

Increasing assessor confidence when making assessment judgements at all levels

AS91357. Undertake effective development to make and trial a prototype.

AS91611. Develop a prototype considering fitness for purpose in the broadest sense.

The Basic Requirements

2.4 and 3.4 are about the execution of a workable prototype to meet a brief and evidence of the following is needed.

- An authentic need and opportunity, including attributes or specifications
- Stakeholders
- A conceptual design ready to explore
- Testing determine the materials and or components to use and the practical techniques and processes required to manufacture the prototype.
- Evaluation and application of the test results
- Informed selection of equipment
- Evaluated feedback
- Trialling of the developing prototype
- The placement and use of the completed prototype in the intended environment or a very close simulation of that environment
- Explanation of fitness for purpose and final specifications
- Explanation of why the prototype would be accepted or require modification

Evidence should include

- Interactions with more than one stakeholder
- Analysis and understanding of the requirements of the social and physical environment
- Measurable specifications

Evidence not needed

- Brainstorming a need (91354 and 91608)
- Project management, costings, patterns, manufacture plans (91355 and 91609)
- Establishing and developing potential ideas (91356 and 91610)

Advice - for the student to be able to execute a workable prototype they must be able to undertake authentic prototyping in situ.

Make sure the brief allows for this to happen.

Context Considerations

At Level 2 evidence needs to consider the physical factors within the manmade or natural environment where the work will be located alongside the ways the outcome may influence or affect people. At Level 3 the social and physical environment must be more broadly interpreted to include consideration for the wider environment in which the technological development occurs. Textile contexts allow for some of the richest evidence of context considerations so make sure these considerations are given sufficient value in the student work.

The **wider physical environment** relates to the manmade or natural environment where the outcome will be located and used. Students could show evidence they have considered -

- The climate or geography of where their outcome will be located for example, the potential impact of seasonal temperatures and weather patterns etc
- Analysis of the layout or infrastructure within a space for example, the impact of the lighting, seating or heating inside a venue etc
- Tikanga related to working in a specific physical environment, for example if harakeke is being harvested for testing, protocols must be followed etc

The **wider social environment** relates to the human factor. Evidence of this in a textile's context might consider -

- Current or past trends in materials, components or techniques as trends are driven by social norms etc
- Property testing to confirm the washability, crease resistance, durability, warming or cooling properties of a fabric etc
- Fitting a garment to their stakeholder to check size or to ensure the acceptability of the features in relation to the body etc
- Sourcing materials sustainably etc

Ensure the students are only exploring the context considerations that are relevant to their developing outcome and don't overlook the evidence of wider context considerations related to the school environment.

Environment:

Pettigrew Green Arena: Pettigrew Green Arena is a multi-purpose indoor sports and entertainment center in Taradale near Napier, New Zealand. The center opened in April 2003 and regularly hosts volleyball, basketball and netball matches for Hawke's Bay representative teams.



Hastings Sports Park:



Social/physical Considerations

Social considerations (people; all ages, teammates, coach, teachers, parents)	Physical considerations (location; Hastings sports park, school, Pettigrew)
Games <ul style="list-style-type: none">• Nothing offensive or inappropriate printed on it.• Appropriate colours (no gang colours)	Games <ul style="list-style-type: none">• The bag is going to be used outside the majority of the time. Therefore, it needs to be made out of weather resistant material.• It will be used at least 4 times a week for the next couple of months so it needs to be durable.• She has a 2min break in between quarters so it needs to have a quick and easy opening. Eg. drawstring or zip.

Aesthetic

- Neutral colour to coordinate with her sportswear.
- Sports style bag because she will be using it to carry her in gear in to and from practices.
- One maybe two straps to make it easy to carry.
- Durable to ensure it doesn't fall apart whilst using it.
- Personalized to her wants and need which will, therefore, eliminate any copyright issues from existing solutions.

Webbing - Webbing is a very strong fabric that is either a flat strip or a tube. Heavy cotton webbing comes in many different colours to use as bag straps or handles. Polyester and nylon webbing are typically very strong. Polypropylene webbing, on the other hand, is not as strong. Polypropylene will float in water, however, and is great to use

I Scrapped the fabric along the concrete outside 10 times to test the durability. The fabric doesn't need to be fully durable but enough to not fall apart if she drags the bag along the ground when picking it up or throwing it.

Pleasing as well as it being durable.

In this extract the student is developing a prototype for a sports bag. Early in the evidence they have shown they understood the unique needs of the social and physical environment. In the table they have analysed the location where the prototype would be used, and this has helped them to determine some wider considerations. It was ascertained the outcome needed to be durable to withstand the wear and tear of netball practices and games, therefore the student has included durability as a specification. They have undertaken testing, research, and gathered feedback to determine components and materials that would be the most durable. Therefore, revealing evidence the student has considered the wider physical environment.

Specifications

An attribute is a broad, non-specific characteristic of an outcome, e.g., bright and colourful, comfortable, formal, must fit the stakeholder. Ideally attributes become specifications as the student explores and refines their idea or prototype.

Specifications should be seen in the evidence of testing, trialling and evaluations and students should seek deliberate feedback that focusses on the specifications. At the end of the development process the textiles prototype should be suitable for production and the specifications should indicate this.

Final Specifications:

After researching, testing, trialling, modelling and obtaining feedback, I am able to put together my final specifications which are as follows;

I will be making a

- Fitted long sleeved lycra and merino neoprene top
- Sleeves will be made from white Nylon Lycra which is flexible and moves with the body
- Front and back panels made from merino backed neoprene for warmth/insulation
- White and blue colours for high visibility when on the water
- Long sleeves and 5cm high neck collar provides protection from the sun
- 12cm Velcro tab at collar allows custom tightening
- Mesh gusset provides wide opening at neck for easy access
- 18cm open ended heavy duty plastic zipper at side neck allows for easy accessibility
- The garment will be made using the varilock stitch (comines zig-zag and straight stitching to allow for flexibility of seams).
- 1cm seam allowances throughout garment as I sewed the seams by overlapping the two fabrics for comfort

Make sure the specifications are Measurable?

Testing to inform deliberate selection

Testing and trialling sits at the heart of these standards because students must use the results from testing to inform the making and trialling of the prototype.

Students are generally more successful when they begin this standard with a concept ready to be explored/tested using materials, techniques, equipment etc. They have an initial idea, perhaps a detailed sketch or photograph which they use to guide the development of their prototype. When a student starts with a firm idea, they don't spend valuable time testing lots of different unrelated ideas trying to figure out what to manufacture. If they have a firm idea from the beginning, they can begin refining it straight away.

Tests could include but are not limited to –

- Mocking up a range of pockets to test aesthetics and function
- Comparing different ways to create shape or volume in a garment etc
- Changing out needles or machine feet to see how affect the way a fabric sews
- Undertaking property tests to ascertain characteristic of a fabric etc
- Testing different ways to apply an applied design to a fabric etc

All tests should be evaluated, have feedback and relate to the products specifications

P The test was purposeful

O The outcome was clear

F Feedback was given

D A decision was made

Try using the acronym **POFD** when assessing the evidence from testing.

P for purposeful - Does the evidence reveal the student knew what they were testing for or was it hit and miss?

O. Is there proof of the outcome of the testing, were the results recorded and analysed?

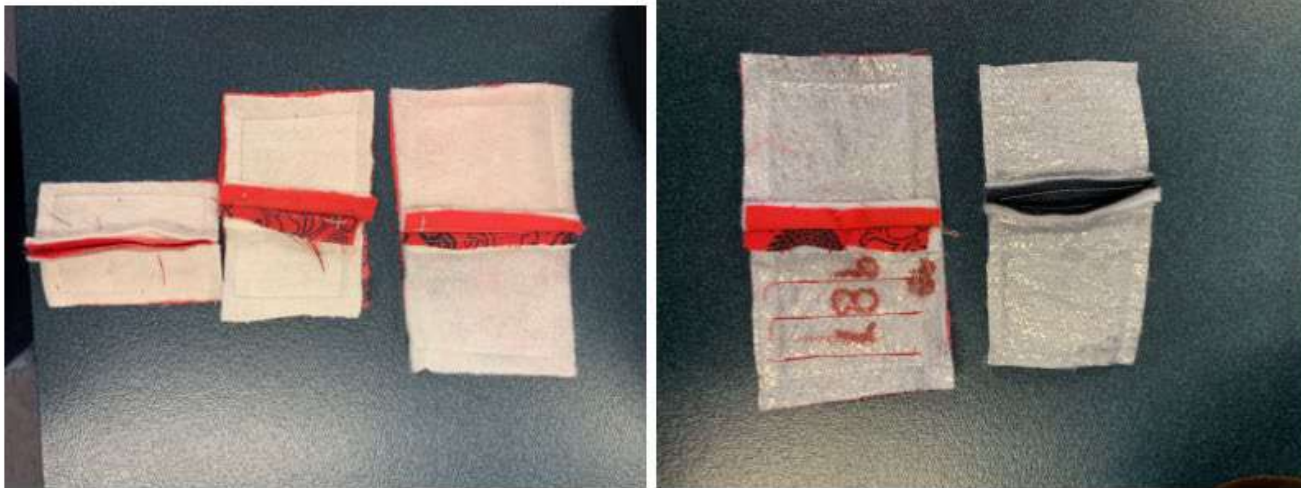
F. Is the feedback relevant? Did the feedback change anything? Feedback on the testing helps to confirm or challenge the test results and adds another layer of legitimacy to the evidence.

D. What decisions did the student make or what conclusions did they arrive at based on the results and the feedback?

The most successful testing purposefully searches for and compares the strengths and weaknesses that were revealed in the test results. By making comparisons the student's is more likely to show evidence of deliberate choice which is clearly substantiated by the results of the tests

Needle test:

I tested 70, 80 and 90 needles on the interlining that I chose to use on my jacket. I found out that the 80 needle was the one I was going to use for my garment as it ran the smoothest through my thicker and more tricky materials to sew, compared to the 70 needle which struggled through my thicker interlining. It would get caught on the loose 'fluff' on the wrong side of my interlining, the same as how it would get caught on the rigid parts of my machine. The 90 needle that I tested worked quite similar to the 80 on my interlining and thicker materials such as the synthetic leather, but didn't sew very well on the lining material for my garment. Overall the 80 was the best needle for my work.



In the extract the student has tested components.

They have compared three different machine needles, by sewing seams and lines of topstitching on the fabrics they have already determined most suitable for their outcome.

The test is relevant, and the student has recorded clearly the results of testing to ascertain the best needle to use for quilting through layers of wadding.

They then made a clear decision about the needle which is most technically feasible.

Missing from the evidence is feedback to support their decision making.

Fabric property testing

I did two different fabric property tests, an insulation test that tests the warmth of a fabric and a wash test that tests the water-resistance of a garment. I tested the 3 fabrics listed above.

For the insulation test, I boiled some water and then wrapped the fabric around a test tube (three different test tubes for the three different fabrics), securing it with tape. I then poured in the boiling water and took the temperature of the water (55°C) and then started a timer. I timed for 1 min and then took the temperature of the water after 1 min. For the cotton lycra, the temperature dropped to 47°C .

This fabric cooled down the quickest and I could see the temperature going down almost as soon as I put the boiling water in so it's very lightweight. The heavyweight stretch cotton surprised me because I thought this one would do the best but the temperature dropped to 49°C . This fabric cooled down almost instantly after taking it off the test tube so that showed me that it doesn't hold the warmth very well. The cotton jersey did the best out of the three. The temperature only dropped 4 degrees, going down to 51°C . This fabric took a little while to cool down after removing it from the test tube. I also noticed that the test tube was still steamy after a minute. I decided that the cotton jersey would work the

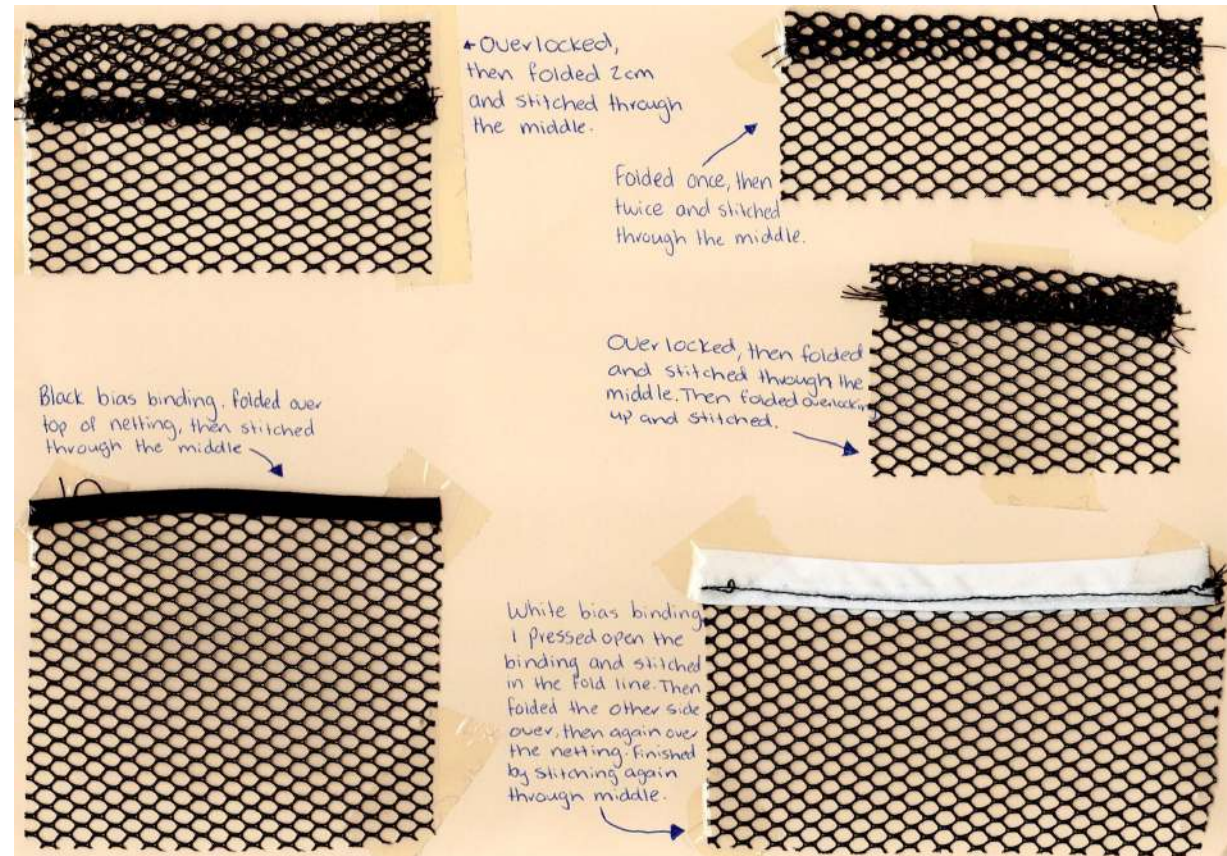


Fabric property tests are a great way to figure out if a textile material is suitable for a certain environment. This evidence reveals the student has tested for warmth and the method of testing is shown. The results are very clear, and the student specifies exactly what happened, including some unexpected and surprising results. A final decision is made but not feedback is given. Ensure the test is the correct one for the context. For example, the use of a burn test is only needed if the student is trying to broadly determine the composition of a fabric or the flammability of a textile.

Which bias binding was easier to sew and how it looked with the mesh. I also wanted to know how strong each of them would be.

I decided to use the black bias binding. It was easy to sew, strong and looked good with the other colours on my bag.

If I had not of tried the black bias binding I could of used the overlocking way and the ending up not liking it and the mesh looking tacky.



Testing processes and techniques is a way to determine which construction methods will be the most suitable for the developing outcome. In this example a student has tested 5 ways to finish a mesh pocket to be sewn on to a sports bag. The student wanted to find out which technique was easiest, which looked best, and which was the strongest. The evidence describes the method of testing and some findings have been recorded. A decision was made, and the student has shown mentioned how the test helped them to manage the risk of a 'tacky' or less socially acceptable finish. All that is missing is some feedback to reveal a fully authentic decision has been made.

Feedback should

- Come from more than 1 person
- The people giving the feedback should be carefully selected
- Be woven throughout the evidence
- Be relevant
- Inform decision making

EN2 at both levels states that stakeholder feedback must be used to inform the making and trialling of the outcome and a student cannot make an authentic judgment of fitness for purpose without it.

Good feedback offers the student an opportunity to refine the outcome because the feedback is purposeful. Feedback should not just confirm what the student already knows but could offer suggestions for refinement or alternatives. Guided questions which encourage feedback about the prototype's specifications is the best way to get relevant and purposeful feedback. You might have to show student how to ask purposeful questions to help them get relevant feedback.

Definitely a zip that would make getting into it harder for little people lol. Maybe the shoulder strap could be a little longer to wear over opposite shoulder. Love the pink and the floral one.

Trialling & Refinement



I was mainly looking for feedback around the size of the bag, the pockets, and the straps/handles.

After handing back my toile to my stakeholder the main points of feedback she gave me was:

- "The bag was a great fit." Therefore size was a ✓.
- "Mesh pocket was a great place to put my drink bottle" pockets were a ✓.
- However she did want me to make the mesh pocket tighter and to add an over the shoulder strap.

Testing usually precedes the trialling, as the test results ascertain what is to be trialled.

In this extract the student has created a full-scale mock-up of their potential outcome, a sports bag, and this has been guided by the decisions made after they completed their testing and gathered feedback.

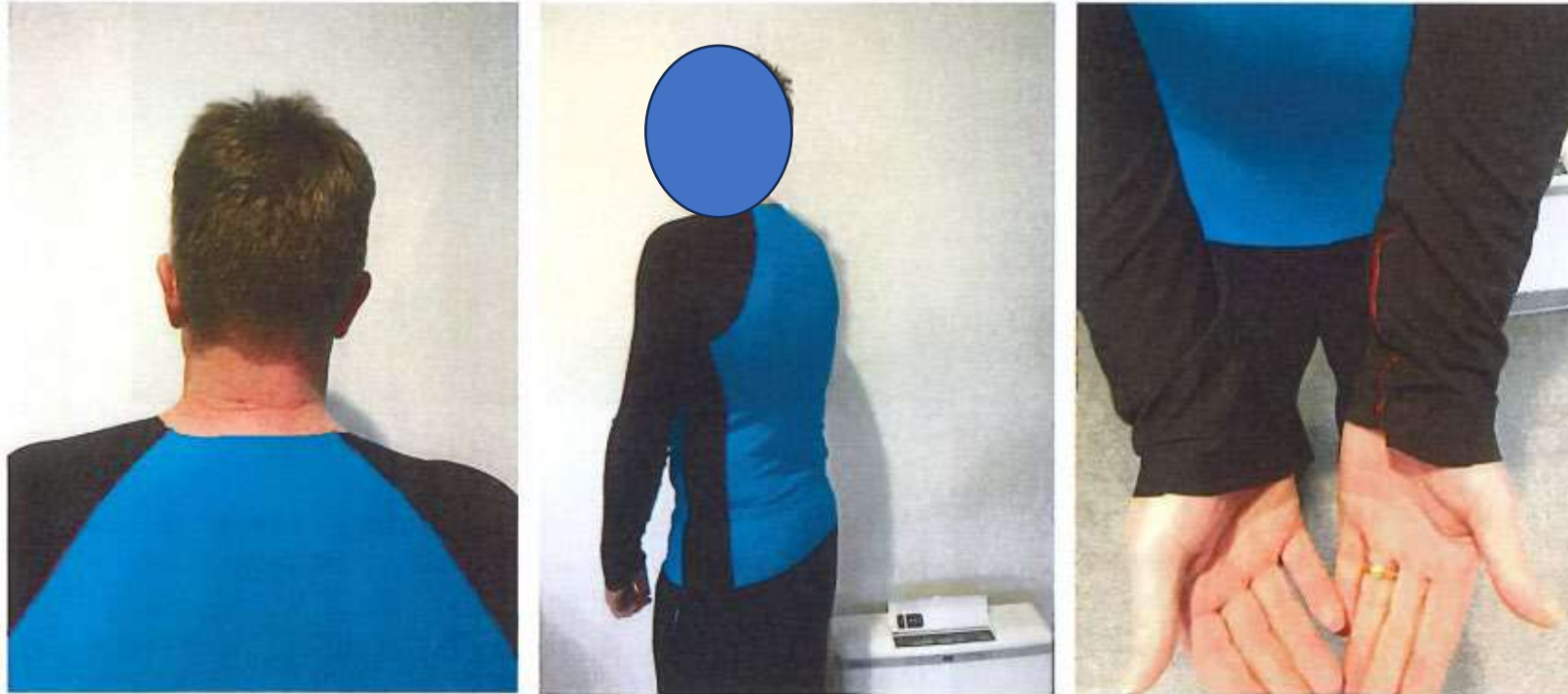
This evidence reveals the student knew what they wanted to find out when doing this trial. They gathered feedback which they have described in detail. Their last step was to analyse the feedback and make decisions about further refinements, which meant more trialling to improve the social acceptability of the bag.

After analyzing my stakeholders feedback i have decided to stick with all the measurements of my toile as it was a "great fit"! Everything will stay the same however i will make the mesh pocket higher to ensure her drink bottle will stay in, i will add another pocket on the side, and add an over the shoulder strap.

Refinement



Unique to a textile technology context is the requirement to fit a garment during its development. Fittings are done to ascertain if a garment is aligned correctly the stakeholder's unique body shape, and the process of fitting is a form of trialling. Some of the best opportunities to evidence effective development comes when fitting a garment as the simple act of trying on the outcome will likely reveal some aesthetic and functional aspects that need refinement. Without this form of trialling, the probability of the prototype being workable is hit and miss.



This rash top material in particular was extremely slippery and I struggled to create the seams where I needed to join this material to itself. When choosing a fabric, I need to ensure it is slightly thicker than this one. Sewing up the side seam became very difficult as the machine didn't like constant zig-zags on fabric like this and it was hard to sew the two pieces on top of each other as the rest of the top was underneath. The fit of the top was perfect as it was tight enough for insulation and warmth against the body. The side panel is great in the way that it means there are no underarm seams which would otherwise be uncomfortable. I think the function would be best fit around the neck area which I haven't added to this toile so I will do a sectional model with a neck function.

At Level 3 a Merit grade requires the student to evaluate the way the combination of selected materials/ and or components and practical techniques and processes work together to ensure effectiveness. This extract from a Level 3 folio is a good example of this criteria. The student has developed a prototype rash top for a stakeholder who has limited movement in his shoulder. They trialled a pattern in a scuba knit to ascertain how the fabric and the seaming techniques work together. The evaluations reveal some sound discoveries, and the student went on to make the refinements needed to ensure the fabric and the seaming technique combined to ensure the most effective outcome.

Refinement

Gathered vs circle Skirt

I created a pattern for a gathered skirt at two different ratio, 2 and 2.5. This was so I could come to a decision based off which style and volume of skirt suited the dress I was making more. From this trailing I learnt that a gathered skirt style did not suit my stakeholders body shape and she agreed. The volume all sat at the waist and was uncomfortable



I then created my own circle skirt pattern and compared the results to the gathered skirt. This pattern fitted her perfectly and it also suited the style of the dress and her shape. Through this testing I was able to find and make the ideal skirt to match my bodice. The drape was really feminine and she loved the result.



Refinement is not undertaking more and more new testing for the sake of testing. It's the small tweaks to optimise the prototype. Trialling is often more purposeful than testing and the student needs to know what the trialling is trying to ascertain, the results should be evaluated and should inform the next steps in the development of the prototype.

This example shows the student has evaluated the way the combination of selected materials and practical techniques work together to ensure their effectiveness in making a prototype. They have compared two different methods for creating volume in a skirt and after comparing then evaluating these in relation to the style of bodice decided upon, the student has decided on the modifications needed to fine tune, or refine, the prototype.

Synthesis

Requires critical thinking skills. Such as -

Analyse

Critique

Compare

Evaluate

As the students think critically, they will likely be **inferring relationships** between what they have discovered, they **find commonalities or differences** that link the information and should be **making strong connections** between ideas.

A key thing to consider in assessment is that **synthesis doesn't just happen at the end of the journey**, the evidence of those connections will likely be throughout the students work and this is what allows them to justify the making and trialling of their prototype.

To justify means to **support an idea or decision with evidence**. Look for evidence that reveals the student has made clear decisions that are informed by testing, trialling and feedback.

When you are making Excellence judgements ask yourself *'is there any aspect of the prototype that has not been confirmed in the evidence'* and *'are there any questions still to be answered?'* and if there are, it is highly likely the work is not indicative of Excellence.

Synthesis



I knew when I chose my pattern for the dress that it didn't have a sleeve so I would have to add one in myself. I first found a pattern in the backroom in the classroom. I had to measure it out and also measure the dress pattern to find which one would fit. I then cut out a sleeve pattern out of paper. In my first toile I decided to only sew in one sleeve just to check the fit of it and save fabric and time. Once the sleeve was set in I had my XXXXXX try it on and it was too baggy at the shoulder. I

talked to my teacher and asked her for technical advice. She recommended I go back to the pattern and re-shape the armhole and take some allowance from the shoulder. I also then compared the final armhole size to the sleeve head. They were really different and I then removed 2cm from each side of the sleeve pattern to refine the fit. I did a second then a third toile and in the final version I found it fit a lot better and didn't have as much bulk at the top. I had refined the design well and each time it fitted better and better. I had to be very careful when sewing the sleeve, which my toile also helped me figure out, because if I wasn't constantly stretching it while sewing it would catch the wrong pieces of fabric and create bumps all around the armhole. I went to XXXXXX for a final fitting and fitted the toile and it was much better and there was no longer any risk of the sleeve being baggy and falling from her shoulders or being too tight that it restricted her movements.

In this extract the student undertakes trialling and gathers feedback as they refine their garment. They had tested fabrics and determined a stretch knit fabric would be best for the prototype. The student then researched a possible pattern to use but the pattern did not have a sleeve, so they found a sleeve pattern and adapted it.

The student knew that because knit fabrics have different stretch and recovery properties, they would have to trial the sleeve adaptation on the stakeholder to determine it fitted the armhole and the body correctly. They created a toile from scrap fabric and firstly, the trial revealed the sleeve was too baggy and that the head of the sleeve was too big for the armhole.

The student gathered feedback and using that feedback, to guide refinement of the prototype by removing 2cm from the pattern.

The garment was trialled again, and the sleeve evaluated as being suitable or optimal for the outcome because the sleeve did not restrict movement or drop off the shoulders.

Trialling the Prototype

Alongside evidence of synthesis, judgements of Excellence at both Level 2 and 3 also require the student to have justified any decisions to accept or modify their prototype. Excellence can only be judged if they have trialled the final prototype in-situ to gain evidence of its effectiveness. For Excellence there must be sufficient evidence of the act of prototyping to allow the student to justify why they would accept the prototype as workable or explain what they would modify and why.

This evidence usually comes in the form of a written statement describing how the outcome met the needs of the brief and at higher levels of achievement this statement will explain what happened when the outcome was used in the intended environment (not what might happen). There should also be feedback to support that evaluation. Any final evaluation of fitness for purpose should also be supported with final developed measurable physical, functional, material or manufacturing details and assist to reveal why the prototype could be considered optimal. Final specifications that have developed as result of testing, trialling and feedback are a very sound way to justify the outcomes existence.

Prototype

I used my final design to manufacture a prototype of the final garment. This was worn in situ at the restaurant for my mother's birthday dinner. This functional version of the garment (prototype), allowed me to see that the garment fit well and the lace sleeves, neckline and navy colours gave it a formal look, meaning that I felt it was suitable for the semi-formal environment of the restaurant and felt comfortable wearing it. The shortened, lace sleeves allowed me to feel comfortable and added to the formal look of the garment. The others at my table said the garment looked formal and fit well, meaning that it was socially acceptable in the environment.

The garment was strong and durable in the physical environment - no seams or finishing came undone while wearing it, and there were no rips, tears or general wearing down in the garment after wearing it to the restaurant. While the knit body of the sweatshirt kept me warm in the cool evening, the shortened sleeves prevented me from overheating whilst dining. Because the garment had been designed in colours that would match my wardrobe, I was able to easily match it with a pair of neat jeans and shoes.



Form fitting	I adapted the pattern 3 cm under my bust which allowed my garment to fit against my body completely.
Semi formal style	The zipper is invisible and it is lined to make the garment more formal. The fabric is patterned to make it slightly casual to get the semi formal look.
Evening wear	The dress is a slightly dark blue which suits the nighttime environment.
Subtle pockets	I inserted side seam pockets without zippers so that the opening is barely noticeable. The pockets sit flat so that they don't add shape to my body.

Trialling the Prototype

A picture tells a thousand words



To justify means to support an idea with evidence and visual evidence of the prototype being implemented is an easy way for students to justify of fitness for purpose. It is important that the prototype is photographed in situ or in an environment that would closely simulate the intended social and physical environment. Compare these photographs of fully developed prototypes. Both students could not for various reasons prototype the garment in situ.

Student 1 placed the finished garment (a ball gown) on a mannequin in the hallway. This limited the evidence of fitness for purpose as the garment was not worn/used and so the prototypes suitability could not be substantiated.

Student 2 replicated a day in the life of a doctor and the photos clearly justify how and why the prototype could be considered fit for purpose.

A picture tells a thousand words, so encourage students to really consider how well their photos show

Fitness for Purpose Level 3

- Technical Feasibility & social acceptability
- Sustainability of the resources used
- Ethical nature of the testing practices
- Cultural appropriateness of trialling procedures
- Determination of life cycle, maintenance and disposal
- Health and safety

A student operating at Excellence at L8 of the curriculum will most likely show **substantial links to ffpbs in their specifications** and it will be clear during the development of the prototype and in the resolved prototype.

Ideally the evidence will only consider the criteria **relevant** to their prototype. The criteria in Explanatory Note 4 are not a tick box exercise, and it is important that the student hasn't just addressed these criteria without thinking if they apply to their work or not.

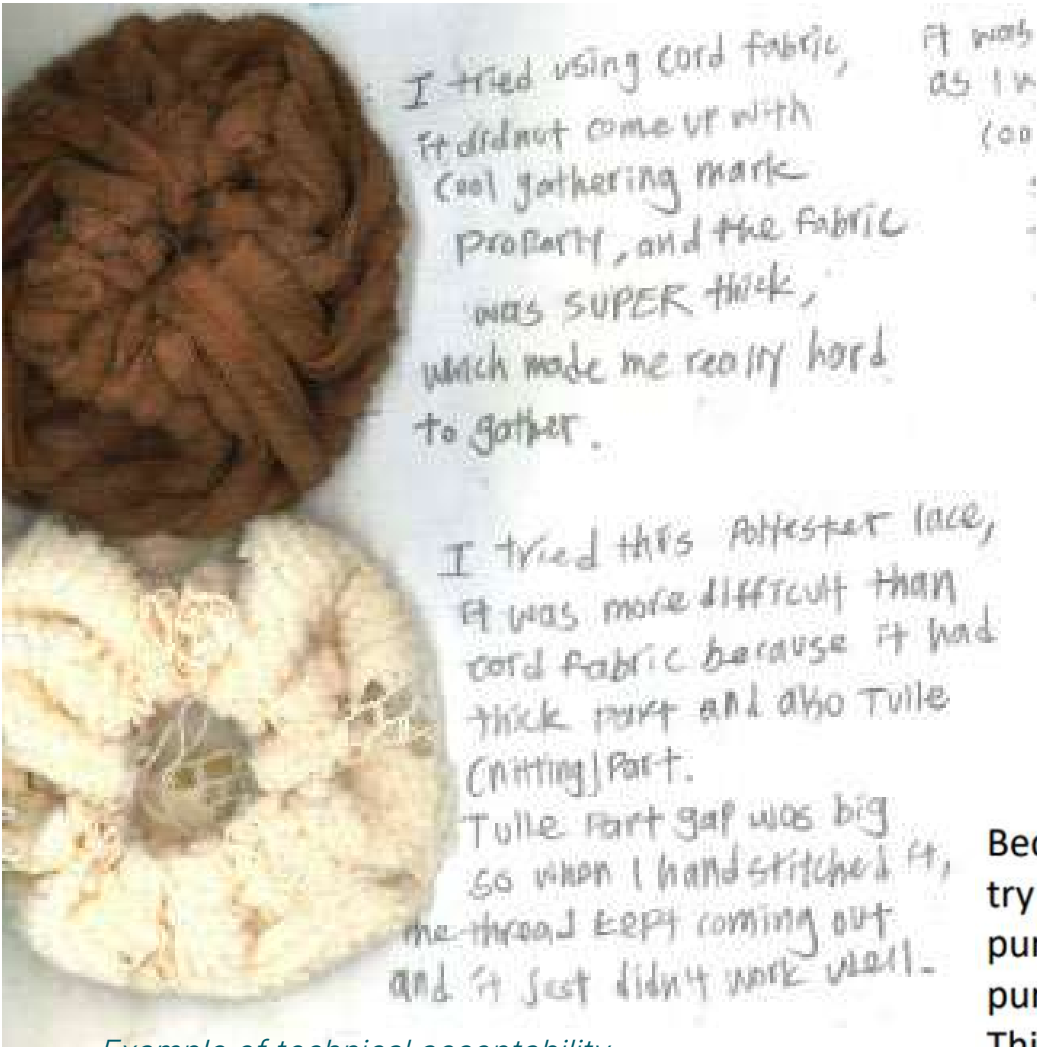
wearing the garment, I did this by making sure that every aspect of the garment was lined on the inside with comfortable fabric. The first layer in the bodice is an old 100% cotton singlet, and the skirts base is calico allowing the models skin to never make contact with the broken mirror pieces.

Example of consideration of health & safety

Mum had a lot to say about the korowai she demonstrated many ways to create a taniko but also explained that a taniko tells a story to the individual. It could tell the iwi they come from to what their life story is. It is all made with love and respect to whoever the person will receive the korowai. she told me that the type of weaving pattern I used doesn't match the korowai and that I should take more care to make sure the design reflects our traditional values. we worked together on the next **band**

Because I am selling my totes bags, I am required to label them with care instructions in readable English. This is so consumers can correctly look after the purchase and know what is required for cost and effort before buying. Following the care, instructions mean that the bags are less likely to be damaged or destroyed and more likely to last for a reasonable period of time. The label should have general care instructions and fabric maintenance instructions, as well as any warning against inappropriate treatment.

Example of ethical nature of the testing practices



Example of technical acceptability

After talking to Helen I realised there were lots of extra things I needed to think about the contamination risk on the garments. In physics and biology, I use a really good website that helps me with any resources for things that are to do with science. I went to this site and searched for requirements for hospital requirements for scrubs. I need to ensure that I am not breaking any healthcare laws and regulations and that my garment does not put anyone, patients and doctors, at risk.

Some things I must consider are

- BBE rule. This is the 'Bare Below the Elbows' rule. It means that the garment must not cover further than the elbows. This helps protect the spread of infections as it is harder for the clothing to pick up infectious bacteria etc and spread it around to other people.



Example of ethical nature of testing practices, health and safety and social acceptability

Because most fabric is crafted from plastic it is hard to be sustainable when sewing. To try to be as sustainable as possible I have used fabric that already exists instead of purpose buying for this project (lining and polyester batting). The outer fabric had to be purposely brought alongside Velcro, the zip and elastic.

This was because we did not have any of these materials on hand. However, the durability of the upholstery fabric makes up for this by ensuring it can last before becoming unusable.

Example of determination of life cycle, maintenance and disposal & sustainability of the resources used

Takeaways

- The needs of the **social and physical environment** are as important as the needs of the stakeholder using the prototype in those environments.
- Ensure the **specifications are measurable** (and that they are specifications, not attributes or key factors). Let the specifications guide the testing and get the students to direct their feedback to be about those specifications
- This student should **target one idea and refine it into a workable prototype**. Evidence which reveals students have tested volumes of disparate ideas to find one that is suitable generally do not secure grades above Achieved.
- **Testing usually precedes trialling**. Both the testing and trialling should be purposeful, have a **clear outcome, feedback and inform a decision** about fitness for purpose.
- Encourage students to **use a range of relevant stakeholders** and to **gather relevant feedback which must be evaluated** to show how it could inform the development of their outcome.
- Merit grades require refinement. **Refinement is not undertaking more and more new testing** - it's the small tweaks to optimise the prototype.
- To **synthesise requires evidence of analysis, critiquing, comparing and evaluation to show connections between ideas**, which ultimately shows justification of the decisions made. Synthesis should happen throughout the evidence.
- To fully justify fitness for purpose **evidence of the prototype being used in situ**, of relevant feedback and a final evaluation with measurable specifications is essential.

Assessor Support

For additional assessor support go the bright blue Assessor Support link on the NZQA Technology Subject page.



This link gives you access online modules for Technology with more up to date modules and tools coming in the new year. These can only be accessed via Pūtake which requires an ESL login. Your Principals Nominee can help you set this up. Assessors can also request face to face best practice workshops or guest speakers from NZQA. Alternately email NZQA directly.

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