



The Scottish Baccalaureate in Science

Interdisciplinary Project - Exemplar 4

“Diabetes: What do you know?”

Grade: B

Science: Interdisciplinary Project

Proposal

Candidate name									
SCN									
Centre name									
Assessor name									
Project title	Diabetes; what do YOU know?								
<p>Project outline (<i>what it is you want to do and how will you go about it</i>)</p> <p>I will research the causes, symptoms and treatment of diabetes online, in my local library and in university libraries. This will increase my own knowledge of the condition and will enable me to produce an informative and factual end product.</p> <p>I will create a focus group of people within my school who are diabetic to discuss their feelings towards how much they think non-diabetics know about the condition and what it involves and how much they would like people to be aware. This will also allow me to discover how much diabetics themselves know about the condition.</p> <p>I will also meet with various people that work in the diabetic clinic in Kirkcaldy including a dietician, doctor and diabetic specialist nurse to find out what they have found people think diabetes entails when they are first diagnosed, what 'myths' about diabetes they have found a lot of people believe and opinions as to how (mis)information affects people's quality of life.</p> <p>I will then put together a questionnaire for first year pupils, sixth year pupils and staff at my school who are not diabetic to find out what they know about diabetes and how this compares to what diabetics thought they would/would not be aware of. I also hope to leave some copies of my questionnaire at my local doctor's surgery to gather information about the people of the village where I stay and its surroundings.</p> <p>Finally, I will create a simple but informative board game to provide people with the information that I have discovered they do not know and to build on the information I have found they already know.</p>									
<p>Reasons for choosing this project (<i>eg personal interest, future plans, links to other subjects you are studying/ have studied</i>)</p> <p>I have chosen this topic for my project because, as I am diabetic, I can relate well to the topic. In the future, I hope to study physiotherapy and I feel this topic would be beneficial as people can suffer from diabetes related complications later in life and often require physiotherapy to help them to recover.</p>									
<p>The broad contexts this project will cover are</p> <p><input type="checkbox"/> <u>Citizenship</u> My project will cover the context of citizenship as diabetes is a condition that affects the lives of many- not only the diabetic but also the families of those affected.</p>									

- Employability**
My project will cover the broad context of employability as it relates to my future career. Also, the leaflet and game I produce at the end of my project will be useful for diabetics and non-diabetics in the future.
- Economic development**
My project covers the context of economic development as diabetes can lead to a significant number of days off work which means a loss of revenue for companies, organisations and governments.

Learning environments I will access are

local library.
Library of St Andrews University and Dundee University.
Diabetic clinic, Victoria Hospital, Kirkcaldy.
local Medical Practice.
School library and resources.

How I will use my knowledge of science/technology

My knowledge of biology and chemistry will be useful during my project as it gives me background knowledge and understating of the causes and treatments of diabetes and allows me to explore them further.
I will also use my knowledge of maths/statistics when dealing with data that I gather.

The skills I will develop and/or improve in the course of this project are:

(carry out a short analysis of your current strengths and weaknesses in the skills areas below and how you think your project will allow you to develop and/or improve these skills)

- ***application of subject knowledge and understanding***
I will need to depend on my understanding of maths when I come to analyse and gather statistics from my questionnaire/quiz. Also, my knowledge of biology and the biological background of diabetes will be extremely useful when I create a questionnaire, leaflet and questions for my board game.
- ***research skills – analysis and evaluation***
My research skills are constantly developing through my school work and during my project, I will need to gather information about diabetes (through a focus group, online and in libraries) and will have to recognise the most truthful and relevant information.
- ***interpersonal skills – negotiation and collaboration***
I feel that my interpersonal skills are currently not very good but I hope for them to develop during my project as I will be communicating with many different ages and types of people that I don't know very well and will have to consider their views/feedback.
- ***planning: time, resource and information management***
My planning skills are reasonably good in that I am capable of managing my time effectively and meeting deadlines. However, my project requires me to keep to many deadline dates, meaning that I will have to overcome any problems that may arise to get things done, allowing me to further my time management skills

and I must only use the most reliable and relevant information which enables me to build on my information management skills.

- **independent learning – autonomy and challenge in own learning**
I can work and learn very efficiently on my own and the project will give me the chance to build on this skill as I will be working individually throughout the whole project and will be looking to establish links with other learning environments.
- **problem solving – critical thinking: logical and creative approaches**
My problem solving skills are reasonably good in that I can deal with most problems that may arise in everyday life. During my project, however, these skills will be built on as I will have to work around any problems I may encounter such as people not returning my questionnaire or people not replying to e-mails etc.
- **presentation skills**
I can currently present my work in several effective ways and at the end of my project I will have to choose the appropriate format, layout, structure and degree of formality of my presentation for my target audience allowing me to further this skill.
- **self evaluation – recognition of own skills development and future areas for development.**
My self evaluation skills are of a reasonable standard however will be developed over the course of my project as I keep a progress log, carry out a skills audit and have meetings with my assessor. Also, I will use evaluation tools suggested in a seminar e.g. SWOT.

Assessor feedback to candidate

Your proposal is as you say of great personal relevance and will require much courage to see through. It is also extremely timely given the current increase in numbers of young people being diagnosed with diabetes. It offers a great opportunity to develop your academic scientific knowledge as well as to work with people in novel and creative ways. You will, because of your own diabetes, be able to interact with, empathise with and work with both diabetics and non diabetics in a way that would not be possible for someone without the condition. Your research methods are varied, appropriate and carefully thought out involving a range of learning environments. You have chosen activities that will challenge you considerably and provide opportunity for much personal development in terms of skills. You have clearly identified broad contexts – given the highly creative nature of your proposed product I feel your project could also tick the enterprise box.

Proposal approved	Yes	Further work required	No
Candidate signature			Date
Assessor signature			Date

Science: Interdisciplinary Project

Plan

Candidate name									
SCN									
Centre name									
Assessor name									
Project title	Diabetes; what do YOU know?								
<p>Is this a group project? yes <input type="checkbox"/> no <input checked="" type="checkbox"/></p> <p>If a group project my individual role or responsibilities will be:</p>									
<p>Timescales (<i>this should be a detailed timeline and any separate spreadsheets or charts should be included as evidence</i>)</p> <p>Late June and early July – gather as much information as I can from different websites and blogs.</p> <p>Late August – arrange to visit libraries of St Andrews University and Dundee University. Also, make arrangement to go to local library.</p> <p>Late August/early September – carry out visit to libraries to obtain more information regarding the condition.</p> <p>Early November – arrange a time and date for focus group.</p> <p>Late November – hold focus group. Get in contact with people from diabetic clinic in Kirkcaldy to arrange a suitable date for me to speak with them to ask them questions regarding ‘myths, and knowledge of newly diagnosed diabetics.</p> <p>Early December – meet with, e-mail or phone (whichever option is suggested by contacts at diabetic clinic) people from the diabetic clinic to obtain information stated in ‘planning’ (below).</p> <p>Late December – devise questionnaire/quiz to hand out to first year registration classes to assess their knowledge of the condition.</p> <p>Week 1 of January– hand out questionnaire/quiz to registration classes and collect from registration teachers 3 days after the pupils received them. Analyse results over next 2/3 days.</p> <p>Mid January – create slide show on presentation creating website, ‘Prezi’ to show to my target audience at my presentation. Also, create leaflet to accompany my slide show and hand out to audience at end of presentation.</p> <p>Late January – start creating game board and question cards</p> <p>Week 1 of February – finish making game, arrange date and time for my presentation and communicate decision of time/date with target audience.</p> <p>Week 2/3 of February – present!</p>									

Planning (*how you are going to meet the agreed objectives of your project*)

Initially, I will research information about the causes, symptoms and treatments of diabetes. I will do this in my local library, online and in the libraries of Dundee University and St Andrews University. This will increase my own knowledge of the condition and will enable me to produce an informative and factual end product.

I will then create interview questions to ask people within my school that are diabetic. I will speak with the diabetics in my school about a suitable date for the focus group to take place before carrying out the meeting with my focus group in which I will ask them the questions previously thought of. Through this focus group I hope to discover their feelings towards how much they think non-diabetics know about the condition and what it involves and how much they would like people to be aware. This will also allow me to discover how much diabetics themselves know about the condition.

After meeting with my focus group, I will meet with and interview a dietician, doctor and diabetic specialist that work in the diabetic clinic in Kirkcaldy. I will create questions to ask them that I think will allow me to gather as much relevant information from them as possible. From meeting with these people and asking them these questions, I hope to find out what they have found newly diagnosed diabetics and their families believe diabetes entails, any 'myths' about diabetes they have found many people believe and how this (mis)information affects people's ways and quality of life.

Using the information I gather from the focus group and people who work in the diabetic clinic, I will create a questionnaire for first year pupils and sixth year pupils at my school. I will contact teachers of some first year classes to ask for permission to go into their class to hand out my questionnaire to some of the pupils in the class. I will use a questionnaire website to create my questionnaire for sixth years and will distribute it by posting the link on social networking sites and I will distribute it to my class peers. I will also use school e-mail to send staff at my school the link to my questionnaire. As well as this, I will hand my questionnaire to some members of staff personally after school or during my free periods. I also hope to leave some copies of this questionnaire in my local doctor's surgery to gather some information of the thoughts of the people that live locally and in surrounding areas.

Finally, I will create a simple but informative board game based on the information that I gather from my focus group, meetings and questionnaires. I will use the information that I gather to create my board game in a way that it will provide people with the information about diabetes that I have found they don't know and will build on the information I have found they do know.

Resources (*eg people, materials, places*)

I will create a focus group of people within my school who are diabetic. I will also contact a doctor, dietician and diabetic specialist nurse who work in the diabetic clinic in Kirkcaldy. My project involves first year pupils, sixth year pupils, staff at my school and people in my village filling in my questionnaire.

I will use the internet and books to research information on the condition.

I will research information in the local library, library of St Andrews University, Dundee University and my school. Other learning environments I will access are Diabetic clinic, Victoria Hospital, Kirkcaldy and my local Medical Practice.

Research methods (eg contacting companies, surveys, focus groups, experimentation)

I will research information about diabetes on the internet and through reading books to gather information that I require to carry out my project. I will create a focus group of diabetics in my school and will discuss with them their feelings towards how much they think non-diabetics know about the condition and what it involves and how much they would like people to be aware. I will then put together a questionnaire to find out what non-diabetics know about diabetes and compare this to information I gather from the focus group. During my project I will contact employees of NHS Fife who work in diabetic clinic in Kirkcaldy (a doctor, dietician and diabetic specialist nurse).

Presentation

- **Who do I think will benefit from listening/reading/looking at my presentation of my project findings/product?**

I think that newly diagnosed diabetics and family/friends of someone with diabetes would benefit most from my presentation and final product. However, I feel that my presentation and final product would also benefit any youngster who wishes to learn more about the condition for any reason.

- **What methods are appropriate to my audience(s)** (eg demonstration, presentation software, websites, oral, report, piece of theatre, dvd, wiki/blog or any combination)

Using powerpoint presentation software would be an appropriate method of presentation and I could also write a report of my findings, speak to my audience about what I found out and the conclusion I reach when my project is finished. Another suitable method of presentation for my audience is short video clips or extracts of related videos and DVDs. I will produce a simple board game at the end of my project which will be a suitable method of presentation for the younger people in my target audience.

Dependencies (what is required for your project to go ahead ie reliance on other people or resources, steps in plan that must be completed before starting the next step)

I am relying on several other people to return phone calls and e-mails. I am also relying on them to be available to speak to me and answer any questions I have for them and give me the information I need.

Also, I need to speak to people within my focus group before I can devise my questionnaires. Once my questionnaires are made up, I am relying on people to fill them in and return them to me.

Contingencies

Any anticipated problems

People not answering e-mails or retuning phone calls.
People not being available to speak to me or not being able to give me the

My plans for overcoming the anticipated problems.

Contact other people that will be able to speak to me and give me the information I need.

information I'm looking for. People not returning my questionnaires.			
Method for recording my skills development and future areas for improvement			
At the start of my project I will carry out a skills audit then when my project is completed, I will carry out the same skills audit to see how my different skills have improved and what skills I still need to develop.			
Assessor feedback to candidate			
Your plan builds on a comprehensive proposal and sets out logical and realistic timescales for the activities you intend to carry out. During the background research stage of your work you will have to be very selective in your use of internet sites and blogs developing ways of cross checking information to ensure its reliability. You may wish to consider contacting the people you hope to work with, particularly those outwith school at the same time as carrying out background research. I appreciate however that you want to make sure your questions are based on sound information and that many of the people you'll be contacting are already known to you. This will be something you'll need to judge as your plan is implemented. I can't wait to see your game!			
Plan approved	Yes	Further work required	No
Candidate signature			Date
Assessor signature			Date

Science: Interdisciplinary Project

Presentation of Project Findings/Product

Candidate name	
SCN	
Centre name	
Assessor name	
Project title	Diabetes; what do YOU know?

How I presented my project findings *(describe in detail how you presented your project findings and explain the choices you have made with regard to your presentation method(s) and audience(s))*

I chose to do my science baccalaureate presentation to a group of first year pupils who are part of the S1 microbiology club at my school. From personal experience, I have found that this age group tend not to know much about the condition so this age group was suitable. Also, I felt that this group of 'microbiologists' would have a general interest in science so would happily be present at my presentation.

I started my presentation with a talk accompanied with a slide show that I created on 'Prezi' – an online, zooming presentation creating website. I tried to make my presentation as colourful and exciting as I could and tried to use little writing, instead focussing on pictures and animations. I hoped that this would make my slide show more appealing to my target audience as I thought constant reading and listening would bore my audience.

Part of my project involved me designing and making a fun but informative board game which my chosen audience got the chance to play after my slide show. I tried to keep my game as simple as I could without making it too plain/boring as I wanted my target audience to enjoy playing it while being educated at the same time. I felt that playing a board game was a suitable method of presenting my findings as it would be more entertaining for younger pupils who wouldn't want to sit and listen to a long talk. I felt that combining education with enjoyment would work well in teaching my target audience about my chosen subject.

I also created a leaflet which I handed out to the 'microbiologists' that attended my presentation. My leaflet contained what is, in my opinion, the most important information about diabetes that everybody should be aware of. I included several images in my leaflet in order to make it more appealing while still ensuring it was very informative.

Assessor feedback to candidate

See Assessor Report

Candidate signature		Date	February 2012
Assessor signature		Date	February 2012

Science: Interdisciplinary Project

Evaluation of project

Candidate name									
SCN									
Centre name									
Assessor name									
Project title	Diabetes; what do YOU know?								
<p>How successful has my project been overall? (<i>consider the strengths, weaknesses and learning points of your planning, implementation and findings/outcomes giving examples to support your comments</i>)</p> <p>At the start of my science baccalaureate project, I devised a plan which, in my opinion, went into good detail. I see this as a strength of my plan as it allowed me to follow it easily and complete my project efficiently. After devising my plan, it took me a number of months to start carrying out tasks included in my plan. I recognise this as a weakness as it meant that a lot of my planned tasks had to be carried out in little time as deadlines were fast approaching. However, this is a learning point for me as it has taught me to stick as close to any plans I make in the future because not doing this can be consequential to other tasks that have to be done and when deadlines have to be met. Another weakness I see in my plan is that I had not thought of any solutions to problems that may occur in advance. I see this as a weakness because it meant that when problems did arise, I had to take time to come up with ways of getting round these instead of just being able to refer back to my plan. However, another strength I see in my plan is that it included reasons for doing what I planned to do. I consider this as strength because it allowed me to refer back to my plan to find out what reasoning there was for me doing a specific task and what information I should be trying to obtain from the task. Therefore, I feel that my plan was a valuable part of my project but I think it could have been improved as I have easily identified weaknesses within my plan.</p> <p>My first task after devising my plan was to carry out research. I started my research by looking at several websites on the internet before visiting Dundee University medical library. I consider these methods of research to be suitable as it allowed me to gather a huge amount of information from many different sources from which I had to identify the most factual, relevant and important. Also, having this amount of information accessible to me meant that I was able to gather a large amount of information on many different aspects of diabetes. However, one weakness in this is that some of the information in a couple of the books/websites disagreed and contradicted each other and this is where I had to use my knowledge of diabetes and the biological background of the condition. I feel that my research methods were effective and my research successful as the information I obtained enabled me to create informative end products.</p> <p>Although this was not the next step outlined in my plan, the next task I carried out was contacting people from the diabetic clinic in Kirkcaldy. I aimed to contact the</p>									

diabetic liaison nurse and the dietician but I also managed to get in contact with a doctor who specialises in diabetes. I felt that contacting these people was really advantageous to my project as it allowed me to speak to people who had firsthand experience of how educated non-diabetics and newly diagnosed diabetics tend to be regarding the condition. This also enabled me to ask any questions about any information I had obtained from books/websites that I did not understand or wasn't convinced was true. A weakness I see in this is that these people have only got experience of working in the Fife area so are only aware of how much the people of Fife know about diabetes. I feel that this was reasonably successful as I was able to draw conclusions from the information I had gathered regarding 'myths' many people believe and how much knowledge non-diabetics and newly diagnosed diabetics have. However, I think that this could have went a lot better as one of my contact's replies was very vague and she seemed to be reluctant to give me much information.

To overcome this restriction of focussing on the knowledge of Fifers, I carried out my focus group in Ninewells hospital, Dundee. I spoke to people in the diabetic clinic about what they feel non-diabetics are aware of and what they would want them to be aware of. Again, I feel that a strength in this is that these people all have firsthand experience and because I was gathering people's opinions, there was no doubt whether the information was true or not. A weakness I see in this, however, is that a few people seemed a little reluctant to speak with me. Despite a few reluctances, I am confident that my focus group went very well as I gathered many people's opinions and was able to reach several conclusions regarding what I had initially aimed to find out.

I then used the information obtained from speaking with diabetes specialists and my focus group to create a questionnaire/quiz for first year pupils within my school. A large flaw in this method of assessing how much these pupils know about the condition is that some of the pupils might have just circled any answer without putting any effort in or reading the question. Another weakness in this was that there was no guarantee that all registration classes that were given questionnaires would respond. Although I never got responses from one class, I feel that this was quite successful as I managed to overcome this problem and still obtain many statistics assuming pupils did think about what they were answering.

One of my end products was a slide show presentation created on 'Prezi'. One strength I see in this method of presentation is that it can look attractive to the target audience. Another strength is that it allowed me to include several images and a video which I hope made my presentation more enjoyable. Part of my project involved me creating a board game for my target audience to play after watching my slide show. I feel this method of presentation made my target audience's learning more enjoyable and they were more willing to get involved which I consider to be a strength of this method. My board game involved an 8x8 grid with question marks on a number of different squares. When a player landed on one of these squares they had to answer a question and there were different consequences depending on whether they were right or wrong. I tried to grade these questions on easiness with the easier ones having harsh consequences if answered wrongly and small rewards if answered correctly. Similarly, the most difficult questions had large rewards and small 'punishments.' I explained this method to the game players and this made them aware of what information is most important and which isn't as important. Despite using magnetic counters for my game and these sticking to each other, I felt my presentation went reasonably well

and this was confirmed when I received filled-in evaluation sheets that I had given to my target audience. Each member of my audience responded saying that they enjoyed my presentation, really enjoyed playing my game and feel that they now know more about the condition proving that my presentation was successful.

How effective were my communication methods throughout the project?

My first initial contact with the people from the diabetic clinic was through e-mail to the diabetic liaison nurse for Fife. This proved not to be very effective as after several days, I still had no reply. I phoned her to ask her if she had received my e-mail and she said that she had not checked her e-mail account proving that this was not an effective way of communicating. She also said that if I was to give her a date for me sending her questions, she would make sure she checked her e-mail that day. Again, this proves that this method of communicating was not very good as a date had to be arranged in advance. The same method of communicating (arranging a date to e-mail questions) was used for communicating with the dietician and diabetes specialist doctor.

Speaking face-to-face with people in my focus group proved to be the better method of communicating as I got an immediate response. When I asked people for their opinions, although some of them hesitated a little and a few of them seemed a bit reluctant, I had to wait just a tiny fraction of the time for a response than I waited for a response through e-mail.

Is there any aspect of my project that could be taken further? What might my next steps be?

If I were to take my project further, I would contact a number of other diabetic specialists to gather feedback on how I could improve my project and end products. I would take this feedback into consideration and make any improvements suggested to me that were feasible. I would also make any improvements to my end products that were suggested to me or I felt were necessary. After making these improvements, I would contact the right people who could help me market my game for educational purposes. I would sell my game in shops and through the NHS to hospitals and diabetic clinics/centres to help give non-diabetics and newly diagnosed diabetics more awareness of the condition and knowledge of what it involves. In the box with my game I would include a copy of my presentation on a CD/DVD disk and a copy of my leaflet. I would calculate how much profit I had made from selling my game every month and would donate half of these profits to the diabetes charity, Diabetes UK in order to help improve treatment and find a cure.

Candidate signature		Date	March 2012
Assessor signature		Date	March 2012

Science: Interdisciplinary Project

Self evaluation of generic and cognitive skills development

Candidate name									
SCN									
Centre name									
Assessor name									
Project title	Diabetes; what do YOU know?								

In evaluating your skills consider the skills analysis which you carried out at the Proposal stage and how you said you would develop and improve these skills. Now refer to your reflective diary/log/blog and feedback you have received and evaluate how you have developed and/or improved these skills through the work on your Interdisciplinary Project.

Application of subject knowledge and understanding

(Think about practical uses for the science you have learned. How did you use your knowledge of science/technology effectively to help you carry out various aspects of your project and how it related to your chosen broad context(s)?)

After gathering my questionnaire responses, I had to apply my knowledge and understanding of maths in order to obtain statistics relating to my responses. I developed and applied my understanding through calculating percentages of how many people were aware or unaware of certain facts about diabetes. My knowledge of biology also improved throughout my project and came in extremely useful. When creating a leaflet, presentation, questionnaire and questions for my board game, I had to use my knowledge of the biological background of diabetes in order to make these as informative and educational as I could. My knowledge and understanding of diabetes, how it develops and how it is treated allowed me to only include the vital, key information.

Research skills – analysis and evaluation

(Think about the research process. How did you plan, carry out, analyse and evaluate your research? You should evaluate your research methodologies, tools, resources and contacts, data recording and referencing, reliability and usefulness of data.)

At the start of my project, I planned to gather a lot of information from the internet but I knew that I would need more information than this and so planned to visit a university library, and this is what I did. Initially, I used the internet for my research but at later dates, I visited Dundee University medical library to gather more information. I feel confident that my research skills developed during the course of my project as I was required to extract the most relevant, vital and truthful

information from the mass amount that was accessible to me in order to create informative and factual end products. The fact that I was capable to only select information with these qualities proves that my research skills have improved throughout my project as I doubt I would have been capable of this before undertaking the science baccalaureate.

Interpersonal skills – negotiate and collaborate

(Think about how you considered other peoples' views/feedback, discussed issues of concern, reached a solution where needed, adjusted your approach in response to a situation/environment, showed positive self belief and had the confidence to offer and ask for support.)

Throughout my project I met with my assessor on numerous occasions to discuss my progress and plans. This allowed me to consider the feedback given to me to make my project and end products as good and informative as I could. This also gave me the chance to ask any questions I might have had and ask for any support I felt I needed, both things that I would have been reluctant to do before doing the science baccalaureate as I have always been quite a shy person. I feel that this proves that my interpersonal skills have improved.

Part of my project involved me contacting a number of people at the diabetic clinic in Kirkcaldy to discuss their thoughts on how much newly diagnosed diabetics know about diabetes and what myths many people believe. The first person I contacted was the diabetic liaison nurse for Fife and before doing this I felt nervous and uncomfortable and I experienced these same feelings before contacting my second contact. However, when I had to contact other people from the clinic, I felt more comfortable and at ease about doing this showing that my interpersonal skills had been developed from contacting the first couple of people.

My project also required me to create a focus group. This involved me speaking with people attending the diabetic clinic in Ninewells hospital about what they feel non-diabetics don't know about diabetes and what they would like them to be more aware of. Before speaking with these people and during the first 10-15 minutes of discussions, I felt quite uneasy and nervous but after this time, again I felt more comfortable and relaxed about it. I feel confident that this also proves that my interpersonal skills have improved throughout my project.

Planning – time, resource and information management

(Think about your time management. How did you set targets, monitor/record progress, consider any probable barriers to achievement and take steps to minimise them?)

I felt that before starting my science baccalaureate project my planning skills were reasonably good but after undertaking the project, I have realised that there was still room for a lot of development and I feel that some of this development occurred during my project. The fact that there were many deadlines I was required to and managed to meet throughout the year conveys that my time management skills are of a reasonably good standard. In meeting these deadlines, I had to overcome several problems including late or no responses to e-mails/phone calls and some people not returning questionnaires.

Also, it appears to me that my information and resource management skills have improved throughout my project. When I first started my project and was doing

research on diabetes, it was necessary for me to use suitable, relevant sources of information. I also had to ensure that the information I took from the resources used was factual, relevant and the most informative available. I doubt that before undertaking the science baccalaureate I would have managed to do this and the fact that I did this successfully proves, in my opinion, that this has caused my resource and information management skills to improve.

Independent learning – autonomy and challenge in own learning

(Think about how you used your skills to make things happen, took the initiative to establish links with other learning environments/opportunities and looked for challenges rather than taking the easy option.)

Because I am quite a shy, quiet person when around people I don't know, I tend to work better on my own than in a group. My whole project was carried out independently which obviously allowed me to build on my ability to work independently. I had to devise solutions in order to overcome problems, contact people from different learning environments, carry out research and create a number of end products independently and this experience of working on my own has developed my independent learning skills.

Through contacting people at the diabetic clinic in Kirkcaldy, visiting the medical library of Dundee University and speaking with diabetics in the diabetic clinic at Ninewells Hospital, I have established links with these establishments.

Problem solving – creative approaches; critical thinking; logical approaches

(Think about your problem solving skills. How did you generate and explore ideas, use logical and creative approaches, analyse source materials in order to support findings, reflect on problems and possible contributory factors and think critically about possible actions/changes?)

In order to complete my project and make it a success, I had to overcome a couple of different problems. The first one being when I first attempted to contact diabetic liaison nurse for Fife. My problems arose when I attempted to e-mail her but my internet was not working. To overcome this I had to obtain a phone number that I could contact her on. Following our discussion on the phone, I had to e-mail her again and she took a while to reply. This was consequential to my project as it meant I could not continue with specific tasks which meant I had to work extra hard in order to meet deadlines that had been set.

Another problem that I encountered was people not returning my questionnaires. I gave my questionnaires out to a number of first year registration classes and within a couple of days I had responses from each class apart from two. To overcome this problem I printed off more questionnaires and gave them out to a different first year registration class as a precaution of never getting responses from these two classes and received the responses from this class within two days. I also had to speak with the teachers of these registration classes and ask them to urge the kids in their classes to return my questionnaires.

Therefore, I feel that my problem solving skills developed a lot during my science baccalaureate project as it was vital for me to devise solutions to these problems that I encountered in order for my project to be successful.

Presentation skills

(Think about how you presented your findings. Evaluate your presentation method(s), choice of audience(s), layout, structure, degree of formality and choice of content. Did your presentation include information/ideas/reflections with supporting detail in a logical order and reach a reasoned conclusion?)

I feel that my presentation method was successful and appropriate for my target audience. As my target audience were S1 pupils, I tried to involve them in my presentation through my board game and also tried to use pictures in my slide show so that they were interested in hearing what I was saying instead of being bored. Also, I think that the level of formality used in my presentation was suitable. I tried to make my presentation enjoyable for my target audience and hoped to create a relaxed atmosphere so the degree of formality used was not very high. The information included in my presentation was what is considered to be the basic, most important information regarding diabetes. I felt it necessary to include this information as it would give my target audience a basic understanding of the condition and what it involves.

I gave my target audience an evaluation sheet at the end of my presentation and the fact that all of the respondents said they enjoyed my presentation, thought it was informative and now feel they know more about the condition shows how successful my presentation was and that I achieved what I hoped to.

Self evaluation – recognition of own skills development and future areas for development

(Think about how you have developed throughout your project. How did you deal with feedback, praise, setbacks and criticism and their impact on your own development of knowledge, skills and understanding? To what extent did you ask for feedback, learn from experiences and how will you use these to inform future progress?)

At several intervals throughout my science baccalaureate project I received both praise and criticism. I appreciated the praise that I received and it made me feel better about the things I was doing, gave me the boost I needed to continue with things I was struggling with and pushed me to develop tasks I had carried out that weren't as good. With respect to the criticism I received, I didn't let it put me off doing my project or let it get me down. Instead I considered any criticism I got as constructive criticism and tried to use it in a way that allowed me to make my project as good as I could. Also, I asked for feedback at any opportunity I got. Again, I used all feedback in a positive way, no matter what it was, in order to use it and improve anything I was told could be improved.

I feel that my science baccalaureate project has taught me to look at everything in a positive way and this is a skill I will take with me through life. This will be a valuable skill at university and during employment as I will receive criticism numerous times but I will be able to use this criticism in a positive way, learn from it and use it to improve how I carry out tasks in the future.

This section is not mandatory. It has been included to allow you the opportunity to undertake an overall reflection of your project.

Reflection on my experiences throughout this project *(eg things you feel you have achieved, things you have done that you feel particularly proud of, anything you would do differently were you to do something similar in future)*

Being a shy and unconfident person, the thing I feel most proud of is that I managed to successfully present a presentation to a group of people I don't know. Although I was nervous about my presentation, I managed it successfully which, for me, is a big achievement.

Another thing I feel I achieved during my project is creating an informative board game that could be used for educational purposes. I feel quite proud of this achievement as when I first planned to create a board game I imagined it being quite simple and dull but I feel I have successfully created an attractive, fun, simple but informative game.

If I were to do something similar in the future, I would probably stick closer to my plan. I would also start carrying out tasks earlier than I did to prevent me having to do so many tasks in so little time like I had to due to deadlines approaching.

Another thing I would do differently is give my questionnaire to sixth year pupils or adults and present to them as it would be interesting to see the difference in how much first year pupils and this target audience know about the condition.

Skills that I have used in this project that I would like to develop further *(eg using skills in even more challenging situations, more working on your own, more team working)*

Before I started my project, my interpersonal skills were not very good and this is a skill that I had to develop and use throughout my project in order to complete it. Now that I have developed this skill, I realise how valuable it can be and so, I would like to develop it further. Going to university this year and getting a job in the future will allow me to improve and use my interpersonal skills.

Before undertaking the science baccalaureate, I was quite a quiet and unconfident individual. Because of this, my presentation skills were reasonably poor and this is something I had to work on during my project in order to give a good presentation at the end of my project. Also, I had only ever created presentations/slideshows on the Microsoft Office PowerPoint programme. Having developed my presentation skills during my project, I feel it would be useful for me to develop them further in the future. I hope that going to university will allow me to develop these skills as for my chosen course, it is necessary to present presentations at regular intervals of the course.

Science: Interdisciplinary Project

Assessor Report

Candidate name:

Candidate number:

Centre:

Project proposal	Tick as appropriate
Grade C criteria	
The title and aims of the project.	
Clear aims and reasoned arguments to support the relevance and practicability of the project.	✓
Identification of opportunities for:	
• own skills development	✓
• collaborative working	✓
• accessing less familiar learning environments	✓
• application of science subject knowledge in a broad context	✓
• use of knowledge and skills across different disciplines	✓
• making connections between subject knowledge and the wider world	✓
Evidence of the ability to communicate clearly and concisely in advocating the proposal.	✓
Grade A criteria, includes all of above plus	
Well conceived proposal which sets creative and challenging goals which are at the same time realistic, achievable and practicable.	✓
Robust and carefully argued justification of the proposal.	
Substantial links and understanding of possible connections across disciplines contributing to the project.	
Comments	
<p>The candidate's proposal clearly outlines her aims in a logical progression. Her project is potentially very important given the increase in diagnoses of diabetes in recent years. The effectiveness with which she carried out her project is shown in the interest from diabetic clinics in using her game. The candidate's project could contribute to providing teenage diabetics with a voice and non diabetics with a greater understanding of an increasingly large group of their peers. The candidate, being diabetic herself is in a unique position to carry out this project being able to communicate from a position of great understanding with her diabetic peers.</p>	

Project plan	Tick as appropriate
Grade C criteria	
Development of clear project objectives in line with the project proposal.	✓
Relevant and detailed planning strands to enable the project to be implemented, monitored, presented and evaluated.	✓
Realistic timescales and achievable milestones for each stage of the project.	✓
Clear identification of resources needed, research methodologies to be used, opportunities for support and feedback.	✓
Grade A criteria, includes all of above plus	
Careful selection and effective use of research/investigation techniques.	✓
Anticipation of probable and possible factors which may impact on the project.	
Clear identification of dependencies or reliance on the success of other strands of work and of necessary adjustments to the plan.	✓
Outline the process for achieving own identified development needs.	✓
Comments	
<p>The candidate's plan details the number and variety of people and groups she intends to contact. She intends to carry out substantial preliminary research and pull together a number of strands of work to ensure that her questionnaires yield the desired information. Her planning shows awareness of the need to negotiate with potential focus group members and consider their timetables. The plan is based squarely on the needs and opinions of diabetics themselves with the clear aim to produce something genuinely useful by finding out what diabetics and non diabetics know about the condition and what diabetics would like non diabetics to understand. The candidate's description of her plan (in planning) makes it clear that she has ordered her tasks carefully and sensibly and had a good sense of dependencies i.e. what needs to be done before something else could be done. It strengthens the rather weak description of dependencies under the heading "dependencies" and I feel justifies the awarding of that criterion. Her plan shows her careful consideration of her target audience in her inspired choice of a game as presentation method for her chosen, younger audience. The decision to aim her project at this age group (11-13 year olds) was made entirely independently and robustly defended in conversation and the candidate's interim report.</p>	

Presentation of project findings/product	Tick as appropriate
Grade C criteria	
Evidence of effective and critical use of — resources, research methodologies, information and time management, prioritisation, problem solving approach to reach objectives, feedback, collaborative approaches, self monitoring.	✓
Application of specialist and interdisciplinary subject knowledge to establish meaningful connections within the broad context.	✓
Clear presentation of main findings/outcomes.	✓
Grade A criteria, includes all of above plus	
Critical thinking, analysis and reflection used at key stages in the project to construct rigorous arguments, draw convincing, well supported conclusions, identify and resolve issues.	✓
Skilful and creative use of resources, including people, information and learning context to progress the project.	✓
Accurate and deepening of understanding through application of subject knowledge in the chosen context, with meaningful connections well established.	✓
Comments	

The candidate's project products were a leaflet, a short oral presentation and her game. She had made effective, selective and creative use of people, blogs, the internet and social networking sites to provide evidence for her presentation. All her research was well documented (copies of emails, questionnaires, focus group responses as well as her leaflet and prezi based presentation all included in her supporting evidence). The candidate's presentation using prezi software was professional and slick. She had prepared incredibly carefully producing detailed notes which she'd clearly learnt and did not refer to. She made it clear that she'd considered the importance of ensuring as large a sample size as possible to generate reliable results. She involved her audience very capably by referring to results of a questionnaire they had completed. She presented background factual material very skilfully in a way that was precisely judged to flatter the S1 audience in terms of the impression it gave of her opinion of their capacity for understanding complex material. Her video clip illustrating the life of a diabetic was carefully chosen and highly appropriate for her audience. She used personal anecdotes of her own diabetes to great effect. Her background material was very cleverly and logically sequenced with a fairly simple introduction to each concept covered building gradually and logically to a more detailed treatment which never stretched the audience too far. She discussed the epidemiology of diabetes (strong evidence for a genetic link) and touched on the impact of smoking. She dealt with questions very well and in a manner showing a strong grasp of the wider world context of the disease. The candidate's game is simple and easy to play and understand. It is very attractive, nicely and carefully put together. She has put great thought into the questions that players answer and the rewards or consequences of getting answers right or wrong. A very impressive touch is making the rewards or consequences greater or lesser depending on the difficulty of the question. The candidate's "guinea pig" competitors were immediately very engaged and motivated to keep playing. The game's timing was very well judged. The game is most flexible in that questions could be modified to suit different groups of players with different needs or prior knowledge.

Evaluation of project	Tick as appropriate
Grade C criteria	
A critical and justified evaluation of all stages of the project process — planning, implementation and findings/outcomes in terms of strengths, weaknesses and learning points.	✓
Effective use of chosen communication method(s).	✓
Grade A criteria, includes all of above plus	
Incisive, well balanced evaluation of the project outcome against project aims, supported convincingly by well selected evidence.	✓
Careful choice and skilful use of communication and presentation methods(s).	✓
Comments	
<p>The candidate's evaluation of her project shows considerable honesty, self awareness and insight particularly with respect to her planning. She shows a capacity for identifying successes,, weaknesses and learning points. Her discussion of her communication methods is not as comprehensive. Further evidence for the effectiveness of her communication using a variety of methods (electronic, verbal, questionnaires, her leaflet and her game) is provided in her discussion of the project and also in the project products (game and leaflet) as well as in transcripts of her emails, copies of her questionnaires and presentation evaluation forms (all supplied in supporting evidence). She used all her communication methods highly effectively capitalising on the unique qualities of each and in all cases showing a high level of sensitivity to her audience.</p>	

Self evaluation of generic/cognitive skills development	Tick as appropriate
Grade C criteria	
A critical evaluation of own skills development against the list of specified generic/cognitive skills.	✓
A reasoned evaluation of own strengths and key goals for development in the specified list of generic/cognitive skills, which takes account of feedback sought and evidenced from others throughout the project.	✓
Grade A criteria, includes all of above plus	
Insightful, balanced and well structured self evaluation of own development.	✓
Assertive and justified use of feedback from others in evaluation and identification of development areas.	✓
Comments	
<p>In her reflections the candidate understates the depth of her own skills development. It was clear from her presentation (and game) just how much her subject knowledge had developed. She correctly however identifies a key skill in this regard as being able to select only relevant information. She sought feedback regularly and explains how she listened carefully to all suggestions and then drew her own conclusions. This is exemplified by conversations about development of her game and the convening and meeting with her focus group. She identifies presentation and interpersonal skills as areas in which she has developed and would like to develop further. In both these she characteristically underestimates her development during this project. The candidate managed to judge with great precision the precise tone to take to gain the results she needed and secure cooperation of people she hoped to work with. Her painstaking research and preparation will have gone some way to securing these ends. The project was based on using feedback to inform her next steps e.g. using information gained from discussion with one source to inform questions for another and the finally to synthesise all data to decide what to include in her leaflet and game (interim review supplied as supporting evidence and Evaluation of Project folio piece).</p>	

The overall grade will be:

- A indicative of a highly competent performance which meets the additional Grade A criteria and consistently demonstrated a high degree of autonomy, initiative and effective information management across the five pieces
- B indicative of a competent Grade C performance across the five pieces, but with some aspects of work meeting the criteria for highly competent performance (as outlined by the Grade A criteria)
- C indicative of a competent performance across the five pieces, with all aspects of the work meeting the criteria identified for Grade C performance

Overall Grade Awarded	A	(B)	C	Unsuccessful
Additional Comments/Overview A very well researched, creatively implemented project with a highly original product. The subject has obvious personal but also great societal and economic relevance. The candidate's findings and her most professional way of presenting them could be of great value in informing diabetics and non diabetics about the symptoms, treatment and issues around the condition. As research demonstrates that ignorance about diabetes and how to deal with it lead to poor outcomes for sufferers this is very important. The candidate has been asked to allow her leaflets and game to be used in local diabetic clinics. There is a real opportunity for the game to be developed and marketed as a resource for use in medical centres, clinics, schools and colleges to raise awareness of diabetes. Great work!				

Assessor signature _____ **Date** _____

Co assessor signature _____ **Date** _____