key elements. Show Learner Resource 1: 10 principles of good design by Dieter Rams. Ask students to answer questions on slides using Q&A.	Click here for the Powerpoint (Learner Resource 1)
Learning Objective: To identify elements of good design Pick three actual products. They can be graphic products or products made from other materials. **Suggestions:** Aftershave/perfume packaging Bic type disposable biro A mobile phone (old or new) A thermal mug or flask A TV remote or game controller An ipod or mp3 player. In groups, give out the items and ask students to identify elements of good design within each product. Use Learning Resource 2 to record their findings. Students then share their thoughts with the rest of the class. Key points from each group can be noted on the board or a large sheet of paper. Discuss findings with class. Explain that not all designs meet all the 10 points but the more you can meet the better a product is.	Learner Resource 2

Thinking Contextually

Activities	Resources
Learning objective: To collect examples of existing products Ask students to use the internet to search for examples of existing products the same or similar to what they are thinking of designing. Set a time limit and a specific number of examples (15 min to find 3 examples). Using Learning Resource 2 they are to decide how well the products they find meet the ten principles of good design.	Learner Resource 2
Learning objective: To compare existing products to each other and the good design principles Show Learning Resource 3 or print and give out to students. This shows 2 contrasting business cards. Card 1 is made from clear recyclable plastic. Card 2 is made from thin card. Card 1 clearly meets the majority if not all of the 10 principles, whereas Card 2 meets much less. Discuss the 2 designs. Students should be able to clearly see that Card 1 is the best design. Using the examples they have found already ask them to find contrasting examples and compare them to the 10 principles and their existing ones.	Learner Resource 3

Thinking Contextually

Activities	Resources
Learning objective: To identify the intended user of a product Ask students to think about what we mean by the term 'user' and 'audience'. Show Learning Resource 4. In groups ask students to discuss the questions on slide 1. Students then share their thoughts with the rest of the class. Key points from each group can be noted on the board or a large sheet of paper and discussed with rest of class. Draw out key points: • To appeal to the right audience • To sell more • To be successful. Show slide 2 of Learning Resource 4. Print and cut up Learning Resource 5 and give out a set of each 15 cards to each group. Ask them to put cards in order of importance. Students then share their thoughts with the rest of the class. Key points from each group can be noted on the board or a large sheet of paper and discussed with rest of class.	Learner Resource 4 Learner Resource 5
Learning objective: To determine relevant information needed by a designer Give students a variety of different design briefs. You can use Learning Resource 6 and/or your own. This time they are to divide the cards into 2 categories: 'relevant' and 'irrelevant' for each design brief. This exercise is to develop their understanding of what information is relevant when doing user surveys. Frequently students write surveys asking questions which will be of no consequence or help to their design. Students then share their thoughts with the rest of the class. Key points from each group can be noted on the board or a large sheet of paper and discussed with rest of class.	Learner Resource 6

Thinking Contextually

Activities	Resources
Learning objective: To identify the intended audience of a product **Learning objective: To understand the term 'demographic'** Explain to the class that the relevant information that a designer needs to know about the audience eg. Age, gender, ethnicity, disabilities, language spoken, home ownership etc is known as the 'demographic'. Market Segregation – Demographics. (tutor2u) http://www.tutor2u.net/business/marketing/segmentation_bases_demographic.asp A summary and explanation of the main demographic segments used in marketing. Use the link above to help explain the 5 main groups or segments used to determine the marketing demographic. Using the 5 main groups, ask individuals to describe what they think the demographic might be when marketing different products. Ideally make the first ones fairly easy: eg. A 'One Direction' calendar, a case for a pair of reading glasses, packaging for caviar etc. Once you are confident that students have grasped the concept of a demographic, print and give out Learning Resource 7. Ask students to identify the demographic of the 3 similar products. These are more similar and the gender will be the same. However the 4 other aspects should all be different.	Learner Resource 7 Click here to see the website

Thinking Contextually

Activities	Resources
Learning Objective: To identify trends or similarities in design This area of the specification is frequently ignored or misinterpreted. It is common for students to track the history of a product from when it was first introduced through its various design changes. However all a student really needs to do for this is to do a little investigation into current designs using the internet or ideally a 'real life study'. Students often find this difficult and may need some prompting from their teachers. Look at Learning Resource 8 – General trends in Children's Birthday Cards. Ask students to identify General trends/similarities in the cards. Go through the answers on the board and collate responses. Then use the second and third slides to prompt/help where necessary. Give students a set of graphic products such as business cards, birthday cards, takeaway menus etc. Ask them to identify similarities between them in a similar way. They can stick them down and use annotations like the example on slide 3.	Click here for the Powerpoint (Learner Resource 8)
Learning Objective: To identify current design trends For this exercise you will need to either collect some real life examples of birthday cards or ask students to bring some in. You will need to collect as many as possible as the more you get the better. Put tables together and lay out all the cards. Ask students to put the cards into groups of similar looks/styles. This is best done with a large group. You should end up with 4 or 5 piles of cards for example, some which are personalised (eg. Moonpig/Funky pigeon type cards); some which use animal photos or old fashioned photos with taglines; some which are serious and have 'nice' pictures on; some which are handmade etc. Ask students to identify which of these are the 'latest' trends. In this case it will be probably be the handmade cards and personalised ones. Show Learning Resource 9 as an example of a simple summary of latest trends.	Click here for the Powerpoint (Learner Resource 9)
Learning Objective: To create a design brief Students frequently confuse the design brief with the situation/problem and/or the specification. A design brief should ideally be open and not give any detailed information about the product. A specification should be the exact opposite – have as much detail as possible (ie. be as specific as possible). Show or print and give out Learning Resource 10. Which of the briefs is too long? Which is too short? Which is best? What other mistakes do some of the briefs have? Ask students to discuss in pairs and share their findings with the rest of the group.	Learner Resource 10

Thinking Contextually

Activities	Resources
Learning Objective: To understand what is meant by the term 'specification' Show Learning Resource 11. Ask students what is meant by the term 'specific'. Use the examples to help ensure all students understand the term. eg. How fast can Usain Bolt run 100m? Although all the answers given are correct, they get more specific the further down you go. Show or print and give out slide 4. Ask students to come up with 5 correct but less specific answers,that get more and more specific the further down they go. eg. Quite tall, very tall, taller than a giraffe, taller than, big ben, over 300 metres etc.	Click here for the Powerpoint (Learner Resource 11)
Learning Objective: To understand the difference between a brief and a specification Show Learning Resource 12. Slide 1: Ask students to draw a building for someone to live in. Give students 5 to 10 minutes to draw their answers. Get students to hold up their drawings or lay them all out on a table. There should be a wide range of different responses: houses, bungalows, castles, tower blocks etc. Slide 2: Repeat the activity but this time students are to draw a building for someone to live in but it must follow the notes given. There should be a much narrower range of responses. From this students should understand: A brief can be interpreted in many ways and has many possible outcomes. A specification is narrower and means the resulting ideas will be more in line with what the customer wants.	Click here for the Powerpoint (Learner Resource 12)
Learning Objective: To write a detailed specification for an existing product Guess the product. Split class into groups of 2 or 3. Give each group a slide from Learning Resource 13. Do not let any of the other groups know what they have on their slide. Each group then has 5 minutes to write a detailed specification as possible for the object on their slide. After 5 minutes they are to read as detailed a specification as possible to the rest of the class. The other class members then have to try and guess what the product is from the specification.	Learner Resource 13

Thinking Contextually

Activities	Resources
Learning Objective: To write a specification for a new product Put the students in groups of 2 or 3. Ask them to write a specification for a new product eg. The new iphone, the playstation 4, a new energy drink, the latest space age football boots etc. Use a product which reflects the interests of your students. Explain that they should be able to come up with 20 specification points. You can introduce some competition by giving a small prize for the group who gets the most. Use the 10 principles of good design as prompts/ideas for things they should include on their specifications. They can use these as sub headings if it helps. After 10 minutes, swap specifications with another group, who can add points of their own. Discuss results as a class. Students should now be able to write a detailed specification for their own graphic product.	

Learner resource 2 Good design

See page 8

	Product 1	Product 2	Product 3
Innovative			
Useful			
Aesthetic			
Easy to understand			
Unobtrusive			
Honest			
Long lasting			
Thorough			
Environmentally friendly			
As little as possible			

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See page 8

Business Card 1
Made from recyclable plastic

Innovative	
Useful	
Aesthetic	
Easy to understand	
Unobtrusive	
Honest	
Long lasting	
Thorough	
Environmentally friendly	
As little as possible	

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See page 8

Business Card 2
Made from thin card

Innovative	
Useful	
Aesthetic	
Easy to understand	
Unobtrusive	
Honest	
Long lasting	
Thorough	
Environmentally friendly	
As little as possible	

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Learner resource 4 Users

See page 9

Why do designers need to know who will be the intended users of their products?

Can a product meet the 10 design principles but NOT meet the intended users needs?

What things do manufacturers need to know about the users of their products?

Sort cards into order of importance

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See page 9

Age group	Gender	Financial status
Homeowner	Marital status	Personal interests
Career type	Location	Have children
Nationality	Favourite colour	Have pets
Favourite food	Favourite film	Like going out

See page 10

What Demographic are these aimed at?

Age range	
Gender	
Income	
Social class	
Lifestyle	

Age range	
Gender	
Income	
Social class	
Lifestyle	

Age range	
Gender	
Income	
Social class	
Lifestyle	

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Learner resource 10 Design briefs

See page 11

I am going to design, develop and make a prototype package for the perfume.

I am going to design and make a prototype package for the new perfume 'passion'. The perfume will smell of wild orchids and have a black glass bottle with an orchid on the side. The package will have a clear window so you can see the bottle inside and have a red orchid on the lid that that will glow in the dark.

I am going to design a package for the perfume that will hold the perfume securely and attract people to want to buy the perfume.

I am going to design a package for a new perfume called 'passion'. The package will be black with red flowers on and it will be aimed at women who like flowers and the colour black because my design will appeal to them.

I am going to design and make a package for the perfume that will be attractive to potential customers and increase sales of the product. The package will appeal to young women in their twenties.

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See page 12

A life jacket

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See page 12

An electric guitar

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See page 12

A child's scooter

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See page 12

A drinks machine

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A baby gate

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