



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

## **Exemplar for Internal Achievement Standard**

### **Technology Level 3**

This exemplar supports assessment against:

**Achievement Standard 91608**

**Undertake brief development to address an issue within a determined context**

An annotated exemplar is an extract of learner evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

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|    | Grade Boundary: Low Excellence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1. | <p>For Excellence, the student needs to undertake comprehensive brief development to address an issue within a determined context.</p> <p>This involves justifying why the specifications allow a judgement of an outcome's fitness for purpose in the broadest sense.</p> <p>This student has developed a brief for a one-seater Drift Kart within the context of affordable and enjoyable methods for practicing essential driving skills.</p> <p>Not seen in this exemplar is evidence of the establishment of the issue, need or opportunity, and explanation of related context considerations. The student has also reflected on views of key stakeholders and the context considerations throughout the evidence.</p> <p>The student has justified why the specifications allow a judgement of the outcome's fitness for purpose in the broadest sense (1), including:</p> <ul style="list-style-type: none"> <li>• consideration of the outcome's technical (2) and social acceptability (3)</li> <li>• sustainability of resources used (4)</li> <li>• determination of life cycle, maintenance (5), and ultimate disposal</li> <li>• health and safety (6).</li> </ul> <p>For a more secure Excellence, additional evidence of ongoing reflection of context considerations is needed, including the social and physical environment where the outcome will be developed.</p> |

## ① Conceptual Statement

I am designing and constructing a one seater ride on drift kart for teenagers which will be powered by an electric battery. This project comes under the “Automobiles and Transport” category for the context exploration in this assignment.

The issue drawn from this context are that existing product for one seater ride on cars are expensive to purchase and maintain, they do not use environmentally friendly materials, they are not made to last a long time, they are not too safe for teenager to use, and there is little to no space to store one seater ride on drift karts in many households.

The outcome I will develop will be targeted towards teenager without any means of transportation around their neighbourhood. I believe that the customers of this product would be parents of teenagers who are under the legal age for driving a vehicle and who children want so kind of mode of transportation and having the excitement of driving.

By producing this prototype, I will provide adolescents with another form of transportation that they can use which is affordable, fun and long lasting, and in which they can learn about the importance of road safety.

The controlling aspect of my kart will be simple and easy to control as there are only three main controls which include the steering wheel, the accelerator, and the handbrake. Some safety considerations I have taken into account to ensure that the rider is safe is for the rider to always beware a safety helmet to protect them from head injuries, have two over the shoulders seat belts which are adjustable, have a sturdy steering wheel, and a strong gripped accelerator.

The project will be constructed in accordance with correct codes of practice and the end user in mind. I am designing and construction a one seater ride on drift kart to fulfil the need that existing solutions are too expensive for parents to purchase for their children and the repair or replacement for broken or faulty part is quite pricey. Additionally, through this prototype, I will spark an interest in young mind about how automobiles work and the basics of road safety. I believe that it is important that a prototype be developed for this need because as depicted by my stats in my context exploration, a majority of road accidents happen inability to maintain control of their vehicles at higher speeds, typically ranging from 50 to 70 km/h.

This drift kart will be able to carry up to 60 KGs of load while riding at the maximum speed of 23 km/h. My project will be no larger than length 1m X width 0.6m X height 0.5m and will have good traction which will allow for it to be able to operate on smooth, straight and dry surfaces. This drift kart will be suitable for the environment it is being ridden in as it will not impose on nearby pedestrian's personal space, and it will not harm the natural and manmade environment around it.

I believe my stakeholders would want to use this product because the current versions of this product are too expensive, do not have adequate safety features, and have performance issue. My product will be operating in controlled environment, which is quiet, has no public located in the area, and has smooth paths to ride on.

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While the product is not in use, it can be easily stored in a garage or a shed. Some of the social implications of producing this prototype are that this product may be obstruction in the way of pedestrians if used on public footpaths, the LED under glow lights may cause discomfort to people with photosensitive epilepsy, and people who are below the average height may not be able to use it.

Some considerations I need to make to ensure my outcome is successful is to get stakeholder feedback along the way and asking them on how I can improve my processes. Also I need to take into account the time frame for a project like this and I will need to set timed goals to make sure that I am on track to creating a successful product.

The main function of this prototype is to transport teenagers around their neighbourhoods. The life cycle for my product after it is done being used will look like this: All of the electrical components which are in good condition can be recycled and used in other projects which may require them, all the mild steel components which have been welded in a manner which can be easily disconnected can be recycled for other future project, and all of the spray paint on the materials can be sanded off. My product will be maintained by having a polyurethane finish for it long lasting, having an easily replaceable rear wheels, and having a easily accessible charging point to charge the drift kart battery.

6. Must be straight forward to weld

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6. The drift kart must be easy and straightforward to weld as welding is a big part of this project and the joints for the frame should be easy to connect to each other in order to create a strong, durable and long lasting frame. An easy to weld project allows for less complications and less chances of injuries. A more complicated project can lead to more chances of difficulties and injuries. If the project is too complicated to weld, the welding aspect of this project can be done by a professional with more experience than me. This will decrease the chance of injuries and will protect the manufacturer of this project form harm.

5. Must be ridden in controlled environment which is quiet, has no public located in the area, and has smooth paths to ride on

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5. The drift kart must be used in a controlled environment which has smooth surfaces with bends with large radiuses so that the user can have the best and most comfortable experience while riding on the drift kart. If the drift kart is been driven on rough and bumpy surfaces with potholes, loose rocks, and uneven surfaces, the user will not have a pleasant experience while riding the drift kart as their experience will be uncomfortable, and painful.

15. Must have bucket seat

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15. This drift kart must have a bucket seat so that the user is comfortable while using this product. The purpose of the bucket seat is to provide safety and comfort for the user while they enjoy driving the drift kart. This safety and comfort can be achieved by the indent in the bucket seat which restricts the user's movement while riding the drift kart. The bucket seat which has a 58 degree indent, is made from durable plastic, has foam padding, and is 31.5 cm by 50 cm.



## Specifications

10. Must have LED underglow lights for night time riding

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## Justifications

10. The one seater ride on drift kart must have LED underglow lights for night time riding. If there is no source of light for the incoming public, the pedestrians on the footpath will not know that there is an drift kart coming their way and to avoid it.

11. Must have a be spray painted with high quality spray paint

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11. The drift kart must be visually appealing for the end user. A nicer looking drift kart will cause the user to regularly use it and to have more fun with it. If the drift kart was not visually appealing, the user would be sceptical of using it in public as they could be afraid of the judgment from others. Spray painting the drift kart also gives the drift kart character and allows the manufacturer and user to express their personality to society.

16. Must have a powerful rechargeable battery

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16. The drift kart must have a powerful battery which is rechargeable in order for the user's experience on the drift kart to be enjoyable, long lasting, and as powerful as they would like. A power rechargeable battery for a drift kart is important because the batteries are what power the electrical motors to function at all. Without batteries, there would be no source of energy or fuel for an electric drift kart to work. The ideal battery for a one seater ride on drift kart is a 12V 5.5AH rechargeable battery as it is capable of allowing the drift kart to reach speed of up to 23 km/h for a long period of time. If the battery used to power the drift kart is not rechargeable, the carbon footprint of this project would be quite large as every time the battery ran out of power, they would need to be discarded and new batteries would be needed to be bought so that the drift kart would be able to work.

12. Must have a polyurethane finish

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12. The one seater ride on drift kart must have a polyurethane finish. This type of finish allows metals such as mild steel to not rust overtime, it provides a smooth finish for the material, It prevents water, oil, and grease from have a negative impact on the material, and it also prevents the material from overheating due to extensive uses and perves the material from becoming scratched. If polyurethane was not used for the finish of the mild steel, the product would be less desirable for the use, so they would use it less.

7. Must be well build and long lasting

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7. The drift kart must be well built and long lasting in order for the product to be used for a long period of time without the materials losing their structural integrity due to the weight force they will output onto the frame of the drift kart. The more high quality materials the one seater ride on drift kart is made out of, the more longer the main structure will last. This will result in the end user having peace of mind regarding the build quality of this product.

The safety aspect of my one seater ride on drift kart is crucial important as the rider of the drift kart needs to be protected from injuries while riding. On existing models of one seater ride on drift karts, there are little to no safety features in place to keep the rider safe. The only safety element manufacturers have considered are creating a metal frame around the seat, hand brake, and steering system. This frame stops the user from slipping off the seat and rolling on to the ground. However, there is no features that keep the ride from leave the seat unintentionally such as a seat belt. To make my rider's experience safe, I will install a double strap over the shoulders seat belt which is able to be loosened and tightened to the users satisfaction. This double strap over the shoulder seat belt allows the rider to be the most secure in my drift kart. Additionally, I will include a compulsory half face helmet for the user to use while riding on my drift kart. This helmet will have a clear polycarbonate protection shield which protects the rider's eyes and face from dust particles and small pieces of flying rocks coming in contact with they user's face.

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|    | Grade Boundary: High Merit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2. | <p>For Merit, the student needs to undertake in-depth brief development to address an issue within a determined context.</p> <p>This involves demonstrating how the specifications allow a judgement of an outcome's fitness for purpose in the broadest sense.</p> <p>This student has developed a brief for a gluten free food bag product to feed a family of five. Not seen in this exemplar is evidence of the establishment of the issue, need or opportunity, and explanation of related context considerations. The student has also reflected on views of key stakeholders and the context considerations throughout the evidence.</p> <p>There is sufficient depth in the evidence to place the sample at High Merit. The student has demonstrated why the specifications allow a judgement of an outcome's fitness for purpose in the broadest sense.</p> <p>Consideration of the outcome's technical (1) and social acceptability (2) is seen throughout the final brief, and the final specifications also allow judgement of the:</p> <ul style="list-style-type: none"> <li>• sustainability of resources used (3)</li> <li>• cultural appropriateness of trialling procedures (4)</li> <li>• health and safety (5).</li> </ul> <p>For Excellence, the student could have provided more specific details of how wider stakeholder feedback informed development of the brief, in particular the final specifications.</p> |

**My brief**

I have developed my food bag recipes for my chosen client. I have conducted trials, taken on stakeholder feedback, researched and changed my product until it suited my clients specifications.

My client has specific food requirements throughout the whole process the health and safety of my client will be a priority. I have chosen the [REDACTED] family as my client because one of the family members is coeliac. This gives me a challenge to develop a healthy well balanced meal while keeping it gluten free. The aim was to help give the family delicious meals that are gluten free. Making it easier for the family as constantly coming up with new meal ideas that are gluten free can become quite difficult.

I also chose this family because they have a young child which can make meals more difficult but also this makes the product more appealing for many families. I was easily able to talk to the family about what kinds of food their child enjoys.

**Initial Specifications were**

- My product will be 100% gluten free (Social)
- The meals will take no longer than 45 minutes to prepare and cook (Social)
- The meals will include flavours that complement each other and be really tasty. I will know this from a sensory analysis (Social)
- The food bag needs to appeal to all members of the client group (Social)
- My food bag must be kept fresh and safe during transportation (Social)
- My food bag meals will minimise wastage from leftover ingredients (Social)
- My food bag must cost no more than \$15 per meal (Social)

After much research and talking to stakeholders we trialled and refined three different food bag recipes. Teriyaki chicken poke bowl, Honey Glazed Ginger Garlic Salmon with cauliflower couscous and Vietnamese Lemon Grass beef rice paper rolls.

After researching different food bag companies I discovered it is important the food bag offers suitable nutrients, is not too difficult for people to make and the packaging is either recyclable or reusable. People don't like lots of plastic. I then added these three specifications.

- The meals should be able to be made in a domestic kitchen so shouldn't include high tech or specialty equipment
- The ingredients will allow for balanced meals including a range of nutrients from each of the food groups.
- My food bag will be packaged as sustainably as possible materials

**Wider Considerations.**

- **Time.** Our time was not too important as it is a food bag. We were not cooking; just organising all the ingredients and recipes for our client. When it came to delivering the food bag time it did matter as we had to take it to them when they are home. As the family I am making the food bag for has plenty of time to cook the dinner (I consulted them about this) the time it took to cook the recipe was not a major issue.
- **Skills.** Skills were a consideration as it was important we made sure the recipes required a very low, limited skill set. The meals are reasonably simple as they will not be using any technical equipment. Only equipment everyone has in their own home.
- **Portion** size was important as we wanted to ideally make sure there is zero wastage. We wanted to make sure what was in the bag was only what you need and a good amount of food. We also didn't want to portion sizes to be too small as there must be portion sizes to keep people filled. The portion size was for 5 people taking into consideration that one is a child.
- **Shelf life.** It was not super important as once the family got the food bag the food was used or put in the fridge and cooked a day or two later. However it was important to make sure the foods that will go off or bad first were used on the first day/cooked before the other meals. Any of the staple ingredients, like the rice, that we used could easily be put in the pantry and will last for more meals.

- **Money/ cost to make.** After consulting with the family they do not need super cheap meals so this was not super important, it is not their issue. However making things gluten free became quite expensive if you are not careful. So was still important to keep the price reasonable or else the client may not want to continue using our product.
- **Culture.** The culture of my clients is that they usually all want to eat at the table together, it is a time for everyone to catch each other up on their day. Therefore although this is not a super important consideration it is still a consideration. This is another bonus of making the meals gluten free so the celiac family member does not feel like the odd one out not being able to eat something or even having dinner by themselves (at a separate time).
- **Food Safety.** As the food bag could potentially be left on someone's doorstep if they are not home it is important to have ice packs if this is the case. In order to keep the food safe and healthy we will always deliver the food when we know the client is home so they can put the food straight in the fridge. To be extra safe we will still keep the meat etc cold with cool packs. Another thing we have to be cautious about when it comes to the clients health is obviously keeping all gluten out of the recipes and watching out for hidden gluten such as soy sauce.

### Final Brief

- My product was **100% gluten free** as we substituted many ingredients from recipes such as gf soy sauce and cauliflower couscous rather than regular gluten containing couscous. This prevents the person who is gluten intolerant from getting sick. This couscous ended up making the meal healthier as the carbs are better for you and even tastier as parsley and lime was added to it.
- My food bag was **over 80% recyclable** as we used a cardboard box to put everything in and paper bags for almost all ingredients. Only the sauces were put in plastic containers which can be worked on but it is still in line with my specification that it will be packaged with at least 80% recyclable materials.
- My third specification is that it will take **no longer than 45 minutes** to cook each meal as a family of 5 is assumably very busy and the household may be very hectic especially with young kids. Each meal was tested and takes 30 minutes or less which is even better than my specification. This was an important specification because after hearing the speaker from my food bag I realised that super complicated recipes that take a long time did not do well. The reason people order food bags is to make their life easier not harder.
- Another one of my specifications is for the meals to **well balanced and healthy**, the meals are all well balanced with healthy carbs and fats and plenty of protein in each meal. This was important as the meals are gluten free which causes the person eating these meals to be lacking certain nutrients and the young child is growing and it is important for kids to eat healthy because of this.
- My food bag **appeals to my client group** as it was celiac friendly, kid friendly, family friendly due to the quick easy meals. I know this from the feedback I received as we trialled the recipes. The meals were all **very tasty** and I know this from sensory analysis and the **flavours did complement each other** and the family said they were really tasty. I also know this from a sensory analysis.
- The food bags were easily kept fresh during transportation as I placed ice packs in the cardboard box, I also made sure the client was home when I dropped it off so the food could go straight in the fridge. This organisation and the ice packs resulted in this specification being met.
- After many trials I figured out that the original recipe for the poke bowl had too many vegetables left over and the salmon dish made too much cauliflower couscous. After this realisation I altered the recipe so there was a **limited amount of food wasted** which was successful according to my client.
- All meals were **'easy' to make** as stated by my client and this is because all meals required minimal equipment and all equipment that was needed was not high tech it was the type of equipment found in every domestic kitchen, such as basic knives, micing bowl, fry pans, spatula, wooden spoons, cutlery. This specification was successful.
- My food bag did end up **no more than \$15 per meal.**



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|    | Grade Boundary: Low Merit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. | <p>For Merit, the student needs to undertake in-depth brief development to address an issue within a determined context.</p> <p>This involves demonstrating how the specifications allow a judgement of an outcome's fitness for purpose in the broadest sense.</p> <p>This student has developed a brief for a storage solution to be located in a teenager's bedroom. Not seen in this exemplar is evidence of the establishment of the issue, need or opportunity. The student has also explained related context considerations and reflected on the views of key stakeholders.</p> <p>There is sufficient depth in the evidence to place the sample at Merit. Consideration of the outcome's social acceptability (1) is seen throughout the final brief, and the final specifications also allow a judgement of the outcome's fitness for purpose in the broadest sense, including:</p> <ul style="list-style-type: none"> <li>• determination of life cycle, maintenance and ultimate disposal (2)</li> <li>• health and safety (3).</li> </ul> <p>For a more secure Merit, the specifications should be communicated in more measurable terms to demonstrate precisely how they allow a judgement of fitness for purpose in the broadest sense. Additional consideration for the technical acceptability of the potential outcome and views of wider stakeholders would also strengthen the evidence.</p> |

**Context.** With the current economic crisis that has hit New Zealand since Covid lockdown, there has been a rising problem with a lack of houses. To overcome this problem, some building developers have started to design and make houses that fit into a smaller land size. The impact of doing this is that it causes the rooms to all be smaller and that generates a problem with storage. I am going to focus my design project on this context to see if I can identify a problem to solve.

**Identified Issue.** In this context, there were possible storage problems for each room in a house. In a kitchen, there can be a problem with storing the recycling stuff before it goes out to the bin outside. In a bedroom there can be lack of space for storing things such as shoes etc. There could be a need for space saving furniture in a lounge but this would probably be totally dependent on how many people live in the house and have regular access to the lounge area because they would all have competing needs.

**Considerations.** I chose to design a seat that can fit in a standard sized bedroom and has some sort of integral storage capacity within it. This presents a range of problems such as: -

I decided that my target audience will be teenagers (either gender). This is because when I discussed it in my group, we all agreed that most adults would not have as much of a need for this kind of furniture. Teenagers tend to use their bedroom as a personal living space and somewhere to get away from the family, so having increased storage and seating would be an advantage for them.

After researching existing ideas for storage solutions I decided in order for my final design to be fit for purpose it will need to include the following specifications.

1. It must be comfortable to sit on for at least one person. This is based on the needs of the primary users. To make sure that it is comfortable it will need to be designed to fit an ergonomic average sizes and weights. The way to test the comfort will be in two ways. First at the prototype stage, modelling can be carried out to check that the sizes are comfortable. Secondly, the final product will need to be designed with some kind of soft furnishing so that it is not a hard surface that is being directly sat on. Finally, actually testing will need to be carried out by a range of target user groups people to make sure that it is comfortable to sit on for periods of time.
2. It must be made from a durable material that is easy to keep clean. This will be identified by researching a range of different materials to find out which is the most suitable. After this, those materials can be strength tested using weights to find out how much a material will bend before snapping. Finally, the materials can be tested to see how easy they are to clean. Suitable materials will be reviewed to see which ones look the best, are easy to work with and are cheap to buy.
3. It needs to be made to a size that easily fits through doorways. This is an obvious issue because the furniture needs to be able to fit through normal doorways and be easily moved around in a house so that it can get to the bedroom area without bashing the walls or other furniture. This can be tested at school with the doorways there but it will also need to be done with an actual bedroom because the room layout of a bedroom with other furniture is different to that of a classroom at school.
4. It must fit into a standard sized bedroom in a normal New Zealand house. If the final design is too big it will not sell so it has to be designed at a size that potential buyers can see it will easily fit into the bedrooms and can be moved around with other furniture. This will require some housing measurements from plans and then some functional modelling in a marked off area at school to make sure it fits
5. Because this item of furniture is going in a house it will have several different groups of people who may use it. This means it will have to be designed so that it takes these other people into consideration. Apart from the functional aspects of a seat and storage there are other things to bear in mind such as the aesthetic impact on other people. This will include things like making sure that the design is not culturally inappropriate by having markings or patterns that can cause offence.
6. Also, certain trees in New Zealand have a cultural significance so care should be taken with the choice of materials so that it does not contravene any cultural issues like tikanga. On a wider scale, it is important not to design an item of furniture that can cause social awkwardness like making a seat for two that is not quite big enough and forces people to be too close together. Or even a seat for one that is actually too small and embarrassing for a large person to sit on.

I showed four ideas to the stakeholders and had a discussion with them to see what they thought about my ideas.

1. They all didn't like my first idea of a lidded box seat because they said it looked bulky and old fashioned and they would not really want it in their room.
2. The end of bed storage with the baskets (concept 2) was not popular as well because stakeholders thought that it would stick out too far on the end of the bed and then need the extra space to be able to pull the baskets out fully. Some of the stakeholders said this would not fit into their current room layout (so not practical).
3. Concept 3 was having a seat that was made from individual units. This was popular because it gave freedom for laying it out however you wanted it and could fit into any room. It could also be increased by adding more units. This idea would have a long term market appeal for mass production because it can be used in so many contexts and moved about to fit in. So people would buy more units.



4. All the stakeholders liked my final idea because it kind of built on concept 3 but does it in a way that it turns into an actual seat. Some stakeholders asked if it was possible to design a range of different furniture that was all made from the individual storage units and could be made to turn into seats, beds, desks, and other things. This was something to think about with the final design. Also the stakeholders preferred the idea of rounded surfaces on the arm rests just because it would look nicer. They also wanted some way that the units could be locked in place so that they don't come apart when being used.

#### Development of my idea

There are four things that I needed to refine in relation to my design to make sure it looked right and was also user friendly and safe.

First, I needed to find out the best dimensions for sitting at. This is important because it needs to be comfortable otherwise it will not get used. I could have done this with measurements but I wanted to find out how accurate things would be realistically so I made some scrap wooden boxes for seating and tested it with a range of people. Based on what they said, I made adjustments until I got to a comfortable average. I then used these as the dimensions that I would have for the seating heights and the depth of the seat.

The second thing was to test the materials. I had planned to use some sort of wood for this because it would be strong enough and cheaper than metal. When I talked to the stakeholders and showed them some samples they all preferred the MDF and the Plywood. They both look good enough to use, they are easy to work with and can be painted if necessary.

I then decided to carry out strength tests to see which would be better. I predicted that it would be the plywood because of the alternating grain direction. I tested the structure in two ways. First I cut a plank of both wood and put it across a gap between two benches. Then I loaded them with weights to see what happened. They both flexed a bit but the MDF was way worse and in the end, it broke (at about 35kg).

The next test was to look at the joining on the edges. I used glue and screws and set the wood at 90 degrees. I then tested them with a load after the glue had dried and the MDF broke first because the actual wood came apart. So from these two tests, I decided to use 18mm Plywood.

I showed the test results to the stakeholders and they agreed with my decision.

#### Final brief and considerations for the storage seat

Now that the final concept design has been developed and agreed upon by the stakeholders, I now need to evaluate it to make sure it meets the original design brief and is fit for purpose. I have divided this into different sections.

- I looked at the appropriateness of style. Knowing that it is mainly targeted at a young group of people, I think that the style is suitable because it is minimalistic which fits in with the majority of young people's current style (verified by the stakeholder group I was using). 1
- The ergonomic features of the design are a good balance of the different people I measured. I used a range of heights and sizes within the group to make sure I got a good mean average. This was tested with functional modelling to make sure the height and the depth of the seating was comfortable. The offset of this is that it does mean the storage cupboards are a bit deep but that was OK with most of my stakeholders. 1
- The idea of having a lifting seat makes good use of what would normally be dead space. The seat is held on with a piano hinge to spread the load between multiple fixing positions to make it stronger. After modelling this I decided that it would probably be a good idea to include an extra bit of reinforcing plywood near where the hinge is to take any extra weight when it is sat on. The rest of the weight comes down onto the edge of the plywood so it is strong enough that it will not break or flex. 3
- The final design solves the two problems that were identified (storage and seating) and it can easily be used in a young person's bedroom. Further to this, it is a design that can easily be transferred to a flatting situation or maybe a rental. It could even be used in university halls for students. So as a final design it will have scope to be developed further so that it can meet the needs of a mass produced item (or at least as an item that is part of a range). 1
- With the whole thing being made from plywood there is little problem with the carbon footprint for either the manufacture or the disposal of the item when it is no longer needed. 2
- From a cultural point of view, it is generically bland so it does not have any issues regarding causing offence to other cultures (although there are some aspects of this design which can be viewed as being similar to some Japanese styled furniture and this could be something to consider if the final product is ever sold to the Japanese market). Overall, the final proposal meets the needs of the stakeholders and is fit for the intended purpose (storage and seating) so it is worth making the prototype. 1

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| 4. | <p>For Achieved, the student needs to undertake brief development to address an issue within a determined context.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• establishing an issue, identifying and explaining related context considerations</li> <li>• determining a need or opportunity that resides within the established issue</li> <li>• ongoing reflection of views of key stakeholders associated with the need or opportunity and wider stakeholders associated with the context</li> <li>• ongoing reflection of context considerations, including the social and physical environment where the outcome will be developed and situated</li> <li>• developing a final brief that allows judgement of an outcome's fitness for purpose in the broadest sense.</li> </ul> <p>This student has developed a brief for building an electric guitar to solve the issue that buying an electric guitar is very expensive for beginner musicians.</p> <p>They have established an issue (1) and identified related context considerations (2), and the context considerations have been explained as related to the established issue. They have determined a need or opportunity that resides within the established issue (3).</p> <p>Evidence is seen of ongoing reflection of views of key stakeholders associated with the need or opportunity and wider stakeholders associated with the context (4). The student shows ongoing reflection of context considerations, including the social and physical environment where the outcome will be developed and situated (5).</p> <p>The student has developed a final brief that allows judgement of the outcome's fitness for purpose in the broadest sense (6).</p> <p>To reach Merit, in-depth development of the brief is required. To demonstrate this, evidence of deeper interrogation of how and why the specifications allow judgement of the outcome's fitness for purpose in the broadest sense is needed.</p> |

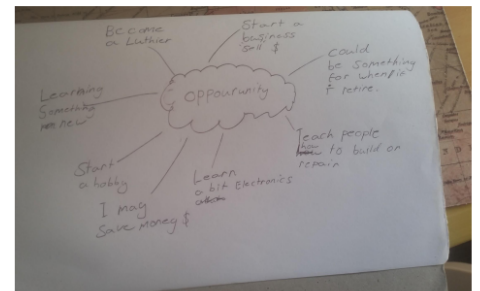
| Issue/Opportunity                                                                                                                                                 | Social Environment                                                                                                                                                                                                           | Physical Environment                                                                                     | Access to Stakeholders                                                                                                                                                               | Feedback                                                                                                                                                                                                                                      | Feasibility                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Good quality instruments cost too much. The opportunity of doing this is I could start a business constructing custom made instruments and selling them. <b>1</b> | This will be for people that would like to have a custom made instrument <b>2</b>                                                                                                                                            | It will be developed at school for the first time couple of times <b>2</b>                               | Go to a person that builds certain types of instruments like a guitar and ask for advice. Stakeholder would be people in later years which will be the customs if I pursue this idea | <i>I think you would need to be a specialist in building one instrument otherwise you would need to have too many items that were required for each instrument. It would be costly.</i>                                                       | This is something that I could possibly work with as a guitar. Good quality guitars are very expensive and I would like to see if there is a possibility to make something that is good quality that costs less money as the issue is that there are good quality guitars. |
| Wheelchairs wheels aren't that great going upstairs. Solve it by making them able to go upstairs                                                                  | I will develop something that will allow the wheel of the wheelchair to go upstairs                                                                                                                                          | It'll be used for people that aren't able to get upstairs easily while in wheelchair and there's no lift | Go to people that design wheelchair, ask people that use wheelchairs                                                                                                                 | <i>This is a complicated concept. You would need technical knowledge, physics, safety, balance and understanding pivot points as well as motion.</i>                                                                                          | This is an awesome idea but sadly someone has beat me to this and has already invented a way to allow wheelchairs to go up and down stairs.                                                                                                                                |
| Have a string instrument that can change to different types of string instruments so people don't have to buy heaps of different instruments                      | I will invent a type of instrument that allows it to be able to swap instrument. It will be used for people who have a passion in different instruments and is able to save money by not buying different string instruments | It can be used anywhere and will be designed and built at school.                                        | Go to people that build different types of string designs                                                                                                                            | <i>Would the instrument end up sounding too similar. To achieve this you will need to alter the neck significantly. Even with these alterations, will you achieve a drastic sound difference. It sounds like quite a complicated concept.</i> | This is possible but is a difficult. The main problem was that I don't know how I can switch strings in a fast time as it wont work unless you have separate necks for each instrument and keep the base.                                                                  |
| Roof racks for surfboard, find a way to get them cheaper, protect your board and car, produce little drag and no noise issue.                                     | People who need roof racks on the car are able to find good quality cheap ones that do the job of storing things on top of the car well.                                                                                     | It will be remade at school, and it will be used when something doesn't fit in the car                   | Talk to people who don't and do have roof racks and ask what they would do if they had the chance to redesign them                                                                   | <i>This is a good idea. It may end up being a simple concept but materials, salt resistance, safety and security may all be factors you need to investigate.</i>                                                                              | I have researched this and there's some for \$40-\$50 so it has pretty much been invented in a way that I couldn't possibly make cheaper.                                                                                                                                  |
| Find a way to stop or slow down the wear of the tread deep on vehicles                                                                                            | I would create something that slows down or stops tread depth so people don't have to spend heaps of money in buying new tyres.                                                                                              | It would be created at school and people who drives a vehicle use it                                     | Talk to people who have tried this, go to mechanics and get their perspective on how it could be changed                                                                             | <i>Rubber is used as it creates grip without maximum wear. You would need to think about traction, safety, balance of tyres, traction in wet conditions.</i>                                                                                  | It appears that trying this which is an amazing idea turns out to be impossible for the time being as you need rubber tyres so you have grip on the road and traction.                                                                                                     |

The Issue/opportunity I have chosen is how to build an electric guitar that is good quality but cheap. The opportunity of building an electric guitar is that I could start my own little business that builds custom made electric guitars.

The reason why I have chosen this is because I think this one will be the best fit for me and my stakeholder as we have a passion for music.

The issue that I have concluded is that the price of new guitars that are over that are around \$500 and more are too much for a good quality electric guitar. I believe that you can make a Electric guitar that is cheaper and is worth around the same price as one that is worth \$800

The opportunity that I gain by doing this is I will be able to learn the ropes of building a custom made electric guitar which means that in later years I may start a business or a little hobby of building custom made guitars or repairs.



| Summary of Key Design Features from Existing Ideas Research                                                                                                                            |                                                                                                                                                       |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Positive Features                                                                                                                                                                      | Things to Avoid                                                                                                                                       | Factors to consider for my own design                                                                                                                                                                                     | Key Stakeholder Feedback to consider                                                                                                                                                                                                                                                                           |
| The type of artwork in all the guitars are awesome as it adds their creativity which is why I'm inspired to do something like that. All the products used are able to be bought in NZ. | To try and save as much resin as possible in case of a muck up as it's expensive. Choosing wood that is structurally solid with no areas of weakness. | To do lots of research in building the guitar. Find out what could go wrong and then how to avoid these issues. Which is why I'll be going to a person that builds custom made guitars Learning how to pour smooth resin. | <i>The shape of the guitar needs to have smooth and rounded points and a rounded base. I like the idea of using resin but want to make sure there are limited or no air bubbles. I would also like it to be flat and not contoured at the edges. The colour is important if using colour pencils or resin.</i> |

I have interviewed my Stakeholder and gathered enough information for now to evaluate what the stakeholder would be when in the stage of planning.

I believe Stakeholder is describing a Fender Telecaster which is acceptable to make. My stakeholder doesn't mind if it's made out of pencils or the river like one. Stakeholders would like the body to have more curves. Must be completed by the end of 2020. Stakeholder has left me with this decision which will be 6 strings. Stakeholder likes the one in the first picture above, which is maple slab. I will have standard steel strings. The guitar may have a pickguard and will negotiate with stakeholders. May have dots on fret depends how I'm building it. The neck design will be my choice as the stakeholder has left me in charge of what type of neck, which may be custom built or bought on trade me depending on which is cheaper. Stakeholders would prefer the fluoro green colour first then the blue, if building the electric guitar out of pencils. Stakeholder would like the pencil colours to only be blue, Green, yellow, and red. If doing the pencil guitar and only using those colours from stakeholder, stakeholders' money cost may increase as you'll have to buy a full box of different colour pencils which will minimize the amount of the required pencils resulting in the payment to increase. With the research I have done I may have to do the first or second option if stakeholders are wanting just those colours. Stakeholder would like a light stain to show the grooves and shine of the guitar. The rod of the guitar will be at the top as requested from the stakeholder. Stakeholders would not like a case as they believe that it will be safe. Stakeholders would like a fender type body. The stakeholder would like my signature.

**Evaluation and Summary of Location Research: what have you learned from your research? What are the key factors you need to consider? How do the locations impact on your design? What are the most important priorities in each of your locations? Justify your decisions using your research as evidence.**

The information I have gathered information for now. Is location wise. There may not be enough room to build my design as there are too many people in the class. Which could cause me to not have enough room to build. To solve this is by either, Getting to class first, or have a permanent section on where I can build or go at lunch. The most important location for me is possibly the bandsaw and near the sanding area as those will be the two places that I will be near. The evidence I have gathered so far is that the location will be fine as long as I have enough space. This means that I have a high chance of building this electric guitar. The only problem is the school closing down



| Initial Brief                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Context                                                                                                                                                                                                                                                                                                    | Building Electric Guitar. Gaining experience                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Issue                                                                                                                                                                                                                                                                                                      | No issue The issue is that electric guitars that are good quality are too expensive, finding a way to build one to save money or increase the value so there is profit if sold.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Need/Opportunity                                                                                                                                                                                                                                                                                           | The need of building an electric guitar is that I will be gaining knowledge on how to build something that interests me ,and the opportunity of building an electric guitar is that I have the opportunity to be able to build more in the future and start a little or big business of building guitars.                                                                                                                                                                                                                                                                                                |
| Conceptual Statement                                                                                                                                                                                                                                                                                       | Building an electric guitar, Gaining new knowledge in building one which is beneficial. Don't know if the guitar is going to be made out of.<br><br>Building an electric guitar with a river filled with resin. This is for my stakeholder who likes electric guitars. It will be started in maybe late term 2 or the start at term 3. It will be built at school and maybe taken to a specialist that builds guitars for some assistance. I asked my stakeholder what would be a cool project to make, and what their passions are, which was music, which is why I will be creating a electric guitar. |
| Functional Attributes<br>(Explain why you have chosen each of your attributes)                                                                                                                                                                                                                             | Aesthetic Attributes<br>(Explain why you have chosen each of your attributes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| It needs to be able to play a song.<br>The electric guitar needs to make noise from the amp.<br>The wood that will be using needs to be sanded so there's a low chance of getting splinters. There can't be any dents in the electric guitar until it starts to get some wear in tear in the later future. | Needs to represent a river, Needs to have resin in it or pencils not to sure what the materials is at this stage.<br>At the end result it needs to be able to produce sound.                                                                                                                                                                                                                                                                                                                                                                                                                             |

Some of the research I have gathered is that when people build an electric guitar they don't like building the neck as that is the hardest part. Since this is true I have thought about and talked to my stakeholder who agrees that I will spend Three and Half weeks trying to make a neck. If I do not complete this in that time due to it being too complicated then I will have to buy a pre-made neck.

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 4 | I have interviewed my wider stakeholder who builds and repairs guitars. He was unable to answer all the questions as there were too many and the answers would be too long. What I did get is, "Building a neck is very hard and wouldn't recommend doing it as it requires more than measurements but the feel of how to build it and years of experience." He also recommends building a plain Guitar without resin as he doesn't use resin." Some of the main tools I need is a router, bandsaw, and a sand belt as these will help. Also he recommended that I buy a second hand electric guitar and use those parts from that to save money and have a template. He also recommended a website called StewMac which he says is everything that I will need for parts. He also said that this is a great way to start a career and that is what he did when he retired. | 5 |
| 4 | I have considered what I must do and overall I still would like to build at least with resin as I that I was one of the main reasons in building this for my stakeholder. I would still like to learn and give the neck a go, possibly by buying a second hand guitar and using some of those parts, this will help save money.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |
| 4 | The Material I will be using for the build is a quilted Maple slab<br>The reason I will be using this is because my <u>stakeholder</u> likes this and is the best material to use to make an electric guitar.<br>MDF: I will be using MDF to make a template of the body and where to drill in. The reason why I will use MDF is because it's simple, cheap to be able to have a template.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |

## Final Brief

|                           |                                                                                                                                                                                                                                                                                                            |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Context                   | Building a electric guitar                                                                                                                                                                                                                                                                                 |
| Issue                     | Good quality electric guitars are expensive                                                                                                                                                                                                                                                                |
| Need/Opportunity          | Finding a cheaper way to get a electric guitar that is a good quality guitar. Then maybe I can start business.                                                                                                                                                                                             |
| Constraints and solutions | <ul style="list-style-type: none"> <li>Soldering is something I have never done before. I have been practicing and the teacher will help to make sure my wiring is safe and to standard</li> <li>Building the mold for the parts is hard but I will have help from teacher and my Dad</li> <li></li> </ul> |
| Conceptual Statement      | I am building an electric guitar from maple wood and a pre-made parts that is able to produce a good sound. Building one is time consuming but hopefully it will end up being less cost than buying one                                                                                                    |

- The Material for the body will be Quilted Maple Slab which I have got from the recycled timber yard here in town. It will be a humbucker because they sound thicker where a single coil sounds lighter and brighter. Humbucker guitars are usually used for more rock, jazz.
- The neck will be bought pre-made which will be maple including the plate to hold guitar neck, Tuner/Pegs to hold the strings, string tree to hold the strings for a better tone. It will be able to play a song because all the parts will be securely joined and it will be tuned first and checked by the technician here at school.
- The guitar will be sanded and polished it to get that shine and make it easy to hold (not rough with any splinters.) I will use the sanding equipment in the workshop for this and get it polished with layers of polyurethane varnish. This was tested in class. the polishing will protect the timber and make the guitar last longer
- The guitar will be mostly made at school. My teacher is helping and Dad who has given lots of feedback. First I will need to tape the inside with copper tape leaving 3mm out on the edge to allow no EMI and wires to connect through the holes. Check with a multimeter. I will then need the parts which are the humbucker, tone, volume, bridge and the jack which then i will solder. After soldering and installing the Humbucker and bridge i will then be able to attach the strings from the bridge to the guitar. The joint that I will be mainly using is a lap joint as that is very important as this will connect the body and neck securely. Another is putting a casing around the inside which will also be a Lap Joint.
- The design on the body needs to represent a river. The maple will have a channel carved in it that looks like a river flowing. This will have have resin in it for colour.

| Consideration                                                     | Description                                                                                                                                                                                      | How it relates to your project?                                                                                                                                                  | How will you know you have achieved it?                                                                                                           |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical acceptability</b>                                    | The technical acceptability, there's a high chance of building this without any problems if I do my research well.                                                                               | The price will be expensive, but I will try my best to lower as much as I can without compromising quality.                                                                      | By building the project with a little bit of assistance                                                                                           |
| <b>Social acceptability</b>                                       | This project is socially acceptable if people who play the guitar want to buy one and can use it safely                                                                                          | Because people won't use an instrument that is not comfortable to use or looks good. I also don't want anyone playing it to be hurt.                                             | By completing the project and checking all the wiring so it is acceptable to people                                                               |
| <b>Sustainability of Resources used</b>                           | The material I will be using is wood and guitar parts                                                                                                                                            | I could possibly find second hand parts and upcycle the timber                                                                                                                   | When the guitar is built ill be able to add the full cost.                                                                                        |
| <b>Ultimate Disposal</b>                                          | When the product is finally out of use, depending if it was wire fault then you can save the body of the guitar and replace wiring                                                               | If you want to build another guitar you can use the scraps from the other guitar to save money.                                                                                  | By saving money.                                                                                                                                  |
| <b>Determination of Outcome Life Cycle</b>                        | The life time of this project should last forever if it's looked after                                                                                                                           | This means that if i was starting a business it would be for the company as it will show a long lasting guitar build. This also means that you won't have to buy another guitar. | By waiting in time to see if the electric guitar is broken                                                                                        |
| <b>Cultural and Ethical appropriateness of testing procedures</b> | There will be lots of research and testing when building this as I don't want to butcher the main resources otherwise I will have to buy more/.                                                  | The resources for testing will be scrap wood or cheap pine so can get abase of how to build the electric guitar                                                                  | When I have find what I needed to know by ethir making a little model or research                                                                 |
| <b>Maintenance</b>                                                | The tools I will be using will need to be looked after and well maintained as if the equipment is damaged in any way then it becomes a hazard to the person who is using or other people around. | If the maintenance is poor this could lead to spending more money into fixing the equipment.                                                                                     | By knowing that the equipment and materials are not damaged in a way that could lead to even more damage to the equipment, you, or people around. |
| <b>Health and Safety</b>                                          | While i'm doing this project I will be needing to tie my hair back, wear safety glasses, and earmuffs, also when sanding have the dust filter on.                                                | The price is irrelevant to health and safety as the equipment is at school so I do not need to buy anything.                                                                     | I will know that I have achieved this by seeing if I have damaged my self                                                                         |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|    | Grade Boundary: Low Achieved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5. | <p>For Achieved, the student needs to undertake brief development to address an issue within a determined context.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• establishing an issue, identifying and explaining related context considerations</li> <li>• determining a need or opportunity that resides within the established issue</li> <li>• ongoing reflection of views of key stakeholders associated with the need or opportunity and wider stakeholders associated with the context</li> <li>• ongoing reflection of context considerations, including the social and physical environment where the outcome will be developed and situated</li> <li>• developing a final brief that allows judgement of an outcome's fitness for purpose in the broadest sense.</li> </ul> <p>The student is undergoing brief development to make a bespoke pair of trousers for a friend. The excerpts show that the student has established an issue (1) and identified related context considerations.</p> <p>They have conducted ongoing reflection of context considerations, including the social (2) and physical (3) environment where the outcome will be situated.</p> <p>Ongoing reflections of views of the key stakeholder (4) with the need or opportunity is evident. The final brief allows some judgement of the outcome's fitness for purpose in the broadest sense (5).</p> <p>Social acceptability is the focus of the developing brief. For a more secure Achieved, additional evidence of the outcome's technical acceptability, wider stakeholder feedback and consideration for the physical environment where the outcome would be developed (the school workshop) is needed.</p> <p>The developed brief could also include further details about how the judgement of the outcome's fitness for purpose in the broadest sense could be made. For example, additional evidence of exploring the sustainability of the materials used, or health and safety.</p> |

Clothing size and body shape are nearly an issue for everyone, male and female. Most clothing produced is designed for a specific body shape such as pear, rectangle, hourglass, apple, and more. Even though most garments produced range from sizes 6 - 14, this doesn't determine the body shape they are designed for. Many women come across the issue that an item is too big around the waist but fits perfectly around their legs or too small on the bust but fits perfectly elsewhere. In this generation, an hourglass figure is what women aim to be, due to the stereotype social media has brought across. Therefore the majority of clothing produced now is mainly designed for an hourglass figure, making it hard for other women to find the clothing they look and feel comfortable in.

#### Possible Issues

Swim wear. There are lots of on line stores selling swim wear for different body shapes. Hard to make swim wear and people might be shy to be a stakeholder. Would need to be warmer weather for trialling.

Formal wear. School formal is coming up. Could be hard to meet the very specific needs of a someone who needs a ball gown. Sourcing the right fabric might also be too hard here. Would require heaps of work and skill and time frame would not really suit (only 6 weeks until the ball)

Formal street wear trousers Lots of girls like to wear pants now not dresses or skirts. This is because they don't have to worry about being conscious of how they sit and you can mix and match with different tops and shoes in the wardrobe. I have made trousers before and have the skills. Might be able to up-cycle something.

1

#### Key stakeholder

-Height/ 171cm  
-Bust/ 80cm  
-Waist/ 73cm  
-Hips/ 99cm

Name: XXXXXXXX. Age: Year 13, 17 years old

XXXXXXX is one of my closest friends who I can ensure will give me honest and reliable feedback. She loves to keep up with all the fashion trends right now, therefore she knows exactly what is in. I sit next to her in class so this is helpful for gaining as much feedback as possible, it also easy for me to have discussion regarding colours of fabric and style of garments. I talked to her about what she needs.

Her style is very sporty and casual. She like garments such as sweat pants but enjoys dressing up a little more elegant with a hint of vintage. She has nothing to wear to her birthday in August. After the birthday dinner my stakeholder would like to wear her garment as much as she can. She is not really get influenced by anyone and is not extremely picking about what fabrics but mainly wears cotton, I also like linen and denim. The fashion trend she is liking the most is how we are bringing back some more vintage garments such as corsets and more wider legged pants and jeans. She would mostly like something that fits her well and allows her to move comfortably but not stand out too much in a crowd. It will also need to be able to be washed easily. She is thinking something with an elastic waist and pockets would be good.

4

Issue I will work with. Many people go through the trouble of having different size body shapes, compared to what the beauty standards are known, and therefore each clothing produced these days are mainly created to fit one body shape. I have found a client who has also had trouble when purchasing garments. XXXXXXXX is my friend at school, she is also in Y13 and because of her height,

she finds it difficult to find pants that fit her properly around the waist and around the legs. Therefore this gives her trouble when wanting to purchase new garments for her closet.

XXXXXXX's issue revolves around pants sizing, as her 'size 10' is too big around the waist and too long, although 'size 8' fits around the waist but is too short and tight on her legs. She is after a pair of pants that can make her feel confident and comfortable and therefore will be fit for purpose. I hope to achieve a product that fits her well and that she can enjoy wearing them to her 18th birthday dinner, as well as fashionable casual wear either at home or school.

1

Both my client and I really liked the idea of wide pants over straight cut or slim. From my previous existing product research, I was able to identify a range of different styles, shapes, and materials which could influence and inspire my final design. I have decided on a more formal style as this is more appropriate and it is something she currently does not own. We both like the Glassons jeans shape, therefore I would like to incorporate this into my design. I have decided to design my garment to be tighter around the waist and hips and loose a

round the ankle, creating the 'wide leg' look. On the right, I have inserted two images that portray how I would roughly like my final design to look. XXXXXXXX never purchases pants with a zipper or button as they tend to not fit her correctly around the waist and legs. Therefore her personal preference is drawstring or elastic pants, as she knows they will almost always fit comfortably. Although as she is after more formal pants she is open to having a fly front, as she trusts that I can work with her needs, to create a garment that fits her comfortably and correctly. I have decided to use a button fly, as this would create a chic final outcome and count as one of my complex procedures. The teacher agrees it will also be a good idea to make these.

4



## Social and physical environment research

### Physical

Physical properties such as durability, warmth, flexibility, form, colour, and texture are all important to consider throughout the process of designing the garment. Not thinking about these factors will result in a final product that is not durable in its chosen environment, therefore not being fit for purpose. Although XXXXXXXX will not be moving much in my garment, I still need to make sure it has strong performance attributes and adheres to the final specifications, meaning it needs to be flexible for her to walk/move and sit in for extended periods of time, therefore it shouldn't be too tight around her stomach, and thighs. The wide-leg pants I am designing need to be comfortable therefore ventilation is a must, I do not want my stakeholder to feel trapped, and this will also help resolve my client's issue as she struggles with finding pants that fit her correctly around the waist and legs. To ensure the pants will sit properly and not fall down when moving I will be incorporating a button fly. It is important that my design is suitable for an evening dinner. Due to Wellington tending to have colder temperatures throughout August it is important that I follow my specifications of the pants by not being too short or thin, if I failed this it would result in my client feeling cold, therefore the design would not be fit for purpose. And because she would also like to wear her garment throughout the remainder of the year, I needed to consider which fabric would be best suitable all year round, to ensure the final product follows the specifications to be fit for purpose. Due to the wide leg pants being suitable and appropriate for both formal and casual environments they would not go to waste and thereby follows slow fashion. XXXXX also says that it will be good to design a pair of pants that can be dressed up to be more formal, or dressed down to be casual, this gives the wearer a choice in how she would like to display her new wide-leg pants. 2

### Social

When beginning to design my garment it is important to ensure that it is socially acceptable within its chosen environment. This means considering what others may be wearing in a similar environment, such as a formal event. The general dress code for a formal evening is either a long (maxi dress) or long pants and some sort of blazer/blouse/coat. This also connects with current trends, as I would like to design a final garment that is trendy and can be used over years without going out of fashion. Recent trends have portrayed an increase in wide-leg pants, therefore this helps with the social acceptability of my design. Colour choice also is an important factor, as specific colours will be in fashion and others not. Different shades and styles stop being trendy, therefore this is something I need to take into consideration before developing my product. Fashion trends and colours are important to my stakeholder as she will be the one wearing the garment socially. For XXXXXXXX to wear long pants she is ensured to fit within the environment, therefore she can feel more comfortable and included. I will use current trends as an inspiration as I am aiming to create a unique pair of pants dedicated to her issue. "The social environment in technology is the context of a group or groups of people and their interaction with a technological outcome and/or its development." The social accessibility in this design is that XXXXXXXX will fit in or stand out within the chosen environment. Therefore it is highly important to consider any feedback she gives me, to ensure that she will feel comfortable and proud of what she is wearing. The social environment will be both males and females within the restaurant who will also be dressed formally, therefore I need to consider visual aesthetics such as appearance, and this is where current fashion trends will be helpful. 3

## Final brief 5

I am going to design and develop a high quality pair of wide-leg pants for my stakeholder to wear at her 18th birthday dinner held on August 28th. The pants are specifically designed for a formal dinner although my client would also like to wear these pants all year round, dressed up or down. The wide-leg pants will be made from cotton linen as using a natural fiber is more sustainable and makes recycling the textile a lot easier. I decided to design this garment for my stakeholder struggles to find pants which fit her correctly around the waist and legs and I would like to try resolve this issue. The pants will be socially acceptable as they do not display anything explicit, therefore appropriate for the chosen environment. I have decided to finalise on a green fabric due to Rebecca's blonde hair and tanned skin. My target audience is teenagers and young adults aged between 15 and 19. She does not currently own any wide leg pants, so this will be something new for her wardrobe. I have completed a large amount of research regarding my clients issue, existing products and trending designers, doing so helps justify why I should create this garment. I have followed my brief throughout the design process and have hardly made any changes due to the fact my client was fairly happy with my original one.

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|    | Grade Boundary: High Not Achieved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 6. | <p>For Achieved, the student needs to undertake brief development to address an issue within a determined context.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• establishing an issue, identifying and explaining related context considerations</li> <li>• determining a need or opportunity that resides within the established issue</li> <li>• ongoing reflection of views of key stakeholders associated with the need or opportunity and wider stakeholders associated with the context</li> <li>• ongoing reflection of context considerations, including the social and physical environment where the outcome will be developed and situated</li> <li>• developing a final brief that allows judgement of an outcome's fitness for purpose in the broadest sense.</li> </ul> <p>The refined and final brief has been developed (1), (2), (3) and (4), with evidence of ongoing reflection of context considerations including the social (5) and physical environment (6) where the outcome will be developed and situated.</p> <p>To reach Achieved, the student could also establish an issue and identify and explain related context considerations to determine the need/opportunity. Ongoing reflections of views of the wider stakeholders associated with the context, and a judgement of the outcome's fitness for purpose in the broadest sense are also needed.</p> |

**Initial Issue (21/04/2023)**

The Board of Trustees have a special meeting with the parents of the school leaders once a year and would like to have a 3 course meal catered for everyone in the staffroom. The meal must cost no more than \$30 per person.

**Initial Brief**

1

We (Y13 FNT) will prepare a dinner for the Board of Trustees in the Staff Room. There will be 42 diners. The meal will be three courses, starter, main and dessert. This meal will be served on the 7th July at 6:30pm.

**Second Brief (07/06/2023)**

2

I will be preparing a 'Staff Dinner' for the BOT, parents and school leaders. The meal will be three courses, starter, main and dessert. This meal will be served on the 7th July, on a Tuesday at 6:30pm. My food teachers and the head of the PTA are my primary stakeholders, and I will craft my menu to meet their needs. My stakeholders all tend to like rich foods, and all would prefer a medium/small serving for their meals. None of my stakeholders have any major allergies, however two people are vegetarian and some don't like seafood. All the stakeholders are from the wider school community, three are teachers. Of course the Principal and Deputy Principal will be there too.

**Third Brief (23/06/2023)**

3

I will be preparing a 'Staff Dinner' for the BOT, parents and school leaders. The meal will be three courses, starter, main and dessert. This meal will be served on the 7th July, on a Tuesday at 6:30pm. My food teachers and the head of the PTA are my primary stakeholders, and I will craft my menu to meet their needs. My stakeholders all tend to like rich foods, and all would prefer a medium/small serving for their meals. None of my stakeholders have any major allergies, however two people are vegetarian and some don't like seafood. All the stakeholders are from the wider school community, three are teachers. Of course the Principal and Deputy Principal will be there too. My menu will be Vegetarian Spring Rolls, Vegetarian or Meat Lasagne with a garden salad from the school garden, Chocolate brownie with home made vanilla Ice cream. After discussion with the PTA members and Principal a decision was made to design the menu to represent the schools motto to give the evening a theme and to create themed table settings and decorations. I will be serving in conjunction with my cooking partner, and we will coordinate our serving and clearing on the night, and assist each other if one of us is running behind time.

**Final Brief (2/07/2023)**

4

I will be preparing a 'Staff Dinner' for the BOT, parents and school leaders. The meal will be three courses, starter, main and dessert. This meal will be served on the 7th July, on a Tuesday at 6:30pm. My food teachers and the head of the PTA are my primary stakeholders, and I will craft my menu to meet their needs. My stakeholders all tend to like rich foods, and all would prefer a medium/small serving for their meals. None of my stakeholders have any major allergies, however two people are vegetarian and some don't like seafood. All the stakeholders are from the wider school community, three are teachers. Of course the Principal and Deputy Principal will be there too. My menu will be Vegetarian Spring Rolls, Vegetarian or Meat Lasagne with a garden salad from the school garden, Chocolate brownie with home made vanilla Ice cream. After discussion with the PTA members and Principal a decision was made to design the menu to represent the schools motto to give the evening a theme and to create themed table settings and decorations. I will be serving in conjunction with my cooking partner, and we will coordinate our serving and clearing on the night, and assist each other if one of us is running behind time. We will consult each other on any major decoration decisions. We will also be attempting to keep *all* glassware and utensils/cutlery uniform across the evening, once more to ensure a professional atmosphere and smooth service. My meal will fit into my \$30 budget easily as I will be conscious in my food practices. Such as making sure I only buy what is needed, use the garden here at school and store and dispose of any food scraps or extras. We will be borrowing extra tables and chairs from the Senior College Library, which we will return at the end of the evening. These tables seat around 6 people each, so there should be around one table per student serving the meal. We will be covering the notice boards around the staff room, in an attempt to keep any confidential information that way. We will use candles to create a 'restaurant-y' mood. We will also use professional, nice plates instead the mismatched, scratched ones in the foods pantry. We will also be using nice, matching cutlery sets to ensure that there is a professional atmosphere maintained. We will also be laying the tables as we were taught on our STAR course at tech. Our table will also reflect the school motto and we will be using colours such as black and white. We will have our 'School motto themed' menus on the table, once more creating a sense of professionalism. They will also provide an easy conversation starter, as all of our diners are from the wider school community and we hope that they will be able to share memories when they look at the menu and decorations. We will all be wearing our school uniforms, as these look 'sharp' and more professional than mufti. We have also been supplied with special serving aprons. Once more this will make us look more professional, adding to the night's atmosphere.



### Physical Environment

6

The setting for the BOT Dinner is the school staffroom, above the office and sick bay. It is important for us to generate as much as possible, a suitable restaurant atmosphere. This will make the whole evening feel as genuine and professional as possible. There are a few steps that I will take to ensure this.

Firstly, we will use candles to create a 'restaurant-y' mood. We will also use professional, nice plates instead the usual odd ones in the foods pantry. We will also be using nice, matching cutlery sets to ensure that there is a professional atmosphere maintained. We will also be laying the tables in a formal setting we were taught on the STAR course. Our table will also reflect our theme, using colours such as black and white. We will be bringing in various 'restaurant-y' decorative pieces to make the physical environment suit my brief.

We will be cooking food in the Food and Nutrition Classroom, and plating up in the staffroom. We will have 'pop-up' screens separating the dining area from the serving area, continuing to ensure the professional environment.

Unfortunately, the Staff Room does not have adequate seating or tables. To solve this problem, we will be borrowing extra tables and chairs from the Senior College Library, which we will return at the end of the evening. These tables seat around 6 people each, so there should be around one table per student serving the meal.

As many Students have decided to pair up and share a theme, we will most likely have to move tables around to accommodate for these numbers. This means that we will be pushing tables and chairs into appropriate positions. As I am partnered with XXXXX I will be working with her on the laying out and preparation of *our* dining area. We will consult each other on any major decoration decisions. We will also be attempting to keep *all* glassware and utensils/cutlery uniform across the evening, once more to ensure a professional atmosphere and also create a smooth service of my diners and hers.

As the dinner is being hosted in the Staff Room, which is a professional teaching environment, we will be covering the notice boards around the room, in an attempt to keep any confidential information that way.

### Social Environment

5

When we sent out a survey we discovered there were some diner who preferred vegetarian food and some who did not eat seafood. So we have planned the menu to have options for people who don't eat meat. This will mean no one is left out.

Because the Staffroom has not been set up for our meal, we will need to adjust the seating arrangements to suit the situation. This is for social reasons. At present, tables in the staffroom are randomly set up and mostly not facing each other. If we kept them this way, it would make it extremely difficult for there to be any social interactions between individuals. To solve this problem, I will be placing the tables in suitable groups (to coincide with the number of diners), so everyone is able to talk to each other. This helps to enable social interactions, and avoids awkward silences along with shouting across the room.

We will have our themed menus on the table, once more creating a sense of professionalism. They will also provide an easy conversation starter, as all of our diners are from the school community we hope that they will be able to converse over the menu as it has photos and some facts about the school.

We will use candles, table cloths, nice cutlery and professional table-laying skills, to create a professional, social restaurant-y atmosphere. This as important as we are serving the meal in a school workplace but we want the diners to feel like they can relax, and that this isn't a staff meeting or interview with teachers. We want to make them feel comfortable, enabling them to continue with social interactions, as you would in a restaurant.

We will all be wearing our school uniforms, as these look 'sharp' and more professional than mufti. We have also been supplied with special serving aprons. Once more this will make us look more professional, adding to the night's atmosphere.