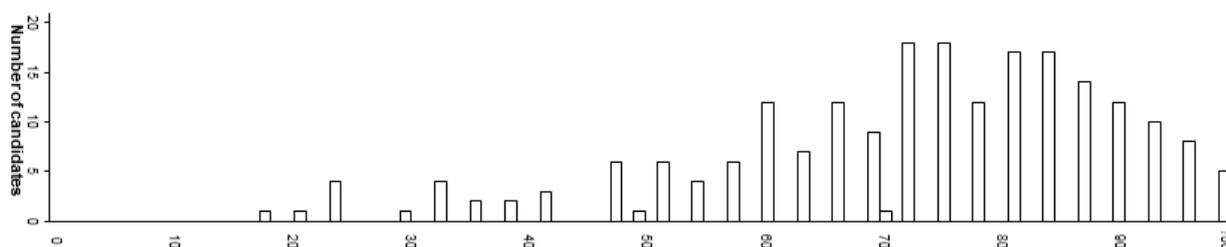




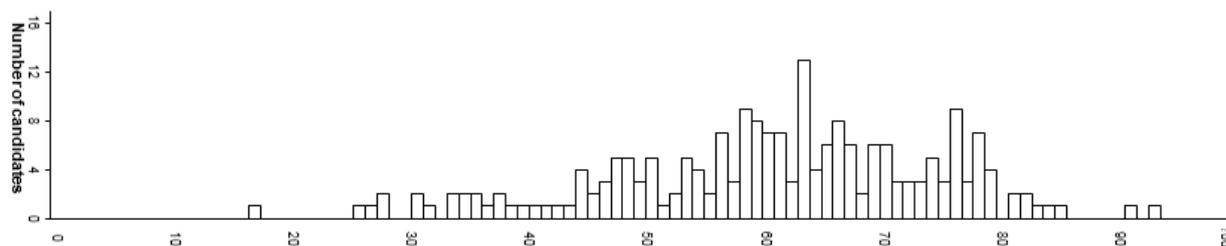
Summary report for candidates on the 2015 WACE examination in Materials Design and Technology Stage 3

Year	Number who sat all examination components	Number of absentees from all examination components
2015	208	1
2014	135	0
2013	208	3

Examination score distribution - Practical



Examination score distribution - Written



Summary

Practical (portfolio) examination

Attempted by 213 Candidates Mean 36.28% Max 50% Min 9.09%

Context means were:

Practical Portfolio (Metal)

Attempted by 14 candidates Mean 37.55%(/50%) Max 48.48% Min 18.18%

Practical Portfolio (Textiles)

Attempted by 75 candidates Mean 42.42%(/50) Max 50% Min 30.30%

Practical Portfolio (Wood)

Attempted by 124 candidates Mean 32.425(/50) Max 50% Min 9.09%

Written examination

Attempted by 208 Candidates Mean 30.62% Max 46.87% Min 8.52%

Section means were:

Section One: Short answer Mean 5.03(/7.5) Max 7.50% Min 0.62%

Section Two: Extended answer Mean 6.89(/12.5) Max 12.50% Min 0%

Section Three: Wood Mean 17.50(/30) Max 25.07% Min 3.81%

Section Three: Metal Mean 19.01(/30) Max 23.96% Min 10.30%

Section Three: Textiles Mean 20.62(/30) Max 26.87% Min 10.52%

General comments

Practical (portfolio) examination

The overall standard of the examination improved, with less zero and 'no attempts' being recorded. The weakest area across all contexts was Criterion 3 Development of ideas and concepts. Many candidates didn't explore alternate concepts, and failed to annotate or analyse alternatives using the design fundamentals. Frequently the justification for the choice of final design was omitted, which cost candidates a mark. The portfolios are now more consistently laid out and much better organised. Referencing of images and data is more consistent and of a higher standard.

The scope of the design brief allows for creative exploration and for critical thinking to flourish. The range and high quality of projects produced by candidates exemplifies the success of the design process in developing both knowledge and skills in each context. The process is accessible to candidates of all abilities, and the improved level of achievement indicates that teacher expertise in facilitating the design process and producing a portfolio record is increasing. This improves outcomes for candidates.

Advice for candidates

- Don't restrict yourself in the Statement of Intent with choices of materials and finishes. Cover all the design fundamentals in this statement.
- Ensure all of your research work includes justifications of your choices.
- Show detail in your concept development, ensure work is outlined and/or coloured. Pencil sketches can often be messy and difficult to read.
- In your design work and research ensure you are referring to the design fundamentals
- Ensure working drawings are detailed and show all main parts, sizes and joining methods.
- Ensure production plans/journals are easy to follow and maybe use a template that fits on individual pages.
- Keep an accurate record of your production process and label clearly any changes made.
- When completing your evaluation ensure you refer back to the Statement of Intent and design fundamentals.
- Do not waste pages of research by filling them with images of machinery and tools.

Written examination

The examination paper had an even spread of questions across the syllabus. Candidates very competently applied the principles and elements of design, demonstrated their understanding of materials testing techniques, the design fundamentals and how to use them when designing for a client.

However, some candidates did not appear to have read some of the questions correctly or understood them, for example in the question on the link between lifestyle choices, consumer demand and product innovation. Some candidates failed to discuss a range of examples and how they linked with the three areas in detail. The costing question was a good example of where most candidates appeared to understand how to answer the question, yet made errors they might not have made had they checked their calculations. Some candidates struggled to unpack the final essay question about environmental degradation in Section Three.

Advice for candidates

- Read all questions carefully.
- Re-read answers and questions together to ensure questions have not been misinterpreted.
- Re-do calculations – ideally check them once they have been completed, then at the end of the examination if there is time.
- Use examples to support statements where required.
- Do not repeat the question in your answer.
- Create subheadings to answer essay questions. Highlight or underline keywords in the questions to help clarify what response is required. Either create dot points to answer the question under each subheading, or highlight key points. This helps to avoid repeating information.

- Read the syllabus section on emerging/new materials and understand what this means.

Comments on specific sections and questions

Practical (portfolio) examination

Metal context

Attempted by 14 Mean 37.55%(/50%) Max 48.48% Min 18.18%

Criterion1: Statement of intent or design proposal Mean 1.64(/2) Max 2 Min 1

Excellent portfolios had very good statements of intent. However, there are those portfolios who still do not refer to the design fundamentals in their statement of intent or design proposal.

Criterion 2: Research Mean 4.07(/6) Max 6 Min 2

This section was done quite comprehensively by most candidates. A good range of research was demonstrated in the portfolios. However, the weaker portfolios showed that candidates had not justified or summarised their research.

Criterion 3: Development of ideas and concepts Mean 3.57(/6) Max 6 Min 0

Candidates that scored well in this section, showed clearly a development from initial ideas through to a final solution and were able to justify changes and choices through the use of annotations that included the design fundamentals. Some weaker portfolios required more annotated concept development of features based on the design fundamentals. These portfolios showed a lack of justification of the final design.

Criterion 4:

Production proposal (drawings) Mean 2.79(/3) Max 3 Min 1

Production proposal (materials) Mean 2.00(/2) Max 2 Min 2

Production proposal (planning process) Mean 3.46(/4) Max 4 Min 2

The majority of candidates provided well executed working drawings that show clearly how their product was going to be made and were able to provide accurate cutting/costing lists. Most portfolios showed a detailed production proposal which included clear timelines and easy to follow instructions that included health and safety.

Criterion 5:

Evidence of production (process) Mean 3.15(/4) Max 4 Min 1

Evidence of production (time) Mean 1.75(/2) Max 2 Min 0

Evidence of production (visual) Mean 1.85(/2) Max 2 Min 1

Candidates demonstrated a good understanding of how to keep a methodical record of their production processes and making revised plans. Portfolios that scored well in the evidence of time criterion, were able to provide altered plans, gantt charts and timelines. More candidates provided a thorough coverage of the manufacturing process than in previous years.

Criterion 6: Finished production and evaluation Mean 1.50(/2) Max 2 Min 0

Some portfolios had very good responses in this section, however weaker portfolios did not relate back to the design fundamentals which is essential to achieve higher in this criterion.

Textiles context

Attempted by 75 candidates Mean 42.42%(/50%) Max 50% Min 30.30%

Criterion1: Statement of intent or design proposal Mean 1.88(/2) Max 2 Min 1

Candidates demonstrated a high level of understanding in this section by covering a wide range of the design fundamentals in their statement of intent.

Criterion 2: Research Mean 4.69(/6) Max 6 Min 3

This section was done quite comprehensively by most candidates with a good range of research demonstrated. However, weaker portfolios need to show evidence of justifying and summarising the research.

Criterion 3: Development of ideas and concepts Mean 4.72(/6) Max 6 Min 3

More annotated concept development of features based on the design fundamentals are required. There was a lack of justification of the final design in some portfolios. Portfolios that scored well in this section, showed clearly a development from initial ideas through to a final solution and were able to justify changes and choices through the use of annotations that included the design fundamentals.

Criterion 4:

Production proposal (drawings) Mean 2.36(/3) Max 3 Min 1

Production proposal (materials) Mean 1.96(/2) Max 2 Min 1

Production proposal (planning process) Mean 3.39(/4) Max 4 Min 2

Candidates provided well drawn production drawings that showed clearly how their product was made. Weaker portfolios need to have more information on drawings and include more technical data. All candidates provided an accurate cutting/costing list. Most candidates were able to provide a detailed production proposal which included clear timelines and easy to follow instructions including health and safety.

Criterion 5:

Evidence of production (process) Mean 3.27(/4) Max 4 Min 1

Evidence of production (time) Mean 1.99(/2) Max 2 Min 1

Evidence of production (visual) Mean 1.93(/2) Max 2 Min 1

Candidates demonstrated a good understanding of how to keep a methodical record of their production processes and revised plans. Most portfolios showed great understanding of this section, by providing altered plans, gantt charts and timelines. Candidate performance in this section has improved from previous years, with more candidates providing a thorough coverage of the manufacturing process. Well organised work was a positive aspect in many of the portfolios.

Criterion 6: Finished production and evaluation Mean 1.86(/2) Max 2 Min 0

Candidates provided evaluations that were detailed and extensive. The evaluations were good as they refer back to the design fundamentals mentioned in the Statement on Intent.

Wood context

Attempted by 124 Candidates Mean 32.42%(/50%) Max 50% Min 9.09%

Criterion 1: Statement of intent or design proposal Mean 1.47(/2) Max 2 Min 1

Better portfolios contained very good statements of intent, however not all candidates referred to the design fundamentals.

Criterion 2: Research Mean 3.30(/6) Max 6 Min 1

Candidates struggle with this criterion in this context. Portfolios show candidates are researching key components for their project but do not show an understanding of what is being done. The weaker portfolios do not justifying choices of materials, finishes, etc. Design fundamentals are covered poorly in the research.

Criterion 3: Development of ideas and concepts Mean 3.21(/6) Max 6 Min 0

Although there were some excellent Wood portfolios, more annotated concept development based on the design fundamentals is required. There was an obvious lack of justification in their final designs. Candidates that scored well in this section, clearly showed a development from initial ideas through to a final solution and were able to justify changes and choices through the use of annotations that included the design fundamentals.

Criterion 4:

Production proposal (drawings) Mean 2.25(/3) Max 3 Min 0

Production proposal (materials) Mean 1.83(/2) Max 2 Min 0

Production proposal (planning process) Mean 2.87(/4) Max 4 Min 0

The majority of candidates are providing well drawn working drawings that show clearly how their product was made. Candidates need to ensure that they include all relevant dimensions in the drawings. Most portfolios had an accurate cutting/costing list. Better portfolios had detailed

timelines which was helped by the use of gantt charts. However, candidates need to include more information in their production proposals.

Criterion 5:

Evidence of production (process) Mean 2.45(/4) Max 4 Min 0

Evidence of production (time) Mean 1.69(/2) Max 2 Min 0

Evidence of production (visual) Mean 1.80(/2) Max 2 Min 0

Many candidates did not provide enough detail in their journals and/or did not include changes made to the product. Better portfolios provided altered plans, gantt charts and timelines.

Candidate performance in providing visual evidence has improved from previous years, with more candidates providing a thorough coverage of the manufacturing process. Portfolios that scored well was well organised.

Criterion 6: Finished production and evaluation Mean 1.44(/2) Max 2 Min 0

Some portfolios had very good written evaluations, however many candidates are not relating the evaluation back to the design fundamentals.

Written examination

Section One: Short answer

Attempted by 208 Candidates Mean 5.03%(/7.5) Max 7.50% Min 0.62%

This section was done well by most candidates across all contexts. Good candidates justified answers with suitable examples but in general candidates lacked the ability to link all aspects of the question if more than one was asked for.

Section Two: Extended answer

Attempted by 208 Candidates Mean 6.89%(/12.5) Max 12.50% Min 0%

Most candidates manages this section well but there were some who struggle to structure their answers correctly and who do not use the correct terminology.

Section Three: Wood, Metal and Textiles

Wood context Attempted by 122 Candidates Mean 17.50%(/30) Max 25.07% Min 3.81%

Metal context Attempted by 12 Candidates Mean 19.01%(/30) Max 23.96% Min 10.30%

Textiles context Attempted by 74 Candidates Mean 20.62%(/30%) Max 26.87% Min 10.52%

Section comments

In general there was an improvement across all contexts in Section Three. Most notable was the improvement in the Wood and Metal context which demonstrated that candidates were more able to answer all parts of the question as well as give justifications for materials used. The Textiles context candidates continued to achieve well in this section. However, candidates could have spent some time re-checking answers especially those that required calculations.