## CONTENTS

<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPENDIX A</td>
<td>2</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>3</td>
</tr>
<tr>
<td>APPENDIX C</td>
<td>54</td>
</tr>
<tr>
<td>APPENDIX D</td>
<td>61</td>
</tr>
<tr>
<td>APPENDIX E</td>
<td>79</td>
</tr>
<tr>
<td>APPENDIX F</td>
<td>80</td>
</tr>
<tr>
<td>APPENDIX G</td>
<td>81</td>
</tr>
<tr>
<td>APPENDIX H</td>
<td>82</td>
</tr>
<tr>
<td>APPENDIX I</td>
<td>83</td>
</tr>
<tr>
<td>APPENDIX J</td>
<td>84</td>
</tr>
<tr>
<td>APPENDIX K</td>
<td>96</td>
</tr>
<tr>
<td>APPENDIX L</td>
<td>110</td>
</tr>
<tr>
<td>APPENDIX M</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>199</td>
</tr>
</tbody>
</table>
ANNEX A

ANNOTATED SCRIPTS USED FOR THE INTERVIEWS OF THE FIVE COMPUTING TEACHERS (CHAPTER 4).
Interview

J: We are going to talk about reflection. From your point of view, what is reflection?

U: When you’re asking a student to do a piece of reflection, what do you expect to see?

J: I expect to see a lot of themselves as a person in there. I expect it to be personal. I don’t think you can write reflectively in an abstract way. I think you have to give them guidance and some structure to it, but in the context of their learning, I would be expecting them to talk about what they think they learned, what they got out of the process and possibly what went wrong, because I think you can learn a lot from what went wrong. But I think they need guidance and structure. “Reflect on the module.” It’s too broad. But if you give them things to write about and they think about the enterprise project module, I think we gave them those prompts to write about “what have you learnt to take forward to the final year project?” That was one of the prompts we gave them. So I think if you ask them with questions, it helps them quite a lot. When they need to go but thinking about the reflection, I got back from the students, having just marked it. I think it’s quite a personal thing. Some students are much better at it. If they can put themselves down in writing quite easy, others obviously struggled with it, they didn’t perhaps understand the concept or felt a bit shy about writing it, quite a personal way and exposing so much of themselves personally. Some of them were better at it than others and I think that’s almost an issue then.

J: Do you think we can improve, help them improve?

U: I think you could do. I think they could be given the opportunity to improve on their reflective writing. Introduce it earlier and give them examples of what is good and bad reflective writing and get them to write more just writing. Having marked a load of final year essays, I don’t think we get our students to write enough. I really don’t. And expose themselves in the written work, I think they are too keen to be programming but they’re still
got to be able to communicate in the written format and I don’t think they feel natural enough writing. Maybe you’re talking about these ideas of presenting, doing a talk, fantastic because some of them might feel happier talking rather than writing.

J: If we’ve got 14 or odd students that would have been ridiculous to have done that kind of nonverbalism.

M: With a smaller group it would be possible.

J: It would be very possible, you could have a conversation with them and that would help them start thinking more reflectively because you could prompt the questions and get them to talk about it and it could be wall reflective writing is very similar to this it’s just writing it down instead of talking about it. So it should almost be not a conversation, but it should have when I’ve read reflective piece of work, the ones I’ve left are good have been ones I’ve felt are natural, where there is a structure to it but it hasn’t felt constrained to formal.

M: Yes, good point. So, what level are you using...?

J: Second year.

M: Do you think we should start earlier and why?

J: Yes I do. Because I think it is a skill. We talk (we’re in very general terms) about being reflective practitioners and that’s not just in our discipline it’s in many different disciplines, nursing, medical the professional everybody’s supposed to be a reflective practitioner, but it is something that comes naturally to everybody. I think you can see in whose writing it does come naturally, but for those that it doesn’t, it’s awkward and difficult to do. I think there are steps you could take to help them get there definitely. They may never be a great reflective writer but they could be competent one.
M: Would you assess a first-year piece of reflective writing in a different way you would a second-year and a third-year?

J: Yes I think I probably would. I think you would be looking for different things at different levels. One thing that would always come up when assessing reflective writing is the level of learning that has come through, that's what I'd be trying to separate out from the writing. I think you're marking more that reflective writing, you're trying to give a mark to the learning that has taken place and I think that is very difficult to quantify but you could it and I think writing reflectively is an art and marking reflective writing is an art - it's not an easy thing to do at all because it is a personal piece of work. You've got to be very careful you're not marking so much what they say because it's their personal perspective. You may disagree with it but if they've evaluated it well enough then it should still get a good mark because it's their personal experience.

W: Can you make a difference between a genuine piece of reflective writing?

J: I've been doing this quite a few years now and I've always done a little bit of reflective work over a number of years, not a lot but a bit in there, and some students perhaps have misunderstood me, I don't know, but I feel that you can tell the genuine ones from the ones because the person should learn through you should almost be able to hear them say what you need and I think that's very difficult. It may not be written very well but if the person is still coming through your getting to the essence of what they're really meant I think and I get a big kick when you see a student, they're doing very well. I've redo a few times lately that haven't done hardly well but when you read about their learning journey you realise that they have come a long way and that was very satisfying to see.

W: From my experience I feel that if someone is very uncertain they are likely to do better in reflective writing that someone who is really struggling.
j Well and I think that is where some of our students suffer, they'll articulate. But I don't think you have to be the world's greatest writer in terms of grammatical correctness to be a good reflective writer. I should've been like James Joyce, Stream of Consciousness thing either, there's got to be a structure to it but I don't think you have to be the world's greatest writer to write reflectively well. It's about getting over your experience, your journey, your learning journey rather than writing reflectively. I think that's more of what we are trying get at isn't it? The documentation of their learning journey.

If That's a very good title - "Tell me about your learning journey?"

j Rather than saying it reflectively - reflective writing might scare them off but if you talk about, use someone goes through the journey, someone goes further than others some people go faster than others and everybody's journey will be slightly different, everybody will take a slightly different path and do something different. I've just got a piece of software on the phone and it's called Evernote and it's about capturing your life, you can do little doodles, you can capture pictures, you can make sound recordings, you can make notes, you can sync it up with your PC, you can have it on your phone and it's about your journey. It might be an interesting piece of software to boot at the reflective process. Free download.

j Which is what in some cases, learning blogs are about - but isn't about taking pictures it's mainly text.

How and when do you use reflection in your teaching or courses?

j Well at the moment it's only assessed in the second year module that I teach, I should've been assessed at the end of the module. Perhaps we haven't done enough about an ongoing process it is very much an end summary looking backwards. But the way the structure in a module perhaps it is quite a short part of the module, so maybe having interim points would be too much in the context of the module. I think it fits in quite well. I think, teaching what the students were has done them good to go back and look at for some of them it's been a bit of a surprise when
they are actually made to talk about what they have actually developed and what they can take forward for next stage. That came through this year quite strongly.

Do you think you have 5 people teaching with you, the assessment of that particular reflective writing is fair – with 5 different teachers assessing it?

That is a very good point. We haven’t done the moderating on the marking yet and I think that’s something we’re going to have to look at. What we can do about it at this stage, I don’t know. I didn’t think it had too much of a problem last year. Students still had to do the reflective writing and we’ve got most of the same tutors this year, we’ve only got one new person and I didn’t find any huge discrepancies in the marking last year, although we had very little discussion about what we were looking for in the reflective piece of work. So maybe we’re going to have a different teacher that’s never really been involved about what were looking for in that piece of work.

Do you think there’s a problem through having something that is not articulated in our head because we can’t really explain properly to our students?

Absolutely. I can’t explain to our students if I can’t understand it? Even if you were giving feedback on it, you say they’ve got a C, how then can you tell them what they need to do to get a B or a C or get an A so we have to have a way to be able to talk about reflective writing and marking of reflective writing much better. When I used to do something with my masters students, on reflective writing, I went through a piece of marking the work I had huge problems with. I think I said to you when you first started looking at this for your PhD that you’re going to have problems with this because it’s such a personal piece of work, how the teacher marks it, what you are looking for in it, what makes a good piece, what makes a bad piece.

That’s right.

Note: Really what we are looking for in an A, which can vary slightly on what the amount of learning that took place during a specific time. Is ability thought to use in the competing discipline?
Do you think there are differences in, you might want someone to write reflectively and would expect a certain type of content in it, but then someone else could ask the same students to write reflectively and would have a completely different expectation of what should be included in it?

J: Possibly, I think that is where the green/orange comes in and I think the way we've got these group assignments, I think those questions that she asked in the reflective writing bit, I think that gives enough structure to help the fact that are five different modules the students have to have written a bit about this, what am I taking forward so I think giving them structure helps. I hope to articulate.

M: Was essential do you think the structure is?

J: Very. Partly because of the articulation of what we mean, I think it's there in our hopes but we've never had this conversation about it so it's perhaps something we ought to do? I think very important.

J: I would definitely agree with you. I think that is one of core roles of the teachers, having the kind of tension there's what I'm expressing you to cover within this area.

J: Yes, you could do that in many ways. Partly because of volume we've gone down. We've structure questions you've got to write a bit about this, what you're going forward to the next stage, but for other types of writing I think you could have different kinds of focusing, which is a good way of focusing and you could go on writing for ever.

M: You obviously formally assess the students, have you ever thought of using reflective writing for summative?

J: Yes, but I don't think they would engage with it. That's my gut feeling. I think the students as part of their PG assessment are always encouraged to keep a diary of their learning. You think about the final year project students is part of it is keeping a diary, but experience suggests they don't do it. There's no more attached to it as they don't do it.
What are the main issues students have when they write reflectively, based on what you have seen?

J: One is they're not sure how to begin, they're not sure of the style expected. Should I be writing formally, is it informal? My personal feeling is reflectively writing should be fairly informal because it's personal, and that would be the guidance I would give to them if they were asking that.

I think there is a stigma in there, should I really say I didn't enjoy this, should I say I struggled with this? So I think there is a resistance to be upfront and frank about the good bits and the bad bits particularly if the module didn't go well. There is always this fear that if I say I didn't like this part of it, I didn't understand this or I didn't think the lecturer explained it very well, is it going to adversely affect my mark? I always going to be at the back of their mind if they are writing reflectively.

J: Did you notice anything to do with the fact that some students might be more descriptive than others in the way they put things forward, or some students reflect in a very in-depth way and some more descriptive?

J: I think that's what I meant when I said some people are more analytic and more better at it than others. There was one guy who didn't actually get a particularly good overall mark, but he got a very good mark for his reflective writing. It was some nice points for a start and then he gave real examples, not some sort of a reflective writing with specific examples that he drew from the module. Things that had happened, particularly things that went badly, they were having issues meeting up for meetings and he actually discussed that so that was his example. I think there was some little bit. He meant them. Not everybody wanted that little extra. Those some students that got really good marks they didn't really stand out. Most told a story and I think there was a narrative behind the good ones and a story should have a beginning, middle and end. Then a narrative flow came through the good ones.
All the ones I marked who good marks for their reflective piece didn't necessarily get a high mark overall. One or two did surprise me, I thought I wasn't expecting that.

Can you remember any of the bad ones and in what way were they written?

Too short, almost insulting what they had written, no examples to draw on to say what they had arrived at the conclusion they had, sometimes they hadn't even arrived at any conclusion it was a bit of a ramble.

They did tend to avoid the trap that I've said in other years of a list of excuses why things went wrong; because we had said, very explicitly in the ICA specification, that the reflective shouldn't be a list of excuses about why things went wrong so I think most of them avoided that trap.

The ones who didn't write very much, there was no depth to it, there was no narrative. Now whether they were just lazy, left it to the last minute and therefore hadn't got the time to write, I don't think reflective writing isn't something that can be rushed, or whether they really don't know how to do it. My gut feeling tends towards the former rather than the latter because I think they just left it too late and couldn't be bothered to put any effort into it or really think about it. You've got to have something in your head before you sit down at that keyboard and write about what it is you want to do. If you haven't thought about it! So perhaps it does lend itself towards the better teachers rather than the shallower teachers, I don't know. There were some very poor attempts at the reflective writing but some really good stuff as well - a few.

How have you prepared your students to write reflectively?

What is reflective writing and give them some guidance on what is meant by reflective writing but it has to be current to a very large number of students and it was dependant on the students actually attending and taking the information on in the first place, which is always going to be a problem.
How do you differentiate a piece of reflection which is an A grade to say an F grade?

j Well I think we probably talked about that when we've been going through. An F
would be something very cursory, something very short. I'm not saying you can't have a
concise piece of reflective writing that is very good, some people are naturally very good at
writing concisely. But I think brevity, you can't go into the depth you need, a really short piece
and I meant I was getting a paragraph, some people were writing a page and some people
were writing a paragraph a short paragraph and they thought that was it. So there would be
the brevity the lack of not attempting to answer the questions that were asked. There was
no conclusion one of the questions very specifically. 'What have you learnt about Problem
Management skills to take forward to the next stage?' so if they had missed that out, they
missed out.

An A grade would be there might be examples draw on. There would be a narrative there a
flow, there would be conclusions drawn. Actually answering the questions that were posed
and evidence of reflection which is a big thing to say perhaps, because how do you define
reflection and I think it's often about looking and articulate and being honest. When I was
giving feedback when I got to the good ones my feedback tended to say something along
the lines of 'a very good piece of honest reflection' whatever I was looking for was this element
of honesty there. 'Yeah, I was a bit lazy about it' or I think one of them said that 'I know I
go to try better next time' that sort of thing. It took quite to stand up and say that.

Would you say you are looking for a breadth which fits with your questions and also
the depth, having the narrative, looking inside at what you have learnt?

j Yes, I think that would answer it very well having the breadth and depth to it.

Have you got specific marking criteria to assess reflection for that particular module
for example?
J Other than looking if the questions were asked or not no, in terms of how to specifically mark reflection.

N Do you think is lacking?

J Possibly and I think we'll have a better view of that when we go as a team and look and compare each others because I want people to do some sampling of each others marking for the external. Although I meant we were going to find a similarity there and I think there would be an interesting way given that we haven't discussed this on a team, it might be interesting to look at how we did actually come up with like last year we came up with fairly similar marks, how we did that without having discussed it. There must be this unknown definition of what we understand of reflection.

N It's almost like intuition, you can read something and you know it is a A or B or C, it might not be the same criteria in our head maybe but we do seem to know somehow where the marks fit in.

J That would certainly lie in with what I found last year doing the second marking on the work. We haven't got a lot of marks to deal with, 90% of the marks I think is element is worthy somebody might have given 31 and I might have given 22 were only a mark out which is nothing, I don't think were ever being graded out maybe a point or 2 here and that is interesting.

N Yes when we don't actually have a specific marking sheet for this piece of reflection.

J Do you think that the type of reflective work you expect your students to do for this module, a different to how you would reflect in everyday life?

N No I don't think it is because I wrote the criteria, it's very much how I would do it, "what have you learnt from the lesson?" maybe it's because I'm in the profession I am in and the other jobs I've done in my life, certainly the nursing side of it we were called reflective practitioners, so maybe it's something that I must, I think we're all sort of
reflective to a certain extent. I can't imagine there are many people who don't think at least to some level of "that went well" or "that didn't work right with it." I think there are some people who deliberately go through life without doing that but I think it's difficult to avoid.

I do think you've got everybody reflecting in a certain way, but it's how much you push it. "What have I done wrong?" It may be just a realization that you've done something wrong but it's what you do about it. How do you improve yourself? That's where the difference is.

J: I think it's possibly linked to reflection, but it's a much more formalised process so I have done this. I've done it in both the second years and the final years. With Action Planning. You can't do an action plan for the future if you've looked back on the past, but the way I've done it has been much more structured than I would call a piece of reflective writing. So looking back at what went well, where are your weaknesses and how can you solve them. What were your weaknesses? This is a weakness, say report writing and what are you going to do about it. So it's a much more structured process and it tends to work with the very large number I have been working with. Personally I like the reflective writing; I think we would get more out of it. I think Action Plan has a mechanism but for some of our students who were sort of it might not work better.

j: Do you ask them to actually put an action plan together in their reflective work?

J: Well we've done it in Enterprise Project before but we dropped it, they used to do a Team Analysis - strengths, weaknesses, aspirations, interests and needs, and some have used a SWOT instead and I did some work this year with all the final year students. All of them, trying to get students to use feedback from previous years at the beginning of the final year. "OK, look at your feedback - what's been pointed out to you that you need to work on, and as we said there is not just setting there knowing your bad at it and doing nothing about it. So
Do you use any specific reflective model?

No.

Do you know why you selected that reflective approach?

Possibly because it forms such a small part of the module that to do it in that level of depth perhaps would be a lack of knowledge about it, so perhaps that's part of what's missing from reflective writing. Reflective writing just says on this worked out well, this didn't, but it's then doing something with that knowledge and I think that's where the action plan comes in.

The school of Health, they do use reflective models at the time and I think to some extent it's very constraining, but it might work for their discipline. I'm not sure if something you can just transfer from one school to the other or one discipline to the other.

In my role as a [redacted] I have more awareness of the different schools. I'm on a working group about Male Success and Attainment because we know that males are not achieving the same. One of the colleagues on that workshop has broken it down and looked at the data and made us see that as well as the females. So I think that lends into this idea that predominantly its females in the School of Health. It's predominantly males, almost to the same ratio but the other way round, in the School of Computing. So we've obviously got particular issues around learning with our students that are not applicable to the School of Health.

You were saying that [redacted] or [redacted] or [redacted] modelled a better action plan might be better constructed.
It would be interesting to look into the reasons for some U.K. learners having trouble understanding how to make reflective action plans, and whether more appropriate approaches are needed in some domains.

Yes, and young men do not find it easy. Facing up to their feelings, their limitations, their beliefs it's a tough, tricky thing and we've got to have a predominantly male population to try and get them to be more reflective, interesting challenge. I think we can do it but I don't think we're ever going to get the majority of them being totally fluent and reflective so we may have to re-think this slightly more structured action planning approach as well.

Yes, I think you're right, if we've got something more structured and maybe sometimes not as personal so you might expect from the School of Health, for example, that might work better because they don't feel so threatened about it. You could sit with all of the learning they have done and achieved.

That's ultimately what we're after, what learning has taken place and if we have to do it this way instead of that way then so be it.

Do you use digital technologies to capture reflective work?

Possibly, filling in tables on a Word document. The second part of the module I've been teaching these tables asking, 'What are they good at on a particular module, what are they bad at, what have they liked about a module, what have they not liked about it, what are their worst experiences?', getting them to assess job applications as well and try to think about there as a person within this learning process, that's the only kind of technology I've used I think. No other ones that I'm aware of other than this (emails that I mentioned earlier) which I've only just discovered I haven't explored its potential yet at all.

So you haven't heard of a specific technology which could help a student to more reflection – instead of just writing?

No.

If a technology like that was available do you think that would be useful for your students, do you think it would help them?
17

Particularly our students, who see themselves very much as a student within a school of computing and if you can give them something which sees a computer they relate to it much better. They can see the point of it. Cutting over something we observed an reflective writing is difficult but if you can have a piece of software then it must be alright then and I think that is again down to the gender balance in the school.

Would you say critical thinking is the same as reflective thoughts?

Not entirely. Critical thinking, it depends on the context of it but critical thinking to me, and this comes from having two students studying philosophy at degree level and critical thinking being very much a part of that, there is an element of it but it's almost the opposite to abstract reasoning. It's about thinking critically but objectively about things.

For distilling the personal element out?

To me that's what critical thinking is. There was something on the radio a couple of years ago criticising students surviving at university. I think he was a Professor at Oxford and he said students were not very good critical thinkers anymore and in the context of that debate on the radio, critical thinking was very much being able to evaluate an argument, a balance. I know students think of some of our subjects as a bit of a soft touch, not having to write an essay and I use a state of phrase that somebody described to me when I was an undergraduate it's a balance of arguments between two sides, it's never right or wrong; you've got to have put both sides forward, there's gotta be evidence whether you come to a conclusion, and that's being able to think critically. It's being able to see the other person or the other side of the argument, seeing the black as well as the white and sometimes the grey in between.

So for you it is completely different to what reflective writing would be?

Yes, very different.
I was thinking about your very first question, and I realize that we have been talking about reflection as a reflective process that they start and then it becomes a part of the ICA. But, just as I quickly glanced at those questions this morning, I thought actually, I want them to be reflecting all the time, it's just so far we have focused on the stuff they hand in and then反思 than now I either, that when I'm giving a lecture, they're not active, and that one or two are thinking about what I'm saying and thinking about how it relates to what else we have done, or with the classic I'm lecturing at the moment, they're all looking at a particular ICA project, and I'm hoping their thinking about: how can I apply that theory to that particular project? That's all reflection, but it's whether you want to talk about that or the stuff that's required as part of an ICA.

I'm interested in both, maybe more is assessed part at the minute but what you've just said is very interesting because from a teacher's point of view, do you think it would be very interesting for you to understand how your students reflect in the classroom while they are doing things? Would you like to capture that for whatever reason?

Yes, I suppose to some extent the module I'm thinking about, I see it in the practicals where they're working in groups and they're supposed to take notes but they're just here and apply it to the specific projects so I can hear what their talking about can move around and they might ask me questions or they might ask: do you think this applies in this way? So I guess in that way I'm hearing and seeing it. In terms of a tool, I suppose if you're in a lecture situation, you're probably talking about.20 years down the road, but it would be great to actually read their minds, what are they actually thinking about at the moment, it
would be nice to know quite how they were thinking about what I’m saying but how you ever encapsulate that I don’t know.

It would make it easier for us to be able to understand if they understand what we’re saying and how they actually think about what we’re saying.

You know what it’s like in a lecture, you see the faces in front of you and you haven’t a clue if anyone’s paying attention.

These modules where you’re actually using reflection as a tool to learn are they filtrars module only or are you using reflection other modules?

Are we talking about assessed reflection?

Yes.

Then assessed reflection at the moment I’m using it with the Master students and there’s two different modules that I’m involved with the Masters. They do group work and then you have to tease out what was the individual contribution and my way of attempting to do that is there’s 80% for the group work and 20% for an individual piece of work. When with the module exam I’ve done you the CA that really is reflecting on what they’ve learnt in the module. The individual piece I use with the module I’m currently teaching with the filtrars students that’s both reflecting on what they’ve learnt and also I get them to do an extra small piece of work so I can tease out what they’ve learnt. I call it an individual反思 where half of it is reflections on how all the group work went, what was their contribution to it, their peer reviews of each other, the normal sort of things you have to do when you’re doing group work to try and tease out a bit about the group. The reflection in that I get them to reflect on what they have learnt as well and the other 10% of the marks is I would ask them to take the same topic and how would they do it using a different research strategy for this
one the group used, so they would then propose a different research approach, and there I
am just trying to pick out if there are any who have just coded along and what knowledge
they have and they haven't just been被动 in the group and were riding along and on the out-
side of the group, who did the work. It helps to bring out the crew who though about what I'm
learning then.

Do you think this type of reflective work could be done at other levels?

Yes, I do. In fact the Masters students, where I've just finished marking them
although they are Masters, the majority of them are international students and haven't had
our kind of educational set up at all. So, the whole module is focused on, as well as giving
them some practical key development skills and learning about research, it's also trying to
introduce them to all the study skills that they need for Masters. So in that sense they have
experienced than many of our first years, they've never done group work, they've never
done presentations. I try to follow an inquiring based learning approach, well that's totally
new to them because they're accustomed to their teacher dictating notes. I think, and they learn
through an exam, so although they're Masters student, because the majority are
international, they're no more experienced than our first years so if you can do it with them
then we can do it with first years.

Would you do it in the same way with the first years?

It's been a long since I've taught the first year, I'm not sure I'm in touch really. I have
had a bit of involvement with second years recently because Annette was off and I did a bit of
cover for her and, for what I'm asking them to do it doesn't have to be in depth they can
make it in depth if they want. But all I'm asking them to do really is reflect on what they've
seen and how they might take this knowledge forward and, now it might be useful to them in the
future. So I say, I don't just want a list of topics that you've studied, I want you to try and get
to the next level, broader things, metacognitive and I ask them to think about
employability or for the Masters students, how they're going to use it in their Masters project.
in the summer. Well you can imagine with second years you could equally well get them reflective 'what have you learnt in this module and how might that be used in a future job or when you go onto your final year project or when you go into the final year, you would still get them to do the same sorts of things. I'm not asking them to draw on any theories and apply them or anything. I'm just asking them to look backwards to themselves and think about what have I got out of this module and when all the technical stuff is completely obsolete is there still some learned stuff. I hope there is and that it will still be relevant to them and that is what I'm encouraging them to try and recognize.

- Very interesting. I think some people that I've interviewed before you, have the same understanding because you mentioned something about the depth of reflection and that maybe with the first year you could have something which is less in-depth and the higher you get the more in-depth you want it to be. Although for your students because many are international, you've got to start with almost the first year equivalent.

- Yes and that is something that bothers me because they're international. a) they're not used to it and b) they're doing in English and not their natural language and I also have a horrible feeling this year when I was marking them that UK students could use more sophisticated language and there was a danger of marking them more highly than the ones who wrote very simple English. You're looking for that metacognitive stuff although they never use that term but you're looking for them to have these more abstract terms that they're able to just roll out of the pocket facts and skills that they have learnt. They are the sorts of vocabulary that an international student doesn't automatically have or use so I think there is an issue about international students and reflection that I prefer not to reflect about very much.

- I think you are completely right because I've seen that in final years in the same way and one of my tendencies on the reflective pieces of work is try to be more specific on practical things and specifically have you got the right vocabulary to actually describe or
explain a concept and if you don't you can't actually be very specific and you need the right word for this and this.

Yes, exactly. In a word like 'employability' that might be of the tongue of a UK student if they did anything in the employability week but I am not sure if would be of the tongue of a Chinese student or an Indian student so I think there is a word there.

Yes, I think you are right. How and when do you see reflection in your teaching courses, so in your case it would be because the end of the course for assessed work?

Yes, except they have the ICA from about week 2 or week 3, so they are aware of the time that it is a part of it, whether they take any notice I'm not sure.

Do you encourage them to actually build up their reflective work as they go through the course?

No, I'm being a bit careful because I share the module with the module with and I made the reflective essay so I can be certain that I didn't particularly encourage them to do it as we went along at all we were focused on all the other things. This year someone took responsibility for the reflective essay part but then because of all the essay marking it but I'm not sure what she did within the module. I know a key thing that came out in the reflective report was the extra at week about the Belbin test things, team roles, and what roles that Belbin had come out for them and how they therefore formed groups trying to find a good group with the right match of skills and so on. So it was obvious that with them, whether she actually used it they hang on to that you will need it for your reflective report at the end I don't know.

Do you think it would be useful for them to work on their reflective part as they go along?

It probably would because I think it can be one of those last minute things, they are so focused on the group work and there is always the peer pressure when you are working...
In a group, you have to deliver what the group needs, you have to meet the group's needs, so if you think it works in etc. There is such a great pressure there to do the group side of it that I think the individual side of it might get left until the very end and probably it would be better to encourage them to do something earlier.

VI. What do you expect them to write about in their reflective pieces and what are you looking for when you assess pieces of work?

VII. Can't have a look at what the ICA says? If we focus on that one in particular, they are reflecting on how the group has worked. For many of them it is the first time they have worked in a group. I want to know something about what they personally contributed to the group work and then what you personally have learnt from doing this module and it's ICA.

... Should not be a summary of the topics, instead you should reflect on how you have developed or changed as a learner and an IT professional by doing this module. How what you have learnt will be applied forward into your Master's project and dissertation.

This year we gave them some specific questions they might think about. Marking them, quite a lot of them used these effectively as headings, which was reasonable enough. Effectiveness of the group, personal contribution and then personal learning. I don't think I saw many where they then used each of these as a subheading as well but you could certainly see that they had thought about most of these questions, or at least the best ones. So I guess I've given them, in general, and I've given them a structure to what we were looking for and you can see it's international because we've put in that this is now this year what have you learnt about working with people of different nationalities because they were very mixed.

VIII. Is there any reason why you have added these questions – I did the same thing on my ICA this year and actually I did it in an unreliable list of things to help them think it through because before it was much more general.
Yes, I think this is a longer list than last year. Last year to be frank what I was really wanting to know about was their reflections on Enquiry Based Learning, because last year I had a small amount of funding to do it as an Enquiry Based Learning module, and I was going to have to write it up afterwards so apart from anything else I was wanting some student reflections and student feedback to me in effect about whether it had worked and how they felt about Enquiry Based Learning. So that one was useful to me and I know that at least half the reason for the thing working is about different nationalities, that came from and she is very interested in international students and how they cope when they come here, so again that's as much about giving the inquirers something as it is about assessing the students. How else do you get feedback?

So you have been asked to compare the two sets of assessments, last year and this year, have you marked both of them?

Yes, I've marked both of them this year and last year.

And do you think this actually made a difference, maybe in the depth of their reflections, covering more things and maybe more in-depth?

I wouldn't necessarily say more in-depth, I'd have to have a quick look at how many bullet points we gave them last year, I think there were fewer, and I think I was specifically looking for them to think about Enquiry Based Learning. I'd given them two models of Enquiry Based Learning and asked them to reflect on those two models and relate it to their own learning. So yes, last time there was a couple of theoretical models for them to use. This year I wasn't so bothered about that, the funded project was limited and I was reasonably happy that yes that had been successful and would work again with some tweaking, and as I say I took one so I think those came more from than they did from me.

I got that there are some very specific questions about the presentation part, working in a group, selecting a team so she wants to know very specific things.
Yes, and she's very interested in how we give them study skills to the international students, and it's entirely appropriate but I did notice when I was marking that there was very little discussion of Inquiry Based Learning compared to last year, because they chose, as they were given to, to write about all these other things were last year as far as I can remember I wasn't asking them to. I can quickly check if you want me to look on the IC.

Yes, if you would, that would be very interesting. What model of EBL did you use last year?

I gave them a model of Inquiry Based Learning which I think was my model derived from a couple of others, it's about 7 stages of EBL. I sent you a copy of this, so last year - how the work the group did relates to Inquiry Based Learning, which was the model I just mentioned. 7 stages and the Stoic/Seven Pillars model of Information Literacy, were the two things we looked at. So they had to relate what they had done to those two models, effectiveness of the group - that's the same, personal contributions to group work - that's the same and then what you personally have learnt and that is just the same as the paragraph there without all the bullet points. So I broke the four down and pretty much dropped most of one of the models.

So that's interesting to some extent because what the lecturer herself wants to know about. It's a way of getting feedback of what the student has learnt, but then you have to put your other hat on and assess it.

I think it's very useful when you can find a way to make these reflections explicit because they usually know ahead and from a teachers point of view, I consider it being almost the only way to actually, truly understand what students have actually learnt, how they actually perceive things and why.

Yes, because it's not the sort of thing you can do through the means of questionnaires, and even if you came up with your own I don't think you would get what you
I want it's something where you have got to let them write freely, in their own words. Last year I think they had a bit more freedom and this year it was a bit more focused. I don't know which is best.

W: Have you seen a difference in marks?

J: No, but as I mentioned to you, I haven't actually sat down and compared them but I would think they are very similar and the one I wrote is just an extra 14 marks they got. The marks vary between – probably this year and last year I think I read one that was on about 9 and the pass mark is 15 and they would go up to – had a 17 or 18 this year and 20 and that's pretty high but the vast majority of them are 12, 13, 14.

W: So what do you measure the difference between, because that's a very difficult thing to do?

J: I really don't know and I really do sit there and think, why am I struggling over this because what's the difference between a 12 and 13 other than your name 14 is distinction level. Particularly with the theses, 10 is a pass and 14 is a distinction level. 11, 12 and 13 are all just OK, so I did and up saying to myself, why don't I just put 12. It's more than a pass but not a distinction, why don't I give them all 12 or probably 13 because they'd settle for that without. Why did I only 12? Whereas if they say why did I get 13 well that's just short of a distinction and students will understand that so why do I struggle with 11 and 12?

W: When you read these pieces of reflective work, how do you look at it, are you looking if they have covered all of the points in the ICA?

J: I haven't consciously check on whether they had covered all of the points. I think if I had this sense that they hadn't written very much here, then I would think of myself, what haven't they covered at all and I would give feedback what about such and such.

W: So you don't have a marking criteria to make sure every point's covered?
No, I like to read a paper copy and put a tick against every comment that I see. I wasn't consciously checking off as they covered all the areas. I just noted if it was short, then I would pick up one or two areas that they hadn't covered and say what about these and that's about it really. I did copy of the assessments I gave; the feedback that I gave this one got? That was very short. Very short record of the topics asked for not adequately covered.

Do you have something to check the depth?

Do, other than a personal subjective feel thoughtful reflections well presented all aspects addressed someone get 14. Well written and insightful headings would have helped the reader. You could also reflect on what you missed out by having members all from the same country. So, I'm trying to respond to what they have written in that particular one either than just tick off how they covered everything, trying to show that I have read what they have written. But in terms of ability to reflect, I don't know how to assess it other than subjectively. You can see that the good thing I need to put thoughtful reflections, well presented, all aspects addressed, well written and insightful, well-structured by the headings and some good reflections.

But it is alright.

It is difficult—there is a better one. I read all reflections and insights into how you used your experience to support the group without being too dominant. Some good reflections but I didn't feel you covered all the areas. Sometimes I felt like you were describing group work in general rather than our group. That's about it. Maybe.

Then quite a lot partly because they are international students and some are the first ICA's they've handed in, so quite often I'm also resorting on how I coped with the English, quite other you can I could understand the report but there were mistakes in the English, the study school centre in the library can help you with this and I have written that quite often, but I think...
that's feedback they need to have. Another time they might get marked down quite heavily certainly for the project report, they could lose a lot of marks if the English isn't good enough.

Two years ago the students' English was very, very poor, as you may remember. I think this time I was generally careful to say that I could understand the report, so we have moved up in terms of who we are admitting onto the course. It was understandable but they could improve it and I think was feedback they needed to have for another time. I don't know if they will be getting that through any of the other ICA's but as this one is very much about helping them cope with all the study skills then I think it is important that this module does give them this feedback, then if they are getting it from the other modules as well then they can do something about it.

Something I have found very difficult is, when I ask them to build up their reflective work throughout the year, I also ask them to show me a couple of your posts, because we do that in a blog, and I'll give you some feedback on how reflective you have been. If your reflection is a good enough reflection to get a good grade and from my point of view if it is sometimes takes a lot of time to find the right words to express what you can so far the piece of work to move it from a B to an A grade for example, and there are specific things that've got to put in place.

Yes, I do worry about that, particularly from the point of view, is it about sophistication with the language and also start to get a bit uneasy if their reflections are truly personal and it's about their reactions to the subject and what they have learnt. It happens to be at a stage there was a module I created them for that. That's their personal level that they have reached, I start to get very uneasy about the whole idea of assessing reflections. If that's the best way they've got to express their thoughts on it, who am I to say you should be working your brain cells harder?

Don't you think that if you've got a good piece of reflective work is a sign of intellectual maturity, which you would expect from higher level, final year type students?
Yes. I think that's how you have to turn it around that think I'm not assessing their reflections as such, I actually trying to assess their intellectual maturity. But it's interesting; we can't say that's what we're assessing, we assess for their reflections. But actually what we're looking for is how mature they are intellectually that's interesting isn't it?

Yes, I'm not sure how they think or theories, how they can actually modify a theory to explain how they would put something into practice and that all that type of thing and these are intellectual politics, high level cognitive abilities.

You're making a bit to think. I was to be responsible for this again. I went back to how I was last year when I was doing EBL, and then applying the theory to what they did there. Perhaps I should have mentioned that I wasn't a reflective essay or a reflective report, that I was about improve grade assessment or summative.

The same is difficult to pin down because I have tried Charles, because I asked them to hold them up, but Charles is very descriptive and so the word was a bit misleading, and this year we've sent Reflective Journals. We've lost them and this year we've got Reflective Journal. I try to change it to try to find the right name for it, but I understand your point because it is actually very difficult to try to find the right name for this type of assessment.

We actually this year, changed it last year it said Individual Reflective Essay and we make it Individual Reflective Report this year. Quite straightforward. The reason for that was last year you got more of a stream of consciousness and to start the write Essay as a lot of the students, particularly international, think that means there are no headings, no bullet points. It's a free flowing essay, as in the old fashioned sense of essay. So we wanted to restrict it this year because they are very hard to read and quite a bit of them landed to be quite unstructured, which hopefully will help them but also turn us to mark the thing. So we have moved from essay to report, but it is the Reflective Journal isn't it. As I say, I have changed about it.
marking their reflections, that's their reflections, but actually what you're really marking is something to do with their intellectual study skills, which is important.

And in this case, it's very normal for us to mark that, it's got a personal reflection on what you would do in your bath, it's actually showing how mature you are.

Although I'm not sure the students understand that - understand that its different and maybe that's something we could think about doing next year, you've made me think about that, and helped me crystallise why I felt uncomfortable.

Don't be uncomfortable, we are not assessing your reflective work.

Have you come across any specific points as to why students are finding reflective work difficult, where are they struggling now?

With the international students I think it's getting beyond topics that they have studied at a high level and in more detail and I don't know whether that comes from their lack of study skills and intellectual maturity or whether it comes from their language skills, it could be one or the other of both.

What about the English students, have you noticed anything where you think they may be struggling?

No, they find it more straight forward to do, but it's not the first time they've had to do it and they've got the language skills and of course they're Masters Students so they already have a first degree and presumably did okay on their first degree so they are quite good intellectually anyway.

I think throughout discussion we do think that the reflective work we are asking our students to do is actually different to what we are doing in our bath when we are thinking about things, would you agree with that?
I'm not sure I would agree, but I'm not sure I can say what it is. I could imagine myself having a bath and thinking if I was a student. What am I getting out of this module, what is the point of it and hopefully seeing some relevance. So no, I don't think so. I think last year when I had the specific modules about LIL and SEO then that was more focused on 'do they understand the theory and could they apply it in practice' and then to me move a bit away from reflection how I normally use it. Then it's closer to reflection that connected right at the beginning of this talk, that I want the students to be doing as we go along. That they learn a theory and hear about a theory and they have to reflect on 'how does that matter to the project I'm studying' that sort of reflection. Which is what you are trying to do then.

Yes, I do look for specific theories, that they have actually understood a theory and how it's linked to the practice and how we could be more defined to shape the theory to come up with something different. Or, if it makes sense, maybe they could look at other tools or theories and see if all the things I haven't talked about in the module could have worked better be expanded to their own work practice.

And do they do that, so they go and find other theories that you haven't talked about?

Well the A grade students do, and that's one way I differentiate A is that, I'm finding that when I give an A to someone it's because I very well understood what we are covering in the module and applied it and reflected on it have been able to do something with it, but then they have done some extra research.

They have shown some intellectual curiosity of their own, they're not just going back to you what you have given them, they're going beyond that and that's partly about student engagement with the module. It is about being a proper learner being at the top of the tree and having the intellectual maturity to go an work out that is a good thing to do rather than going down the path.
Yes that's right, what I have realised is, if I don't tell them to get an A+ that's what I expect them to do. They don't do it automatically. But if I tell them that you need your reflective work to be at a higher level then you need to go well and find some other things and they are able to do it, you need to tell them.

So even at final-year or Masters student level you have to tell them that they need to go beyond what the lecturer tells them. It's a bit depressing isn't it?

I don't know some people think what I expect from them is only around the process and what I'm giving them in class. They actually realise that well some do, maybe 10%, but others which are like C type students need this little extra help, have a look at this and that.

Really any final year module or masters module lecturer will be expecting students to do that but if you don't make it explicit because you're not using a reflective whatever, the students probably don't even realise. It's rather depressing that then get to the final year or the masters and they don't even realise.

But then if you make it obvious to them, they can often actually do it. Some people have got to go back to it again and again, give them more feedback it then manage to get their grade up, they do struggle a bit more but maybe because it's not as natural as others but they do manage to do it in the end. That's when you say yes they have reached a higher level and that's why the reflective work is done throughout the year for me because I can really see them from my point of view to whatever level they start with, your C type student, you try to make them progress but quite often you need to tell them exactly what is to be done on previous reflective work that they've done and they need to apply to newer reflective work. So if you can mark a piece of work and then do C type grade, and this is the reason why it is a C type grade, and to improve it you need to do this and that, but they need to understand how to apply it to future work.

I just find it slightly disappointing that even in the final year and masters we have to tell them what should be obviously, obviously by that time.
Do you explain what reflection is to your students in class, do you have specific sessions?

I don’t really think so, I can remember having a session where I expanded upon what we were asking for in the ICA but I don’t really think it went any further than putting it into different words what was on paper already. I might have this year with that module. I don’t know.

So you don’t use specific models, reflective models, you use ICA models.

Yes.
I'd like to know from your point of view, what reflection is.

From my point of view, I think of it in terms of personal development. It is about being able to self-assess and learn from it, that's the key to it. It's learning the tools to be able to, at your own, assess yourself and then take something from that into the future, for your learning experience. And that's that in a nutshell.

What do you think of using reflection for learning as part of a group, is that something you would use?

As group learning then yes definitely. The module that I've got reflection on, I share work and the students work in groups. So we actually do two types of reflection as part of that. The students reflect as a group, altogether, and then at the end they reflect individually on their experiences when they were working as a group and also individually on the module. So our is really wrapped around how they worked as a group, how they worked together and the skills they developed to work with each other as well as individually looking at my skills and how they have developed an empathy based learning. So, because it is part of the module, we ask them to reflect how they worked as a group.

Do you ask them to reflect at the end of the project or when they are doing the project or before they start the project?

Both. We split it between us, we have a thought of processes we go through and in the middle of that they are asked to reflect as a group. At the end when they have finished.
the whole thing and they have actually had some feedback, either, on pieces of work, or assignments, they reflect as individuals. So there are two points.

This is Masters level.

E. Do you think reflection could be used at different levels, right from first year, or do you think it is something that is likely to be more understood or done at higher level like Masters?

1. I definitely think it can happen right from the start. You might have different circumstances of how to embed the reflection in and what we require of them. At Masters level, I try to get them to engage with the literature as well, so when they are reflecting they don't just engage with what I think happened and what happened to me but what others say about this, who went through this experience and how does that relate so they are trying to engage with the wider world on this. Now that's not something I expect from a first year but they definitely could identify strengths and weaknesses. It would be quite nice to have it so that they also up their level of reflection each level until they get to the point where they are actually getting to engage with the literature as well and it would be much easier to do that if they had done reflection in first, second and third year instead of then suddenly in literature, right this is reflection and this is what you do and this is your first attempt with it. I'm not going to get you to engage with literature. So actually I think it should be something you experience at each level but would perhaps look for something different at each level and try and progress it to the point where they get to the highest level of reflection.

II. Kind of fits with my way of thinking.

When do you use reflection in your teaching courses? I think we have covered that.

E. Yes – it’s midway in and at the end.
When you get your student in Masters, do you think they are actually prepared to write in a reflective way?

I have to break that down because there are different elements to that.

One of the things I have realised, reflecting on my own practice, we have a lot of international students in Masters level and the basic skill of tense in reflective writing is something they struggle with. What tense am I writing in, just something very basic. Before you even get to getting the words out, should I be using past tense, present tense, should I be using future tense and just that basic stumbling block can stop them from even getting to the point of strengths and weaknesses.

So I have actually had to roll back to even before they get to thinking about strengths and weaknesses - what tense should you be using and should you be writing in the first person?

There is a basic level of writing that the international students, in particular, don't have that when they come. They don't have that language understanding of tense so start with that.

The very first thing is, we say a bit about what reflection is but then, what tense you should be writing in and should I be using the first person? Then come to Masters and they think 'I should use first person' and actually with reflection go you'll. So we clear that out of the way first. So that is something that is a problem with the international students - getting to the right level, although I'm sure all students benefit from that whatever and then again, you have a level whole of different backgrounds coming into Masters; some students have done reflective but not to the level of Masters. The never get seen a student who's come in and has done reflection where they have engaged with the literature of them, certainly don't demonstrate that to me. That's a surprise to them. They might well have done strengths and weaknesses, that's the most common thing they've got, they've analysed their strengths and weaknesses. They don't always remember or know that they should identify self improvement from that, sometimes their stop at strengths and
weaknesses and you need to push them to "Ok what can you do to improve, what are you going to take forward with you?"

I think you have a nice thing, you have to start from quite basic, from literally "how am I going to write this? what am I going to write this?", then they all seem to understand strengths and weaknesses and then the engaging with the literature which particularly needs extra work, "what are you taking forward with this?", "what will you learn from this?" it's not just "these are my strengths and weaknesses" but what does that mean. That's the bit they need extra with.

M: You did mention something interesting which was relating to the use of the "I" or not. From your point of view you seem to be saying that you expect your students to write a piece of reflection using the "I" all the time.

E: Yes. In my piece which is the end of the term and they are writing individually, yes, yes, yes they use the first person.

M: Do you formally assess the reflective work?

E: Yes

M: Do you have some quite detailed assessment criteria, how do you assess this work?

E: I don't think it's really detailed and detailed is how I would say. If I go too detailed it can be confusing. If they are doing it completely descriptive it's not a piece. They have various questions that I ask them to answer, it's a guided and structured piece as they have readings that should prompt them, but sometimes not. It's still quite descriptive about what you really identify any learning. Anything like that talk...
below (because it is 50% at Masters), if they don’t answer all the questions then it becomes an F or whatever. To get to that C band, I expect them to show some evidence of learning but not necessarily in all the areas I’ve asked them to do. I ask them to talk about oral presentations and what they’ve learned. Group Work and what they’ve learned and working in a multicultural environment and then I ask them to identify what skills they can take forward for employment or to the next stage.

Sometimes you get patchy work where some bits they’ve really done well and other bits have gone descriptive, so if they’ve got some evidence of learning in there that gets them to that C point. I would expect them to do that throughout for a B and then for an A it’s getting the literature in; it’s not very complex, these are basically the criteria, no descriptive – it’s not a pass, if you’ve got some evidence of that learning in there – it’s a C. If you do it throughout – it’s a B and if you’re engaged with the literature as well it’s an A.

Do you give them some idea of the?

Do you mark all of the reflective pieces yourself or do you mark with your colleague?

I mark them all myself, I get them second marked but I mark them essentially.

If you had worked with a team of A or B teachers and all of those teachers work were pieces of reflective work, how far do you think the marking would be consistent if it is across several people?
E I think it at the A level probably fairly consistent, when you get to the C level it gets subjective. A is very clear it has to have evidence of engaging. If you've got to say its consistent throughout, C might be a bit patchy but there is some evidence – that's where it gets subjective and that's the one where you would probably get inconsistencies if you had multiple people marking. It's a difficult one because you don't want to make it so rigorous but you execute some good pieces because they don't quite fit that and all the same time you want to have some idea of what you are looking for. That's the hard one; that passing level is hardest one to convey to other people what you mean. So I think there would be inconsistencies there.

F Yes, that is what I have realised and as well some of the modules is back, I think we do have different views, first of all we do have different ideas of what reflection is and what a piece of reflective writing should include. So when you want with inconsistencies in the meaning of work.

I think we have covered this bit. I will just re-ask the question in case you want to add anything. What are the main issues students have regarding being reflective, you did mention the grammar?

E Yes the grammar of the international. Getting them to the point of engaging with the literature is a big one. Very, very few of them actually make that level and it does require them to do some research which is part of it. Because it's not something they've done naturally as part of what they were doing, it requires them to go and engage with the literature and do some research and there is some factoring in there, some of them just think it's something that's nice to have but I don't have time. I would love to try and get more of them to that stage, particularly at Masters level, I'd love to try and push more of them up. I do have a bit of a struggle with myself about how should I support them, how much should I give them and point them. How much would I say your masters level is all very personal. Go and find...
out what's personal to you. As a teacher that's the bit I could do with more help with. FEES, LOGS, MATHS, ETC. to help them, without even feeding into them, still giving them the freedom to be their own journey, but getting them to do it and engage with it and see the benefit of it. That's huge struggle for me as a teacher and for them for the process they have to go through and I still haven't cracked that, I'm still working on how I get that bit.

4. How important do you think the questions you ask them to cover are? If you didn't give those guidelines to them, what do you think would happen?

5. We've gone through a process of this, these questions have come about because we started a research project, as you can read there, tell me about your experiences in the group and people who in all walks of life and it didn't reflect. We found that they received, possibly again because of their background, but the reflections just weren't that good. So from that we decided that we needed to structure it more. They're still quite open, not just open space, we identified the core themes, we identified the group themes, we have split it into each of these sections, things and specifically about how are you going to take it forward, because they always forget that bit and that definitely has had a big improvement. So, from giving them a very clear thing where we just let them go, more they wanted to get together and some of them said it is complete. It was just a descriptive piece, it wasn't a reflection. From my experience the very open-ended stuff didn't work very well, having a more structured approach has worked much better. Although, I am now starting to think that some of those don't need to be there, I would be slightly less structured. I think getting that balance, but I do think it needed to have those specific areas to reflect on otherwise people missed them and didn't think about them. That was my experience of that process going from more open to more structure.
E: That's exactly what I think. And with the open-ended what shone through was that they didn't understand what were the key points. Giving them structure on the key points to reflect really improved what we got.

W: Do you think that the type of reflective writing that your students do would be different to how you would reflect in everyday life?

E: Yes. I am not quite so structured. I do sometimes write things, in my practice for example, I have just a word document that says 'notes', and when I get going through and I've done a lecture or I've done something and I think 'I must remember to feedback that or that was good' I just wrote that down and time I would never do that for next year. But literally that is just a little note for me to look at and in other areas I wouldn't necessarily write things down. I might have a little mantra in head and I wont always engage with that mantra... sometimes I do, sometimes especially around preparing you look around to find what other people have done and you come back but in everyday life in general I wouldn't always do that. I think because I don't have a lot of time to much money I'm not quite as structured and not as productive as it could be because of that. Things get lost because they don't get written down or whatever and I suppose, unlike in something that health were you would be doing an ongoing portfolio you don't know to do such a thing so it doesn't tend to get prioritized, there is no structure to it. In common practice I just do this every day, this is what I do. You develop your own little mechanisms, I don't think I would put a lot of higher standards from my students than I probably carry out myself.
If that's normal, you're not being assessed on that it's a different exercise isn't it. But in some way understanding what reflection should be might actually help you and it helps me personally reflect.

Yes, doing this with students does reinforce this - it works both ways - it's just the same time and the structure...

You know a good piece of reflection should include references to the expert thing but you don't always need to do it yourself, by the way you could if...

Yes, I would probably do it even if it is a quick on line search or quick journal search but not necessarily document it the way the students do.

Do you use any specific reflective model when you expect your students what you expect them to do?

Yes (op - one I would like to look at - Gibbs' Reflective Cycle is what I was using). I took them through the cycle, it goes through: I start with what happened, what you are thinking and feeling, the evaluation, the analysis, conclusion, action plan. Through the stage that is mostly for me is the part where the students visit referencing the literature on what other people found going through the same experiences.

Then I also give the students suggestions on how they can reflect. We talk about using a journal or blog, mind maps and discussion with peers. I also give them self-evaluation questionnaires. Not for completing and handing in, the idea is that they use the questionnaires to give them options to answer. It helps them understand what I am looking for. There are questionnaire for individual work, group work and oral presentations. I also give them an example of a diary entry. They don't have to use.
any of these resources, they are just there to help them. I'd expect them to summarise from these resources into what is required for their reflective report.

E Do you use digital technologies e.g. Blackboard to capture reflective work?

F No, all the students have access to various digital resources on Blackboard like wikis and blogs but we don't require them to use them and I have never seen any student use them. They asked their group work as they do it and they do written minutes. But those only record what happened at a meeting - who was present, date, what was decided, actions that sort of thing.

E Do you think it could potentially be helpful to the students to have access to an application software that would help them understand what their tutors expect them to include in their reflection?

F Yes, definitely. Both for me as a tutor and for the students. Anything that can give students with support and guidance outside of what they get in the lectures would be good. Sometimes they need extra help to understand what you want and they could complete that in their own time and get a different way of learning. And for me, that would be helpful to direct students to. Particularly for the higher order level that I am trying to achieve where I want students to engage with the literature and make connections with their experiences and what others say. Encourage deeper reflection and learning.

E Do you think Reflection is different to Critical Thinking?

F Yes I think so. Reflection is something that I would say easier and can be done at any level. But critical thinking is the higher order thinking that I am trying to get my students to do. And that is much harder to achieve. It is where you start to place your own meaning to the wider content of the literature. Suppose it's harder because the students have to go and read extra material and that will take extra time. It's something that I have to do in class.
I struggle with how to teach students to do it. It's an area of my practice that I need to improve. Although perhaps I've been teaching the wrong thing. Perhaps what I am asking the students to do is critical thinking, not reflection. I don't know. It's difficult.
1. From your point of view what is reflection?

The way I deal with this asking people to think critically about something. Usually it is a process they have been involved with. It could be the delivery of an activity or something that I asked them to do. I see reflection as them thinking of themselves; what went well, what went wrong, thinking critically and reflectively or trying to take a step back and saying how could it be better. How could it improve what have they learnt? Given that same activity or task to do again, how would they do it better. It is basically learning from what they have done. In my view that is the way I see it.

2. So that is from an individual basis?

Yes.

3. Do you use reflection when you are working with groups?

Typically the stuff I do is individual but I do try and get students to reflect particularly among themselves as groups.

It is interesting, the current practice that we are doing at the moment is based on some work we are doing with the community, so it is a research project and with those people who are not technically minded but more mature professional people, they are quite happy to work with each other and discuss things, particularly to put up ideas, think about them, knock them down or modify them.
I find it very difficult to get that to happen with students. I think one of the problems is they saw it as 'this is part of my system so I'm not going to give any of it away'. I've done it with modest success, and I thought I could do it with that year, and I'm finding that (and I thought I wouldn't make any difference to the level of maturity between final year and masters year) the better final year students are fine, but there's many of them just can't handle that, so therefore I've moved away from insisting that they work that way because it just seemed to cause friction among them. They're not happy about it and I don't know why.

I normally do that as part of a formative approach so when we are dealing with things I often get - right into their initial concepts, get people to show their concepts, present them, think about them reflect on it, give their own reflections and get other peoples. But, as I say that works perfectly well with Masters but not when I tried it with undergrad, there are a lot of them they don't turn up for that session or they don't really take part in what we are doing. It could be partly to do with the set-up, the lab areas that we have which are not perhaps conducive to that I think. And maybe it's also to do with the way that students work in these cliques or groups.

We sometimes do that but as it happens most of the work I am doing at the moment it isn't really group work. So, we have done that and so I keep saying the group work is trying to get people to reflect openly in a more open environment with each other and then from that and quite a lot of stuff we have done before requires that really and in my view it requires that to enable them to get to a better solution a better idea. But, even though I sometimes make it or encourage it, I find that they don't do it. The approaches we have seen with other groups just simply don't work with undergraduates.
But please view of what you need to be changed in future. If you are a good planner, they will be more likely to engage with you and learning will be more fruitful.

Do you think our students, for example when they come to you in first year, are well prepared to actually write a piece of reflection?

No, they are not. Some of them don’t really understand what it is. Some of them will even state to my face, “that’s the bit where I struggle.” That’s what they see it is and it’s usually when they do it, writing just because but a stream of consciousness or a list of things might have some quite nice reflections among what was just repeating things that I have given.

So, one of the things I gave them in a reflective piece is a previous work was they had to do certain audit activities and then they used a particular tool to work out what differences would mean in certain other circumstances so the reflection was literally to give me the ideas that came out of the tool. They did it and then they re-write it in English and I actually told them that you just give me the list and comment on it and reference it rather than just simply revert back to English sentences and then think a little bit about the questions about it, so they were just simply giving the information that I already know and they already knew and was provided to them in the first place. So they don’t understand that they need to be concise and they need to be pointed and directed and when I say to them it’s not about the amount of words I’m counting the number of words. I want to know what the point is that you have said and if you have got a thousand words and the main point is buried in there somewhere, I might not have got that main point. It may not stick in my mind, they are not asking it.

What are you looking for in a piece of reflection – if you read an A grade type reflection, what does that instil for you to say “yes, that is definitely a first grade”?

I want to be surprised. The really good marks will really show some thought into some thinking or make some points that hadn’t occurred to me. Typically, they will also have been
critical and balanced to, there are always two sides to every story, good points and bad points, things you could have done better and also recognize weaknesses.

The main thing I want them to do is make the message clear and to do that they really need in my view to be concise. I'm not about writing a 3000 word essay, I will not give limits but I often ask for about 250 words and get 900-1000. When they come back and ask why they don't get an A+ one reason is they wrote it twice the amount and many of the things said were good but were buried in amongst a lot of other stuff which I had to read my way through, which makes it difficult for me to get to the point. I am guilty of that myself, but because of this I know I need to work on it and rethink what needs to be taken out.

I was talking to a student who had done a really good piece of reflective work, I was impressed because nobody did particularly well and I got to this one, which I gave a 9/10. It was really good and the best one I marked. I asked to see that I didn't think anybody could do five in the number of words I suggested but he had. He explained that he had written 500 words, twice as long as asked for, and was unable to see what was wrong with it. He gave it to his girlfriend to read and she was able to point out where he was repeating himself, where something could be said more simply and what bits could be deleted. So basically what works is because he couldn't see it, he noted it down to 200 words and they were 360 really good words. It was interesting, it wasn't just the obvious. He recognized that he was having difficulties and reflected on it, got some further advice.

All the students could all have done the same thing throughout the assignment as they were given deadlines where feedback could be given, and that allowed them to make changes. Many of them didn't and that is another thing that didn't come up with the reflection. What was the point of me giving you that feedback if you didn't respond to it? It might have made a difference between a B & A grade.
The people who did well on that assignment were the people who did listen. They didn't just do it as an exercise and move on to the next thing; they did took time and really think about it. It was interesting. I do find it works with those who are good and I think trying to work out how to deal with the average student and the weaker student. Maybe the weakest will never quite understand the point of it because it's not in their mind set, but I think the average student should be able to take it on board and I don't think they are being assessed properly. People also need to be clear, concise and organised about the way they do things, avoid repetition.

8 When you are reading a piece of reflection, do you find yourself looking for certain key words, theories, topics or ideas that you expect them to talk about?

I usually give some topics to consider and think about and I might even split it up so it becomes multiple sorts of areas of questions. I don't necessarily just say 'think about X', I'd say think about this part or that part, complete the following, give me some feedback on this, etc. and always expect that but I tend to expect that I expect them to consider these areas but they can consider anything else they think appropriate. I don't particularly expect key words. I give them sort of questions and areas to consider.

Most of the courses I do are with who will often say that something is too complicated and needs to be made simpler, this is right in a sense because I give too much help they haven't done it themselves. If I give them 3 questions which may only be 3 lines, they'll look at it and yet they don't understand when they give me 100 lines that I have missed the important point in the middle of that somewhere.

9 Do you have a marking criteria that you use to assess reflection?
51
Page

S. I have cared in this. Last year I started doing this and was being very precise, but I have moved away from that and have moved back to being much broader. I do criteria shown to lines or two marks but on the reflective side it is nearly always relatively subjective. Clearly I do still ask myself have they actually answered the questions I put? and I do have in my own mind simple checklists i.e. does it appear at all yes/no, and if it does appear is it accurate or good – I ask them to do checks based on a similar evaluation so I will use ‘present or not present’ ‘if present then an okay grade’ ‘if present then Off level up to really good’ i.e. A, B, C. I have also checked the two different marking approaches and the results were practically the same.

In the reflection I might have asked them to consider two areas and they have only considered one, it is then easy to see that is why they didn’t do particularly well.

When you get down to 11 marks an A, B, C is only one mark difference we are relatively consistent, I’ll mark them and I will have a look at them sometimes mark them independently and we rarely differ in terms of grades. When giving feedback to students you can set them what they did and why they scored that mark, I give that back as a feedback so I then find out what the problems were, what they did. What I can’t understand are that many of the problems they had were problems that were picked out in the feedback and they don’t have a comment.

M. When you introduce reflection to your students, you did comment that you explain what you expected them to do, do you say that is what reflection is in general, and do you use any model at all? I know it’s done in the school of health, they do have a lot on that.

S. No, and I think the reason for that is when I am teaching and ICA, I tend to give them the right outline, I tend to give them plenty of all of the ICA to begin with and concentrate of the tasks they have to do and I find that computing students just don’t want to hear about reflection at all! I just push that at that stage, at the beginning, or even just push anything that’s theoretical just turns them off. What we do with the research is we do it and computing students don’t even think about it at all. So if theory and R is promoted and that they are trained on.
very much on a practical basis. This is the things you do, this is how you do it, we don’t talk about theory behind it very much. We reference it and we ask them to read it and go through that and consider it and the better ones do, but the average computing student just doesn’t want to think theory as far as I can see. They don’t even want to think standards, which is one of the problems I get. I’ll insist on them following certain approaches, but they come back saying they can’t do it like that and they will do it another way which is fine but it doesn’t meet the requirements.

So, thinking about the reflection wouldn’t help very much. I probably don’t do it all’s not part of the particular module we’re doing, although in a way it is because the sort of modules we take have that element to think of alternatives but I’m trying to get them to think in a concrete way so rather than thesotically, otherwise they just see it as theoretical work and not very important.

5. How do you capture reflective writing, do you use the blackboard?

5. Some of it is done virtually in the classroom so they will put things up, they might send an email on more likely upload material for us to look at, including the reflective passages that we will then comment on.

Typically they will upload it on to blackboard or they might send it as email, the formative stuff cannot be done in a number of ways but the formal bits are put into a Word document or uploaded or sometimes emailed. It varies depending on whether we have a specific deadline. Or, do it virtually in the class and give feedback there. We also use our own reflections and logs but they don’t seem to want to do that, so they will only do it if it is part of an assessment.
Do you think it could potentially be helpful for the students if we developed an application to help them understand what their tutor expects from their reflections?

I think they need help and certainly you'd like to.

I have used lots of applications and one of the things we are doing now for our new assignment is actually capturing ideas where we have examples and cases of things which effectively end up being a bit reflective and that is what we are trying to capture. So yes I think it would work but I'm not quite sure if that is how you presented.

It's too hard to use the word reflective but sometimes I don't and I have discussed this with so I am never quite sure and we said, rather than ask them to think about this in this way, we ask them to think about it in a slightly different way which seems to be more part of the assignment, because otherwise they will just treat it as a write. We decided this time we would actually talk about activities which requires them to do a number of things including doing a reflection but be captured by them replying to the feedback and then incorporating it into the next revision of the activity so they have to do it simply on the grounds that it is required for the next stage and it is documented. In this way but it is not put down 'reflection' at the point as it is built on towards the end. The last thing is the outcome of that reflection. We are forcing them to do it by requiring them to do something else. Which requires them having to be already reflected on what they have already done.
APPENDIX B

INITIAL DATA CATEGORISATION

The annotations and notes from the scripts provided in Appendix A were cut out and positioned on a big size poster (Figure 1) in order to make a first attempt at their categorisation. The following Figures 2 to 7 are close ups of this poster.

Figure 1- Initial data categorisation on large poster.
Figure 2 – Theme 1: Teachers' understanding and expectations of reflection
Figure 3 – Theme 2: Reflective writing’s benefits and aims
Figure 4 – Theme 3: Formulation and breadth of reflection
Figure 5 – Theme 4: Progression and continuity of reflection
Figure 6 – Theme 5: Reflection's assessment and feedback
Figure 7 – Theme 6: Learners’ support requirements with reflection
APPENDIX C

PRACTITIONERS INTERVIEWS
DATA CATEGORISED BY THEMES AND SUB-THEMES.

The data highlighted in yellow have been used as illustrative quotes in Chapter 4. The data in bold have been used in Appendix I as short phrases examples.

Key used to refer to quotes in Chapter 4
J= Teacher 1, B= Teacher 2, E= Teacher 3, M=Teacher 4, S=Teacher 5

<table>
<thead>
<tr>
<th>THEME 1 (A): TEACHERS’ UNDERSTANDING AND EXPECTATIONS OF REFLECTION (DIVERSITY OF VIEWS AND EXPECTATIONS)</th>
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</thead>
<tbody>
<tr>
<td>J- I expect to see a lot of themselves as a person in there</td>
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<tr>
<td>J- I expect it to be personal</td>
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<tr>
<td>J- but thinking about the reflection I got back from the students, having just marked it, I think it’s quite a personal thing</td>
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<tr>
<td>J- It’s about getting over your experience, your journey, your learning journey rather that writing reflectively. I think from our point of view as lecturers, I think that’s more of what we are trying to get at isn’t it? The documentation of their learning journey.</td>
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<tr>
<td>J- I would be expecting them to talk about what they think they learnt, what they got out of the process and possibly what went wrong, because I think you can learn an awful lot from what went wrong.</td>
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<tr>
<td>J- [reflective writing is personal] young men do not find that easy. Facing up to their feelings, their limitations, their failures it’s a touchy, feely, girly thing and we’ve got a predominately male population to try and get them to be more reflective; interesting challenge. I think we can do it but I don’t think we’re ever going to get the majority of them being totally fluent and reflective so we may have to marry it up with this slightly more structured action planning approach as well.</td>
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<tr>
<td>J- Some students are innately better at it that others, they can put themselves down in writing quite easy others obviously struggled with it.</td>
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<td>J- Because I think [reflection] is a skill. We talk (we in very general terms) about being reflective practitioners […] I think there are steps you could take to help [the learners] get there definitely. They may never be a great reflective writers but they could be competent one.</td>
</tr>
<tr>
<td>J- I don’t [think this type of reflection is difference from everyday life] it is because I wrote the criteria. It’s very much how I would do it “what have you learnt from this lesson [interviewee’s name]?” maybe it’s because I’m in the profession I’m in and the other jobs I’ve done in my life, certainly the nursing side of it we were called Reflective Practitioners, so maybe it’s something that’s inbuilt. I think we’re all sort of reflecting to a certain extent. I can’t imagine there are many people who don’t think at least to some level or &quot;that went well&quot; or “that didn’t, what went right with it?” I think there are some people who blithely go through life without doing that but I think it’s difficult to.</td>
</tr>
<tr>
<td>B- I thought actually, I want them to be reflecting all the time, it’s just so far we have focused on the stuff they hand in and I then mark but now I rather hope that when I’m</td>
</tr>
</tbody>
</table>
giving a lecture, they're not all asleep and that one or two are thinking about what I'm saying and thinking about how it relates to what else we have done, or with the class I'm teaching at the moment they're all looking at a particular IT project failure, and I'm hoping they are thinking about 'how can I apply that theory to that particular project'.

B - I could imagine myself having a bath and thinking if I was a student, 'what am I getting out of this module, what is the point of it'? and hopefully seeing some relevance. So, I don't think so [we won't force the students to do is different to reflection you might do while in your bath]. I think last year when I had the specific models about IBL’s and Skonul then that was more focused on 'had they understood the theory' and 'could they apply it in practice' and that to me moves a bit away from reflection how I normally use it.

B - I want the students to be doing this as we go along [during lecture / classes]. That they learn a theory and hear about a theory and they have to reflect on 'how does that matter to the work I'm doing?'. I think last year when I had the specific models about IBL’s and Skonul then that was more focused on 'had they understood the theory' and 'could they apply it in practice' and that to me moves a bit away from reflection how I normally use it.

M - Yes, I do look for specific theories, that they have actually understood a theory and how it's linked to the practice and how we could be more defined to shape the theory, to come up with something different. Or, if it makes sense, maybe they could look at other tools or theories and see if all the things I haven’t talked about in the module could have worked better or be expanding to their own work practice.

B - They have shown some intellectual curiosity of their own, they're not just giving back to you what you have given them, they're going beyond that and that's partly about student engagement with the module, it is about being a proper learner being at the top of the tree and having the intellectual maturity to go and work out that that is a good thing to do.

B - Really any final year module or masters module lecturer will be expecting students to do [this sort of reflection] [this is not assessed]. So, if you don't make it explicit because you're not using a reflecting whatever, the students probably don't even realise.

B - I just find it slightly depressing that even in the final year and Masters we have to tell them what should be engaged with the literature blatantly obvious by that time.

M - we [tutors] do have different ideas of what reflection is and what a piece of reflective writing should include

E - I am not quite so structured. I do sometimes write things, in my practice for example I have just a word document that says 'notes', and when I am going through and I've done a lecture or I've done something and I think 'I must remember to tweak that' or 'that was good' I just write that down and think I must remember to think about this for next year. But literally that is just a little note for me to look at and in other areas I wouldn't necessarily engage with the literature – sometimes I do, sometimes especially around practice you look around to see what other people have done and you come back but in everyday life in general I wouldn’t always do that. I think because I don't have a lot of time it’s much more ad hoc, not quite so structured and not as productive as it could be because of that. Things get lost because they don’t get written down or whatever and I suppose, unlike in something like health where you would be doing an ongoing portfolio we aren’t forced to do such a thing so it does tend to get de-prioritised, there is no structure to it, it is much more ad hoc. You develop your own little mechanisms, I don’t think I evaluate how good they are at any point, and it’s my own little way of doing things. So yes I think I expect a lot higher standards from my students than I probably carry out myself.

E - Reflection is I would say easier and can be done at any level. But critical thinking is the higher order thinking that I am trying to get my students to do. And that is much harder to achieve. It is where you start to place your own learning in the wider context of the literature. I suppose it’s harder because the students have to go and read extra material and that will take extra time. It’s something they have to do on their own.

M - I expect the student to have reflected on the relevant content covered in class and activities undertaken and to have tackled them in-depth.
M - I look at the breadth and depth of reflection. Finally, I expect them to find extra resources not covered in class to emphasise the point that they are making.
M - Some elements of it will be the same but it might be more systematic if they use all of the triggers provided and refer to what has been covered in class. The main difference compare to their own reflections is that they have been provided with a selection of tools in class to take into consideration in their thinking (some of the research work has already been done by the tutor) whereas in everyday life they have to look for those tools which will help them evaluate, reconsider, question etc in order to enhance something.
M - I believe that if something has been reflected upon in depth then it is learnt.
S - I want to be surprised.

**Theme 1 (a): Teachers’ understanding and expectations of reflection**

**(Depth of Reflection)**

J - Too short, almost insulting what they had written - there was no depth to it – no narrative.
J - I don’t [think this type of reflection is difference from everyday life] it is because I wrote the criteria. It’s very much how I would do it “what have you learnt from this lesson [interviewee’s name]?” maybe it’s because I’m in the profession I’m in and the other jobs I’ve done in my life, certainly the nursing side of it we were called Reflective Practitioners, so maybe it’s something that’s inbuilt. I think we’re all sort of reflective to a certain extent.
I can’t imagine there are many people who don’t think at least to some level “that went well” or “that didn’t, what went right with it?” I think there are some people who blithely go through life without doing that but I think it’s difficult to.
M - I do think you’ve got everybody reflecting in a certain way, but it’s how much you push it “what have I done wrong?” it may be just a realisation that you’ve done something wrong but it’s what you do about it, how you improve yourself, that’s where the difference is.
M - I expect the student to have reflected on the relevant content covered in class and activities undertaken and to have tackled them in-depth.
M - I look at the breadth and depth of reflection.
E - sometimes you still get descriptive pieces which don’t really identify any learning.
E - You might have different expectations of how in-depth the reflection is and what we require of them. At Masters level I try to get them to engage with the literature as well, so when they are reflecting they don’t just engage with what I think happened and what happened to me but what others say about this, who went through this experience and how does that relate, so they are trying to engage with the wider world on this. Now that’s not something I expect from a first year but they definitely could identify strengths and weaknesses. It would be quite nice to have it so that they step up their level of reflection each level until they get to the point where they are actually getting to engage with the literature as well and it would be much easier to do that if they had done reflection in first, second and third year instead of then suddenly in Masters’ right this is reflection and this is what you do and this is your first attempt with it, I’m now going to get you to engage with literature. So actually I think it should be something you experience at each level but would perhaps look for something different at each level and try and progress it to the point where they get to the highest level of reflection.
B - for what I’m asking them to do it doesn’t have to be in depth they can make it in-depth if they want.
B- They have shown some intellectual curiosity of their own, they’re not just giving back to you what you have given them, they’re going beyond that and that’s partly about student engagement with the module, it is about being a proper learner being at the top of the tree and having the intellectual maturity to go and work out that that is a good thing to do.
THEME 1 (C): TEACHERS’ UNDERSTANDING AND EXPECTATIONS OF REFLECTION

REFLECTION OR SOMETHING ELSE?

J- That’s a very good title – “tell me about your learning journey”. Reflective writing might scare them off but if you talk about, “cos everyone goes through the journey, some people go further than others, some people go faster than others and everybody’s journey will be slightly different, everybody will take a slightly different path and it is documenting that.” I’ve just got a piece of software on the phone and it’s called Evernote and it’s about capturing your life, you can do little doodles, you can capture pictures, you can make sound recordings, you can make notes, you can sync it up with your PC, you can have it on your phone and it’s about your journey. It might be an interesting piece of software to look at for this reflective process.

J- Critical thinking, it depends on the context of it but critical thinking to me, and this comes from having two children studying philosophy at degree level and critical thinking being very much a part of that, there is an element of it but it’s almost the opposite its almost depersonalising. It’s about thinking critically but objectively about things.

J- Critical thinking is very different to reflection

J- I think he was a Professor at Oxford, and he said students were not very good critical thinkers anymore and in the context of that debate on the radio, critical thinking was very much being able to articulate an argument, a balance. I know students think of some of our subjects as bit of a soft touch, not having to write an essay and I use a state of phrase that somebody described to me when I was an undergraduate “it’s a balance of arguments between two sides, it’s never right or wrong, you’ve got to have put both sides forward, there’s got to be evidence and then you come to a conclusion” and that’s what being able to think critically is. It’s being able to see the other person or the other side of the argument, seeing the black as well as the white and sometimes the grey in between.

E - Although perhaps I’ve been calling it the wrong thing. Perhaps what I am asking the students to do is critical thinking, not reflection. I don’t know, it’s difficult.

B- if I went back to how it was last year when I was looking for EBL and them applying the theory to what they’d done, perhaps I should have renamed it, that it wasn’t a reflective essay or a reflective report, that it was about cognitive skills assessment or something!

S - We do tend to use the word reflection but sometimes I don’t and I have discussed this with [other tutor’s name] as I am never quite sure and we said, rather than ask them to think about this in this way, we ask them to think about it in a slightly different way which seems to be more part of the assignment, because otherwise they will just treat it as waffle.

THEME 2: REFLECTIVE WRITING’S BENEFITS AND AIMS

J- reading what the students wrote it has done them good to go back and look and for some of them it’s been a bit of a surprise when they are actually made to talk about what they have actually developed and what they can take forward for next stage. That came through this year quite strongly.
both reflecting on what they've learnt and also, I get them to do an extra small piece of work so I can tease out what they've learnt. I call it an Individual Report, where half of it is reflections on how did the group work go, what was their contribution to it, their peer reviews of each other, the normal sort of things you have to do when you're doing group work to try and tease out a bit about the group. The reflection in that, I get them to reflect on what they have learnt as well and the other 10% of the marks is I would ask them to take the same topic and how would they do it using a different research strategy to the one the group used, so they would then propose a different research approach, and there I am just trying to pick out if there are any who have just coasted along and what knowledge they have and they haven't just been hidden in the group. I'm not asking them to draw on any theories and apply them or anything, I'm just asking them to look inwards to themselves and think about what have I got out of this module and then what you personally have learnt from doing this module and it's ICA. I'm not assessing their reflections as such, I'm actually trying to assess their intellectual maturity. But it’s interesting, we don’t say that’s what we're assessing, we ask for their reflections. But actually, what we're looking for is how mature they are intellectually. I want to know something about what they personally contributed to the group work and then what you personally have learnt from doing this module and it’s ICA. ‘....should not be a summary of the topics instead you should reflect on how you have developed or changed as a learner and an IT professional by doing this module. How what you have learnt will be carried forward into your Masters Project and dissertation’ I’m not assessing their reflections as such, I’m actually trying to assess their intellectual maturity. But it’s interesting, we don’t say that’s what we're assessing, we ask for their reflections. But actually, what we're looking for is how mature they are intellectually. I use reflective writing as a way of assessing my students’ learning on project work. M - I believe reflective writing is a great tool to identify if a student has learnt and really understood the content, it is difficult to fake understanding with reflective writing. M - I use it to drive ‘student's responsibility’ always encouraging them to take positive action in a project and not only relying on others to make things right. I want to see evidence of problem solving which is very valuable within the Computing discipline and that is definitely worth assessing!...
J- I don't think you can write reflectively in an abstract way. Good reflective pieces I have read are the ones I've felt are natural, where there is a structure to it but it hasn't felt contrived, it flowed.

J- I've been doing this quite a few years now and I've always done a little bit of reflective work over a number of years, not a lot but a bit in there, and some students perhaps have hoodwinked me, I don't know, but I feel that you can tell the genuine from the fake. The person should shine through. You should almost be able to hear them say what you read and I think that's very difficult to disguise.

J- It may not be written very well but if the person is still coming through and you are getting to the essence of what they've really learnt, you read about their learning journey. You realised that they have come a long way.

J- But I don't think you have to be the world's greatest writer. It shouldn't be like James Joyce, Stream of Consciousness thing either. There's got to be a structure to it but I don't think you have to be the world's greatest writer to write reflectively well.

J- I think that is where some of our students suffer, they are not articulate. They're not sure of the style expected. Should I be writing formally, is it informal? My personal feeling is reflective writing should be fairly informal because it is personal and that would be the guidance I would give to them if they were asking that.

J- He got a very good mark for his reflective writing. It came across as mature for a start. I think he gave mini examples. He embedded his writing within specific examples that he drew on from the module, things that had happened, particularly things that went badly. They were having issues meeting up for meetings and he actually discussed that so that was his example and then there was a little bit... this meant X.

J- We told a story and I think there was a narrative behind the good ones and a story should have a beginning, middle and end and that narrative flow came through in the good ones.

J- Personally I like reflective writing; I find I would get more out of it. I find Action Plan too mechanistic but for some of our students who are that way it might work better.

B- UK students could use more sophisticated language and there was a danger of marking them more highly than the ones international who wrote very simple English.

B- You're looking for them to have those more abstract terms that they're able to pull out of the precise facts and skills that they have learnt. They are the sorts of vocabulary that an international student doesn't automatically have or use.

E- They come to Masters and they think 'I shouldn't use “I”, I shouldn't use the first person' and actually with reflection yes you do.

S- So they don't understand that they need to be concise and they need to be pointed and directed and when I say to them it's not about the fact that I'm counting the number of words, I want to know what the point is that you have said and if I have read a thousand words and the main point is buried in there somewhere, I might not have got that main point, it may not stick in my mind, they are not selling it.

M- Some of them also really struggle with the length of the reflection as they find it difficult to be concise.

S- The main thing I want them to do is make the message clear and to do that they really need in my view to be concise. It's not about writing a 3000 words essay, I will not give limits but I often ask for about 250 words and get 900-1000.

S- He explained that he had written 500 words, twice as long as asked for, and was unable to see what was wrong with it. He gave it to his girlfriend to read and she was able to point out where he was repeating himself, where something could be said more simply.
and what bits could be clearer. So somebody else looked at it because he couldn’t and he boiled it down to 300 words and they were 300 really good words.

**THEME 3: FORMULATION AND BREADTH OF REFLECTION**

**THEME 3 (b): QUESTIONING TO FOCUS BREADTH AND DOMAIN OF REFLECTION**

J - But I think they need guidance and structure “reflect on this module” it’s too broad
J - that is where the prompt questions come in and I think the way we’ve got [module name], I think those questions that were asked in the reflective writing bit, I think that gives enough structure to help the fact that there are five different markers the students have to have written a little bit about this, what am I taking forward so I think giving that structure helps
J - The structure (prompts) is very important. Partly because of this articulation of what do we mean, I think it’s there in our hopes but we’ve never had this conversation about it so it’s perhaps something we ought to do? I think very important
J - you could do that [fencing] in many ways. Partly because of volume we’ve gone down just structured questions; you’ve got to write a little bit about this, what you’re taking forward to the next stage. But for other types of writing I think you could have different kinds of fencing, which is a good way of describing it or you could go on writing for ever.
J - I think that would answer it very well ‘having the breadth and depth to it’
B - This year we gave them some specific questions they might think about. Marking them, quite a lot of them used these effectively as headings, which was reasonable enough, effectiveness of group, personal contribution and then personal learning. I don’t think I saw many where they then used each of these as a sub-heading as well but you could certainly see that they had thought about most of these questions, or at least the best ones had. So I guess I’ve given them, or [other tutor] and I have given them a structure to what we were looking for
B - I think this is a longer list of questions than last year
B - They had to reflect on “what you personally have learnt” and that is just the same as the paragraph there without all the bullet points. So I broke the four down and pretty much dropped most of one, the models.
M - We might say that this type of academic reflection hopefully might be good practice for their everyday reflections. I think that a good reflection is determined by how the person maps out the main constituents of it / what is important to consider about that particular topic
M - First of all most students struggle to identify what is important to talk about in their reflective paper. Some of them could easily spend 1000 words talking about something very trivial which will not materialise in a lot of reward points
M - I provide examples of questions that they can use in the ICA paper, they are quite specific questions such as ‘How is our business proposal helping us plan for this project? Or In hindsight have we planned / cost our project appropriately?’ and they are encouraged to formulate their own too.
E - They have various questions that I ask them to answer, it’s a quite structured piece so they have headings that should prompt them
S - I used to be very open and say reflect on this and give them some vague areas to consider, but now I typically set some example questions to ask themselves, I guess I would definitely do that and probably break it down with first years to make sure they understood
| THEME 4: PROGRESSION AND CONTINUITY OF REFLECTION |

J- Yes I do. Because I think it is a skill. We talk (we in very general terms) about being reflective practitioners and that’s not just in our discipline it’s in many different disciplines, nursing, medical the professional, everybody’s supposed to be a reflective practitioner, but is it something that comes naturally to everybody? I think you can see in whose writing it does come naturally but for those that it doesn’t, it’s awkward and difficult to do. I think there are steps you could take to help them get there definitely. They may never be a great reflective writer but they could be competent one.

J- it is assessed at the end of module

J- perhaps we haven’t done enough about an ongoing process it is very much an end summary looking backwards

J- But the way it is structured in a module perhaps it is quite a short part of the module, so maybe having interim points would be too much in the context of the module, I think it fits in quite well

J- whether they were just lazy, left it all to the last minute and therefore hadn’t go the time to write, I don’t think reflective writing is something that can be rushed

B- Yes this could be done with lower levels. In fact the Masters students, where I’ve just finished marking them, although they are Masters, the majority of them are international students and haven’t had our kind of educational set up at all. So, the whole module is focused on, as well as giving them some practical web development skills and learning about research, it’s also trying to introduce them to all the study skills that they need for Masters. So, in that sense they are less experienced than many of our first years

B- I want the students to be doing this as we go along [during lecture / classes].

B- I have not encouraged the students to develop their reflective work through the module.

B- I think it can be one of those last-minute things [writing the reflective essay], they are so focused on the group work and there is always the peer pressure when you are working in a group; you have to deliver what the group needs, you have to meet the group when it wants to etc, there is such great pressure there to do the group side of it that I think the individual side of it might get left until the very end and probably it would be better to encourage them to do something earlier.

E- The students reflect as a group, altogether and then at the end they reflect individually on their experiences when they were working as a group and also individually on the module

E- We split it between us, we have a stage set of processes we go through and in the middle of that they are asked to reflect as a group. At the end when they have finished the whole thing and they have actually had some feedback already, on pieces of work, on oral presentations, they reflect as individuals. So there are two points

E- I definitely think it can happen right from the start [1st year]

E- It would be quite nice to have it so that they step up their level of reflection each level until they get to the point where they are actually getting to engage with the literature as well and it would be much easier to do that if they had done reflection in first, second and third year instead of then suddenly in Masters'
E - I think it should be something you experience at each level but would perhaps look for something different at each level and try and progress it to the point where they get to the highest level of reflection.

M-I have used reflective writing from level 4 to level 7. Based on my experience any level can reflect as long as they are provided with the right guidance.

M – Students usually are not prepared to write reflectively; they do not seem to have experienced it much before joining my classes. Reflective writing is not a learning tool used much in the Computing discipline although it is slowly appearing as a way of assessing students learning.

M - Through a year-long project a lot of learning is expected in different areas. The students are experiencing a real project and their learning is taking place at very diverse times within the year therefore reflection is used as a tool to help them learn at their own pace the key aspects of the course.

M - Reflection acknowledges the fact that learning takes time and students need time to reflect and enhance their practice, it sends the message that it is OK to make mistakes as long as one realises that there was a mistake made and that a solution needs to be tried out or thought of.

M - We have now managed to include one component of reflective writing at each level of the Web course so now the students can develop their reflective thinking skills year after year.

S - I’m doing reflective writing with final year and in the past with masters. I’m not teaching first and second years but I would do reflective writing with them if I was.

**THEME 5: REFLECTION’S ASSESSMENT AND FEEDBACK**

**THEME 5 (A): INTUITION AND STRUGGLE**

J - Team assessment: although we had very little discussion about what we were looking for in the reflective piece of work I didn’t find any huge discrepancies in the marking last year. So maybe staff have a consensus in their heads that’s never really been articulated about what we are looking for in that piece of work.

J - Even if you were giving feedback on it, you say they’ve got a D how then can you tell them what they need to do to get a B or a C or an A so we have to have a way to be able to talk about reflective writing and marking of reflective writing much better.

J - [If we can’t articulate what we are looking for in a piece of reflection], how can we explain it to our students?

J - All the ones I marked who got good marks for their reflective piece didn’t necessarily get a high mark overall. One or two did surprise me; I thought “I wasn’t expecting that!”

J - You’re trying to give a mark to the learning that has taken place and I think that is very difficult to quantify but you could it and I think writing reflectively is an art and marking reflective writing is an art – it’s not an easy thing to do at all because it is a personal piece of work.

J - In terms of ability to reflect, I think I don’t know how to assess it other than subjectively.

J - You’ve got to be very careful you’re not marking so much what they say because it’s their personal perspective. You may disagree with it but if they’ve articulated it well enough then it should still get a good mark because it’s their personal experience their personal journey.
J - Other than looking if the questions were asked or not [I had no other marking criteria], in terms of how to specifically mark reflection.

J - I suspect we are going to find a similarity [in marking] there and I think that could be an interesting way, given that we haven’t discussed this as a team, it might be interesting to look at how we did actually come up with like last year we came up with fairly similar marks, how we did that without having discussed it. **There must be this unwritten definition of what we understand of reflection**

J - somebody might have given 21 and I might have given 22 were only a mark out which is nothing, I don’t think we are ever talking grades out, maybe a point or 2 here and that is interesting

J - When I used to do something with my masters students, on reflective writing, **I went through agonies in marking this work; I had huge problems with it.** I think I said to you when you first started looking at this for your PhD that you’re going to have problems with this because it’s such a personal piece of work, **how the heck do you mark it,** what are you looking for in it, what makes a good piece, what makes a bad piece.

E - [Regarding team marking] I think at the **A level probably fairly consistent,** when you get to the **C level it gets subjective.** A is very clear it has to have evidence of engaging, B you’ve got to say its consistent throughout, C it might be a bit patching but there is some evidence – that’s where it gets subjective and that’s the one where we would probably get inconsistencies if we had multiple people marking. It’s a difficult one because you don’t want to make it so dictating but you exclude some good pieces because they don’t quite fit that and at the same time you want to have some idea of what we are looking for. That’s the hardest one; that passing level is hardest one to convey to other people what you mean. So, I think there would be inconsistencies with that level.

M - **It is almost like intuition,** you can read something and you know if it’s an A or B or C, it might not be the same criteria in our head maybe but we do seem to know somehow where the marks fit in

M - **It is funny that reflection can easily be assessed with ‘intuition’,** you kind of know if this is a A piece or C piece, but it is much more difficult to develop assessment criteria that will enable a much fairer assessment

S - **When you get down to 10 marks an A, B, C is only one mark difference we are relatively consistent,** I’ll mark them and the other tutor will have a look at them, sometimes mark them independently and we rarely differ in terms of grades

B - Yes, I do worry about that, particularly from the point of view, is it about sophistication with the language and also **start to get a bit uneasy,** if their reflections are truly personal and it’s about their reactions to the subject and what they have learnt, if it happens to be at a shallow level why should I criticise them for that? That’s their personal level that they have reached, I start to get very uneasy about the whole idea of assessing reflections; if that’s the best way they’ve got to express their thoughts on it, who am I to say ‘you should be working your brain cells harder’.

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**THEME 5: REFLECTION’S ASSESSMENT AND FEEDBACK**

**THEME 5 (b): GRADES, MARKING CRITERIA AND FEEDBACK**

J- **An F would be something very cursory,** something very short. I’m not saying you can’t have a concise piece of reflective writing that’s very good, some people are naturally very good at writing concisely, but I think brevity you can’t go into the depth you need.

J- **[F grade would have a] lack of not attempting to answer the questions that were asked.** There was no conclusion, one of the question very specifically ‘What have you learnt about Project Management skills to take forwards to the next stage?’ so if they had missed that out, they missed out.
### J

- An A grade would be there might be examples drawn on, there would be a narrative there a flow, there would be conclusions drawn.

### J

- A grade - Actually answering the questions that were posed and evidence of reflection which is a daft thing to say perhaps, because how do you define reflection and I think it's this inward looking and articulate and being honest.

- When I was giving feedback, when I got to the good ones my feedback tended to say something along the lines of “a very good piece of honest reflection” what I was looking for was this element of honesty in there. “Yeah, I was a lazy so and so” I think one of them said that “I know I need to try better next time” that sort of thing. It takes guts to stand up and say that.

- It is not always the best overall students who get good marks at reflection.

### J

- Yes I probably would assess a 1st year piece in a different way than a 2nd or final year piece. I think you would be looking for different things at different levels.

### B

- No [marking criteria], other than a personal, subjective feel.

### B

- I really don’t know how I measure the difference between middle grades, and I really do sit there and think ‘why am I struggling over this’ because what’s the difference between a 12 and 13 other than you are aware 14 is distinction level. Particularly with the Masters, 10 is a pass and 14 is a distinction level. 11 12 and 13 are all just OK, so I did end up saying to myself ‘why don’t I just put 12’.

### M

- It is much more difficult to develop assessment criteria that will enable a much fairer assessment. After several years I managed to develop a matrix that I publish to my students and that I use to assess their reflective writing but I can still note a ‘vagueness’ in this even though it is more structured than before.

### B

- I didn’t consciously check off whether they had covered all of the points. I think if I had the sense that they hadn’t written very much here, then would think to myself, what haven’t they covered at all and I would give feedback ‘what about such and such’.

### M

- Well the A grade students do and that’s one way I differentiate A & B’s, I’m finding that when I give an A to someone it’s because its very well understood what we are covering in the module and applied it and reflected on it have been able to do something with it. but then in addition they have done some extra research.

### B

- It is difficult – here is a better one – ‘Excellent reflections and insight into how you used your experience to support the group without being too dominant’ some good reflections but I didn’t feel you covered all the areas’. ‘Sometimes it felt like you were describing group work in general rather than your group’.

### M

- I’m trying to respond to what they have written in their particular one rather than just tick off have they covered everything, trying to show that I have read what they have written.

### B

- It is difficult – here is a better one – ‘Well written and insightful, headings would have helped the reader’ ‘you could also reflect on what you missed out by having members all from the same country’. So, I’m trying to respond to what they have written in their particular one rather than just tick off have they covered everything, trying to show that I have read what they have written.

### M

- Quite often I’m also reporting on how I coped with their English, quite often you get ‘I could understand the report but there were mistakes in the English, the study school centre in the library can help you with this’ and I’ve written that quite often, but I think that’s feedback they need to have. Another time they might get marked down quite harshly certainly for the project report, they could lose a lot of marks if the English isn’t good enough.

### B

- No [I do not have a marking criteria to check if they have systematically covered all the questions], I like to read a paper copy and put a tick against every comment that I see. I wasn’t consciously checking off had they covered all the areas, I just noted if it was short, then I would pick up one or two areas that they hadn’t covered and say ‘what about
these’ and that’s about it really. I did copy off the assessments I gave, the feedback that I gave – this one got 7 that was very short ‘very short most of the topics asked for not adequately covered’.

E: I think my marking criteria are quite simple and flexible this is the way I would put it. If I go too detailed it can be constricting
E: So when they get the ICA, within that there is the marking criteria and I basically have what I am looking for in a grid. A – Engaged with literature B- Evidence of learning in all areas expected C- Evidence of learning in some areas F- Descriptive only
M - To achieve top grades the students are expected to demonstrate high level of reflection on content / theories covered in class but put into practice in their project. Lower grades will tend to refer less to specific tools and theories and be more descriptive, they will also lack evaluation and questioning and they are likely to omit finding solutions to problems.
M - it took me sometimes to come up with something that made sense for my modules
M- But then if you make it obvious to them, they are quite often able to do it. Some people have got to go back to it again and again, give them more feedback
S - I have varied in this. Last year I started doing this and was being very precise, but I have moved away from that and have moved back to being much broader. I do criteria down to five or ten marks but on the reflective side it is nearly always relatively subjective.
Clearly, I do still ask myself ‘have they actually answered the questions I put?’ and I do have in my own mind simple checklists i.e. does it appear at all yes/no, and if it does appear is it adequate or good – I ask them to do checks based on a similar evaluation so I will use – ‘present or not present’, ‘if present then OK level up to really good i.e. 0, 1, 2’. I have also checked the two different marking approaches and the results were practically the same. In the reflection I might have asked them to consider two areas and they have only considered one, it is then easy to say that is why they didn’t do particularly well.
E- If what they are doing is completely descriptive it’s not a pass.
E- Anything like that falls below (because it is 50% at Masters); if they don’t answer all the questions then it becomes an F or whatever. To get to that C band, I expect them to show some evidence of learning but not necessarily in all the areas I’ve asked them to do. I ask them to talk about Oral Presentations and what they’ve learned, Group Work and what they’ve learned and working in a multicultural environment and then I ask them to identify what skills they can take forward for employment or to the next stages. Sometimes you get patchy work where some bits they’ve really done well and other bits have gone descriptive, so if they’ve got some evidence of learning in there that gets them to that C point, I would expect them to do that throughout for a B and then for an A it’s getting the literature in. It’s not very complex, those are basically the criteria; if descriptive – it’s not a pass, if you’ve got some evidence of that learning in there – it’s a C, if you do it throughout – it’s a B and if you’ve engaged with the literature as well it’s an A.

S – An A grade would be: I want to be surprised, the really good marks will really show some insight into their thinking or make some points that hadn’t occurred to me. Typically, they will also have been critical and balanced i.e. there is always two sides to every story, good points and bad points, things you could have done better and also recognise weaknesses

THEME 5: REFLECTION'S ASSESSMENT AND FEEDBACK
THEME 5 (c): LEARNING ENVIRONMENT

M- Yes, I assess RW for two main reasons. Firstly, the students are very assessment driven and therefore most of them will not put any effort in something that is not assessed.
I don’t think they would engage with it [reflection if not assessed], that’s my gut feeling. I think the students as part of their PDP process are always encouraged to keep a diary of their learning. If you think about the final year project student’s part of it is keeping a diary, but experience suggests they don’t do it, there’s no mark attached to it so they don’t do it.

E - I also give them self-evaluation questionnaires. Not for completing and handing in. The idea is that they use the questionnaires to give them questions to answer to help them reflect. It helps them understand what I am looking for.

M - I use reflective writing as a way of assessing my students’ learning on project work […] I believe reflective writing is a great tool to identify if a student has learnt and really understood the content, it is difficult to fake understanding with reflective writing.

E - how they worked as a group, how they worked together and the skills they developed to work with each other as well as individually looking at my skills and how they have developed an enquiry-based learning.

M - The main difference compare to their own reflections is that they have been provided with a selection of tools in class to take into consideration in their thinking (some of the research work has already been done by the tutor)

B - They do group work and then you have to tease out what was the individual contribution.

E - There are questionnaires for individual work, group work and oral presentations.

**Theme 6: Support Requirements with Reflection**

- other [learners] obviously struggled with it, they didn’t perhaps understand the concept or felt a bit shy about writing in quite a personal way and exposing so much of themselves personally
- J - it does come naturally for some but for those that it doesn’t, it’s awkward and difficult to do
- J - they’re not too sure how to begin, they’re not sure of the style expected, “should I be writing formally, is it informal?”
- J - I think there is shyness in there, “should I really say I didn’t enjoy this, should I say I struggled with this bit?”
- J - there is a reluctance to be upfront and frank about the good bits and the bad bits particularly if the module didn’t go well, there’s always this fear that “if I say I didn’t like this part of it or didn’t understand this or didn’t think the teacher explained this very well, is it going to adversely affect my mark?” is always going to be at the back of their mind if they are writing reflectively.
- J - no examples to draw on to say why they had arrived at the conclusion they had, sometimes they hadn’t even arrived at any conclusion
- J - it was a bit of a ramble.
- J - You’ve got to have something in your head before you sit down at that keyboard and write about what it is you want to do. If you haven’t thought about it! So perhaps it does lend itself towards the deeper learners rather than the shallower learners, I don’t know.

B - With the international students I think it’s getting beyond topics that they have studied at a shallow level to more abstraction and I don’t know whether that comes from their lack
of study skills and intellectual maturity or whether it comes from their language skills, it could be one or the other or both.

B- MSc English students find it more straightforward to do, but it’s not the first time they’ve had to do it and they’ve got the language skills and of course they’re Masters Students so they already have a first degree and presumably did okay on their first degree so they are quite good intellectually anyway.

M- The main difference compare to their own reflections is that they have been provided with a selection of tools in class to take into consideration in their thinking (some of the research work has already been done by the tutor) whereas in everyday life they have to look for those tools which will help them evaluate, reconsider, question etc in order to enhance something

M- But then if you make it obvious to them, they are quite often able to do it. Some people have got to go back to it again and again, give them more feedback, then manage to get their grade up, they do struggle a bit more but maybe because it’s not as natural as others but they do manage to do it in the end. That’s when you say ‘yes’ they have reached a higher level and that’s why the reflective work is done throughout the year for me because I can really take them from my point of view to whatever level they start with, your C type student, you try to make them progress but quite often you need to tell them exactly what is to be done on previous reflective work that they’ve done and they need to apply it to newer reflective work. So if you can mark a piece of work and that’s a C type grade, and that is the reason why it is a C type grade, and to improve it you need to do this and that, but they need to understand it to apply it to future work.

E- critical thinking is the higher order thinking that I am trying to get my students to do. And that is much harder to achieve. It is where you start to place your own learning in the wider context of the literature. I suppose it’s harder because the students have to go and read extra material and that will take extra time. It’s something they have to do on their own. I struggle with how to guide students to do it. It’s an area of my practice that I need to improve.

E- we have a lot of international students on Masters level and the basic skill of tense in reflective writing is something they struggle with. What tense am I writing in, just something very basic, before you even get to getting the words out, should I be using past tense, present tense, should I be using future tense and just that basic stumbling block can stop them from even get them to the point of strengths and weakness.

E- Sometimes struggling to get more students to really engage with reflection and also see the benefit of it

M- First of all most students struggle to identify what is important to talk about in their reflective paper. Some of them could easily spend 1000 words talking about something very trivial which will not materialise in a lot of reward points

M- I think some are struggling to find out what’s relevant or not, is one of the key issues. You find they just don’t understand what is really relevant in the project they’ve just done, what to leave out of the reflective piece and what to include.

M- Another aspect they find difficult, is understand how to make their reflection in-depth enough so they can achieve a good grade. I think this is the most difficult part really.

S- Students are not prepared to reflect. Some of them don’t really understand what reflection is. Some of them will even say to my face, “that’s the bit where I waffle”. That’s what they see it is and is exactly what they do – waffle

S- Maybe the weakest students will never quite understand the point of reflecting because it’s not in their mind set, but I think the average student should be able to take it on board and I don’t think they are being prepared properly.

J- I think you have to give them guidelines and some structure to it, but in the context of their learning
J- we gave them those prompts to write about; "what have you learnt to take forward to the final year project"
J- if you can seed it with questions it helps drive it along the way you want them to go
J- I think [teachers] could [help learners improve]
J- introduce it earlier [to improve reflection]
J- give them examples of what is good and bad reflective writing
J- get them to write more, just write
J- I don’t think we get our students to write enough, I really don’t and express themselves in the written word
J- learners still got to be able to communicate in the written format and I don’t think they feel natural enough writing
J- some of them might feel happier talking rather than writing [although] with 140 odd students that would have been ridiculous to have done that kind of conversation
J- it would be very feasible with a small group, you could have a conversation with them, and that would help them start thinking more reflectively because you could prompt the questions and get them to talk about it
J- it should almost be, not a conversation [but natural, it should flaw]
J- I think there are steps you could take to help them get there definitely.
J- They may never be a great reflective writer but they could be competent one.
J- Well, a colleague came and gave them some guidance on what is meant by reflective writing but it was in a lecture to a very large number of students and it was dependant on the students actually attending and taking this information on in the first place, which is always going to be a problem.
J- It’s predominately males, almost to the same ratio that School of Health but the other way round, in the School of Computing. So we’ve obviously got particular issues around learning with our students that are not applicable to the School of Health.
B - Really any final year module or masters module lecturer will be expecting students to engage with the literature but if you don’t make it explicit because you’re not using a reflecting whatever, the students probably don’t even realise
M- If we’ve got something more structured and maybe sometimes not as personal as you might expect from the School of Health for example, that might work better because they don’t feel so frightened about it. You could still see all of the learning they have done and achieved.
J- That’s ultimately what we’re after, what learning has taken place and if we have to do it this way instead of that way then so be it.
E- these questions have come about because we started a much wider approach a very open ended about - tell me about your experiences in the group’ and people went in all sorts of directions and didn’t reflect. We found that they needed, possibly again because of their background, but the reflections just weren’t that good. So, from that we decided that we needed to structure it more. They’re still quite open ended but just specific areas, we identified the Oral Presentation, we identified Group Work, we have split it into each of these specific things and specifically about ‘how are you going to take it forward’ because they always forget that bit and that definitely has had a big improvement
E- from going from a very open thing where we just let them go, where they tended to get bogged down and some of them used it to complain, it was just a descriptive piece, it wasn’t a reflection
E- From my experience the very open-ended stuff didn’t work very well, having a more structure approach has worked much better. Although, I am now starting to think that some of those don’t need to be there. I could be slightly less structured – it’s getting that balance, but I do think it needed to have those specific areas to reflect on otherwise people missed them and didn’t think about them. That was my experience of that process going from more open to more structure.
E- That's exactly what I think and with the open ended what shone through was that they didn't understand which were the key points. Giving them structure on the key points to reflect vastly improved what we got.

E- I've never yet seen a student who's come in and has done reflection where they have engaged with the literature, or they certainly don't demonstrate that to me, that's a surprise to them. They might well have done strengths and weaknesses, that's the most common thing they've got, they've analysed their strengths and weaknesses.

E- They don't always remember or know that they should identify self improvement from that, sometimes they stop at strengths and weaknesses and you need to push them to "Ok what can you do to improve, what are you going to take forward with you?"

E- you have to start from quite basic, from literally "how I am going to write this/what tense am I going to write this?", then they all seem to understand strengths and weaknesses and then actions and then the engaging with the literature which particularly needs extra work, what are you taking forward with this", "what will you learn from this" it's not just 'these are my strengths and weaknesses' but what does that mean. That's the bit they need extra with.

S - I usually give some topics to consider and think about and I might even split it up so it becomes multiple sets of areas of questions. I don't necessarily just say 'think about it', I'll say think about this part or that part, compare the following, give me some feedback on this etc. and I always expect that but, I'm not prescriptive, I expect them to consider those areas but they can consider anything else they think appropriate. I don't particularly expect key words. I give them sets of questions and areas to consider.

S - I accept the fact that 1st and 2nd years would have to be very directed in the way they reflect as they don't know how to think critically

S - So I might ask them to consider certain aspect and they just consider part of it. I even find that I am giving them templates

S – Students write a stream of consciousness or, a lot of them might have some quite nice reflections among what was just repeating things that I have given them. So they don't understand that they need to be concise.

E - I also give them self-evaluation questionnaires. Not for completing and handing in. The idea is that they use the questionnaires to give them questions to answer to help them reflect. It helps them understand what I am looking for. There are questionnaires for individual work, group work and oral presentations. I also give them an example of a diary entry. They don't have to use any of these resources, they are just there to help them. I'd expect them to summarise from these resources into what is required for their reflective report.

M - In order to reach an in-depth reflection the students are provided with 'tools' such as theories, surveys, clients meetings etc. that he/she can use to focus the reflection on a relevant topic.

M - To help them understand how to write an in-depth reflection I provide them with Trigger words 'What, How, Why, Outcomes, Amendments' that might help them cover all aspects of their reflection.

M - In order to help beginners to reflect it is important to first [map out the main constituents of it / what is important to consider] and then as they become more confident with their reflection they can formulate their own.

M – I tell them what reflection is not first, then I introduce the trigger words mentioned earlier on and then I ask them to rate reflective post based on those words and explain why they gave that mark.

M - they have been provided with a selection of tools in class to take into consideration in their thinking (some of the research work has already been done by the tutor)
M- The school of Health, they do use reflective models all the time and I think to some extent it’s very constraining, but it might work for their discipline. I’m not sure it’s something you can just transfer from one school to the other or one discipline to the other.

J- I do not use reflective models to explain what reflection is to my students it forms such a small part of the module that to go in that level of depth... perhaps could be just lack of knowledge that there are such models exist. I’ve worked very much on my gut instinct about reflection and done very little about the reading behind it.

B- I only used EBL model last year [no reflection model]

S – I do not use reflection model to explain what reflection is, that’s theoretical it just turns the students off.

B- I don’t really [explain what reflection is], I can remember having a session where I expanded upon what we were asking for in the ICA but I don’t really think it went any further that putting it into different words what was on paper already

B- I did notice when I was marking them that there was very little discussion of Enquiry Based Learning compared to last year because they chose, as they were guided to, to write about all these other things where last year as far as I can remember I wasn’t asking them to.

E- I would love to try and get more of them to that stage, particularly at Masters Level, I’d want to try and push more of them up. I do have a bit of a struggle with myself about how should I spoon feed, how much should I give them and point them, how much should I say “your masters level, this is all very personal, go and find out what’s personal to you”. As a teacher that’s the bit I could do with more help with. Ways, tools, mechanisms to help them, without spoon feeding it to them, still giving them the flexibility to be their own journey, but getting more of them to do it and engage with it and see the benefit of it. That’s a huge struggle for me as a teacher and for them for the process they have to go through and I still haven’t cracked that, I’m still working on how I get that bit.

E- I do [use reflection model to explain to my students] – one I would like to look at – Gibbs Reflective Cycle – is what I was using. I take them through the cycle, it goes through; it starts with what happened, what you are thinking and feeling, the evaluation, the analysis, conclusion, action plan. Although the stage that is missing for me is the part where the students start referencing the literature on what other people found going through the same experiences.

M- If the tutor has first, a clear idea of what needs to be covered in the reflective piece second, a clear marking criteria and third, a good feedback strategy. Then the learners should be able to produce a sensible reflective piece.

M- It would make it easier for us to be able to understand if they understand what we’re saying and how they actually think about what we’re saying.

M-Something I have found very difficult is when I ask them to build up their reflective work throughout the year, I also ask them to show me a couple of their posts, because we do that in a blog, and I’ll give you some feedback on how reflective you have been, if your reflection is a good enough reflection to get a good grade and from my point of view it is something that takes a lot of time to find the right words to explain what you can do for this piece of work to move it from a B to an A grade for example, and there are specific things that I’ve got to put in place.

M- what I have realised is, if I don’t tell them that to get an A it is what I expect them to do, they don’t automatically do it. But, if I tell them if you want your reflective work to be at
a higher level. At that point you need to go out and find some other things and they are able to do it, you need to tell them.

M - I don’t know what some people think what I expect from them is only around the project and what I’m giving them in class. They don’t actually realise that, well some do maybe 10%, but others which are like B type students need this little extra help, have a look at this and that.

M - I do not use any reflective model such as Gibb’s or such like as I find them too ‘rigid’ in a way and not particularly adapted to the Computing discipline which is more based around problem solving rather than the way one felt after an experience like in Health.

M - as a tutor it took me a long time to ‘theorise’ what that means and what an in-depth piece of reflection looks like in order to explain it to my students.
APPENDIX D

LEARNERS’ SURVEY USED FOR THE EVALUATION OF THE REFLECTIVE DEVELOPMENT MODEL (VERSION 2).

- How useful was the reflective development model to evaluate your reflection? (Tick one cell only in the table below)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not useful</td>
<td>A little useful</td>
<td>Useful</td>
<td>Very useful</td>
</tr>
</tbody>
</table>

- How useful would the reflective development model be to start a new piece of reflection? (Tick one cell only in the table below)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not useful</td>
<td>A little useful</td>
<td>Useful</td>
<td>Very useful</td>
</tr>
</tbody>
</table>

- Were the words describing the development patterns clear e.g. Extrapolating? (Tick one cell only in the table below)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not clear</td>
<td>A little clear</td>
<td>Mostly clear</td>
<td>Very clear</td>
</tr>
</tbody>
</table>

- If there were any development patterns word description that you could not clearly understand, please write them here:

- According to you, how informative were the examples provided to illustrate each development pattern in your hand out?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not informative</td>
<td>A little informative</td>
<td>Mostly informative</td>
<td>Very informative</td>
</tr>
</tbody>
</table>

- How would you rate this reflective development model as a tool to teach students what reflection is in Computing?

<table>
<thead>
<tr>
<th>1</th>
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<th>4</th>
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</thead>
<tbody>
<tr>
<td>Not useful</td>
<td>A little useful</td>
<td>Useful</td>
<td>Very useful</td>
</tr>
</tbody>
</table>
From your point of view, what is 'reflection'?
At what level e.g. 1st year, do you use reflective work?
Is there a reason for choosing this level(s)?
How / when do you use reflection in your teaching / course(s)?
Do you think your students are prepared to write in a reflective way?
Do you formally assess students’ reflective work?
What do you expect to find in a student’s piece of reflective work?
What are the main issues that students have with regards to being reflective?
How do you differentiate pieces of reflections from an A to an F?
Have you got specific marking criteria to assess reflection?
Do you think that the type of reflection you expect your students to hand in / do is different to how you would reflect in your everyday life?
How do you explain what reflection is to your students?
Do you use any specific reflective model?
Title of the study: Reflective development in the Computing curriculum

This research project is undertaken as part of a PhD thesis which aims to understand how Computing students' written reflections can be improved. In order to explore and tease out issues with regards to using reflection with students, it was decided to carry out interviews with teachers who have several years of experience with using reflection as an assessment tool.

You have been identified as a potential interview participant. If you agree to participate please let me know by email so I can arrange a convenient time to meet with you. The interview will be audio recorded and is likely to take between ½ an hour to ¾ of an hour. Your interview recorded file will be transcribed and made anonymous. Please be aware that the outcomes of this research project might be published externally and quotations from the interview transcript might be used to illustrate points in the research outputs.

If you wish to take part, please read the following points carefully to make sure that you:

✓ have understood the information provided about this study, and you have had the opportunity to ask questions regarding the project.
✓ recognise that your participation in the study is voluntary and that, if you volunteer to take part, you are free to withdraw without giving a reason at any stage up to one month after the interview has taken place.
✓ understand that anonymity will be preserved and full confidentiality of your contribution to the study will be maintained.
✓ understand that raw data will not be used for any purpose other than for the research described above.
✓ have been informed that the original interview sound file will be kept in a secured place until the study is completed, then destroyed.

I, therefore, agree to take part in the audio-recorded interview stipulated above.

Name:
Signature:
Date:

Contact details for this research project: Myriam MALLET  – m.mallet@tees.ac.uk – 01642 384610
APPENDIX G

STUDENT WRITTEN REFLECTIVE WORK CONSENT FORM
(USED IN CHAPTER 6)

As part of one of your [module name] module assessment you were required to produce an individual [name of reflective exercise] and post it on Blackboard.

The reflective work that you have posted is very valuable and I would like to use it as part of a PhD study and for module improvement purpose. I intend to analyse the reflective data you have provided to understand students’ reflective processes and potentially generate a model of reflection to help students with their reflective writing. This work will be used in my PhD thesis and might be published externally. Additionally, the data collected might be shared with other academic staff. Quotations from the reflective work you have produced might be used to illustrate points in the research outputs.

If permission to use your data is granted, your reflective work will be treated in the strictest confidence and it will not be possible to identify you individually or your team members in any reports that may be published from this research projects or module improvement plan. The data will be stored in a safe place for the duration of the project.

If you do not wish your individual data to be used in any of the activities described above, please could you email me by the [date provided]. You have the right to opt out, and if you do so I will make sure that none of your individual reflective posts or essays are collected and used. If I do not hear from you by this date I will assume that you are happy for me to use your data.

If you have any point you would like clarifying please don’t hesitate to get in touch.

Thank you
Myriam Mallet
m.mallet@tees.ac.uk
01642 384610
School of Computing
University of Teesside
APPENDIX H

MINUTE OF THE SCHOOL OF COMPUTING ETHICAL COMMITTEE DURING WHICH ETHICAL RELEASE FOR THIS RESEARCH WAS PROVIDED.

Draft

UNIVERSITY OF TEESSIDE
SCHOOL OF COMPUTING

Minutes of the School Research Ethics Committee meeting held on Friday 7 March 2008 at 10am in G1.33

PRESENT: S Green (Chair), P Brooke, B Cates, C Fencott, W Tang, D A Jones, E Pearson, C Barker (Secretary)

SREC07.06 ITEM 1
APOLOGIES
Apologies were received from E Norval, M Cavassa and J Longstaff

SREC07.10 ITEM 2
MINUTES OF PREVIOUS MEETING
On the minutes of the meeting held on 1 February 2008 required noting that there was an Action to consider standard ethical release and guidance.

SREC07.11 ITEM 3
MATTERS ARISING
Ethics release – supervisors are taking the lead using the standard ethics form. Committee members questioned if there was a standard Ethics form as it could be useful to have one.

SREC07.03 Item 3, — This form has gone forward, however the committee is still waiting for further clarification.

SREC07.04 Item 4 and SREC07.05 Item 5 – the supervisor pointed towards ethical forms being completed due to working with children (Health and Safety Issues).

SREC07.12 ITEM 4
ETHICS RELEASE FORM – MYRIAM MALLET
One committee member questioned the originality of Mallet's work in that it appeared very similar to Bradbury's. Although some boxes were incomplete this can be signed.

ACTION: Approved

SREC07.13 ITEM 5
ETHICS RELEASE FORM – [Redacted]
There was an ethical debate over the use of “disabled” people in projects in that it was unclear whether the actors were disabled or portraying disabled people. The procedure here is similar to Smartlab in London, where they undertake performance-based projects with people with disabilities. Members questioned whether there may be a level of potential distress to those involved and if this was being managed.

SREC SREC Min 2008 03 07
APPENDIX I

This appendix lists sampled phrases extracted from Appendix C (interviews raw data categorised by themes) and corresponding analytical observations I made during the data analysis.

(ACTION RESEARCH CYCLE 1)
### Sampled phrases (copied from Appendix C) to illustrate the theme

<table>
<thead>
<tr>
<th>Theme 1: Teachers’ understanding and expectations of reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme 1(a): Diversity of views and expectations</strong></td>
</tr>
<tr>
<td>- 'I expect to see a lot of themselves',</td>
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<tr>
<td>- 'It’s about getting over your experience',</td>
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<tr>
<td>- 'your learning journey',</td>
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<tr>
<td>- 'what they think they learnt',</td>
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<tr>
<td>- 'what went wrong',</td>
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<tr>
<td>- 'young men do not find that easy. Facing up to their feelings, their limitations',</td>
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<tr>
<td>- 'structured action planning',</td>
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<tr>
<td>- 'Some students are innately better',</td>
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<tr>
<td>- '[reflection] is a skill',</td>
</tr>
<tr>
<td>- 'what have you learnt from this lesson?'</td>
</tr>
<tr>
<td>- 'that went well or that didn’t, what went right with it',</td>
</tr>
<tr>
<td>- 'how it relates to what else we have done',</td>
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<tr>
<td>- 'how can I apply that theory to that particular project',</td>
</tr>
<tr>
<td>- 'what am I getting out of this module, what is the point of it',</td>
</tr>
<tr>
<td>- 'had they understood the theory and could they apply it in practice',</td>
</tr>
<tr>
<td>- 'how does that matter to the project I’m studying',</td>
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<tr>
<td>- 'they have actually understood a theory, and how it’s linked to the practice',</td>
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<tr>
<td>- 'come up with something different',</td>
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<tr>
<td>- 'look at other tools or theories',</td>
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<tr>
<td>- 'intellectual maturity to go and work out',</td>
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<tr>
<td>- 'engage with the literature',</td>
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<tr>
<td>- 'we [tutors] do have different ideas of what reflection is',</td>
</tr>
<tr>
<td>- 'I expect higher standards from my students (than my own personal reflection)',</td>
</tr>
<tr>
<td>- 'critical thinking is the higher order thinking that I am trying to get my students to do',</td>
</tr>
<tr>
<td>- 'place your own learning in the wider context of the literature',</td>
</tr>
<tr>
<td>- 'it’s something that they have to do on their own',</td>
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<tr>
<td>- 'have reflected on the relevant content covered in class and to find extra resources not covered in class',</td>
</tr>
<tr>
<td>- 'if something has been reflected upon in depth then it is learnt',</td>
</tr>
<tr>
<td>- 'I want to be surprised',</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytical observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Tutors have different expectations of what reflection should include from ‘your learning journey’ to ‘engage with the literature’ or ‘find extra resources not covered in class’</td>
</tr>
<tr>
<td>- Reflection is a skill</td>
</tr>
<tr>
<td>- Some tutors expect to see general, reactive reflections (“what have you learnt from this lesson?”) whilst others expect a more structured higher-level reflection (“they have actually understood a theory, and how it’s linked to the practice”).</td>
</tr>
<tr>
<td>- Tutors are looking for evidence of comprehension and applicability of theories to practice, ‘understood a theory, and how it’s linked to the practice’;</td>
</tr>
<tr>
<td>- Tutors tend to see reflection as an independent task. ‘It’s something that they have to do on their own’</td>
</tr>
<tr>
<td>- Tutors believe that learners should question themselves on their learning, ‘What have you learnt from this lesson?’</td>
</tr>
<tr>
<td>- Tutors value being surprised, ‘I want to be surprised’</td>
</tr>
<tr>
<td>- Thorough exploration of topics leads to learning, ‘If something has been reflected upon in depth then it is learnt’</td>
</tr>
<tr>
<td>- It might not be easy for young men to do self-evaluation ‘Facing up to their feelings, their limitations’</td>
</tr>
</tbody>
</table>
### Theme 1(b): Depth of reflection

- There was no depth to it – no narrative,
- 'Everybody' thinks at least to some level, everybody reflects in a certain way, but it's how much you push it',
- 'tackled [topics] in-depth',
- 'descriptive pieces don't really identify any learning',
- 'different expectations of how in-depth the reflection is and what we require of them',
- 'At Masters level I try to get them to engage with the literature, [ ] engage with the wider world [but] that's not something I expect from a first year',
- 'step up their level of reflection each level',
- 'it doesn’t have to be in depth they can make it in-depth if they want'.
- 'They have shown some intellectual curiosity of their own, they’re not just giving back to you what you have given them'.

- Depth of reflection is a dimension mentioned by more than one interviewee,
- Depth of reflection relates to the level of exploration of a topic 'They have shown some intellectual curiosity' and seems to link with engaging with the literature (mainly for higher education levels) 'At Masters level I try to get them to engage with the literature,
- Depth of reflection should be stepped up each academic year,' engage with the wider world [is] not something I expect from a first year,
- Expectation of depth of reflection varies from tutor to tutor,
- Descriptive reflection does not demonstrate learning, in-depth reflection does,
- In-depth reflection is challenging there is a need to develop this skill over years and levels of learning,
- Masters students are expected to achieve an in-depth level of reflection and demonstrate intellectual curiosity.

### Theme 1(c): Reflection or something else?

- 'Tell me about your learning journey',
- 'Critical thinking is very different to reflection',
- 'Perhaps what I am asking the students to do is critical thinking, not reflection',
- 'It wasn’t a reflective essay or a reflective report, it was about cognitive skills assessment or something!”,
- 'We do tend to use the word reflection but sometimes I don’t [ ] I am never quite sure'.

- Reflection is different to critical thinking, ‘Critical thinking is very different to reflection’,
- Tutors seem to struggle to name the 'reflective' exercise
- Reflection was not the name of choice for this type of exercise
- Tutors want to see the learning through the assessment of cognitive skills
### Theme 2: Benefits and aims of reflective writing

<table>
<thead>
<tr>
<th>Benefits and aims</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ‘for some of them it’s been a bit of a surprise [ ] what they can take forward for next stage’</td>
<td>- Learners realise what they have learnt, ‘for some of them it’s been a bit of a surprise…’;</td>
</tr>
<tr>
<td>- ‘I can tease out what they’ve learnt’</td>
<td>- Is used as a personal development tool, ‘what they’ve learnt and how they might take this knowledge forward’;</td>
</tr>
<tr>
<td>- ‘how did the group work go, what was their contribution to it, their peer reviews of each other’</td>
<td>- Explicit reflections make learning and intellectual maturity visible to tutors;</td>
</tr>
<tr>
<td>- ‘to pick out if there are any who have just coasted along’</td>
<td>- Is a tool of choice for the evaluation of individual contribution in the context of group work;</td>
</tr>
<tr>
<td>- ‘what they’ve learnt and how they might take this knowledge forward’</td>
<td>- Reflection is used for peer review during group projects;</td>
</tr>
<tr>
<td>- ‘I want you to try and get to the next level, the broader things’</td>
<td>- It challenges learners to deepen their learning.</td>
</tr>
<tr>
<td>- ‘think about employability’</td>
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</tr>
<tr>
<td>- ‘I’m just asking them to look inwards to themselves, what have I got out of this module’</td>
<td></td>
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<tr>
<td>- ‘what they personally contributed to the group work’</td>
<td></td>
</tr>
<tr>
<td>- ‘reflect on how you have developed or changed as a learner and an IT professional’</td>
<td></td>
</tr>
<tr>
<td>- ‘[the reflection is] shaped by what the lecturer herself wants to know about’</td>
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<tr>
<td>- ‘It’s a way of getting feedback on what the student has learnt’</td>
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<tr>
<td>- ‘you have got to let them write freely, in their own words’</td>
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<tr>
<td>- ‘I’m actually trying to assess their intellectual maturity’</td>
<td></td>
</tr>
<tr>
<td>- ‘how they worked as a group’</td>
<td></td>
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<tr>
<td>- ‘a way of assessing my students’ learning on project work’</td>
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<tr>
<td>- ‘make these reflections explicit [is the ] only way to actually, truly understand what students have actually learnt, how they actually perceive things and why.’</td>
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<tr>
<td>- ‘it’s how can they link concepts or theories’</td>
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<tr>
<td>- ‘how they can actually modify a theory to explain how they would put something into practice’</td>
<td></td>
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<tr>
<td>- ‘identify if a student has learnt’</td>
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<tr>
<td>- ‘I use it to drive student’s responsibility’</td>
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</tbody>
</table>

Learners realise what they have learnt, ‘for some of them it’s been a bit of a surprise…’; Explicit reflections make learning and intellectual maturity visible to tutors; Is a tool of choice for the evaluation of individual contribution in the context of group work; Reflection is used for peer review during group projects; It challenges learners to deepen their learning.
<table>
<thead>
<tr>
<th>Theme 3: Formulation and breadth of reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme 3(a): Formulation of reflection</strong></td>
</tr>
<tr>
<td>- I don’t think you can write reflectively in an abstract way</td>
</tr>
<tr>
<td>- good reflective pieces [ ] are natural, it hasn’t felt contrived, it flowed</td>
</tr>
<tr>
<td>- I feel that you can tell the genuine from the fake</td>
</tr>
<tr>
<td>- the person should shine through</td>
</tr>
<tr>
<td>- It may not be written very well but if the person is still coming through and you are getting to the essence of what they’ve really learnt</td>
</tr>
<tr>
<td>- I don’t think you have to be the world’s greatest writer</td>
</tr>
<tr>
<td>- It shouldn’t be a stream of consciousness, there’s got to be a structure to it</td>
</tr>
<tr>
<td>- our students suffer, they are not articulate</td>
</tr>
<tr>
<td>- they’re not sure of the style expected, “should I be writing formally, is it informal”</td>
</tr>
<tr>
<td>- reflective writing should be fairly informal</td>
</tr>
<tr>
<td>- [good reflective writing] came across as mature</td>
</tr>
<tr>
<td>- he gave mini examples, he embedded his writing within specific examples</td>
</tr>
<tr>
<td>- there was a narrative behind the good ones</td>
</tr>
<tr>
<td>- I find Action Plan too mechanistic</td>
</tr>
<tr>
<td>- UK students could use more sophisticated language</td>
</tr>
<tr>
<td>- you’re looking for them to have those more abstract terms</td>
</tr>
<tr>
<td>- they’re able to pull out of the precise facts and skills</td>
</tr>
<tr>
<td>- they think ‘I shouldn’t use “I”, [ ] and actually with reflection yes you do</td>
</tr>
<tr>
<td>- they don’t understand that they need to be concise</td>
</tr>
<tr>
<td>- really struggle with the length of the reflection as they find it difficult to be concise</td>
</tr>
<tr>
<td>- I want them to make the message clear and to do that they really need to be concise.</td>
</tr>
<tr>
<td>- somebody else looked at it because he couldn’t [be concise]</td>
</tr>
<tr>
<td>- Tutors value genuine reflections where the learner shines through, ‘I feel that you can tell the genuine from the fake’, ‘the person should shine through’,</td>
</tr>
<tr>
<td>- Some tutors value abstract terms and articulation, you’re looking for them to have those more abstract terms” others are happy with simple English ‘I don’t think you have to be the world’s greatest writer’ as long as the essence of learning is apparent,</td>
</tr>
<tr>
<td>- Recognition that Computing students are not always articulate,</td>
</tr>
<tr>
<td>- The reflection should be structured and have a narrative,</td>
</tr>
<tr>
<td>- Reflection can be written in first person and be fairly informal,</td>
</tr>
<tr>
<td>- Reflection should include precise facts and examples,</td>
</tr>
<tr>
<td>- Being able to write in a concise way is important.</td>
</tr>
</tbody>
</table>
### Theme 3(b): Questioning to focus the breadth and domain of reflection

- they need guidance and structure "reflect on this module" it's too broad
- that is where the prompt questions come in [ ] that gives enough structure
- [prompts] are articulation of what do we mean
- we've gone down just structured questions [to do the fencing]
- I think that would answer it very well 'having the breadth and depth to it'
- This year we gave them some specific questions they might think about.
- I have given them a structure to what we were looking for (in reference to prompts)
- this is a longer list of questions than last year
- good reflection is determined by how the person maps out the main constituents of it / what is important to consider
- students struggle to identify what is important to talk about
- I provide examples of questions
- they are encouraged to formulate their own [prompts] too
- They have various questions that I ask them to answer
- I used to give them some vague areas to consider, but now I set some example questions.

### Theme 4: Progression and continuity of reflection

- I think there are steps you could take to help them get there
- [reflection] assessed at the end of module
- we haven’t done enough about an ongoing process it is very much an end summary looking backwards
- [reflection is] short part of the module, so maybe having interim points would be too much
- whether they were just lazy, left it all to the last minute [ ] I don’t think reflective writing is something that can be rushed
- I want the students to be doing [reflection] as we go along
- I want them to be reflecting all the time [but reflection assessed at the end]
- I’m using it with the Masters students but yes this could be done with lower levels
- they have the ICA from about week 2 or week 3
- I think it can be one of those last-minute things [writing the reflective essay];
- The [reflective] individual side might get left until the very end and probably it would be better to encourage them to do something earlier.

- Topics to cover in the reflection are identified as the breadth of reflection, I think that would answer it very well 'having the breadth and depth to it'
- Learners struggle to identify topics important to reflect about, they need guidance and structure "reflect on this module" it’s too broad
- Tutors play a key role in defining the breadth of reflection appropriate for the module,
- Tutors indicate the breadth of reflection by providing list of questions,
- The specificity of the questions provided to learners varies,
- Learners are encouraged to formulate their own questions.
- Tutors value the continuity of the reflective process, ‘I want the students to be doing [reflection] as we go along’,
- Some tutors expect the learners to reflect throughout modules but this is not always the case, ‘left it all to the last minute’;
- Reflection is assessed at the end of modules with the occasional group reflection mid module,
- All tutors believe that written reflection can be experienced at any academic level,
- Some tutors believe that a progressive approach to teaching reflection over the years would be beneficial ‘the students can develop their reflective thinking skills year after year’ as learners are not well prepared at the
- The students reflect as a group then at the end they reflect individually
- in the middle of [the module] they are asked to reflect as a group
- I definitely think it can happen right from the start [1st year]
- It would be nice to have it so that they step up their level of reflection each [academic] level
- perhaps look for something different at each level
- I have used reflective writing from level 4 to level 7
- Students usually are not prepared to write reflectively
- they do not seem to have experienced it much before joining my classes
- Reflective writing is not a learning tool used much in the Computing discipline
- their learning is taking place at very diverse times within the year therefore reflection is used as a tool to help them learn at their own pace
- Reflection acknowledges the fact that learning takes time and students need time to reflect
- include one component of reflective writing at each level
- the students can develop their reflective thinking skills year after year
- I'm not teaching first and second years but I would do reflective writing with them

- moment, they do not seem to have experienced it much before joining my classes'.
Theme 5: Reflection's assessment and feedback

<table>
<thead>
<tr>
<th>Theme 5(a): Assessment - intuition and struggle</th>
</tr>
</thead>
<tbody>
<tr>
<td>- I didn’t find any huge discrepancies in the marking</td>
</tr>
<tr>
<td>- staff have a consensus in their heads that’s never really been articulated about what we are looking for in that piece of work</td>
</tr>
<tr>
<td>- we have to have a way to be able to talk about reflective writing and marking of reflective writing much better</td>
</tr>
<tr>
<td>- how can we explain it to our students [if we can’t articulate what we are looking for]</td>
</tr>
<tr>
<td>- There must be this unwritten definition of what we understand of reflection</td>
</tr>
<tr>
<td>- trying to give a mark to the learning that has taken place [ ] that is very difficult to quantify</td>
</tr>
<tr>
<td>- marking reflective writing is an art</td>
</tr>
<tr>
<td>- I don’t know how to assess it other than subjectively</td>
</tr>
<tr>
<td>- You’ve got to be very careful you’re not marking so much what they say</td>
</tr>
<tr>
<td>- Other than looking if the questions were asked or not [I had no other marking criteria]</td>
</tr>
<tr>
<td>- We were only a mark out (refer to team assessment)</td>
</tr>
<tr>
<td>- I went through agonies in marking this work; I had huge problems with it</td>
</tr>
<tr>
<td>- how the heck do you mark it</td>
</tr>
<tr>
<td>- [assessment of] A level probably fairly consistent [but] C level it gets subjective</td>
</tr>
<tr>
<td>- It is almost like intuition</td>
</tr>
<tr>
<td>- it might not be the same criteria [ ] but we do seem to know somehow where the marks fit in</td>
</tr>
<tr>
<td>- It is funny that reflection can easily be assessed with ‘intuition’</td>
</tr>
<tr>
<td>- we are relatively consistent [in team assessment]</td>
</tr>
<tr>
<td>- No other than a personal, subjective feel</td>
</tr>
<tr>
<td>- start to get a bit uneasy [ ] if it happens to be at a shallow level why should I criticise them for that?</td>
</tr>
</tbody>
</table>

- Some tutors note that they intuitively know how to grade learners’ reflection, ‘It is almost like intuition’ therefore there are no major discrepancies in team assessment, ‘I didn’t find any huge discrepancies in the marking’.
- Assessment of reflection is subjective, ‘I don’t know how to assess it other than subjectively’.
- Tutors acknowledge the need for a better formulation of what is expected during the reflective exercise ‘how can we explain it to our students [if we can’t articulate what we are looking for]’ to support the provision of feedback,
- Some tutors find the assessment of reflection a challenging task which makes them uneasy, ‘I went through agonies in marking this work’,
- The assessment of learning taking place is troublesome, ‘start to get a bit uneasy [ ]’ if it happens to be at a shallow level why should I criticise them for that?.
Theme 5(b): Assessment - grades, marking criteria and feedback

- An F would be something very cursory, I think brevity you can’t go into the depth you need
- [F grade would have a] lack of not attempting to answer the questions
- An A grade would be [have] examples drawn on, there would be a narrative there a flow, there would be conclusions drawn
- A grade  - Actually answering the questions
  Feedback: ‘a very good piece of honest reflection’
  Feedback: ‘thoughtful reflections, well presented, all aspects addressed’
- Feedback ‘Well written and insightful, headings would have helped the reader’
- Feedback ‘you could also reflect on what you missed out by having members all from the same country’
- Some people have got to go back to it again and again, give them more feedback
- It is not always the best overall students who get good marks at reflection
- I probably would assess a 1st year piece in a different way than a 2nd or final year
- I think you would be looking for different things at different levels.
- I really don’t know how I measure the difference between middle grades
- I didn’t consciously check off whether they had covered all of the points
- A grade: very well understood what we are covering in the module and applied it and reflected on it have been able to do something with it
- A grade: in addition, they have done some extra research
- It is much more difficult to develop assessment criteria that will enable a much fairer assessment
- I managed to develop a [assessment] matrix [ ] but I can still note a ‘vagueness’ in this
- No [I do not have marking criteria], other than a personal, subjective feel
- If it was short, then I would pick up one or two areas that they hadn’t covered and say ‘what about these’ and that’s about it really
- too detailed [marking criteria] can be constriciting
- my marking criteria are quite simple and flexible
- A grade: Engaged with literature, B- Evidence of learning in all areas expected, C- Evidence of learning in some areas F- Descriptive only
- Lower grades will tend to be more descriptive, lack evaluation, questioning and solutions to problems.
- it took me sometimes to come up with something that made sense for my modules
- I do still ask myself ‘have they actually answered the questions I put?’
- I might have asked them to consider two areas and they have only considered one
- completely descriptive it’s not a pass

- Assessment practices vary, some tutors have marking criteria others don’t, ‘No [I do not have marking criteria]’,
- Marking criteria are difficult to formulate and need to be customised per academic year, ‘I probably would assess a 1st year piece in a different way than a 2nd or final year’;
- Marking criteria developed are still vague ‘I managed to develop a [assessment] matrix [ ] but I can still note a ‘vagueness’ in this’ but the ones that are too detailed would be constraining, ‘too detailed [marking criteria] can be constriciting’;
- Marking criteria could remove some of the subjectivity and improve fairness,
- An A grade could be answering all questions or might need to demonstrate engagement with the literature, some learning for C grade, learning throughout for B grade,
- Low grades would include a lot of descriptive content demonstrating no obvious learning,
- Feedback provided tends to be specific and personal and provide ideas of other topics that could have been covered.
- The formulation of personal feedback id demanding on teachers.
To get to that C band, I expect them to show some evidence of learning. I would expect them to do that throughout for a B and then for an A it’s getting the literature in.

An A grade would be: I want to be surprised, they will also have been critical and balanced.

**Theme 5(c): Learning environment**

- I don’t think they would engage with it [reflection if not assessed].
- Most of them will not put any effort in something that is not assessed.
- They use the questionnaires to give them questions to answer.
- Assessing my students’ learning on project work.
- How they have developed an enquiry-based learning.
- They have been provided with a selection of tools in class to take into consideration in their thinking.
- They do group work and then you have to tease out what was the individual contribution.
- There are questionnaires for individual work, group work and oral presentations.

**Theme 6: Support requirements with reflection**

- I think there is shyness in there. “Should I really say I didn’t enjoy this, should I say I struggled with this bit?”
- There is a reluctance to be upfront and frank.
- [There was] no examples to draw on.
- Sometimes they hadn’t even arrived at any conclusion.
- They have been provided with a selection of tools in class to take into consideration in their thinking.
- Quite often you need to tell them exactly what to do on previous reflective work that they’ve done and they need to apply it to newer reflective work.
- I struggle with how to guide students to [engage with the literature]. It’s an area of my practice that I need to improve.
- Sometimes struggling to get more students to really engage with reflection and also see the benefit of it.
- Most students struggle to identify what is important to talk about.
- They just don’t understand what is really relevant in the project.

- Formal assessment of reflective work is the reason learners engage with the task. I don’t think they would engage with it [reflection if not assessed].
- Some tools or activities provided to learners act as reflective triggers, ‘they have been provided with a selection of tools in class to take into consideration in their thinking’.
- All the teachers have used reflection to assess group work. ‘They do group work and then you have to tease out what was the individual contribution’.

- Learners need to be reminded that genuine ‘there is a reluctance to be upfront and frank’ concise reflections and use of examples are expected.
- Some tutors expect to see conclusions drawn from learning, ‘sometimes they hadn’t even arrived at any conclusion’.
- When required, the need for engagement with the literature needs to be spelt out.
- The provision of tools and activities to trigger reflection is beneficial.
- Feedback and guidance provided to learners is essential for their reflective development although the practice of guidance and explanation varies between tutors.
- Reflection needs to be introduced early on to allow time for improvement.
- they find difficult, [ ] to make their reflection in-depth enough.
- Some of them will even say to my face, "that's the bit where I waffle", 
- you have to give them guidelines and some structure, 
- we gave them those prompts to write about, 
- introduce it earlier [to improve reflection];
- a colleague came and gave them some guidance on what is meant by reflective writing, 
- [It might work better if they] got something more structured and maybe sometimes not as personal, 
- we decided that we needed to structure [questions] more, 
- the very open-ended stuff didn't work very well, having a more structure approach has worked much better, 
- I could be slightly less structured – it's getting that balance, 
- I expect them to consider those areas but they can consider anything else they think appropriate, 
- I accept the fact that 1st and 2nd years would have to be very directed in the way they reflect, 
- they don't understand that they need to be concise, 
- I also give them self-evaluation questionnaires [ ] it helps them understand what I am looking for, 
- To help them understand [ ] in-depth reflection I provide them with Trigger words 'What, How, Why, Outcomes, Amendments', 
- to help beginners to reflect it is important to first [map out the main constituents of it / what is important to consider] and then as they become more confident with their reflection they can formulate their own, 
- I tell them what reflection is not first, 
- have been provided with a selection of tools in class to take into consideration in their thinking, 
- I do not use reflective models, 
- I'm not sure [models of reflection] can just transfer from [ ] one discipline to the other, 
- I only used EBL model last year [no reflection model], 
- I do not use reflection model to explain what reflection is, that’s theoretical it just turns the students off, 
- I don’t really [explain what reflection is], 
- As a teacher that’s the bit I could do with more help with. Ways, tools, mechanisms to help them, without spoon feeding it to them. 
- I do [use Gibbs reflection model but lack of stage..], 
- [Tutors should have] a clear idea of what needs to be covered in the reflective piece second, a clear marking criteria and third, a good feedback strategy, 
- if I tell them if you want your reflective work to be at a higher level A then you need to go out and find some other things, 
- Tutors struggle to support the development of reflective skills in their learners with regards to engaging with the literature and amount of spoon feeding, 
- The understanding of the depth of reflection needs to be supported by tutors but is complicated to theorise, 
- There is a need to educate learners on the benefits of reflection to avoid poor conception, 'Sometimes struggling to get more students to really engage with reflection and also see the benefit of it', 
- Learners struggle to identify what is important to reflect about, tutors offer guidance and structure by providing a list of questions, 
- The list of questions provided by tutors can take different shapes, i.e. vague to specific, it is not always prescriptive and might be education level dependent, 
- Existing models of reflection are seldom used as they are not adapted to the Computing discipline or too theoretical.
I do not use any reflective model such as Gibb or such like as I find them too ‘rigid’ in a way and not particularly adapted to the Computing discipline.

As a tutor it took me a long time to ‘theorise’ what that means and what an in-depth piece of reflection looks like.
THE 69 POSTS USED FOR THE FORMULATION OF THE REFLECTIVE DEVELOPMENT MODEL VERSION 1

(ACTION RESEARCH CYCLE 2).

They are categorised in seven development patterns.

1. Observing (10 units)
2. Anticipating (9 units)
3. Doing (10 units)
4. Questioning (16 units)
5. Theorising (10 units)
6. Creating (7 units)
7. Intuiting (7 units)

Here is the list of posts from which emerged each theme (development pattern).

**Observing: 10 posts**

<table>
<thead>
<tr>
<th>Dictionary definition: Observing</th>
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</thead>
<tbody>
<tr>
<td>Notice or perceive something by concentrated attention and register it as being significant.</td>
</tr>
</tbody>
</table>

During the guest presentation, I took a good few notes and got two strong messages from their talk: the need to talk with the client before any work is commenced and also at regular and key times throughout the project; and 80% of IT projects fail, and 90% of these failures are due to people resistance [Reference]. So talking, and listening, to the client and users of the system is paramount in the success of the project. If the users are taken on board and are educated in the advantages of the new system early on, there is a much better chance that the project will succeed. Notice of significant messages / (Original emphasis on ‘listening’)

There are some ideas I liked in our design, like the button allowing to access the picture gallery, but my design was a picture-only design, which is not accessible at all. It is possible to make that kind of design accessible, but our design wasn’t original and innovative enough to deserve the amount of work it requires. Notice of like / dislike / feasibility.

It has now been a couple of days since my group presented the final solution to the client and in reflection I believe it went quite well. I was one of three speakers for the group and believe that although the client would like some minor changes to our site, the majority he liked. I feel on a personal note that I did OK in my opening of the presentation and was able to provide a brief overview in the time allocated. The next...
task for the group is to sort out the documentation which must be complete for after
the Easter holidays.

Perception of achievement.

For once, we worked very efficiently in the team; there was full cooperation and no
waste of time. The final product is not bad compared to what I thought we might get.
I knew what we were supposed to get, I had read things about it; but as I had never
done any before, I was not very confident to do it. Nonetheless, I was a bit surprised
that we worked so efficiently!

Perception of achievement.

The DiaryFolio was interesting even if I did not exactly played by the rules. The fact
is that the rules did not fit with my way of getting things done, not that I was bothered
writing down what we were doing regularly, but more that I prefer writing on paper.
When I do use a computer, it is either to write a lot (reports) or to copy things that I
have already written on paper (e.g.; blog entries, posts).

Observation with regards to favourite way of working.

To be honest I think the word methodology is overused and I personally just look at it
as a list of instructions or guidelines as for what we should be doing next. A lot of it is
common sense, really.

Perception of overuse of term methodology.

I attended the ‘consultant’ lecture and I must admit I agree with much that was said
about building and maintaining a relationship with clients. I agree that it is important
to disengage properly and leave yourself open for the future.

Notice important information.

I consider myself uncreative and totally non artistic.

Observation of self.

Let’s consider the group as a client-centred consulting team (which is the case
somehow). It is pretty difficult to establish a clear list of someone’s skills, especially
when it comes to his own skill as a human being. Regarding the skill which is about
knowing oneself, I think it rather means knowing one’s limits. I think I still don’t know
my limits since I haven’t been put under real-world pressure. I don’t think I have very
good communication skills as I know that I am not a very talkative person. I am then
not used to expressing my ideas. However I can listen to others and probably get a
good understanding of their needs. As I don’t talk a lot I have more time to observe
what happens in a group and I can get a good overview of what is going on. I don’t
have a lot of experience of industry and thus I don’t have techniques to solve specific
problems yet. Regarding dealing with feelings, I wouldn’t lie if I said that I know how
to. I am aware of others’ needs and feelings as I am used to listening more than
talking. Observation of one’s strengths / weaknesses.

In the lecture this week we had a very insightful guest presentation which was of
particular interest to me as I work as a free-lance Web designer in my spare time and
I am interested in setting up my own business at some point in the future. The most
interesting part of the presentation was all the details given about how a business
operates. All topics covered are issues that I’ve wanted to ask questions about to
someone who works within the industry at one point or another, and although every
Web business will operate differently it was certainly useful to gain insight into a real-
life business and how they function. From a learning point-of-view, the presentation
added significantly to my knowledge in the areas of client consultancy and
requirements.

Notice important information.

Anticipating: 9 posts

<table>
<thead>
<tr>
<th>Dictionary definition: Anticipating</th>
</tr>
</thead>
<tbody>
<tr>
<td>To foresee and deal with something in advance. Something regarded as probable; something expected or predicted.</td>
</tr>
</tbody>
</table>

My reflection today is that, even though you can download a free application to use, it doesn’t mean that you can use it. It requires a great understanding about how the application works and its codes which takes time. But once you have done this, it becomes fairly simple for you to modify it as you will.

Anticipation / preparation for future work.

The ‘consultant’ presentation was interesting, since it is very useful to hear professionals’ points of view. I didn’t really learn many things, but it summarised quite well what I knew and gave me a clearer view on what is expected of me.

Confirmation of probable future expectations.

I have found a fantastic Web site. It was very interesting as they had integrated an ‘adult’ section where the design changed slightly. The use of colour and layout is simple and looks really striking. I have put a post on [the University’s online environment] for the other group members to check out the site and see if they like the style. If they do like it and would like me to do a couple of pages then I will have to produce them and put them on the [University’s online environment]. Foresee and prepare for future work.

I am quite confident that I will be able to design the e-learning part of the solution. I have carried out research in the particular area as a final-year student for my dissertation, and also in my work placement as an e-learning consultant; and I enjoyed it. What I am not sure about yet is the implementation of that part, but it will be clearer after discussing it with the rest of the team.

Foresee and prepare for future work.

On today’s tutorial we got to know fellow group members a little bit better, and also tried to find a ‘company’ name, as we actually have to imitate a real-life company. I don’t really get the whole idea of the module and of the task we’re supposed to do, and I imagine the others don’t either, but I have a sense our group is falling behind. I hope I’m wrong. Foresee that group falling behind.

To have a better idea of what exists out there, I have looked at some Web sites. One of the things to do would be to go a bit further. Foresee and prepare for future work.

I found some of the material covered in the lecture quite useful and I can associate it with projects that I have seen being implemented during my working life that have been a complete waste of time, been excessively over budget. I will certainly recommend this material to my fellow group members and warn them to monitor and evaluate our performance and look for signs that we are not falling into the same trap. I will place more emphasis on communication within our group. We are all experts in our field, and I for one will not be pressured into doing something I know is
technically wrong and will not work. I would try to re-educate anyone who tried to do what is physically achievable and what is not and show them the consequences of the action.

**Foresee and prepare for future work and team progression.**

We seem to be having a bit of trouble as far as the design of the interface is concerned. There is a division of ideas in between designing two different interfaces to address the needs of two target audiences likely to use the site, and designing one interface that would be appealing to both. I would go for the first option, but I am not sure what we will decide in the end; maybe someone will prove me wrong and will come up with a design that can appeal to all age groups. **Anticipate audience needs.**

In the first tutorial we had to do a project plan about how we shall plan our project. The steps of my chosen method are as follows: define mission, collect user requirements, conceptual design, create physical design, usability testing, implement and market, evaluate and improve. **Anticipate project stages.**

**Doing: 10 posts**

**Dictionary definition: Doing**

To effect, perform or carry out an action.

In the lecture each group had to go through a piece of text about a cyber-issue. We read it, discussed it, presented our thoughts to the other groups and heard their views about their texts. I found that session quite useful, because it helped us think about Information Society issues which may concern countries, cultures, privacy, personal information, etc. **Carry out an action.**

Due to my lack of knowledge about some technical aspect, I took two books from the library about this topic and I have been working mostly on examples they provide. **Carry out an action.**

In today’s lecture we were introduced to the client and he delivered a presentation in which he outlined the scenario for the major project. That afternoon I started playing around with the aim of mocking up some logos/colour schemes which could possibly be used as prototypes for the project. **Carry out an action.**

In the lecture today we did an exercise on visual metaphors. The task involved drawing (metaphorically) how we would like our team to be viewed by others. Although not the most artistic, I made the most of the task and it helped me to think differently, not only about how we as a team are representing ourselves but about the visual design for the client solution. **Carry out an action.**

After staring at my screen for a whole morning I finally saw the error in my code that prevented the session variables to be carried over to a specific section. I have now got something tangible to test on the accessibility lab tomorrow. I will give a full account of the work completed in a new posting tomorrow but, as it is now 12.30am, I’m going to grab some sleep. **Carry out an action.**

The construction of the site became a laborious rushed effort rather than the well planned innovative journey that we had originally envisaged. This was solely down to the loss of such a key member of the group at such a critical stage. However, I
recognise that this happens in reality and it was a testament to the efforts of the surviving members that we completed all of the required work..., a fact I am very proud of. 

In an attempt to describe our development strategy, I’ve introduced the concept of System Development Life Cycle. I first employed this methodology in completing my Degree final-year project which consisted in creating a commercial Web site for a small garden centre. 

Finally I’ve changed my mind regarding the display of articles. The method using a HTML parser that I explained previously was too difficult to use. So I decided to manage articles like this: Latest Article, Recent Articles and Archives. I think this is an elegant alternative to display articles. Unfortunately there is still a minor bug remaining concerning articles creation and display. It occurs if you input no whitespace in your text string when you’re creating an article. In this case the text doesn’t wrap the editor area correctly and the horizontal overflow can be seen. But it is very unlikely to happen in real circumstances. Moreover the horizontal overflow would be hidden when displayed to prevent unpredictable modifications of the Web site layout.

The team failed to manage the time to finish the project and we did not know when to stop when it was necessary. This is an important lesson to learn. I’d rather have something that works, even if not finished completely, than having something which is finished but which doesn’t work properly.

After this morning’s tutorial on accessibility, a few fundamental changes have been made to all images on the site. I have used a new naming convention for images making the image name more descriptive, and used alt tags with a description of the image and if it is a hot spot link, identifying where the link will take the user. I have returned to the computer laboratory and kindly been given another opportunity to test the site again, and the difference it has made is really pleasing. We can now confidently say that our site is as accessible as we can possibly make it for users of varying disabilities.

Questioning: 16 posts

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<th>Dictionary definition: Questioning</th>
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<tr>
<td>Expressing a sentence so as to elicit information. Expressing a doubt about the truth or validity of something.</td>
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For once, we worked very efficiently in the team; there was full cooperation and no waste of time. The final product is not bad compared to what I thought we might get. I knew what we were supposed to get, I had read things about it; but as I had never done any before, I was not very confident to do it. Nonetheless, I was a bit surprised that we worked so efficiently. 

Since I learned about its existence while I was looking for information on methodologies during my final year project, I have always been interested in the eXtreme Programming methodology: ‘Sometimes if you’re coding alone, you end up going off on the wrong thing for a while, if you’re pair programming, that doesn’t...
happen, or it doesn’t happen for very long... As soon as one person runs out of ideas, the other person just picks up on them [Web site reference]. This sentence summarises quite well what makes me so fond of such a methodology, which consists in pairing programmers on designing a project. That is the reason why I suggested to my team that we should apply this method for our project. Expressing a sentence so as to elicit information

The DiaryFolio was interesting even if I did not exactly played by the rules. The fact is that the rules did not fit with my way of getting things done, not that I was bothered writing down what we were doing regularly, but more that I prefer writing on paper. When I do use a computer, it is either to write a lot (reports) or to copy things that I have already written on paper (e.g.: blog entries, posts). Expressing a doubt about the validity of the diaryfolio.

We have been told that we do not post enough DiaryFolio posts and that they are not always very good. I guess my posts would come out at about two or three per week, so I must improve. So, I have looked at some Web sites. Some I like for the ease of navigation and the depth of information they provide, but I do not like the colour scheme. Others are functional but not very friendly; I think they have lost sight of their audience. Of all the Web sites I have seen, I prefer the ones with a friendly atmosphere. Expressing a doubt about the validity of some web site.

There were some good points and weaknesses during our presentation to the client. The way we conducted this presentation was better than the previous one. Indeed everybody was involved: we all presented our part of the work while last time only one person talked. However we had some difficulties to run the application on the laptop and the presentation also revealed that some features of the application were not working properly. This was due to the fact that we struggled to integrate each person’s piece of work together. This type of difficulties shows how difficult running a group project is, and how critical time management is. Regarding my own role during the presentation, I think I should have spoken more clearly and loudly. For future presentations, I need to improve my communication skills. Expressing a doubt about own performance in team presentation.

To sum up the year for this module, I think the project went well and I am pretty happy of the final outcome. Maybe our solution was not original enough, too conventional. This is where our weakness lies compared to the wining team (complete solution plus an attractive look). To conclude, throughout the year, not many problems appeared. To my mind, this is due to the fact that all the members were pro-active and friendly. Expressing a doubt about the originality of the solution.

The usability tests on the Web site prototype have been a great success. All users had little or no problems completing the predetermined tasks set out for them in the testing plan. The Web site performed extremely well and the majority of tasks were successfully completed. After completing the tasks the users were asked to answer a set of questions about the Web site. The answers received from the users in this section were extremely positive. Formulating questions to elicit users’ views.

The process of evaluating others’ work starts with writing comments or ‘critiques’ about what is good or not, or what can be improved. Then end-products can be classified – according to our personal judgment and using evaluation criteria provided by the tutor. Finally, marks can be given for the best and the worst ones, followed by the process of giving ‘average’ marks for groups who have done a good job as well. Some groups have shown creativity, others haven’t really respected the client’s
requirements. Some got lots of content, but sometimes lacked in the design and creativity. The quality of the end-product depends a lot on the team: some team are more ‘design’-oriented, whilst others are more ‘technical’-oriented. All these factors made me more aware of the importance of building a good team with different areas of expertise in order to succeed in a project. **Formulating questions to evaluate groups solutions.**

Today we had guest speakers in the class. All in all it was interesting to hear ‘real life’ stories about projects that went right or even wrong. Obviously there was a big emphasis on client-centred working methods. However, the projects they were talking about were communicated rather generally, and interesting details were missing. I think more detailed insight would have been better. Of course, I understand the confidentiality factor, but what is the point of introducing a topic and then leaving it at a surface level? Apart from that, I’d like to point out the positive aspect of taking people into the classroom who can tell students what is really going on out there. From the students’ point of view it is difficult to imagine these situations when we have never been confronted with them. I believe this actively helps us to get prepared for the real world. **Formulating questions to elicit information.**

In the lecture today, we had the chance to look at, and grade, other teams’ solutions, which was interesting as we could see how they had incorporated the client’s requirements. We gave one project a 52% due to a number of errors in the site and the fact that the background was a bit too heavy for the text; also there was a lot of scrolling, broken links and there was an inappropriate joke. 59% was awarded to a solution that offered straightforward navigation and a well-designed site overall; but not all the content required was present, there were broken links and a lot of the written content was unformatted. The work that got 66 had a lot of errors and a small content area but it had a well-designed administration area which allowed the user to changed absolutely anything on the Web site. The highest marks – 67% and 68% – offered original and functional designs, simple layouts, innovative front pages and the content was quite complete, although without any joke or game. Moreover the content area was small and the scrolling method implemented was sometimes difficult to use; there was also a double-login, one for the site and one for the discussion board, which should not be necessary if users are already logged into their own personal areas. **Formulating questions to evaluate groups solutions.**

The team has worked together quite well thus far combining the skills of each of the individual members. **Whether this can be associated with the initial team-building exercise is open to debate.** At times, the team has faltered through lack of direction, not knowing the best options or areas to cover. This could be true of any team on any project though. However, in reflection of the past three months, we have managed to organise ourselves as a team through a number of weekly meetings both within tutorials/lectures and outside of them. **Formulating questions to elicit information.**

At the end of each important stage we obtained feedback about what we did and how good it was. This is something I found very useful, and certainly helpful. Feedback is something that is lacking a lot in this university, I think. Apart from two or three modules a year, I never got any proper feedback after hand in an assignment and there is no way to get better marks if I do not know what was wrong about the previous assignment. **Expressing a doubt about amount of feedback received.**

What would I do differently if I did this project again? I would try to ensure the timescale in the project plan left time to reflect. In this way the urgency to get things
done early on might be higher. Also, I would look for ways of addressing reluctance in the team to accept and adapt to suggestions made that would change some of our ideas. Formulating questions to elicit information.

About half of today's lecture was about 'good' and 'poor' posts. That was quite helpful. A list of what should be included in a post to make it good was provided. This is very handy as I'll be able to match that document with my posts as much as I can from now. Regarding my posts, I felt so far that I wasn't sure about what I was really supposed to include in them. I have had a look at my previous post and I have noticed that, indeed, when I produce a document I don’t put any references or I don’t explain how I did it. I think this is the weak point of my posts. Hopefully I’ll improve on the later posts. This post has actually nothing to do with group work. But I feel that analysing my previous posts is necessary. Expressing a doubt about the quality of own posts.

After doing some initial research online, I was surprised to find that usability was a relatively recently coined term which is most commonly associated with Web design (which is obviously what I'm most interested in associating the term with), and has only become an important consideration for user interface designers in recent years, mainly as a result of the huge growth in the Internet and mobile devices. The textbook I found to be most useful in order to add to my knowledge of Web usability was [Reference]. As I didn’t have the time to read the full book, I decided to concentrate on parts of the book which I thought would be most useful to me in terms of improving my skills and knowledge of Web design. Overall, the textbook provided me with some very useful hints for designing for usability and there are lots of things I can take into consideration when designing for the Web on future projects, as well as on the project we are currently working on. Formulating own questions to elicit information.

As a group we have a couple of issues, the first concerns copyright and licensing issues. This is important as our Web site might be the one that goes live. We are aware that some of the imagery will be under copyright. We will look into this later in the week. I attended a discussion forum today to discuss the module, highlighting pros and cons. This was good. It gave me an opportunity to voice my opinion and also to hear what other people on the module thought. It was surprising, but many people felt the same way about certain issues – how closely we could work with the client was a major issue. Expressing a doubt about the way of working with the client.

Theorising: 10 posts

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<tr>
<td>The formation of a belief, policy or procedure establishing the basis for action.</td>
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I find it hard to regularly put posts on my DiaryFolio. I see no point of posting something when my work is not done. Last week, I did the project costing for the group so I have something to say and to post so I did post something. But when me or my group don't have anything done, I see no point of doing it. I went to the group meeting this morning and it was good, we had a lot of ideas for our project; we gathered them all on papers and we kept them. But what can I say about that: nothing; I can't have reflection on what happened, apart that sometimes we don't
agree with each other, but it is understandable when you work in a group. I know it is important to have regular posts on my DiaryFolio for the assessment, but I need to have inspiration when I write something especially the reflection about my work. Otherwise writing it becomes a really hard task. I want to manage the time as I want (not imposed). This way my mind would be fresh and I can have realistic reflection about my work. To have a big number of posts doesn’t mean they are good. The formation of a belief (i.e. can’t always write reflections if nothing is achieved) for action.

What is a team? A team is defined as a group of people working together towards a common goal. And what is a performing team? A team is ‘performing’ when there is synergy within the team. The synergy is defined as ‘the simultaneous joint action of separate parties which, together, have greater total effect than the sum of their individual effects’ [Web site reference]. And to have this synergy, we need to have a ‘connection’ between team members. However, to create this connection is really a difficult task as we cannot force people to get along with each other. But, still, I think there are good ways to create this connection. One way could be to organise social events like a lunch time drink or a meal, when people can get to know each other. I think this would create a great impact on building a performing team. Another way could be to answer psychometrics or personality questionnaires which could develop better interpersonal understanding between the team members. However, I do not like this method because people often do not know who they are and a questionnaire cannot tell them who they are. The formation of a procedure to help team synergy.

The guest lecture was very interesting, especially the section about the role of project developers. I really liked the example given by the guest speaker: instead of doing his normal role of analyst/developer, the developer just sat on a table with his clients and asked them what they really wanted, then he listened to what they had to say and that's it. His role was like that of a business consultant. I think that in project development even if your role is project manager, developer, designer or whatever, you should not restrain your work only to your unique role but you need to have an open mind about what's going on as a whole in order to gain knowledge and assurance about what to build to have a successful system. The formation of a belief for future action.

Today’s guest presentation has been a worthy learning experience for me as it shows that you can achieve what you set your mind to achieve. In spite of your background, there will always be a way of linking past experience with future aspirations. Finally, growth and success come one step at a time. The formation of a belief for future action.

In today's lecture we had two guest speakers come along to talk to us about their careers and years of experience in the consulting industry. This proved to be a very insightful and entertaining presentation which really made me think about how important liaising with clients is in order to make a proposed solution work in the real world. It also made me think hard about how we, as a group, need to approach the project we are currently working on. As the project is for academic purposes, it is difficult for us to approach it in the same way we would a real-life business project and the ironic thing was that this presentation highlighted these flaws. Overall, the presentation proved very valuable and it will certainly have an influence on how I work throughout the remainder of the project. The formation of a belief for future action.

In the lecture we used a ‘metaphorical’ exercise prompting us to examine how we would portray ourselves as a company. It was an interesting exercise as it was clear
that we did not consider ourselves as a normal group. We wanted to be different and unconventional and above all 'out of the box'. What is clear is that, although we are not the most artistic group, there is a desire to be creative and different. The formation of a belief for future action.

We have been discussing methods used by individuals on the team to come up with solutions for a particular design. It is interesting that we all come from very different backgrounds, yet there seems to be a willingness to accommodate each other’s styles. Computing and art have been brought together and it’s an uncomfortable marriage. As long as programmers see themselves as programmers and artists as artists, it will be one of convenience. I suppose courses like this will help bridge the gap. It has been interesting discussing the different approaches and we have managed to incorporate a few. The formation of a belief for future action.

During today’s lecture, we discussed and used consultancy tools designed to help consultants understand the companies they will be working with. I agree with the article that can be found at [Web site reference] in the sense that ‘the process of solving a client problem starts with framing the problem’ and I think that the types of tools we used during the lecture can help in a Web design environment to understand what is expected of the site and its design. This is not something we can use for our project as our client as provided us with enough information to get a good idea of his requirements but it was interesting to learn about such tools and how to implement them. I found it interesting to see how the different groups had come up with completely different ideas and representations of their companies. The formation of a belief for future action.

In lecture we had a case study to read and next to present to each other in the classroom. The aim of this lecture was about CyberEthics. What does it mean? Why a lecture about it? Will it have a real impact on our project? I made some research to understand this word and all the things that it implies. So, to understand the term of cyber-ethics we must first understand the term ‘ethics’. Ethics is really simple: it is how you behave, ‘right’ or ‘wrong’. Deciding how to behave, though, is not always so simple: we make a choice. That is ethics. Ethics on computers and technology is called cyber-ethics, but technology doesn’t change the fact that we all have to make ethical decisions every day. Ethics is ethics: cyber-ethics is just a different way of looking at ethics through the eyes of computers. I have found some interesting Web links about this theme. The formation of a belief for future action.

In the Module Guide, it is written that ‘this module will allow you to work on real or simulated project in an industry like context’. However, the fact is that our timetable does not give us the possibility to organise our time as we would in a ‘real’ situation. As stated in [Web site reference], it is important for a student to be able to answer the following questions: ‘What is your usual way of getting things done? Do you work steadily over a long period? Do you work in isolated bursts? Do you have one big flurry of activity when the pressure mounts up?’; and also to know that ‘we all have our own unique learning styles and rates and so must work out a schedule that meets our own needs.’ I think I am quite aware of my abilities and my needs when it comes to managing my time. That is the reason why I know that I am not the kind of guy who will ‘spread out studying and study 1 hour/night for 5 nights instead of 5 hours on Sunday’ [Web site reference]. Indeed, I prefer ‘consolidating my time into sufficiently large time’ [Web site reference]. One thing I sure know is that I can work a lot in a certain period, without losing in efficiency or effectiveness. Actually, planning my work within a month is something that helps me ‘develop an overview of everything that I want to accomplish’ [Web site reference]. As I agree with the fact
that ‘only by clearly establishing one’s own principles, in the form of a personal mission, does one have a solid foundation’ [Reference], I knew that doing the DiaryFolio would represent quite a difficult task for me. Indeed, it does require me to work in a way that is not the way I usually organise my work. Nevertheless, I have started by doing my best to do as asked, and to send posts as regularly as possible. Although I was not doing that badly, I decided at the beginning of the second semester to change my strategy. Indeed, I noticed that during most of the lectures, tutorials and group sessions, I was taking notes. Consequently, I could keep on taking notes and then leave all the post writing for the assignment end-in period.

The formation of a belief for future action.

Creating: 7 posts

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<tr>
<td>Demonstrate the ability to create / produce or cause something. To make, design or invent something.</td>
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A bit of a late rant but here goes. Is it just me or is getting a site with dynamic content to validate properly virtually impossible? Next time I go into an interview and I’m asked about validation I’m walking out. It’s a waste of time. I reckon a fully validated and/or an accessible site is impossible. Maybe I’m missing something really obvious or I don’t know jack about Web site but all this validation and accessibility stuff is just a waste of time, at least on dynamic sites because within five minutes of the public interacting the site’s going to be knackered! Whilst it may be possible it’s going to add a hell of a lot to the development time and therefore cost. This is probably why so many big sites don’t bother. If they don’t then why should we? Demonstrates creativity in opinion formulation.

I have been doing some research in multimedia/Web development methodologies in order to know how I could develop the project efficiently for the group. In [Reference], [the authors] reveal that there is a disparity between academics and practitioners when they are about to use methodologies to help the development process of multimedia/Web information system. There are several methodologies developed by academics for this and even though the practitioners recognise the need to add structure to their development process they don’t use them. They found academic methodologies difficult to use and costly and inefficient for the real business world. Personally, I think academic methodologies are too cumbersome to use and often they are quite difficult to understand (even the title of the methodologies are complicated sometimes; for example ‘Object Oriented Hypertext Design Methodologies’). Academics like to develop methodologies for everything and then they want people (for example students) to conform to the method or path. To have a method for everything is bad for creativity: if we have to conform to everything, our mind will become dull, so we cannot use our mind to do something else ‘to create’ as the first thing we do is to conform. I think methodologies should be only guidelines, very brief and very easy to understand. Demonstrates creativity in opinion formulation.

A bad point in our solution is that none of our prototype/design is different enough. On that matter, I’ll take the responsibility since I was supposed to work on that kind of design. Indeed, I wasn’t supposed to have to take into consideration any accessibility or any other requirement, just making something original. At the end,
my design was not accessible at all, but was not very creative either. Next time, I’ll certainly do better than that. Demonstrates creativity in opinion formulation.

Initially, I wondered what the ‘Consultant’ presentation was about, what the connection was with our work. I tried to understand the term ‘consultancy’ and I went to Wikipedia’s definition: ‘A consultant is a professional who provides expert advice in a particular domain or area of expertise such as accountancy, technology, the law, human resources, marketing, medicine, finance, public affairs, communication, or more esoteric areas of knowledge, for example engineering of different kinds, scientific specialties such as materials science, instrumentation, avionics, and stress analysis.’ It is still not really clear. I understand the definition but still not the connection between us and the project. However, the definition adds that consultants ‘provide expertise to clients who require a particular type of knowledge or service for a specific period of time’ and that ‘a consultant giving career advice and training to an individual or a team is often termed a coach, and a consultant assisting an organization to develop a new strategy or solve a particular problem is sometimes referred to as a facilitator.’ So, consultants are here to help, to help companies to find solutions for their clients. Demonstrates creativity in opinion formulation from difference sources of information.

We’ve learnt lots of things over the year and not to trust or rely on a client is one of them. Clients don’t know what they want, how it should work, what it is for, etc... But we have to cope with it anyway. The project itself was interesting in various aspects: project management, roles and tasks, new technologies, real client contact. The workflow was different at the start and at the end. We had a harder time when we arrived at the end when everyone had to finish their parts and integrate everything into the design. At a personal level, I am very interested in project/team management and I’m already looking in that sector for my future job. Demonstrates creativity in opinion formulation.

The success of a team does not only depend on how skilful the members are, but also on their ability to work together and to understand each other’s differences. Indeed in a team some people may feel shy and not willing to take decisions. I think it was one of my problems at the beginning of year. I was afraid to step up and take decisions because I thought I had not enough computing knowledge. But, finally, I realised that although I could not contribute a lot in a technical aspect of the project, I could help on the research data aspect, the legal issues and the documentation report and the business aspect. My example shows that everybody can contribute in team work according to his/her abilities and expertise area. Demonstrates creativity in opinion formulation.

The way we think, see, act is conditioned by our way of thinking. How about our way of creating? Designing things? Starting from the point that each of us is unique, each one should have his/her own style (conditioned). What is my style? For some people, they are attached to details, maybe perfectionist? Pretty confident with arts and designing? Others like me, who are not good in art, may opt for the minimalist style? Whatever the style, I do believe that the first main objective is communication and there is no one particular style which can make better communication than your own creativity and originality. Demonstrates creativity in opinion formulation.
Intuition: 7 posts

**Dictionary definition: Intuition**

Quick and ready insight. Power of attaining direct knowledge without evident rational thought.

This module has provided me with a wealth of knowledge and practices that I can take forward in to real-world situations that I may encounter in the future. I realise now the importance of building the right team with all the necessary skills to achieve the objectives of a specific project and know how to go about doing so. I have also learned the importance of producing a realistic project plan and setting time limits for the completion of each stage of the project, and the importance of sticking to these completion times. My project management skills have now progressed to a level that I feel capable of undertaking any project in a methodical time and cost oriented manner. Presentations to the client have allowed me to reflect on my presentation style and manner of delivery, and subsequent presentations that I have given at work have been done so in a highly professional way. I have learned the importance of making Web sites accessible and have acquired the skills to do so. Legal aspects such as adding disclaimers, privacy and accessibility statements were things that I would not have given a second thought to in the past. I have learned the importance of providing these and will continue do so in any future projects that I undertake.

Demonstrate learning consciousness not grounded in facts.

What can be said about the methodology used in this project? Sometimes it is not easy to describe which method we use, simply because of the social dimension which occurs and also acts as a constraint. This could be, for instance, due to our backgrounds with different vision and/or what is considered as ‘beautiful’ rather than ‘useful’. However, in most cases, it is not easy to balance these characteristics in order to achieve a good end-product. But should we assume that ‘good teams’ make ‘good end-products’? What do we know about the qualities needed in order to build a good team in the Computing area? Should we see a methodology as a constraint factor to force team members to work in the same direction? Should we see it as a constraint for development or creativity? According to the definition, it is more like a guideline to achieve something. Wouldn’t it not be better for a team to agree to build their own ‘recipe’, to take into account team members’ social factors and characteristics or expertise in order to build a successful project rather than trying to apply a ‘classic’ or ‘official’ method into their development stages?

Demonstrate learning consciousness not grounded in facts.

What is good from our point of view may differ from someone else’s judgement. Why did the client choose one and not another equally good, workable, bug-free and easy-to-use end-product? Is it just about design? Or more originality? It is probably here that I understand better how important it is to understand what kind of people clients are and their expectations. Demonstrate learning consciousness not grounded in facts.

Recently in class, we have been doing the evaluation of Web sites developed by each group. I found that very difficult to do and I was merely comparing other Web sites with mine, which I don’t think was a good way to do because I did not use my critical thinking properly. In other words, my critical thinking skill was not really high. But I think this critical thinking skill can be learnt and should be developed throughout the year for example through this module. In fact in philosophy, critical thinking is a
process that challenges an individual to use reflective, reasonable, rational thinking to gather, interpret and evaluate information in order to derive a judgment. The process involves thinking beyond a single solution for a problem and focusing on deciding what the best alternatives are [Web site reference]. Therefore, I think we should spend more time to develop our critical thinking skill and we should have more lectures about it as well. However we have to be cautious about that because I think critical thinking is not only applied to one particular area (like evaluating Web sites) but to everything. We need to develop our critical thinking for everything we do in life. Here are some ideas of what a critical thinker should do: not merely accumulate information to solve a problem, but be able to use this information to enhance work processes; not criticise other people because critical thinking can also play an important role in cooperative reasoning and constructive tasks. Demonstrate learning consciousness not grounded in facts.

In order to understand others, we first need to understand ourselves. If being a consultant has a very close link to being in a state where ‘the mind, body and spirit become fully integrated in a dynamic balance and connectedness with the world around us’ [Reference], being consultant is nothing else but self-control and mastering our area of expertise in the harmony of what is the best practice in use today. Demonstrate learning consciousness not grounded in facts.

The concept of consultant is often dealt with in this DiaryFolio. I personally see a consultant as a sort of ‘psychologist’ using ‘maieutic’ art which is the same technique used by Socrates, the great ancient Greek philosopher. This method aims to let others find by themselves the solutions and/or the wrong or the flaws in their reasoning or reflection. The maieutic art means simply the art of ‘giving birth to ideas’. The philosopher is only here to stimulate participants and let them feel that they can solve all sources of problems by themselves, but also let them see the flaws in their attitudes or beliefs. Starting from this point, the consultant is not here only to bring his or her knowledge, charisma to influence people, expertise in a particular field of industry of service, he or she should first of all use all his/her abilities to understand, help people to first improve themselves, then, let them choose the right way for their business activities by letting them ‘give birth’ to ideas (such as new paradigms, methods or radical changes) to improve their business. Demonstrate learning consciousness not grounded in facts.

Creativity is nothing else than inspiration from other previous experiences of designing or viewing. Hence it is not easy to define what creativity really is. Some would say that creativity is ‘the ability to provide unique, one-of-a-kind solutions to specific problems’. In this case, we also assume a pinch of originality with innovative solutions. Demonstrate learning consciousness not grounded in facts.
Listed below are the 20 annotated scripts used in the Chapter 6 section 6.4.

Note: the print out version for some of the scripts in this Appendix is smaller than normal due to using the Microsoft Word comment tool to annotate them.
1. TEAMWORK

1.1 Did we fully achieve team role balance according to Belbin’s Team Roles?

The team formed prior to analysing each member’s Belbin’s team role results. Belbin explains, “teams can become unbalanced if all team members have similar styles of behaviour or team roles.” (Belbin’s Team Roles, no date). Three team members had ‘complete finisher’ as their main role, this was apparent later (see section 1.2) when we required different roles such as ‘mentor evaluator’ to manage options and judge the best solution.

1.1.1 How we could have improved team balance?

We should have taken the test earlier to determine a diverse team rather than trying to play every role and end up undermining other people’s roles in the team. In hindsight, the team had too many ‘completers’ (See Appendix A: Belbin Team role’s) and not enough roles for project functioning such as implementer or ‘team worker’. In future group projects, this should be accounted for and not just form a team because we were accustomed to one another, this would have created a more effective team.

1.2 Were Imperative solutions an effective team?

The team dynamics were hindered during the initial team role selection, as various members wanted the same role (See Appendix A team roles). According to West (2009) “team members must focus upon their objectives, and the teams’ method of working.” This was ignored during various project meetings, where disagreements and lack of clarity caused confusion. Our team functioning role according to West’s table (see appendix A – team effectiveness table) was type D, the driven team.

A driven team shows both strengths and weaknesses, it was clear the team’s social functionality was poor. This ‘poor social functionality damages team
viability and the wellbeing of members’ West (2008, p9). This was apparent when preparing for client meetings as different opinions and disagreement arose for choosing the presentation style of the meetings. Low levels of cooperation meant that team meetings were dysfunctional, such as members not taking ownership of different areas therefore no clear outcomes were achieved; this was later resolved (see section 1.2.1).

Conversely a 'driven team' has many positive qualities. Task performance was very high, the team were quick to suggest innovative solutions for the clients. This was achieved with utilising different team member’s skills, for example the idea generators gave creative ideas to the designer to develop the initial concept to show in client presentations. As lead designer the team enhanced my skill-set and productivity, this was aided by effective communication on our social media channel, See (Appendix A, design feedback). Although the team was effective in producing quality products, there were certain aspects that could be improved upon.

1.2.1 How the team productivity could be improved?

Overall the team performed to a high standard and we ‘aggregated experience into one, single collective effort’ Kohn and O’Connell (2008). This was apparent in our initial ideas for the client, utilising there USP (unique selling point) to drive the design and the content of the product. Although team roles were defined, in the initial ‘storming’ stages there was a power struggle between certain team members (see section 2.4). Using the quad model (See Appendix A – quad model), the team frequently had high positivity but low productivity.

During various stages, my role was changed due to the nature of the team. Using persuasion and motivation techniques, I dedicated tasks to assist the team’s leaders when deadlines were enforced, (See Appendix A – task delegation). These role changes made the team unstructured; this could have been resolved by discussing the results from the team diagnostic survey. The
survey results would have provided useful information on how to improve team productivity. In my opinion although our team were ineffective according to various theories such as the ‘quad model’ and Voss’s research, the team overall performed efficiently, using different skillsets and managing the project to develop a quality product. The client frequently commented on our professional approach and innovative ideas.

1.3 How did the team manage conflict?

Unfortunately team conflict was a common occurrence during the initial stages. This was due to a clash in personalities between two team members; it was particularly noticeable during the planning phases of the project where ideas were dismissed immediately without communicating with other members. This conflict is outlined as cognitive conflict, ‘occurring when ideas and thoughts within an individual or between individuals are incompatible’ Rout and Omiko (2007). However various solutions were adopted to prevent further conflict to increase productivity.

1.3.1 What was done to resolve team conflict?

As addressed by the conflict vs performance model. (See Appendix A conflict vs performance) Imperative Solutions in some stages was is ‘zone 3’ high level conflict. This created work overload and high tension, this was apparent in one team meeting where one member left the room, frustrated that their opinion was not heard. As an observer to the team’s cognitive conflict, it was understood that conflict could be used to benefit certain aspects of the project. For my part, communicating with the conflicting team members individually proved an effective resolve to team conflict. During the implementation and client meeting stages, this proved effective as the conflict was less confrontational and more self-critical and innovative. This allowed the team to progress according to ‘zone 2’ of the ‘conflict vs performance’ model allowing a high productivity outcome. To avoid the initial conflict the team should have adopted regular team diagnostic meetings to review and communicate the team’s progress.
2 PROJECT MANAGEMENT

2.1 How effective was the business proposal in directing the project?

The business proposal provided an effective product breakdown structure of the project's main goals. Using an online resource 'Edrawsoft mind map' later proved ineffective as it was not to industry standards, thus making it too ambiguous and unprofessional. This was reflected upon and refined the final mind map provided greater insight into the project deliverables. Reflecting upon this, the team should have reviewed the mind map in a team meeting to determine the time constraints that would have produced a better product flow diagram, and use the advice on how to create effective mind maps (http://www.edrawsoft.com/make-mindmap.php).

The product flow diagram was not initially effective, the team leader found the resources primarily confusing. As reflected by Strauss (2011) 'A great proposal is, essentially, a sales brochure, disguised.' The business proposal contained too much jargon; this could have been avoided by allowing time to review with other team members. Overall, the business proposal provided a guideline for time estimates and project deliverables; however, this should have been thoroughly modified in relation to new developments such as client re-branding and social media planning.

2.1.1 How the business proposal could be improved?

In hindsight, the team should have made the business proposal more persuasive and structured, as outlined by Strauss (2001) 'You have to put yourself in the readers' position, think of what counter arguments they may be considering.' The team leader should have considered the 'nose model' (See Appendix B – nose model) as a guideline to make the business proposal more persuasive and less generic. This model was later expressed during the conclusion of the project and the project manager used the model to improve the initial business proposal.
2.2 Was the project managed effectively?

Overall the project management was ineffective after various team meetings, the project leaders often did not delegate tasks effectively; this was frustrating as the KPI’s were not met on time. This lack of effective delegation proved disruptive to team morale, this was shown during the implementation stages where certain members of the team had higher workloads compared to others. This could have been remedied by producing effective planning strategy and Gantt chart, the team leader should have keep track on deadlines rather than leaving thing to the last minute.

One major flaw in the project management was not completing a risk management workshop. Although risk management was mentioned it was not acted upon, therefore during the implementation of the project one team member was relied upon developing the product. This high risk element would have been avoided if it was identified earlier in the project, therefore allocation of tasks could have been altered accordingly.

2.2.1 How project management could have been improved?

After one client meeting during the design phase, the team leaders did not follow up on the meeting. They forgot to produce an action plan for the next meeting, therefore in our next group meeting there was confusion and lack of ownership of certain elements of the project. This could have been improved by creating an action plan, making notes of issues to be brought up in future meetings. Personally, it was sometimes left to me to create action notes and delicate tasks during deadlines, leasing with the team leaders to create an effective action plan.

A different management style needed to be adopted. The three P’s take into account the elements and structure of project management. Thorn (2009) Team leaders should have acquainted themselves with this approach to effective leadership. People management was not fully explored in the leadership style; this was visible when tasks were often left to the last minute.
especially during the time before client meetings. As addressed by Thom (2009) it is persuasive assertiveness that, when used effectively, leads the team in overcoming differences and strives for project success. In addition progress and performance management was overlooked, initially the team leaders adopted waterfall methodology to plan and develop the product; however this was not appropriate for this project. For example the team could not review the product in stages, phased development methodology (See Appendix B – phased development methodology) would have been a better suited process for the project allowing the team leaders to track progress and manage the development process.

2.3 Did the team use project management tools effectively?

The project manager did not communicate effectively enough to gather important information regarding times for the PERT. As noted by the lecture slides on project planning ‘Dialogue between PM and appropriate human resource is required at this point’ (Mallet, 2014). This critical factor was dismissed and was evident later during project implementation, where the project was ineffectively planned and we did not meet deadlines due to ineffective PERT timings.

In future team projects the project leader should adapt project KPI’s (key performance indicators). This would have created an effective way to manage the team’s performance, one example would be to add website design progress in the ‘progress’ area (See Appendix B – KPI). This would allow team leaders to track and review its developments and if the PERT needs adjusting therefore allowing more time to discuss and analyse progress. As discussed by virtual strategist (2009) ‘graphing the data is important to review KPI progresses’ this would have given the team a clear visual indicator of progress.
3 CONSULTANCY

3.1 How effective were our client meetings

During the first client meeting it was clear, the team's collective experience on placement year aided the professional image our team wanted to portray. Our aim was to provide the 'imperative solution' to the client. The key to the team's successful meetings was immense planning and demonstrating creative ways to present to the client. One specific example of this was using the CRM to gain insight on design styles the client liked before the initial meeting. As a designer I thoroughly understand the benefits of working with the client's strengths to achieve a professional product this is expressed in (Appendix C - client and designer). This allowed time to prepare mood boards and ideas before the meeting; this not only gave the team insight into the design requirements it allowed us to progress in phase 1 of the consultancy cycle.

The team successfully understood the consultancy cycle. During phase 5 of the consultancy cycle the team used different presentation techniques. This was to generate maximum number of options, using practices developed during placement year, client engagement was key to the success of this meeting (See appendix C - client engagement). As outline by 'netmagazine 'what clients want' a website needs to do more than just look good and function well; it has to look good it has to fit in with the client's overall strategy'. This is why during the meetings we always referred to client's main requirements and USP's. Conversely although the team was overall successful in client meetings a few areas were overlooked.

3.1.1 How we could improve on client meetings

The team overlooked planning, this was apparent during the prototype meeting where one team member failed to allow the clients to use the product. Therefore the team could not review any potential usability issues with the client. This could have been improved by rehearsing the meeting in the same room prior to the meeting; this would have created a professional
image. After reading ‘better client participation in design projects’ it is clear the team needed to involve the client more in the different phase developments of the product. As stated by Clarke (2012) ‘sharing regular feedback with clients and involving them in every step of the design process might sound like a risky proposition, but it is necessary and beneficial to the design process.’ The meeting leader and CRM needed to communicate with the client during the whole process, in future team projects this principle needs to be adopted to ensure a quality finished product.

3.2 Have I got the skills required to be a good consultant?

In hindsight I should have fully understood the document ‘consultancy practices and techniques’ before the client meeting. Although the meeting was generally successful, I should have used appropriate questioning and listening techniques to fully understand the clients requirements. However, in later meetings I used observation and inspection techniques to fully understand the client requirements. This was enhanced later by recording client meetings (See appendix C, client engagement), as expressed by Randy Murray it’s important to ‘really listen to them and show that you value what they say.’ The video recording helped the team refer back to design direction when progress was going off track.

3.3 Did the team gather data effectively?

During client meetings the team adopted a verbal style of data gathering. It could be argued that this technique was not effective, during meetings team members failed to record any notes or gain insight into what the clients required. This affected the decision making after client meetings, for example we initially failed to understand the basic requirements such addressing the clients USP’s on the website. However this was later remedied by recording key meetings and making action minutes after client meetings. To improve this Diagnostic Survey, and Logic Diagrams needed to be implemented to collect facts and knowledge about the findings and arrive at the desired solution.
4 CONCLUSION

Imperative Solutions had initial difficulties during project management and adjusting to team roles. However, this was not apparent near the end of the project where team member’s skills and industry knowledge complimented each other to achieve a professional product. Overall the learning process has been insightful and opened up new area of interest in managing and planning projects as well as enjoying the consultancy process. In the evaluation session other teams mentioned how professional the final website was and the only comment for future development would be to add a responsive plugin. As the client stated ‘Imperative Solutions have been professional throughout the process’ which is one factor why the clients voted our team as the winning website.

Final word count: 2,559
2. Teamwork

2.1 Team Forming

Imperative Solutions members had all worked together prior to the project and were good friends. The forming of the group was therefore extremely straightforward and did not involve any tools, e.g., Belbin and Steven's & Campion KSAs assessment. The team began the project with clear and set functional roles which were delegated with ease, based predominantly on the particular knowledge background, placement year experience and personal strengths of individuals. This allowed the team to progress quickly into the project and avoid potential issues that are common in new team formations such as anxiety, nervousness and fear. Having a team made up of strong friends helped to improve the 'social unit' of the team, one of the fundamental dimensions of team functioning as identified by Michael A. West in his book 'Effective Teamwork'; "There are two fundamental dimensions of team functioning: the task the team is required to carry out, and the social factions that influence how members work together as a social unit." [Michael A. West, 2012].

2.2 Improving Team Effectiveness

Working effectively is extremely important for a team. During the initial stages of the project, some members of the team felt they had less to do than others and did not feel that the work they were doing was interesting or rewarding. This was affecting the team’s effectiveness as a whole. Michael A. West states that, "individuals should have intrinsically
interesting tasks to perform" and "should feel they are important to the fate of the team" (Michael A. West, 2012). Once raising the issue with the Project Manager and Team Leader, work plans were changed and shuffled to spread the more interesting tasks between individuals which helped the team's overall performance.

2.3 Tuckman Theory

Tuckman identified four stages going from (1) orientation/testing/dependence, to (2) conflict, to (3) group cohesion, to (4) functional role-relatedness. For these he developed the terms: "forming," "storming," "norming," and "performing" (Tuckman 1984).

These stages according to Tuckman are in succession with each other, however, our team did not experience this and we found ourselves cycling between Storming, Norming and Performing. Following research it was discovered that this could just be the linearity of Tuckman's model. Mark K. Smith, a researcher explains in this article that: "Bruce W. Tuckman's model is linear (sometimes described as 'successive-stage'). A number of other theorists have proposed cyclical models. An example of how this may occur comes from Laeis (1965). He argued that group members tend to seek a balance between accomplishing the task and building interpersonal relationships in the group. At one point the focus will be on the former, at another on the latter. The result is, effectively, a movement between norming and performing. Below we have represented Tuckman's initial model in a way that follows the same phases but allows for issues recurring at different points in a group's life." [Mark K. Smith, 2003].

![Figure 2.3.1, Tuckman's edited model.](image)

The cyclical nature of the way in which the team functioned was a fundamental factor of the success of the team.
3 Project Management

3.1 Relationship with the client

The role of Customer/Client Relationship Manager (CRM) helped to improve interpersonal skills with the client. The client is obviously central to any project, and the CRM must develop good lines of communication and respond to issues the client may raise as their main point of contact. With no experience of being a CRM, extensive research was required to be conducted to understand the theory, skills and techniques required to fulfil this role. Andrew Sobel, a professional in client relationships and Client Relationship Management identifies Relationship Building as the most primary and important skill of a CRM and that this skill has three main components which are relevant to this project:

- **Trust Building** – Able to earn trust in relationships;
- **Empathy** – Shows a genuine interest in other people, asks good questions, and listens keenly;
- **Selfless Independence** – Balances dedication to clients with objectivity and independence. Willing to say “no” or to disagree on important issues.” [Andrew Sobel, 2012]

Throughout the project, Sobel’s identified components were followed in an attempt to build a strong relationship with the client.

Following the initial meeting with the client which was used to gather the relevant data for the project, contact was maintained by email. This level of interaction with the client enabled the CRM to acquire additional information as required, and enabled the team to progress well. It also meant that the team were much more prepared for meetings as there was a very clear agenda due to the communication and relationship with the client which then naturally improved the quality of the meetings.

A heavy university workload resulted in the CRM failing to email the client for a week. This could have damaged the ‘Trust Building’ component of a CRM and was a lesson on juggling important tasks and ensuring that keeping in touch with clients was given the appropriate level of priority. However, the client’s End Solutions Feedback specified “Fantastic communications and feedback” [Karen Busby, Rebecca Parr, 2014] so this lapse did not affect the overall level of satisfaction.

The role of CRM also included supporting the client with technical topics [Registering domain], social media [Facebook, Pinterest] and on-going advice which improved the CRM/Client trust. This was also mentioned in the client’s End Solutions Feedback, “Behind The-Scenes support has been fantastic. They have guided us through all the technological stuff, setting us up on Pinterest and offering ongoing support” [Karen Busby, Rebecca Parr, 2014].
3.2 Project Planning

The project was carefully planned after the first client meeting with a well-structured Gantt chart developed by the Project Manager. This chart detailed the milestones for areas of the project, for example, Design, Development and Quality Assurance. The Gantt chart was followed for the first few months of the project but then, as work increased with the website and other University modules, the chart slowly began to be side-lined and work tended to be completed at the request of the Team Leader based on what he believed to be the priorities at the time. This meant that some members of the team were unaware of the current stage of the project and needed to be reminded constantly through the team's Facebook group and email. Although the team still functioned and produced an extremely good product, the general progress of the project could have been improved if the plan was more closely followed/reviewed. This was a good lesson in the importance of team planning.

3.3 Conflict Management

Since the group was quickly established, it soon experienced some conflict between two individuals who had leadership or management responsibilities. The problems centred on differences in viewpoint with respect to the website and errors in the business proposal. Most writers on ‘conflict management’ seem to agree that some conflict within a group is inevitable, and can in fact be good for the task at hand since it can lead to new ideas and approaches. Conflict can be ‘substantive’ (performance or task related) or ‘affective’ (relationship) – ‘substantive conflict’ is generally considered to be good for the group because it should produce a better end product, but ‘affective conflict’ is very difficult for a group, and is difficult to manage.

There is a wealth of various theories on how conflict should be managed. As an example, Townsley points to five accepted methods for handling conflict:

- "Direct approach – probably the best approach – concentrates on confronting an issue, using constructive criticism if required. It is a problem solving technique where all issues are identified and dealt with."
- Bargaining – both parties have ideas of a solution but cannot find common ground. A third party is needed to find a compromise.
- Enforcement of team rules – used only where a team member refuses to work with the rest of the team.
- Retreat – only to be used when the problem is not a "real" problem. The team leader can often delay for long enough to allow an individual to cool off.
- De-emphasis – Bargaining with an emphasis on the areas of agreement. When individuals find there are areas where they are actually in agreement they may be able to move in a new direction. [Carole A. Townsley, 2012]"
Having reviewed the literature, a direct approach was adopted and the individuals were encouraged to change the mindset into problem-solving. Once the issues were resolved to the satisfaction of both, the team instantly moved back to the performing stage of Tuckman's model and began producing extremely high-quality work for the client and were able to adapt to any of the client's requests. This was a good learning experience for not only understanding how conflict management can be beneficial to a team, but also how to handle conflict effectively.

4 Consultancy

4.1 Consultancy Cycle and learning style

The consulting cycle, as defined by Peter Cockman, Bill Evans and Peter Reynolds in Consulting for Real People – A Client-Centred Approach for Change Agents and Leaders has seven stages, as shown below in figure 4.1.1 and figure 4.1.2.

Cockman et al explain that the job of the consultant is to encourage the client to question the plan to try to identify any potential problems and to anticipate the resources needed (both time and financial). There is also the need to disengage in an appropriate manner so that both consultant and client part company on good terms.

Interestingly, Cockman et al. also stress that understanding one's own learning style will help to get the most from the consulting process, both from the individual and client perspective. They refer to Kolb's four stages in the learning cycle:

1. "Concrete experience (learning from feeling and experiences relating to people),
2. Reflective observation (learning by watching and listening),
3. Abstract conceptualization (learning by thinking (analysis of ideas, systematic planning),
4. Active experimentation (learning by doing, getting things done, risk taking)."
   (Cockman, 1998)

Each person's learning style is a combination of some or all of these stages.

Combining stages together produces four different styles:

- "Concrete experience + reflective observation \rightarrow DIVERGER
  Sees things from many perspectives, understands and is sensitive to people, recognises issues but takes no action, open-minded and imaginative.

- Reflective observation + abstract conceptualization \rightarrow ASSIMILATOR
  Gathers and understands wide range of information which can be placed into a concise and logical format. Focuses on ideas and concepts rather than people, creates models and plans and develops theories.

- Abstract conceptualization + active experimentation \rightarrow CONVERGER
  Practical, good with problem solving, deductive reasoning and making decisions to find solutions rather than interpersonal issues.
Active experimentation + concrete experience $\rightarrow$ ACCOMMODATOR

Cockman et al contend that when these learning styles are integrated with the consulting cycle it is clear that "some learning styles have particular strengths which are useful in particular phases of the consulting cycle. For example, diverger at the beginning of the project, assimilator to define the problem and plan, converger to problem solve and make decisions, and accommodator to get things done."

[Cockman, 1998]

The theory appears to have some validity in the consulting cycle since meetings with the client at various stages of the cycle tended to be led by a team member with the appropriate 'learning style' and maximised the team's performance.

4.2 Improving our meetings through interactivity

After the team’s first meeting with the client, although we had made prior contact with them and had a strong agenda, the team felt that the client were disconnecting slightly during certain parts of the meeting. An interesting book Principles and Practices of Professional Consulting by Steven C. Stryker details that during meetings or client interviews "An interactive mode is used to motivate the respondent and sustain interest throughout." [Steven C. Stryker, 2011]. We put this theory to use in the rest of our meetings throughout the year by producing methods that were interesting and involved the client, especially during the collecting data phase of the consulting cycle. This not only allowed us to keep the client involved and interested, but helped us to actually collect information from them. Figure 4.2.1 shows how the team produced multiple website design prototypes and allowed the client to select their favourite design features from each one by using sticky notes.

This method proved extremely successful and was praised by the clients and mentioned in their End Solution feedback: "We appreciated the different methods they came up with to establish exactly what we wanted" [Karen Busby, Rebecca Parr, 2014].

5 Conclusion

In conclusion, the project has been a great success for the team and has been an extremely useful learning experience. Having the role of CRM has enabled new skills to be acquired, especially interpersonal skills and trust building. Having the sub-role of Quality Assurance enabled new testing tools to be learnt and new testing methods to be understood. The camaraderie between the team, theories applied during the project and application of the consulting cycle enabled us to produce a very well made product which fitted the client's requirements perfectly, assisted them in rebranding their business and received an overall mark of 95% from the client's End Solution feedback. In order to disengage with the client in an appropriate manner a final meeting was held to arrange hand-over of the website along with extra documentation to assist them for the Go-live.
According to Davis (1997) building a high performing team depends largely on motivation. Motivation and management styles in turn influence the motivation levels of the team. Team name suffered periods of low motivation which required the Team Leader and Project Manager to work in partnership to encourage the team. At one point, in discussion with the Tutor, a get together/team building exercise was organised to get the team motivated. This exercise proved efficient in motivating the team and could be implemented again as a preventative measure rather than a corrective one in future.

The McGregor theory identified reasoning for these issues known as the Theory X and Theory Y management. Theory X managers have limited regard for people and do not believe individuals are capable of producing without being pushed. They are in essence authoritarian and pushy. The Team Leader tended to be a Theory X manager the team were mostly indifferent to his approaches routinely complaining about being pushed and not being trusted to do their tasks well.

The Project Manager on the other hand was a Theory Y manager. Theory Y managers tend to believe in people as capable of doing their job without the need to be pushed or cajoled. He was able to pull everyone together by utilising each individual’s strengths. This was evident when the Team Leader was absent and he had to take the lead. Each team member was given the opportunity to contribute as well as take part in meetings which turned our better than the ones where the Leader was present.

Team Development Stages
Team name evolved over the project as suggested in Tuckman’s team development stages. The group moved quite fast from the forming stage to the storming and norming stage. At this point it was felt that there was a stall as the group did not truly evolve into a team. The performing stage was blighted with a lot of hidden conflict and lacklustre approach to work. There was a need to quickly move and correct the issues and it appeared to have worked by just getting together and finding out how each individual felt. Not all members attended but this brought the team back to the performing stage and salvaged whatever had been lost. There was however a feeling that retirement happened quite early on even before the project ended. This would be an area that needs close attention in future endeavours.

The team struggled with the Knowledge Skills and Abilities (KSA) area by Stevens and Campion (1994, 1999). Communication and Conflict resolution were not handled very well. Half the team were able to thrash out issues whilst others buried their heads in the sand and grumbled. This resulted in the team having two groups, one enterprising and the other absent without official leave. This could have been dealt with better earlier on by creating an atmosphere and culture where individuals were comfortable to express themselves and their contributions respected and listened to.

Team Roles
Effective teamwork is built on having different individuals who can work together as one but fulfilling different roles. The individuals who made up team name fell into some of the nine team roles identified by Dr Belbin. The project Manager was a team leader with the team leader being an Implementer. The team also had the benefit of having a Plant role as well as Shapers. Individuals who were active in the team covered more than one of the team roles identified by Dr Belbin who said team roles measure behaviour not personality as they can be defined as a tendency to behave, contribute and interrelate with others in a particular way.

Project Management
Management Tools

The project started well and made use of project management tools such as the Product Breakdown Structure (PBS), Project Flow Diagram (PFD) and Gantt chart. These tools gave the team a starting point which meant that the whole process was made visible from the onset. There are several reasons why projects fail chief of which are bad planning, poor estimation of duration and costs. Although these documents were produced in the future more attention should be paid to them so that they provide necessary direction and guidance within limited timeframes.

One of the estimates which was done was a cost estimate. The costs were averaged over the course of the project and hours allocated as per estimates obtained from industry rates in accordance with the Project Evaluation and Review Technique (PERT) three point estimate. This makes use of optimistic (O), most likely (M) and pessimistic (P) estimates. An average of this is then planned for by using a formula \[(O + 4M + P)/6\] that produces the number of days or hours it will take to carry out particular task(s). This helped the team to put perspective on how much money was involved in the whole project and in turn how much attention they needed to pay to it.

Meetings

The other area which was paramount for the team to be effective was the way meetings were carried out. This included group meetings as well as the client meetings which were run as part of the project. Meetings for the most part take a lot of pre-planning. For instance, meetings have to have an agenda and minutes should always be taken during the meeting. According to Graves (2011) in planning a meeting there is a need to come up with a Purpose Outcome Plan (POP). Purpose determines the ‘why’, outcome deals with the ‘what’ and finally the plan deals with the ‘how’ part of the meeting. Team name always planned the meetings but with hindsight more could have been done to determine exactly what the planned outcome was and therefore get a more focussed agenda and resultant direction. Half the time the group meetings always had no real agenda such that there was not a lot of closure to items discussed.

Graves subscribes to the need to have roles appointed in order to formally share ownership of meetings. Roles such as facilitator, scribe and time keeper would have benefited team name’s meetings and this area needs to be improved in future projects. The main concerns that the meetings held raised were the distribution of such roles as usually one person ended up doing all the roles and in essence denied others the chance to participate. Although these meetings were run in future such structure would need to be improved. In future such disruption and more cohesion to meetings could have been prevented.

Lessons learnt report: Project Manager

The role of Project Manager entailed working closely with the team leader to provide steering for the group and then handing up when conflict arose to try and find resolutions. The main problem was that the team felt they were being overshadowed and not trusted. Other issues which arose had to do with a lack of honesty and openness in order to resolve issues. Members felt they could not voice their concerns successfully so most of the time they withdrew and left those who could continue to carry on.

During the implementation stages there was as it were a war raging because changes were continuously being made to the site which others did not agree with but no-one was speaking to each other. There came a point where this had to be resolved and a way was found to have individuals voice their concerns and
assurance sought that their input would be taken into consideration. This became part of conflict resolution which was quite essential to the whole project and pushed the team over the last hurdle.

**Recommendation:** In future the roles need to be spelt out and ground rules set beforehand so that everyone is clear on expectations and courses of action which could be taken in the event that there were deviations.

**Conflict management**

Conflict is unavoidable where a group of people work together. Dorothy Thompson states that “Peace is not the absence of conflict but the presence of creative alternatives for responding to conflict - alternatives to passive or aggressive responses, alternatives to violence”. In organisations, conflict arises and it needs to be resolved. Team name had no exception as there were conflicts which manifested during the course of the project. The main cause of the conflict experienced was the need for recognition by team members and differences of opinion.

Team members felt that the lead was not allowing them to do anything towards the project. They felt either they were not good enough or they were not being allowed to show what they were capable of. This inevitably led to frustration and most team members reacted passively to the conflict and tended to stay away. Soon it became apparent that there was a problem and the project manager had to deal with the issues. The approach which was taken to resolve the conflict in the team was approaching the concerned individuals to hear their view. There was no need in the end to hold meetings as individuals found recourse by voicing their concerns and the Project Manager ensured that they were addressed.

**Consultancy**

According to Exponential Training & Assessment Ltd (2010) the International Council of Management Consulting Institutes (ICMCI) “Management consulting is the provision of independent advice and assistance about the process of management to clients with management responsibilities”. In the case of the project being reported on the clients’ responsibilities entailed selling crafts online and the need to build an online solution. Consultancy is simply being able to listen to a client relating to issues/problems they have and providing advice on how to resolve the said issues.

**Listening**

Consultancy and its success hinges mainly on being able to listen effectively to what clients need and being able to generate ideas in order to solve the client’s problem. Initially, the problem some of the team had was to try and pre-empt what the client’s needs were. This created problems when planning for meetings because it distorted the process.

**Data Collection**

It was also necessary to collect data, influence clients towards a solution that was good for them but not necessarily what they set out to achieve, working as a team, communication and questioning skills, project management and problem solving. This was achieved to an acceptable degree considering the somehow fractured nature of the group for most of the project.

**Consultancy Cycle**

All consultancy jobs go through a cycle which has seven phases and most projects take the route from start to finish. Although this particular project’s stages were not very pronounced, the seven stages were incorporated in the whole process. The phases are: Start, Contracting, Collecting Data, Making sense of the data, Generating ideas, Implementation and then Disengaging. If at the implementation stage the outcome is not as was intended then the whole process will start over at contracting to go through the loop again. Parts of these phases were undertaken by team name essentially collecting data by use of client meetings, generating ideas.
through formulating prototype designs and implementation by way of building the website for the client.

Data gathering for the project was carried out mainly by way of meetings with clients. In these meetings, the main aim was to get out of the client their perceived objectives so that it would be understood what they were looking for. Following that there was further data gathering in relation to the actual website and this was done online.

According to Sasirekha (2011) at the first meeting the client will tend to assess what the consultant can provide and if he is competent enough to deliver. This was true in the case of team name and this project as the initial meeting would show what the team could produce and the team was assessing the client for clues as to what they expected. Sasirekha goes on to state that it is important to ask the right questions and not to expect to provide the solution in the first meeting. It would take several meetings to get the full picture from the client and in the process they had to be pointed in the right direction concerning new trends and standards.

The meetings which were held with the clients were planned beforehand with the main concept of formulating what the intention was. On most occasions the aim was to get the clients to offer more on what they expected and then take that away to conceptualise it into a tangible solution. In doing this, the team used a variety of questioning skills. Some of them included open, closed and leading questions. At times it was necessary to ask probing as well as reflective questions in order to get the clients to either think a certain way or to reflect on what their responses would have been in order to consider the alternatives.

Meetings were also used to get agreement following such conceptualisation and their feedback so the solution would be something they agreed to and were familiar with. Outcomes were then fed back into the concept and developed into ideas.

During these meetings, the team were also assessed for Consultancy skills and graded according to their performance. The writer’s consultancy grades for this were good and consultancy skills thereby quite good. Feedback from clients and marks (80%) as well as peers (70%, 94%, 89%, 81% and 79%) of the finished product was very positive and the group came in second overall out of 8 groups so it was altogether a very positive outcome. Marks attached in Appendix.

Conclusion

Consultancy is quite an important part of business as it helps to shape businesses and provide necessary solutions that help businesses to prosper and to keep performing better. According to the Institute of Consulting (2014) “Consulting is becoming an increasingly broader industry incorporating roles such as management consultants, recruitment consultants and business advisors, to name just a few”. The industry has a qualification criterion to follow and those who practise must be registered. There is a future for consulting in business and it sits firmly alongside successful companies.
Dr Meredith Belbin defines a team role as “Our tendency to behave, contribute and interrelate with others in a particular way”. Using Belbin’s self inventory questionnaire, each member of the team was able to calculate their team role and what they could contribute to the team. The results of the Belbin questionnaire had a direct impact on how the team’s functional roles were assigned. However, as nobody within the team was identified as a ‘Plant’ during Belbin’s team roles questionnaire, the decision was made to assign the whole team to the ‘Artistic/Graphic designer’ and ‘Media Producer’ functional roles. As a result, some of the more uncreative members of the team were strongly involved in many design concepts and it became a ‘design-by-committee’. Speider Schneider describes design-by-committee as “a pecking order of disaster for the society that used to pride itself on being a mover and shaker and that allowed its mavericks and dreamers to innovate their way to success” (Schneider, 2010). One specific example of this was during the creation of the mood board in which Ryan Kerr, Amar Shazad and Lee Bradbury all began to influence themselves on the mood board and as a result the end product was the creation of some uninspiring designs which did not excite our clients when they were presented during the design meeting. We did not initially learn from this and the same mistakes were repeated during the creation of the logo which was worked on by three team members. However, we then eventually adapted and Jonathan Bussey was given the freedom to design the business cards and website single handedly; both of which turned out to be extremely creative and innovative. Our ability to adapt and change this process demonstrated how we were now becoming a very effective team and this is supported by Michael A. West’s as he lists adaptability as a core component to building an effective team in his book Effective Teamwork (2012). On reflection, all of the functional roles should have been assigned to individuals at the beginning of the project. This would have allowed for a lot more freedom and innovation and we could have produced a lot more creative products such as a greater logo and mood board. Additionally, looking back it could be seen that Belbin’s team roles had too much influence on the assignment of the functional roles within the team. We could have placed a lot more emphasis and discussion on the knowledge, skill and ability (KSA) of each team member before assigning functional roles as Stevens and Campion argue that KSAs are much more effective teamwork attributes as opposed to personality traits “the history of success in the prediction of job performance has been much better with KSA-based systems” (Stevens, 1994).

As Leigh Richards states “Team communication skills are critical for ensuring the success of the team effort” (Richards, 2012). So we therefore underlined communication as a key component of this project extremely early and created a Facebook group which allowed the team to stay in touch and post files or ideas. Although this provided a great method of communication, we could have diversified and used other methods of communication such as Skype. This would have made communications instant instead of waiting hours for a reply on Facebook.

As a team we used tools such as team effectiveness surveys and team diagnostics to evaluate how we were performing. The results of the first team effectiveness surveys showed a low score of 22 for the action “The group does an effective job of sharing responsibility among its members”. This low score highlighted the team’s belief that the work load and work tasks were being shared out unevenly and thus some team members were completing a lot more work than others. For example, whilst Jonathan Bussey was designing and developing the website, the rest of the team had no tasks to complete whatsoever. This was beginning to cause a slight conflict and it was negatively impacting the team chemistry. These results prompted
our team into action and our project manager began issuing out tasks a lot more fairly which helped Jonathan Bussey with his workload and as a consequence the actions of our project manager and the actions of the team to help Jonathan Bussey with his workload demonstrated leadership and backup behaviour which are two core components of effective teamwork discussed by Michael A. West in Effective Teamwork. This also demonstrated how well we were working as a team and how effective we had now become after the 'storming' stage.

Team effectiveness surveys and team diagnostics also helped establish where we were in Tuckman’s team development stages model and then help progress ourselves. Dr Bruce Tuckman underlines five stages in his team development model which are Forming, Storming, Norming, Performing and Adjourning. As we embarked on producing a solution, our ‘forming’ period as a team was extremely brief and we only touched on a couple of objectives. This was not a great start and our team was missing foundations.

We then jumped straight into the deep end and began discussing more serious topics such as possible solutions as we felt this would provide us with a head start. However we were wrong and the team began to clash over possible solutions and after several ideas were dismissed by the clients during the design meeting we felt there was a serious lack of progress. It was apparent that we had entered the Storming phase of team development and we began performing poorly as a team. This stage of team development continued over the Christmas period and as a result the team suffered a breakdown in communication and loss of interest. Losing interest meant that certain tasks were not completed over Christmas and we fell behind. To improve the teamwork and move away from the Storming stage we began working on our interpersonal relationships and received clarification from our project manager. We now began working as a team versus a group and moved into the Norming stage of the team development where there was cohesion, high creativity and open discussions.

On reflection we did not spend enough time ‘forming’ as a team and building our relationships which lead to rifts, a breakdown in communication and loss of interest later in the process. A team must ‘form’ and get to know one another to open up communication lines. Should the process be repeated we would definitely spend a lot more time building our relationships and setting objectives as opposed to discussing serious topics immediately.

Consultancy
Our first team consultancy meeting with our clients Karen Busby and Rebecca Parr took place on Tuesday 5th November. During the meeting the individual consultancy skills of me and the rest of the team were stretched and as a result we did not identify the requirements of our clients well enough. For example, there were a lot of long pauses in between questions and we did not have the confidence to ask some probing questions. Not having a great understanding of our client’s requirements negatively impacted our work that followed because we did not have a solid idea on what the client wanted. In order to stop this from happening again, in the run up to the second client consultancy meeting with Karen and Rebecca various consultancy tools and articles were analysed. This provided me with a new range of consultancy skills such as questioning techniques, the ability to be a good listener and also some much needed confidence. Understanding questioning techniques and the difference between an open question and a closed question was very beneficial and they were used during consultancy. Tom Hallett states that “Asking the right question is at the heart of effective communications and information exchange” (Hallett, 2010). For example, in the client design meeting our clients were asked “what are your thoughts
on our proposed logos?” as opposed to a closed question such as “our proposed logos are nice aren’t they?” By asking an open question the client responded with an in depth answer including some possible improvements in which we could then use this information to make amendments. Another consultancy skill which was acquired was the ability to be a good listener. Tom Hallett also states that “How well you listen has a major impact on your job effectiveness and on the quality of your relationships with others” (Hallett, 2010). During consultancy meetings with our client, a conscious effort was made to take in all information such as our client’s body language and gestures and not just their words. This supplies the team with more information and a much better understanding of our client’s thoughts. To improve further, an effort could have been made to summarise their thoughts and opinions more often to show my understanding. This demonstrates to the clients that their opinions and thoughts are being taken on board. Michael Zipursky states that “as with many things in the business of consulting your confidence plays a huge role in determining your level of success” (Zipursky, 2014) and my confidence was increased by following his steps of dressing smart, relaxing and always maintaining eye contact with the clients. From then on only my smartest shirt and tie were worn, eye contact was always maintained with the clients during discussion and introducing some elements of humour helped me relax. My increased confidence allowed me to interact with our clients a lot more effectively and also have the confidence to ask some probing questions. Throughout the process we followed the consultancy cycle. Initially beginning at phase 1, we ‘gained entry’ and began building a positive relationship with our clients by taking a genuine interest and presenting a professional image – dressing smart, arriving on time and prepared. After phase 1 we continued to follow the consultancy cycle right up to the final phase as it allowed us to keep track of where we were throughout the process. Always knowing where we were throughout the process provided us with guidance and an excellent solid structure. We could have improved our consultancy even further by sticking to the consultancy cycle more effectively. A large element of phase 5 of the consultancy cycle is to generate a maximum number of options and help our client choose the most appropriate one. However we did not do this as we only produced one website solution for our clients to choose from. This restricted our clients and left them with no choice whatsoever. Learning from this experience, it would have been great to offer our clients a choice of solutions in which they could decide which one is best for their needs. Directly before each client meeting with Karen and Rebecca, we had a team meeting. This proved to be extremely useful and it allowed us to carefully prepare for the meeting ahead by preparing handouts and discussing possible talking points. The decision to hold a team meeting before a client meeting was in response to carefully reading the [Consultancy practices and tools’ document on Blackboard which states that group interviews require careful preparation and management. It meant that as a team we always had our handouts prepared and we also never had any technical problems; two traits which helped present ourselves as professional and organised to our clients. On reflection, we could have went one step further and held a team meeting directly after the client meeting as some discussions during the client meeting were quickly forgotten. A team meeting directly afterwards would have helped nail home some of them points and also helped us produce a solution which was more refined to the requirements of the clients.

**Project Management**

As the team secretary, it was my responsibility to draw up meeting agendas and record the meeting minutes. These two tasks are essential and they are the key to effective meetings. To ensure that my minute taking was as effective as possible, the
The work of Bruce Lewis at Massachusetts Institute of Technology was studied. In regards to writing up minutes, Bruce Lewis advises to “Start immediately after the meeting to understand what you wrote” (Lewis, 1997). In response to this, the notes took during each of our team meetings were written up immediately. As a result, nothing was lost in translation and all of the notes made during the meeting made complete sense when writing them up. On reflection, it would have been wise to publish the written up minutes onto the team’s Facebook group page which have served as a reminder for the rest of the team members.

Furthermore, our meetings could have been improved by reducing the meeting time. On one occasion, Friday 1st November, a meeting was held in the library for one hour. However, a lot of meeting consisted of off-topic conversations and a lot of the time could have been spent working on tasks. This was the case for the vast majority of our team meetings. Victor Lipman advises teams to “Schedule the meeting for the half the time you originally intended to” (Lipman, 2013) and on reflection this step should have been taken.

As a team we used project planning tools such as PBS, PFD and a Gantt chart. These tools helped the project get off the ground and they were very well executed by our project manager. However, looking back we did not use these tools to their full potential and this caused us to drift off the set path on some occasions which then impacted our internal deadlines. Constantly referring back to the Gantt chart could have helped our project manager set appropriate internal deadlines and also ensure we were up to date with all of our tasks.

**Conclusion**

In conclusion, the project has been a great success and has also been a big learning curve. Once the ‘storming’ stage of the team development had passed due to team adaptability and great problem solving, the teamwork was excellent and a lot of strong relationships have been created. The experience of working with a live client has also been an invaluable experience and has helped me learn a lot of new consultancy skills. We worked with the clients well and they were happy with the finished solution. Although we could have took more advantage of the PRINCE2 tools, the project was managed well and all of our deadlines were met and all tasks have been completed.
Section 1 – Project Management

1.1 – How could we have improved our team meetings?
I quite often felt that our meetings could’ve run a lot smoother if we’d followed a specific pre-defined process. For starters, there should have been a meeting agenda sent out to be read beforehand so people know what issues will be discussed. This was done once at the very beginning of the project, but due to a lack of organisation or possibly laziness, this didn’t continue. In hindsight, the secretary was never reminded to complete this task so it was maybe just a case of forgetfulness, so better communication could have prevented this. With this agenda, our meetings would have been much more productive as there would be no time wasted just thinking of things to discuss.

Another problem I noticed was that we almost never had a full team in meetings; there was always someone missing! It’s obviously not possible to completely cut out this risk, but steps could have been made to minimise this. Such as signing a team contract whereby they agree to show up to all meetings within reason, or risk being cut out of the group. Another possible method could have been to speak with certain members of the group confidentially if they repeatedly missed meetings, to try and find out if there’s any particular reasons behind their poor attendance, so maybe compromises could be made in certain circumstances.

Finally, and I think crucially, meeting minutes should have been made available to all team members on a more regular basis following meetings. Especially for people like me, it’s difficult to maintain concentration in meetings, and tend to daydream a lot completely sub-consciously. So sometimes I would not be listening to part of a conversation where it was mentioned that I needed to perform a certain task before the next meeting and because no minutes were sent to me, I had no idea I was meant to do the task. This then put us behind schedule which then led us to compromise on other aspects of the project to make up the time.

On the whole I thought we managed our meetings reasonably well as we got the main product completed on time and to a high specification, but a few simple changes could have vastly improved the productivity of the whole team and possibly wouldn’t have been so much of a rush at the end to get the product finished on time.

Section 2 – Teamwork

2.1 – Comparing my team with Tuckman’s Team Development Stages
This was a topic that kept popping up in my mind throughout the project due to the seemingly dysfunctional nature that my team sometimes worked. Things started off normally enough, the conversation was minimal, and was mostly about organising roles within the group based on each members areas of expertise. This was very much reminiscent to the “Forming” stage of Tuckman’s development stages as can be seen in ‘Appendix 1 – Tuckman’s Development Stages Diagram’.

The “Storming” stage came later on when certain members of the group avoided attending the meetings or doing their assigned work and there were many disagreements on how to do the work. One example is about myself when the group were deciding on whether to use a bespoke, open-source or paid content management system for the development of the website. Being the developer of the group, my allegiance stood with a bespoke CMS, but the rest of the group disagreed and favoured the open-source solution due to its ease of use for the client and would save the time of developing one from scratch. A chance was given to me to argue my case, by developing a little example of how my CMS might work. However, during a
day in which I was absent for a meeting for reasons out of my control, a decision was made to go with the open-source option without even having seen mine, which angered me greatly and took me quite a long time to fully get over. In hindsight, there wasn’t really any grounds for complaint as no attempt was made by myself to contact the rest of the group on my whereabouts during the meeting, and the solution should have been made available online by myself to enable the group to view it in case of absence.

The ‘Norming’ stage was achieved in part by the group but not fully in my opinion. There was a period where the group was more open with each other and even began discussing personal lives during meeting times, and everyone seemed to get along fine. Leadership was definitely shared out between group members; especially when there were absentees to meetings. Despite this, there were still certain group members who weren’t really contributing anything to the team, and so some meetings were more about the confident members of the group making instant decisions on what should be done, rather than discussing them with the group and taking on other suggestions. More should have been done to bring out the shyer members of the group to make them feel secure enough to make suggestions without being unfairly judged.

The ‘Performing’ stage was never reached and as far as myself is concerned, neither was the ‘Adjourning’ stage, as a major fallout between me and certain members of the group occurred right at the end of the project.

2.2 – How did my personality affect my actions during the project?

There were several occasions throughout the project where there was misunderstanding between group members and most of them involved myself. This got me to thinking whether it’s just in my personality to clash with other people or whether something else caused this. Upon conducting an online test based on Carl Jung’s and Isabel Briggs Myers’ typological approach to personality, it showed that my personality type is ISTJ as can be seen in ‘Appendix 2 – Jung Typology Test Results’.

The test suggests that I am an introvert which would mean that I’m maybe a little shy or prefer to work alone rather than with other people, as well as having issues with trusting others. Trust was definitely a concern for me throughout the project, especially when it came to keeping contact with my group members to update them on progress or ask questions. Sometimes an assumption was made by myself that they wouldn’t reply so didn’t bother getting in contact at all. This was wrong of me and is a poor way of working. Any trust issues should have been discussed with the group so steps could have been made to remedy this.

The test also suggests that ISTJ’s are easily frustrated by inconsistencies of others. This was definitely true of myself when meetings were organised. There was never a set date and time (other than the tutorial session) when the group would meet on a weekly basis. Meetings were usually organised last second and no one but the person organising them, had a say on when they were held. This often frustrated myself due to my OCD as I like to operate on a strict schedule, and hate when it’s interrupted. From this, I can see that I very much lived up to my personality type throughout the project.

If the project were done again, it may have been a good idea to properly analyse the personalities of each team member at the beginning of the project, so as to determine what the best roles and working conditions were for each person. In doing this, the team could have operated more successfully and certain disputes could have been avoided.

Section 3 – Consultancy
3.1 – Am I a better consultant following this project?
This seemed like a very important question to ask myself, as the reason I chose this module in the first place, was because I’ve always had a problem communicating with other people due to social anxiety. During the first client meeting in this project, I barely spoke a word, and the one time I did speak was simply to announce that I had done some research in website hosting companies and just handed it to the clients without any explanation. This is definitely not good consulting skills as the client expects the consultant to be confident that they know what they’re doing, and if they can’t offer explanations to technical jargon, then it becomes difficult to trust the consultant. Also, the fact that I didn’t say much may indicate to the client that I have no real interest in the subject aren’t interested in the client’s views on how things should be done.

However after attending a few meetings, I grew in confidence, and when tasked with presenting the prototype of the website to the client and how it worked, the clients had a much better idea of how they would add content to the site upon completion of the final product. This could be seen on the faces of the clients, as well as from the questions they asked which showed that they had at least a moderate understanding of how it all worked. Further to this, there was also several occasions where I thought up of questions on the spot to ask to the client regarding the content and functionality of the website and what they would like to see. This shows that I am working towards their best interests, rather than creating a site that is perfect for myself.

Although there were only a limited number of client meetings, I do believe that I have improved as a consultant, maybe not enough to consider it as a career option, but definitely a noticeable improvement.

3.2 – Did we follow the consultancy cycle?
When looking back at the 7 steps of the consultancy cycle, it made me wonder whether we as a team followed these steps in the correct order. The 7 steps can be seen in ‘Appendix 3 – Consultancy Cycle’. The ‘gaining entry’ stage was reached during our first meeting with the client. As there was only a limited amount of time for the meetings, we didn’t have time to provide too much information about ourselves to the clients, other than our names and roles within the project. We did however do a bit of research before-hand on online craft shops to try and understand what message they wanted to send out with their website design, and a presentation was prepared in advance for this meeting.

Also during this meeting, we questioned the clients about their requirements for the website so we had a starting point to draw up some designs and formulate ideas. This is when we entered the ‘Contracting’ stage. Over the next few weeks, we looked up several possible competitors and how their websites were designs to identify trends, and we also questioned real life customers of a craft shop where one team member worked on their opinions of what sounded like a good name for the website. This I think is very much reminiscent of the ‘Collecting Data’ stage.

In my opinion, we never entered stage 4, as we never discussed the data we collected with the clients. We just took the data that we got, and used it to generate

Commented [MM157]: Questioning
Commented [MM158]: Describing
Commented [MM159]: Critically aware
Commented [MM160]: Analysing
Commented [MM161]: Drawing conclusion
Commented [MM162]: Problem solving
Commented [MM163]: Questioning
Commented [MM164]: Applying
ideas to present to the client for their approval, which is step 5. Maybe if we had referred to the consultancy cycle mid-project, then the final solution could have been tailored more to the client's needs, as it may have been possible that we just presented them with ideas and they just went along with them because they didn't fully understand what was required, or what is best practice for their situation.

After this stage, we then went about designing a prototype to show the clients how the site may look and how easy it is to add content to it themselves. This is the 'Implementation' stage. A total of two prototypes were shown to the clients so this shows that we kept the client fully involved throughout the implementation process, to ensure it was to their specifications. However, for both the second and third loop round the cycle, we skipped stages 3, 4 and 5. We seemed to just present our solution, get their feedback, and then instantly made the changes suggested without going through the whole process again. This would have been a way to further ensure that any changes made were not only what the clients wanted, but were also suitable to the business and customers, and in keeping to the trends of their competitors.

The 'Disengaging' stage was reached during the final presentation of our solution as they seemed very happy with what we showed them. Overall, I think we followed the cycle pretty well considering it was our first time consulting a project with real life clients, but a better end product could have been produced, if we followed a stricter adherence to the cycle.

Commented [MM165]: Evaluating
Commented [MM166]: Anticipating
Commented [MM167]: Applying
Commented [MM168]: Evaluating
Commented [MM169]: Problem solving
Commented [MM170]: Drawing conclusion
Essay

From the beginning of the project it was vital to create and develop a strong and balanced team showing a variety of skills which could help to create an excellent solution for the clients which was the ultimate aim for this project. Each member of the team was required to have a strong singular role which the team required for the project. The members were handed a sheet in which the list of roles were defined and all members placed their name next to the role they felt they were strongest in. Once the form was filled in, Tenacity recruited skilled team members all of the members were strong to a particular role which didn’t clash with another member’s role hence creating a balanced team. Belbin also mentions that balance is key when forming a group, he found that each of the behaviours were essential in getting the team to function successfully from start to finish. He also refers to the ‘plant’ role saying a single plant role is essential to come up with new and fresh ideas however having too many ‘plants’ within a single team would result in bad ideas concealing good ones (Belbin, 2014). Tenacity avoided this by selecting members who specialised in a unique role compared to other team members. According to Tuckman in the forming stage members are comfortable with each other as they are ‘warming up’ to each other. Not much gets done at this stage as there is no conflict between members (University of Washington, 2014). This theory can be applied to Tenacity as in the early stages the members had not fully implemented themselves within the project.

Inevitably there were a few clashes for certain roles between team members. The majority of the team members were more than happy to be selected to be project manager or the team leader which showed great enthusiasm from the team. However the decision was made and the roles were selected. The roles were clearly defined for each member; this was a great move by the team as potential changes to the roles later down the line could result in catastrophe in terms of completing the work. Belbin’s nine roles were put to use when selecting the project manager and team leader. The ‘Coordinator’ role mentioned by Belbin has the characteristics of a good leader who is mature and confident, this helped Tenacity in its choice of picking the project manager and team leader (Belbin North America, 2014). It could be argued that all team members shared this characteristic as all members wished to take a leadership role. According to Tuckman (BusinessBalls, 2013) in the second stage which is the ‘storming’ stage, decisions don’t come easily within the group. This can be related to the scenario as all members were fighting to be team leader or project manager.

A mutual decision was made throughout the group part way through the project to take a break from the design/implementation of the website for the client. This was due to the fact all team members had to complete their final year project work at that given time. This break was originally not accounted for within the Gantt chart meaning it would leave us behind in our work. In hindsight it would have been better to either take the break out completely or reduce the break time considerably as it had affected the groups’ morale and motivation to complete the work at a high standard within the deadlines.

As the project progressed, social media was used as a communication tool to ensure the team would keep in contact with each other. Facebook was the main source as to where the group communicated with each other. Countless posts were made on this page which enabled the members to keep in touch with every other member about any potential ideas or issues that may have risen. This action shows the ‘team worker’ attribute according to Belbin (Belbin, 2014). Some of the team worker
strengths are being cooperates, mild, perceptive and diplomatic. These are all strengths of being a team worker which has enabled the team to be successful. This allowed the group to stay in contact over the holiday period which lasted four weeks and over the Christmas period. Even though tasks were set along with deadlines, the motivation level of the team was low which resulted in incomplete work over the holiday periods. Straight after the break the motivation levels were lifted and the team were entering the ‘norming’ stage, as Tuckman says, ‘big decisions are made by group agreement’. This can be applied to tenacity at this stage as the large decision to raise motivation levels and complete work together as a team was made as a group. In hindsight, it would have been better for the team leader to raise the levels before the break hence heading into the break; the group would have already entered the norming stage with the ambition to succeed as a team at the end of it.

The roles of the team members can be identified as follows:

- **Team member’s name** – **Project manager, (Co-ordinator)** he managed the project well and made sure all members knew what their exact task was and when they needed to complete it by;
- **Team member’s name** – **Web Developer, (Implementer)** he displayed great skill when developing the website, he can easily be related to the implementer role according to Belbin’s theory;
- **Team member’s name** – **Quality Assurance, (Completer finisher)**, he was in charge if quality assurance, he made sure the work was completed to a high standard before showing it to the clients for review;
- **Team member’s name** – **Marketing, (Resource Investigator)** was in charge of gathering resources such as information on the market which was bespoke according to the client’s needs.

The survey results from the team members had differed considerably from the 1st assessment to the second. In the first assessment, the average score per member was 27.4 across the questionnaire. In the second assess the average had risen to 29.4. This evidence supports the fact that Tenacity had later moved into stage four according to Tuckman’s theory (BusinessBalls, 2013). The team became more aware strategically and knew clearly what they were doing towards the latter stages of the project.

Project management is vital for the success of the project. This was realised by all members of the group at an early stage when all members were eager to lead the group. Certain documentation such as the business proposal had helped Tenacity exceptionally as it gave the team a real idea as to in which direction they needed to head into. The proposal was one of the earlier pieces of documentation that was created; this was a good move by the project manager as it helped the rest of the team members focus on what needed to be completed according to the proposal.

The implementation of the Gantt chart was accepted greatly by the team as it aided the team members to create their documentation to a specific deadline. The Gantt chart allowed Tenacity to create a schedule which was workable for all team members (Mind Tools, 2014). As mentioned earlier the improvised break taken by the team was not logged into the Gantt chart so in the future it would be wise to consider such breaks within a project as this would reduce the chance of any piece of work being completed past deadline causing conflict within the group. The business plan was created to aid the group in terms of what needed to be completed and when. In hindsight it could have potentially been better by putting the plan to use more and to work according to the Gantt chart; this would have helped reduce the risk of improvising too much which could have lead to project failure.

According to the Prince2 methodology (Prince2, 2014), the project manager draws up the project plans that describe what the project team will actually be doing. This
can directly be related to Tenacity as the project manager did exactly this. A product flow diagram and product breakdown structure were both created to show the sectors that will be completed by the members of the team.

Running smooth meetings was a focal point of the group. The ability to have smooth meeting with clear objectives had helped exponentially in terms of having a set outcome at the end of the meeting. All members knew their exact objective once the meeting had ceased. This allows the team to blossom in terms of achieving a high standard of work rate and completing work according to the deadlines. Minutes were also kept at every meeting allowing the group to refer back to them if need be to settle a potential conflict or to come up with a solution. The team meetings were also used to come up with potential ideas to be shown to the clients within the consultancy meetings.

Consultancy is a large part of the project as a whole, without consultancy the project would simply not exist as they make up the core of the project; in this case it is the client for the project. Consultancy is used to solve a problem in a usual case. The specialist (Tenacity) is required to solve the problem of the client. Consultants provide expert knowledge (Business Dictionary, 2014).

In the early stages of the project, in the first few client meetings certain group members lacked the confidence to speak directly to the clients. They had negative body language and were making weak gestures. This issue had been addressed in the following team meeting. The team members had soon overcome their confidence issues with the help of some online articles (Mind Tools, 2014).

All members had great input to the client meetings. As all members had knowledge of the website development they could all offer their views and solutions according to the client's needs.

The consultancy cycle, which consists of even phases, was recognised by all team members. The first phase was the most difficult for some team members as they had confidence issues. Once these issues had been overcome, the contracting phase had begun with the clients. The clients had identified that Tenacity were struggling to gather accurate requirements, this had slowed down progress on the design stage. The customer relationship manager then contacted the client via email requesting more in depth requirements from the clients. In hindsight it would have probably been better to ask the correct questions within the meetings as the group did not have set questions before entering the meetings.

In the third phase, collecting data was the main aim, users requirements were identified whilst showing the clients the competitor analysis. Phases four and five went smoothly with little or no problems, the problem was diagnosed and the solution was generated. Once the sixth phase begun the clients had decided to take a break hence they were out of reach for up to a full week. This had little impact on the project however it could have resulted in jeopardy had they taken a longer break. In future projects it would be wise to ask the clients if they are going away or out of reach for any set period of time hence the group could accommodate that fact. The final phase was basically ending the project and handing over the solution to the client. By this point Tenacity were all familiar with the clients whilst being in the 'performing' stage according to Tuckman's theory.

The client themselves had given Tenacity feedback and marks for the project. The feedback received was excellent and had given an overall mark of 74%. This was an expected grade by Tenacity as they felt they had followed the theories correctly whilst satisfying the client's needs at all times. The client did mention having a few problems with the design and layout of the end product. In the future projects, having set questions within meetings would help immensely as this would help in gathering the requirements more accurately for the team.

When dealing within consultancy and a live client it is wise to choose the correct methodology as there is little room for manoeuvre once the project has begun. Tenacity chose to go with the prototyping methodology as this allowed the clients to
change their specification mid-way through the project (Teach-ICT, 2014). This ended up to be a wise decision as this exact outcome had occurred. If another methodology had been chosen the project would have failed resulting in dissatisfaction from the client’s side.

Commented [MM210]: Analysing
Project Management

From Team Manager’s (team member's name) point of view, the project as a whole was a success. The team managed to work together relatively well and majority of the points outlined in Business Proposal were met in the final solution. Figure 1 shows a project tool (Team Effectiveness Survey) that was used to determine how well the team performed in scale to 1 (low) and 7 (high).

Project Management

Points that were not translated from Business Proposal into the final solution were either modified or removed due to inconsistencies compared both to client’s expectations and the team developing the project.

Business Proposal document was one of the first documents that were written and in order to have a perfect business proposal document that would be much greater of a help would require both more time and more consultations with the client. Although project scope was fully met (client’s company logo & graphics, website with ecommerce features and frequent meetings with the client), estimated charges in line with estimated schedule were not.

The team learned that estimated charges for specific team roles were too high considering how small the team directing the project is and the overall project total cost was cut down to more realistic rate. The problem with bad estimation of service cost would have been easily resolved if the entire team was committed to writing Business Proposal together, instead of only two team members being member’s name and member’s name. According to Dr Meredith Belbin (2008), it is exceptionally important to “concentrate on the role we play best, in that way we show ourselves to the advantage. If we try and play every role, we’ll end up undermining the role that other people play and we’ll give them little room and little scope”[1]

The issue with estimated schedule not being accurate also originates from not sufficient team effort. The original, project end date estimated at 20/03/2014 had to be moved to 22/03/2014 due to lack of satisfactory testing for the site that turned out to have a few bugs in need to be addressed immediately. Even though quality assurance side of the project was initially planned to be a team effort, only one team member (team member’s name) consistently checked how well the website performs. If an entire team focused on regularly testing the site under different circumstances, the project estimated schedule would have been more accurate and the team would have been awarded with an extra time to make sure any other outstanding work could be done.

Also, while three other planned deliverables were included with the final solution being implemented ecommerce site, brand for the client and professional documentation of the project development, details of up and coming events and where the company will be at ultimately did not meet its implementation with the final solution due to insufficient technical knowledge on how to apply such functionality. Unfortunately, not much could have been done here to improve the situation as only two team members being team member’s name and team member’s name had skills needed to address this specific project deliverable identified in Business Proposal document. Letting the specific project deliverable be assigned to specifically working and learn different techniques needed to create such functionality, however as it was mentioned before, the time scale was not precise therefore finding an extra time to implement previously mentioned deliverable would prove to be an exceptionally difficult task.

Lastly, the group attempted to include some principles introduced by PRINCE2 and while the model alone proved to be a valuable starting point for the project, the team...
faced some minor issues usually related to the expected time scale. PRINCE2 methodology as described by tutorialspoint “stands for Projects Controlled Environments. It has become a very commonly used project management method in all parts of the world and has therefore proven to be highly effective in various respects. This method also helps to identify and thereafter assign roles to the different members of the team based on expertise.” [2]

Thanks to PRINCE2 model, the team successfully managed to point each and every team member in the right direction judging by each member’s expertise. By using PRINCE2 model, the team was also able to produce PFD, PERT and PBS documents that would underline what exactly the project is planning to deliver in form of diagrams and tables and what the cost for services is going to be. Each team member was then assigned to most suitable roles supported by their area of expertise and everything was going rather smoothly up to the point where some initial exceptions had to be raised. There were a number of examples where Web Designer & Developer was unsure how to implement a solution required by the Business Proposal but failed to report this information back to the team. Logically, situations like this caused unnecessary stress to the group as tasks proved to be difficult to complete on time or failed to meet the required standards. The ability to complete tasks within the required deadlines varied in the project as some team members took more time on their tasks and consequently initial deadlines that were previously agreed on had to be modified in line with changing circumstances. Nonetheless time management issues could have been easily resolved by conducting frequent monitoring of the current progress of work for each team member, alternatively Project Manager could have requested PRINCE2 highlight reports which would most certainly have helped with identifying issues earlier.

Teamwork

Overall the project team worked well together and was able to deliver almost all the deliverables that had been agreed upon. The team dynamic was very positive, productive and enthusiastic. However, there were some issues in the process that the team had to work on in order to deliver a successful end solution to the client. These mainly included time management and not sufficient skills in some areas of specific team roles. Fortunately, the team was able to use its strongest characteristics and interdependence upon each other making these problems have minimal impact on the end product.

The project team worked as an organised unit from the very start of the project. Tuckmans Model (1965) helped to identify each and every stage the group was going through and when looking at the development of the team, especially in the early stages, it was apparent that the model was going to be useful. The team went through a forming stage smoothly despite the fact that majority of team members did not know each other before hand. Early stages of group forming included analysing the project in detail and planning. Project requirements were discussed upon seeing the client’s for the first time in line with how to effectively complete the task based on each other’s strengths, weaknesses and abilities. During forming stage, the team also managed to identify and compare specific roles to the ones outlined by Professor Belbin [3] which greatly helped in seeing what each and every team member can offer in line with recognising and accepting team member’s differences and possibly weaknesses.

Then the team started to investigate ideas to include with Business Proposal document. Consequently, all of researched data had to be converted into the document keeping the document as short and readable as possible. For that two team members were chosen being team member’s name and team member’s name who decided to write Business Proposal document themselves which soon proved to
be a wrong decision since it would have been much easier to work on the document as a team.

The storming stage was short lived since every team member managed to stay friendly to each other which resulted in no conflict of roles and the decision to share the work load evenly greatly strengthened the team’s already good relations. Norming stage also went rather smoothly. Upon realization that the time for the project was short, plans to facilitate and organize meetings were made. The team decided to have face to face meetings on the regular basis and Facebook group page was created in order to help each and every team member with sharing work, organising project and sharing advices on specific team roles. Constant communication between team members ensured the continuous flow of information between each other and the process of designing the logo, web pages and developing documents assigned to each team member started to occur.

During this stage, the team managed to present a plausible website during client consultations and any changes proposed by the client were quickly implemented resulting in a rather successful end product. Although the communication within the team was exceptional and everyone stayed motivated enough to convey expected deliverables, meeting deadlines for specific parts of the project proved to be challenging where faster communication was required to update the progress and finalise decisions. The issues raised when one of the Web Designers & Developers was unable to finish a previously mentioned deliverable being an events section of the site in line with minor issues with the store. The team member failed to communicate with other group members resulting in the lack of initially set goals within the final product. This issue could have easily been avoided by reassigning such task to another team member with lesser tasks or simply be requesting assistance from other team members and even forums around the internet.

Issues with the Business Proposal document that were mentioned in “Project Management” section, namely project schedule and estimated costs could also be resolved with better communication and convincing other team members to work on the document together. Since every stage of the project can affect the next phase of the project and even end stage of the project, it is rather important to complete each and every task appropriately – something for a future reference.

Consultancy

Before moving on with this section, it is important to understand what consultation truly means. According to searchitchannel, “a consultant is an experienced individual that is trained to analyse and advise a client in order to help the client make the best possible choices” [4]. During this project, every team member was essentially a consultant and some extent of consultancy skills had to be acquired by all team members.

Figure 2: Consultancy Diagram (removed)

The main communication with the client was conducted via email and face to face meetings. Communication through email was mainly managed the by Computer Relationship Manager and face to face meetings in which all team members had to be present in order to consult with the client and extract the information needed to determine in which direction should the project be heading at.

In order to understand how to perform a successful client consultancy session, it was important to understand the very essence of consulting process which is usually divided into several different phases. According to certifications, consultancy undertakes a set of activates required for achieving the desired purposes and
changes. “These activities are normally known as the consulting process. This process has a clear beginning (the relationship is established and works starts) and end (the consultant departs)” [5].

First phase being the start of consultation involved meeting the client for the first time and presenting research on different products in order to inspire the client. At this point, no consultancy tools were used and upon revising it now, it seems that it was a rather poor choice because the first impressions are usually the most important – this is usually where a relationship of mutual trust and respect is established. In top of that, not enough questions were asked during this phase which then proved to be a mistake since the team did not really have an idea where the project will be going. Regardless of the issues, the meeting still went smoothly and first impressions were reasonable.

Phase 2 called “Contracting” officially concluded researching stage and allowed the team to develop Business Proposal document. By consulting the client during this phase, Administrator/Secretary was in charge of making notes regarding the possible cost and timescale for the project. This phase was also the start of taking consultancy tools more seriously and a physical copy of a moodboard containing custom textures, logo ideas was presented to the client. During this stage, the team interviewed the client in more detail in order to find out what exactly does the client expect from this project. The main issue with this meeting was the fact that it was too short and with the time limit of 20 minutes, the team only used 10 minutes. Extra 10 minutes with the client would have helped tremendously with undermining more detail about the project and the expectations.

Phases 3, 4, 5 and 6 were covered in the next three meetings with the clients. This is where the teams’ business cards were distributed so that the clients could contact the team with more ease in case of emergencies. Third meeting with the client allowed the team to show a proposed design for expected product and get eventual opinions and modifications to the proposed designs. This is where consultancy skills played a big part since a lot of technical terms had to be translated into clients understanding. Throughout the next meetings, the structure of consultancy sessions remained the same with Computer Relationship Manager starting with introduction, team member’s name recording the session, team member’s name presenting next phase of the project and team member’s name with team member’s name translating technical terms from the current design into understandable terms so that clients could fully understand everything that was being said.

Upon revising all consultancy sessions, many things were done right (reasonable amount of consultancy tools used) and many things were done wrong (not enough questions asked, not using the time to its full potential), however this is all the part of learning and future consultancy sessions can only be done better now with all the knowledge acquired from the previous meetings.

Conclusion

Two conclusions can be drawn from the above reflection. First, that experience with the client can be a valuable teacher for future dealings with any types of clients. It is exceptionally important to understand everything that the client wants from the project and expects so that disappointment is avoided and the client is happy with the end product – nobody likes their money not being spent well. In addition, it is also important to look back how the client was dealt with and look for any windows of opportunity to improve the methods that were used during those dealings. Second, time management is the key. It is always better to have extra time that can be dedicated into implementing new functionalities that the client hasn’t really even mentioned or simply keep improving already existing project. Having no time left at
the end of the project, or worse, not being able to meet initially set objectives should
be avoided at all costs.

Commented [MM255]: Synthesising
This essay will reflect on the work done within the team Team name. The work that has been done will be looked at in three main areas: these are team work, project management, and consultancy. These areas are key to making a project a success and how these are used with a team is very important to not only the team dynamics but also the end result of the project. If there are many different ways of success in the project and thought out this essay, key moments will be looked at and not only discussed within the three sections but also on how this affected the team and what could be changed if the chance to do so was there.

Team work is very important to Team name as without it there would be no communication and no direction to the project. The group was determined using the Belbin test. This test determines what role within the team that member would be best at. To get the best functioning team, a mixture of these roles is needed, as each role brings a different skill set to the group. These roles are "Plant, resource investigator, co-ordinator, shaper, monitor, evaluator, team worker, implementer, completer/finisher and specialist" [Belbin, 2011]. When taking this test the group was in the "Forming" stage of Tuckman's team development theory. During this stage of development with the group not being a cohesive unit, the team will not be about to hit the key attributes of a team that make a team into a high performing team that achieves success again and again.

In the forming stage of development the team started to get excited about the job ahead and be proud to have joined the team. Now these are common feelings within a newly formed team. These feelings are good however they were complimented by a lack of trust within the group as no one really knows each other and aren't sure what the others are capable of. It was here that a team building exercise was needed to bind the group together quickly however this chance was not taken mainly due to deadlines in other subjects. If this chance was taken the group would not have taken so long (about six weeks) to move out of the forming stage into the storming stage. This was because this was the first week the group met the clients as a group so that we could pick their brains for what they wanted the website to be, this gave the group new confidence and changed the way that the group talked.

During the storming stage of this project, the team started to be more open about the ideas that they were having and more open about what they thought about the other group members' ideas. This helped the project to move on, as when the groups opinions came out the group could see what direction that the other members wanted to take the clients' needs in. The team quickly moved into the norming stage of Tuckman's team development theory.

As the team moved into the norming stage of team development the group became more focused on the clients' needs and the project started to move forward rapidly. During this stage the group finally picked what the website would be made in, the decision was made to make the website in WordPress. The website really started coming together during the norming phase of the project, this happened because like Tuckman's theory says as the relationship groups the focus on the work grows this is shown very well in the graph in appendix A. However the team never really hit the ground and go to the performing stage. This may have meant that the product wasn't quite as good as it could have been, but this takes nothing away from the effort that was put in by the team, and the massive improvement that was made.

The project management of this project was very important to this project, as it was the glue that kept the team working towards the goals that were set by the client. The project managers job is mainly "overseas planning, resource requirements, reports and so forth so that the product is produced on time and on budget to a specific and defined plan" [ILX Group, 2010]. This was done by using project management tools...
like a Gantt chart. Product Breakdown Structure and Product Flow Diagram. These tools helped to set a schedule and also what will be created. In this project the clients’ needs helped to set out what products that needed to be created.

The Project manager of Team name used action centred leadership model was created by John Adair. This theory uses three core management responsibilities: achieving the task, managing the team or group and managing individuals.” (Chapman, 2012). This theory is used to show the correct blend of manage this is shown by the three circles diagram in appendix B. In this diagram it shows the perfect blend of these three management responsibilities by the overlapping circles.

The Gantt chart for this project overall had quite ambitious goals set for when things would be completed. This was because of the lack of meeting with the client, 20 minutes every 4 weeks isn’t long enough to be able to pick their brains and get feedback on what has been done. However this meant that some parts of the project dragged on a bit. If this project was to be repeated the group would definitely use the client relationship manager more often maybe two or three times a week to update the client on what was going on and keep them more ‘in the loop’ than they were.

An example of how things dragged on within this project was with the creation of the shop area of the website. This took a long time as the group, this was because it took a lot of research and a lot of debating within the group to come to the plug-in that was used. This took a lot a group and man management to get the task done. This is one of the reasons that the action centred leadership model was used within the group.

The product breakdown structure is where the products in the project are identified. This helped Dream Design to identify all the products that would be created in this case a logo, website, website content, etc. this helped to create the Gantt chart, product descriptions and product flow diagram. Using the “Prince2” approach to creating this made it very easy to create and make it readable. However if the group would have had a better idea about what needed to be worked on.

After the creating the product breakdown structure the Product Flow diagram was created. This uses the products created in the product breakdown structure and gives them an order. This drives the group and most importantly the project manager an idea of what order the products should be created in and if it that product has any dependences. A lot of these dependences are obvious like the letter heads cannot be made without the company logo.

Talking to the client was also a huge part of this project this was to get the ideas of what the clients’ needs were and how they would like them to be delivered. As this was a really important part of the project a job role was created called client relationship manager for this. The client relationship manager’s main jobs were to listen to the client and inform them about the progress of the website. This was done mainly though emails and the five client meeting that had been set up for the duration of the project. The main theory that was used for the consultancy part of the project is called the consultancy cycle seen in Appendix C.

The consultancy cycle has seven phases that during this project the client relationship manager tried to use each of the seven phases. The first three stages were done within the first meeting when the group finally met the clients face to face for the first time. The biggest tasks in this project where phases three and four this was because a “doctor-patient” approach was used when trying to collect data about the project. This approach was used as the clients admitted that they had little knowledge of building a website, so it was the groups job to client them through this and try and choose the best option for them, a lot like a doctor prescribing medicine to his patients.
Stage three and four had to be revisited quite a few times over the project's length to try and make the most sense out of what the clients were saying or if they didn't like what we had created in phase six the implementation stage. The client relationship manager spent a lot of time outside of the meetings emailing the clients to try and pick their brains for the information. This could take a long time as the client sometimes needed an example of what the client relationship manager meant. Half-way through this project the client relationship manager had a week holiday booked. This meant that someone had to fill in for him over this week period so that the project didn't stall or get off track in that week. The group had a meeting about this and it was decided that the project manager would fill-in in this role for that week using the client relationship manager's email address. This was decided for two reasons, the first being that the client had already gotten used to emailing the client relationship manager so it was decided that this would not change for them to avoid confusion. Secondly a week is such a short period of time that it was much easier to change user of the email address than the email address.

Phase seven was a difficult stage as the clients had no experience or knowledge of using WordPress (the tool used to create the website), so a client guide had to be created. This was a huge success as the clients could then use the guide to add/remove products and communicate to the customers as the website was meant to be used. This client guide meant that the disengaging phase was made easier as the client could go through the guide without needing our help at every stage. This meant that the process was made more efficient.

Overall the group had developed into a good effective working unit that delivered a good product to the clients, on time and within the clients time frame set out at the start of the project. However, if the theory of how to create the 'perfect team' was understood before the team was created then maybe a better product would have been created that more suited the client's needs as more time could have been spent understanding what the client wanted. As well as this some of the strain and stress on the project manager would have been taken away as more time could have been given for deadlines and more help given to team members that were struggling but would not speak out for help.

As in every project mistakes were made and time was wasted, now looking back at the project these mistakes have been identified and more training and team work events will be used to pull dream design closer together in the future and stop the same mistakes being made, hopefully saving the client and dream design money.

Commented [MM289]: Analysing
Commented [MM290]: Observation
Commented [MM291]: Problem solving
Commented [MM292]: Evaluating
Commented [MM293]: Drawing conclusion
Commented [MM294]: Synthesising
Commented [MM295]: Drawing conclusion
Team Work

2.1 How did the team perform throughout the project, what issues arouse?

Throughout the project the team did not have many major issues. My role as the Team Leader meant if any issues accrued the main purpose was to quickly solve them avoiding any loss in productivity.

Following the Tuckman Belbin team’s development stages the team quickly adapted well and all learned each team members skill sets quickly, which hugely helped in the declaration of roles. Stages one and two consisting of Forming and storming were passed fairly early and the norming stage was quickly upon us, which the team was on most of the project it wasn’t until the end we hit the performing stage but this is still a good achievement considering the projects timescale.

The team could have achieved the performing stage easier if the following was accomplished earlier throughout the project:
- The team should have had more activities and more social events which would have helped, although once the project was complete we did have a social meeting for the Adjourning stage but more activities throughout the project would have helped improve the team bonding as all other meetings were project related.

Communication across the team was good but could have been improved. Facebook messenger was used to chat about the project but one team member did not have Facebook and did not check emails regularly and also refused to give any mobile number as claims to not use it often enough. This was at times frustrating as during meetings that team member would not be up to date with what had been said over the chat and at sometimes did not know what the team was discussing. Occasionally team meetings had to be rearranged and it was also hard to contact that member.

My role as the team leader during the project was to get every team member to complete two team diagnostics and effectiveness forms, the results showed very positive although on the first survey there was a clear issue amongst the team which scored a low result on the survey “the group stays focused on the task at hand and reflects on process” to solve this problem during each team meeting the team stated that if any member thinks the team is getting sidetracked then straight away announce your opinion which will help improve work effectiveness and time management. This was a success as the second survey the result increased from 4 to 6.

2.2 Could the Belbin team roles be recognised within the team?

Throughout the course the Belbin team roles could be seen more clearly as the project progressed. If each member of the team was allocated a role of the belbin then the following 5 roles as stated from here ([1] Holmes (2013) The belbin team roles model) would be taken Coordinator as myself and also consisting of a Team Leader, Plant and 2 Team Workers.

Taking this into consideration the team would have greatly benefited if it included a shaper which is an individual who questions others and challenges the team consistently. This would have hugely benefited the team overall and improved the quality of the final product as at times it felt that ideas were thought upon but not questioned and just put straight into practise and having that shaper on the team would have looked at ideas from all angles and perspectives. For example we created multiple mock up designs and then chosen one to follow but once the coding of the website began we quickly began to stop following the design for the website as
better ideas were thought upon to meet the clients requirements. This then set time constraints on other parts of the project and having a shaper would have avoided this messy situation.

Overall team performance

Overall the team worked and collaborated very well there was no personality clashes which helped give us a good head start. We bonded together very quickly and most of our work way and patterns were similar.

for example whilst developing the site we all knew that the code needed checking on the W3C checker and we all developed mock layouts using the same basis obviously this is as we have been at the same university for three years this helped the work progress faster and it also avoided arguments between members.

Project management

3.1 Did the business proposal help with the project?

Commencing the project the business proposal greatly helped mainly by setting the standards and declaring what had to be completed, it avoided any confusion although the gant chart in our business proposal was not really followed and never looked back at. Each member just followed their own individual time management and even though tasks were always completed on time as the team leader this should have been taken more into consideration and should have been made to be followed and implemented more seriously.

3.2 How could the team meetings have been improved?

The team meetings sometimes were a bit pointless and in some cases little work was completed or discussed so in order to improve on this some research was taken to improve on this issue and provide more efficient meetings as the team leader this was my responsibility to improve.

[So following Michael Hyatt rules (2) Hyatt (2011) Seven Rules for More Effective Meetings] this increased the performance and outcome in each meeting, it mainly helped by following number 3 the desired outcome “it is important to know exactly what outcome you want from the meeting. If you don’t know where you are going, how will you know when you have arrived?”

following this clearly summarised what needed to be achieved during meetings and avoided going off track and task in hand. After informing the team about these rules to follow meetings were much more of a success.

3.3 Did we plan the cost of our project appropriately?

Our cost specification was completed at the beginning of the project now looking back at the estimation and knowing the time taken to complete tasks the cost estimation is close in relation to the time taken. Although some tasks did take longer and others less as the optimistic, most likely and pessimistic times were taken and then an average calculated, this provided a good realistic cost evaluation. Next time been more experienced some of the times will change slightly but for a first attempt a good estimation was made.

3.4 Benefits of project management methodology

Whilst developing the site we decided to use the waterfall methodology ([5] Tutorials Point. SDLC Waterfall Model) this was a good idea and worked well as all team members were familiar with this methodology. We followed each stage to ensure a professional standard was created this helped us by setting each stage and not moving on until the current stage was completed as many people tend to get ahead.
of themselves and if developers do not use methodologies it possibly can increases the failure rate.

Consultancy

The overall end feedback from the clients about the project we created shows a great result with an overall score of an A (74) points, the only negative comment about the site was “ultimately continued support seemed an issue if we wanted to change/develop the site”. This was the main problem we had and did not realise this until it was too late throughout the project, although we created a admin panel and the user guide detailed how to change items for sale in the store this was written appropriately for a non-technical user and made fairly straightforward. The website was developed from scratch making it tailor made which has its benefits but also has one big downfall as this makes it difficult for a non technical user to change information or images throughout the rest of the site. The client would have to change code to change images and basic web skills are needed for this. In order to improve on this the solution would be next time to use a template website such as a one from WordPress which allows editing easier for clients or if tailor made is still a definite then incorporate an Content Management System but the time and pricing of the project would then increase significantly.

4.1 Consultancy skills

Prior to starting this project my consultancy skills were at a basic level however these have improved throughout the project and should these skills be needed again a more confidence manner and professional outcome would be in hand. To help improve on these skills after the first client meeting some research was taken on how to improve consultancy skills. This was to increase my confidence and ability which would help the client feel in a more professional environment this site [3] Forbes (2013) Be the best consultant ever: 6 things that will make you great states great advice and rules to follow to aid in becoming a good consultant. Number one states “Been a safe pair of hands” which means do what you say you will. After every meeting a list was taken of what must be completed and promised for the client next meeting and prior to each other meeting this list was completed which helped create a trust bond with the client which is an essential part for consultancy.

4.2 Were the clients requirements understood

During each consultancy session we made sure to gather all essential information off the client and then clarified on each part to fully understand all requirements which is very important to ensure the project meets the client’s needs. It’s also important as been the technical person to feed the client ideas and new trends in this case web trends as the client is most likely not to be knowledgeable in this area. For example a big success and suggestion we made to the client was responsive design once explained using layman’s terms for the client to understand they agreed to go ahead and follow this new trend. Having the ability to make a client go ahead with an idea was abit like selling a product. As we got know the clients more this become more easy. Overall the website did meet this clients needs and the requirements were fully understood again the following rules followed from this site [4] Sarah. (2010) How to understand the client’s needs on the first encounter) for the first clients meeting were followed and very helpful.
4.3 How could the meeting have been improved with the clients

Overall the meeting with the clients were very successful but on one occasion the computer was not working and we did not have any other way of showing our progression on the project. This was the only failure during any of the meetings we had to improvise and use the whiteboard to draw up our ideas although we did have a few printouts and even though the problem with the computer issue was not our fault still as we were providing a service we should have had a backup plan in order for this to improve. For the next meeting we took a spare laptop and mini projector alongside with more printouts and a backup plan as this error was unexpected we had to work of the top of our heads and as we were unprepared we looked very unprofessional.

4.4 Prototypes shown for the demo

Throughout the meetings with the clients we showed a variety of prototypes of the site. For the design stage we showed drawings of sketches and sample colour schemes using a colour generator. This was a really good idea and success prior to starting the website, this saved time as producing logos on the computer would be very time consuming for only the client to reject it. To ensure the client was happy and the best possible outcome was made from the project we created three prototypes although the client only seen two this again was time consuming but still worth while an improvement could have been made if we uploaded these websites and sent the link to the client instead of waiting for meetings.
Consultancy

From the consultancy cycle, the team demonstrated the importance of offering support to the Client when they needed it most. As they set out aims and objectives in terms of what they wanted to be delivered, our team acting as a consultant – (with specialised expertise), were able to offer required support to clients who had little or any knowledge of the IT field. As a result, having to provide advice on a professional and technical level was not as difficult as one would think hence this part of advice came out naturally. An example of this would be the meetings that were undertaken between the team and the Client. As it has already been indicated, the Client had no knowledge of advanced technology and hence needed a lot of sustained technical support, meaning that, when advising, nontechnical terms had to be used so that they are able to easily grasp and understand the issues. From the magazine “Discover what Clients really want”, Jason Walsh states that if you understand the needs of clients, including how they think, and you are able to communicate with them at their level, it can help you meet the requirements that have been set. Throughout the different stages of the project, a lot of specialist expertise had to be shared and it became clear that, as individuals, each one of the team members possessed certain strengths and weaknesses. But as the team worked in a concerted fashion, it was able to harness its balanced skill-sets and offer them to the client, and this included areas such as IT analysis knowledge to Web development. When it came to understanding, identifying and grasping client issues through questioning and getting the information, the process was easy to go through because the team utilised open-ended rather than leading questions so that the best needs-driven solutions could be delivered.

An additional issue which came out clearly in this project is that, as consultants, coming across people who have little knowledge of IT is inevitable. Therefore the need to utilise what has been learnt in the past years, engaging with different categories of clients in different ways, according to their knowledge base is important. Advice given from “Discover what Clients really want” magazine emphasises the need to keep Clients on track by avoiding the use of technical terms; doing background work, being on time and continuous communication on project status.

In the project, all these issues were actively applied: explaining technical ‘jargon’ in simple terms; advising the client what might work out best for them.
depending on which route they decided to take in the solutions and options that were offered. Good communication and active listening to the Client was necessary in order to create a good Business proposal. The team were able to enhance communication with the Client through the use of several tools such as email. As a result of adopting such an approach, it was possible to get more familiar with the client and, at the same time, the client became comfortable and free enough to share what was required and the type of solution package needed. (Clark, A, 2012) emphasises the importance of encouraging better client participation in project design; and this was the main reason why the team had to actively engage the Client at all levels of the project’s cycle.

Certain skill sets have been enhanced in addition to possessing new attributes which include the importance of actively listening to the client so that you are able to get the best response from them and deliver intended results. Actively client listening to the is foundational to generation of ideas and solutions; being able to take note of what the client actually requires and then generating an idea that forms a part of a solution. Furthermore, the experience gained in this project has enhanced the team’s capacity in terms of data collection, ability to work effectively in a team, communication skills, knowing self-strengths, weaknesses and many more skill-sets.

The team chose and utilized best tools to be able to understand the client’s requirements in more depths. One approach to this was the research that was undertaken, in this case problem identification. The requirement gathering stage was very important due to the fact that deliverables have to be what the Client is expecting. Although the team did a good job in this respect, it should have done much better if it researched into other methods of gathering the requirements or to illustrate them more than others by looking in depth into their competitors; for instance, collecting Factual data.

In terms of overall Consultancy process, some of the issues and events that occurred have allowed enhancement of skills and aptitudes as a Project Manager; and some events even highlighted the fact that, at times, it is not easy managing individuals whose ways of doing things, characters and behaviours are different. Having a team with different skill-sets, expertise and trends of thoughts may be seen as negative at times in terms of teamwork but in this situation, it worked in favour as each individual (coming from different course backgrounds) added their own niche to the group, the result of which was delivery of improved support services to the client. From experience, it is shown that further improvements are always necessary and inevitable in consultancy management; for example, during meetings with the client more engagement (in terms of live meetings) would be needed in the future. In addition, enhancing the ability to offer more live elements to the meetings so that the client understands better the direction that the project is heading to and being able to recap on the meeting that happened in the past.

Project Management
A project is defined as a temporary endeavour to create a unique product or service (Mallet, M. 2013). Knowing fully well that a project can be uncertain and it is most likely to change course, therefore this allowed alertness to anything that may affect the project. The task of creating a risk register at the
start of the project highlighted risks that are inevitable and how each can be handled if they occur. In this respect, project management can be viewed as a process or activity which enables planning and organising a project. As a project manager, I made sure I was familiar with this area, hence the necessity to acquire planning, organising and time management skills in order to undertake each activity that was needed to achieve project success.

The business proposal is one aspect that helped plan the project out. As aims and objectives were laid out and backed up with the requirements that were given, this document structured out what was going to be delivered in the end. In this section in particular, knowing what the client needed (through active listening) would clearly show in the business proposal. In this case the solution revealed that requirements were clearly articulated, which means that each member of the team appreciated the importance of listening to what the client needed.

There are several benefits in using project management tools when it comes to planning a project. Product Flow Diagrams, Product Breakdown Structure and Gantt charts were some of the tools that were used. It is appreciated that, given more time, some additional tools should have been utilised to ensure effective project management, more in-depth analysis of issues and delivery of best possible outcome. Throughout the course of planning the project, time management was one of the biggest challenges; as Project Manager, it was necessary to effectively use these tools, and they helped in moulding the project to what it became.

The surety of using PERT at first seemed to be challenging, but after familiarising with it in more depth and calculating the project costs, it seemed to work out very well and, in the end, project costs were calculated appropriately. Overall the project plan has been the highlight of this project due to the fact that the team focused on the task to be delivered. It is pleasing to note that, in spite of differences in individual work patterns, everything was done on time as each team member knew when the various tasks were expected to be accomplished. The main key attribute that was learnt was being able to motivate team members so that each is able to achieve certain goals at the same time being assertive with the team members so that they should do their part in a professional manner. This management style seemed to be effective in the end. Certain improvements should be considered like setting out clear goals within team meeting for the weeks to come, this would make the meetings more effective when the team members come together and present what each has done.

It is also clear, upon reflection, that since people work at different paces, it would have been better to highlight, right at the beginning of the process, the necessity of working in a unified manner for the good of the project. Furthermore, there are certain areas that as a team and also as an individual will need more improvement. For instance, in the beginning it became clear that some individuals were better suited for other tasks (other than those they were given), hence reshuffling was needed. As a Project Manager, it was noted that, when this was done, at first some individuals were not happy but eventually (after reassuring them of the necessity of this action) they too appreciated that they were best suited for these tasks. Through this process,
and by learning through doing, especially learning how to resolve issues. Analyse roles in more depth and active listening, all these capabilities have been enhanced. A review of the outcome shows that all of the aims and objectives were covered in the solution. However, proposed improvements for the next phase would be to give the client the best of their solution by offering extra pages onto the websites to broaden their market horizon.

**Teamwork**

Overall, team performance throughout the project was good due to the fact that individuals engaged well within the team. Having a diverse team with different skill-sets from different course backgrounds meant that the right balance to this project was provided in the sense that each individual was able to input their expertise to the Client. Belbin emphasises the importance of balance in teams, if there is no balance the team will struggle to capture what is intended. Hence, everyone appreciated the type of skills they were bringing to the project, making it easy to place them into their individual roles and tasks that were to be accomplished. As the team offered different skills, each one was able to bring different insights into the project, hence ensuring that the team work effectively as each area was covered:

A team … a congregation of individuals, each of whom has a role which is understood by other members. Members of a team seek out certain roles and they perform most effectively in the ones that are most natural to them. (Belbin)

Teams with different backgrounds can either be great in terms of performance or disastrous (depending on management); but in this case the team worked effectively. Professionally in the real world of consultancy, a Consultant has to learn to work in teams with people of different professional backgrounds; and this is the nature of the profession and it is an inevitable feature. Belbin’s team roles were applied and identified in the team, ensuring that there was a variety of skill sets that each member possessed for effective discharge of project tasks. As an individual in this team and also as Project manager, the proposed improvement for the team’s performance next time would be to ensure that each team member puts even more effort into timely task accomplishment to achieve not just what they are comfortable with, but even stretching their limits to bring about more and better deliverables.

Tuckman’s development stages highlights how a group evolves into a team. The forming stage for our team was when individuals were trying to see where they fit in terms of project roles. At this stage we did experience a few issues; for example, who was doing what. However, in the end and especially after using Belbin’s Team roles, it became clear where individuals could fit in executing overall project plan.

As we went onto the storming stage, we encountered some challenges in terms of personality clashes but communication was key in resolving issues; and it became clear that even though some individuals didn’t agree on basic issues, they realised that they could not work as ‘little islands’ and hence the necessity to work in a team setting.
Our team worked best at the Norming stage where it was seen that the team was able to come together to sort out team issues meaning that the Team leader didn’t have a load on their shoulder. As a team we did partly reach the performing stage where we were productive and the team was flexible to take on tasks; and if they saw another individual needed help, this had to be provided to ensure that we were able to deliver what was expected of us as a team. In a book called Management consulting: delivering an effective project, it is stated as follows: “When you work in a team your weaknesses can be compensated by others’ strengths”.

Overall Tuckman’s development stages highlighted how the team has evolved. The team as a whole worked well together, every team brings with it differences of opinions. Whenever individuals felt like they didn’t like something, this was communicated around the team. This opportunity allowed listening skills to gather relevant facts, to offer advice; being conscious of the fact that the decision made by the Project Manager for instance, will not only affect the team but the project as a whole. By ensuring that team issues and concerns are timely and effectively resolved – and in a participatory manner – team members do not feel like they are being unnecessarily controlled, hence they work together in a more conducive environment to achieve desired outcomes.

The good thing is that, in the team, we were not faced with a lot of issues. In spite of this, non-adversarial approaches were to be used when there was a conflict, by carefully looking into the interests of both parties and finding out best solutions for each side. A good example was the absence of one member and swift action needed to be taken. First, we had to figure out what was the main cause of the absence; and after discovering that they were not going to make it, there was no choice but to reshuffle tasks in order to balance the work load. To achieve this, it was necessary to initially assess, at individual level, what skills they possessed and match them to the role best suited for them. We had to reshuffle according to who suits the role best and who has more skills to offer so that the deliverables that are offered to the Client are of the highest quality. Michael Colenso in his book, High Performing Teams states that “High performing teams talk about clarity of purpose, agreed objectives and knowing where they are going, reason for existence, know what is to be achieved”. Overall, our team embraced this advice and performed as expected.
Project management

At the beginning of the project, the team was introduced to the client and learnt about what the company was about, how the company started and a brief outline of what they wanted to achieve from the project. After the introductory meeting with the client was finished, Team Tenacity set out creating a business proposal in which they could present to the client to review before the project could commence. The business proposal aided the overall plan of the project by allocating different amounts of time to each team member dependent on the complexity of each particular task assigned to them. Due to the time given to complete the project, along with team members having other work to complete, the project plan was run on a stringent timescale, however additional time was scheduled in case it was needed on particular tasks. The timescale came in the form of a Gantt chart and was made available for all members of the team to view.

Each member of the team completed a skills assessment sheet at the beginning of the project which made the project managers decision of allocating different job roles to team members easier, based on what each team members key skills and experiences were. For example, the web developer was the only team member with experience of designing and developing websites so the project manager allocated him that role as he felt it would best suit.

The costing of the project was calculated based on the timescale of each individual task within. Specific tasks cost considerably less than others. Many factors were taken into thought when calculating those costs as some tasks may have required more than one team member to work on it and others tasks may have been dependent upon the successful completion of another task. The team members also had to consider their workload for other modules within their respective degrees. The team members had to consider their workload for other modules within their respective degrees. The team members also had to consider their workload for other modules within their respective degrees. The team members also had to consider their workload for other modules within their respective degrees. The team members also had to consider their workload for other modules within their respective degrees.

Team meetings were a key part in the success of this project. They took part every week, quite often there being two or 3 meetings a week, dependent on the intricacy of the tasks scheduled to take place that week. However, team meetings are something that could be vastly improved going into the next project. Within this project, the team either met during university hours or contributed from home using the Facebook group created upon commencement of the project. Both methods of communication within the team worked incredibly well as members of the team were able to upload pieces of work to the file share in which all members could access from home and distribute feedback accordingly. Another method of communicating with each other when not in university was through Skype. The project manager created a group in which members could chat when online or read past messages whenever they next signed on. Not all team members had access to Skype which led to miscommunications and not all members being aware at which stage the project was up to until the team met again in university hours.

As a whole, the author believed that the team meetings were a success and that they were scheduled well.
Teamwork

Having the team perform to their full potential at all times (including individual tasks and team tasks) was essential in order for this project to be deemed a success. The group members completed team effectiveness and team diagnostic forms to reflect how well they were working at different stages of the project. The forms were collated and proved that the team were working effectively throughout the project.

The project manager ensured that each member of the group was aware of what they were required to do and that they were carrying out their responsibilities to the best of their abilities. Having the project manager leading by example was something that motivated group members. He applied pressure when tasks needed completing and guaranteed that the group would be well prepared for any meetings with clients or team meetings. If individuals were struggling with tasks, the project manager organised so that extra time was given for the completion of the task or he would allocate additional group members to work on the task. This method of practice is an aspect of the project that the author believed worked very well and ensured tasks were completed according to the timescale outlined in the project plan. The development of the website was aided by the research carried out by the business analyst. The detailed market analysis provided an insight into the client's competitors and the market they operated in. The designs of other websites and their customer base most definitely gave a solid foundation for this project and final solution.

Belbin (2012) Team Roles are used to recognise individual's behavioral strengths and weaknesses within a team or work area. The author believes all of the roles defined by Belbin were well represented within the team. For example, the author of this essay undertook the web design and development so therefore needed to be creative and imaginative, which characterized the 'Plan' role.

Other teamwork theories were taken into consideration throughout the duration of the development. Knowledge, Skills and Abilities (KSA) tests were carried out to distinguish where the team was performing optimally and where they were not performing well enough.

On a personal level, the author feels that as Team Leader, he could have offered more assistance to the project manager that may have enhanced the team’s performance as whole. The work he carried out on his other roles, Web Developer and Finance assistant, was to the best of his ability and of high quality. There were times during the project which the author thought he could have had more of an input from other members of the team when it came to the web development side of the project. He was never once asked if he needed help with anything, which at times left him with a large workload. This affected other phases of the project and the authors other university modules.

Consultancy
Consultancy was the knowledge area that the team believe to be most important. Of course Project management and Teamwork are extremely important, but without having effective consultancy then the team wouldn’t be able to understand the client’s requirements and therefore the solution to their problem would not be achieved.

The consultancy cycle was followed throughout the entire project to enable the team to fully understand the clients, the market they operate in and their project requirements. The team began by building a relationship with the clients through the organised client meetings. The business proposals were presented in these meetings and the team began to analyse the current business and some of the client’s competitors. From the analysis, the team could understand what is required to have an edge on competitors. Planning the solution and implementing that solution was a timely process, but one in which the team involved the client at each stage to ensure they were happy with the decisions the team were making as a whole. Oxford Management Consultants (2004)

The consultancy within the project was good, but can definitely be improved in further projects and developments. The team benefitted extremely from the consultancy meetings that where setup at different stages of the project. Within each meeting, either one or two members of the team took the lead and controlled the flow of the meeting, with other team members taking minutes and inputting questions if they felt it necessary. Improvements can definitely be made when meeting with clients in the future. One improvement the author feels that both the team and client would benefit from is having the lead of the meeting inform all members of the team as well as the client of the agenda for the upcoming meeting. This would save time within the meeting and may allow the clients to do some meeting preparation. An example of this can be taken from a previous meeting with the clients. The business analyst wanted to gather the client’s opinions of other competitor’s sites. He loaded the websites up in the meeting and the clients proceeded to give the team their thoughts. However this was time consuming and took up the whole allocation of time given for the meeting. If the business analyst provided the client with their competitors website addresses a few days in advance of the meeting, the clients could have prepared for the meeting by looking at the websites before the meeting, which would have resulted in more time to discuss other aspects of the project.

The author believed that the team used the correct questioning techniques throughout all of the consultancy meetings. Listening to the client was extremely important, but in order to listen to the client, the team was required to engage with the client. This was achieved by asking different types of questions, open, closed and probing questions etc. Nelson, B. (2008)

The team developed prototypes in the form of live websites or screenshots from design stages and they were presented to the clients in the various meetings during the project. This allowed the clients to deliver feedback on what had been achieved to date. The web developer should this option as there may have been times in which there wasn’t a live website to display to the clients so he would use a screenshot the last available live website or would mock up a desired look of the next stage.
The experience and knowledge that the author gained throughout this project definitely gave him the sense that he could go on to a career in consultancy. He found that working on the project was fun and the feeling gained when receiving feedback from clients on the aspects of the project that he created or worked on was exceptionally rewarding. He also extended his confidence when receiving feedback from an assessment taken when he led a meeting with clients.

Conclusion

To conclude, the author believes that the group made full use of the project management tools and theories that were available to them and that the group members within Team Tenacity worked well as individuals as well as a team to deliver a sound solution to the problem that existed within the clients' business. Despite there being aspects of this project which could be improved for future projects, he, along with the rest of the Team Tenacity, considers this project as a whole to be a successful one. The team received great feedback from the clients and they hope the clients will use the solution as their website.
Project Management

How is our business proposal helping us plan for this project?

The business proposal helps us to plan for the project by using the project management tools in the proposal to set deadlines, roles of team members.

What benefits do the project management tools bring to planning?

PRINCE2 (no date) is a standard developed and used by various UK government departments and widely recognised in industry. Project management method that navigates you through all the essentials for running a successful project. PRINCE2 is a flexible method and is aimed at all types of projects.

Some of the PRINCE2 tools that can be used are:

- SWOT Analysis
- PBS: (Product Breakdown Structure)
- PFD: (Product Flow Diagram)
- Gantt chart

These tools help to define:

- Strengths, Weaknesses, Opportunities & Threats of the project.
- Planning of the products needed to complete the project.
- Planning of the order that products need to be completed in order to complete the project.
- Illustrate with a bar chart the project schedule.

This benefits the project by clearly defining what is required and when products have to be completed by, giving precise guides to successful completion & closing of any project. The tools were used after the initial client presentation when all the teams found out what the project scope was.

In hindsight have we planned / cost our project appropriately?

The costs for the project was projected in Microsoft Excel using data provided in learning materials and in discussion with team members during a meeting to estimate how many days the various products would require in order to be completed. The redistribution of QA work and a team member having to reconfigure the whole website meant that our project was not costed appropriately but underfunded. This was because more time was spent by the Project Manager & Team Leader organising the work and clarifying further responsibilities to other team members. In hindsight, a backup or recovery costing to allow for delays and other such issues that might arise would need to be included in the projected costs of the project, but could be accounted back if there were fewer or no delays.

How can we improve our team meetings?

We could have improved our team meetings by setting agendas, which could involve a process of determining action points from previous meetings and setting deadlines for work to be done alongside a checklist of who needs to do what work.
**Teamwork**

How is my team performing?

Most of the team performs well in respect of acting professionally within their roles, communicating and expressing their views in meetings, via email and social media group set up on Facebook. However, there was a minority of team members that did not communicate very well at all or were just not very good at personal time management and keeping to deadlines. This created a form of anxiety and confusion, at times, for other team members as we had to deal with some personality issues that we had not much experience of or had even heard of before. In fact we were not made aware of these issues at the formation of the team and had we been made aware, we could have researched the issues and try to accommodate them as far as was practicable.

In the first Team Diagnostic that we had had to complete, one of the team members came out with some interesting issues.

**As far as Question 1 was concerned**

- We hadn’t been judgemental because we didn’t even know about the mental health issues raised.
- He didn’t turn up at the meeting where we voted as a team to pick how to do the website.
- The only real conflict was that he wanted to do things his way in a dark little room and became sarcastic and rude when we didn’t agree with his demands.
- We didn’t single anyone out or criticise anyone within the team
- As we didn’t bow done to his whims we had a negative attitude towards him.

Until we got the diagnostic form back we had no idea about the alleged disorders.

During team meetings he was also rude, sarcastic and pretended not to be able to hear what people were saying and after team meetings when work had been distributed he claimed to not know what was going on even though we had asked him specifically in the meeting if he could do what had been asked and I had sent the minutes in an email to him. During team meetings and email conversations this team member was also at various times & levels rude, sarcastic, stroppy and made up unreasonable excuses as to why he wasn’t doing his work. As it became more apparent he only wanted to do things his way and go into a mood or temper tantrum when this wasn’t working I had to decide, after discussions with the team leader and the web designer (who also knew how to use the system we had chosen for building the website), that we would have a backup of the website on another web hosting in case things went wrong or were deleted from the system we had previously shown to the client. As it turned out, when the files were transferred to the new hosting, as it would be done if our project was chosen over the others, the website failed to work as it should have and that meant Molly spent several days sorting out all the issues before we could do the final presentation.

Another team member also ended up presenting problems for the team. We needed certain documentation doing for certain dates in order to keep the project on track. I emailed the QA Manager with what work was to be done and by what date & time, asking him to email me the work so I could do the relevant QA checks. Every deadline was missed and there was emails and Facebook posts from him requesting information on where to find things. These were all on Blackboard and were...
This team member was absent quite a lot from lectures and meetings so there was, initially, a bit of handholding in terms of directing him to the resources and even providing sample documents for him to be able to understand what was required. He even tried to say that work was passed to me at a meeting where I had not attended but it was made very clear that it was his work to do. After missing several deadlines and not passing work to me as requested, even posting on Facebook he was on a road trip while he should have been at a team meeting without any apologies or prior explanation, our tutor was made aware of the situation and she advised that I needed to be tougher as Project Manager and stick to deadlines given and make my decision accordingly. After a brief discussion with two other team members to see if we could spread the work load amongst us, which was agreed, I emailed him to let him know that we had redistributed his responsibilities among the rest of the team and he had nothing more to do with the team efforts. He then came out with excuses and carried on asking what was needed to be done. After a few email exchanges I had to be very clear - yet still professional - that he was no longer part of the team and to upload whatever work he had done at the time to the group File Exchange on Blackboard. During all of the emails I CC’d in the Tutor (who said she would back me up on what decision I made) and the Team Leader so they were up to speed with all developments.

This was hard for me as I have not had to deal with these types of situations before or had to ‘fire’ someone so it was a good learning experience for me and good preparation for future projects and employment.

Are we likely to have an effective team?

The team is likely to be effective because the majority of the team members are professional and happy & willing to do the work that is needed to complete the project despite unnecessary issues brought on by other members. The team was happy to provide alternative solutions when requested, in order to try and bring the project to a successful conclusion and worked for the better interests of the team as a whole.

Can I recognize Belbin’s team roles in my team members?

Belbin’s team roles are shown in the following diagram (removed)

Although two of the team members were displaying more of the ‘Allowable Weaknesses’ rather than any positive contributions, the rest of the team had a good combination of the various team roles described.

We were
- Practical
- Reliable
- Co-operative
- Diplomatic
- Dynamic
- Creative
- Imaginative
- Communicative
- Effective delegators
Having these attributes helped us to be a more effective team and I have had to learn to be more communicative, strategic and discerning and to clarify goals in order to have the drive and courage to overcome all the obstacles that came up throughout the project.

What can I propose / do to improve my team’s performance?

To improve team performance, specific and clear deadlines could be set on the action points set from team & meetings, with a better process for determining the action points and when they have been achieved as part of the Quality Assurance system. Maybe a table such as the following could be used:

How do Tuckman’s team development stages compare with what is happening in my team?

The Tuckman team development stages are shown here

The ‘Forming’ stage is a natural stage for new teams who don’t really know each other but this stage should quickly dissipate as the project is defined and roles are attributed.

The ‘Storming’ stage was a stage where one team member became stuck in as he struggled with approaches, direction and communication. I tried to involve him in discussions but he kept saying he couldn’t hear me even though I was sat right next to him. He also wouldn’t respond to emails if other people were CC’d in so I had to BCC people in, in order to try and get some sort of response from him. Keeping communication in with the rest of the team as to what was going on was also important in case we needed to make any adjustments to our plan of operations.

The ‘Norming’ stage was again a natural development for the rest of the team as we could feel the momentum of the project via client meetings where we needed to have produced something to show them. As a team we agreed on goals and communication between the team. Team communication was decided by email, text messages or through a private Facebook group for the team so we could pass on ideas and feedback. Again this was a small problem as a certain team member decided to de-activate their Facebook account and refused to answer their phone so our only option was to contact him by email.

The ‘Performing’ stage was well achieved by half the team as we took responsibility for tasks and took the initiative to tackle forces which were making it hard for the project to progress as it should. The team facilitated itself well with the members that were actually working, and worked proactively for the benefit of the team. For example, when the final presentation to the client was approaching, I asked Molly to have a copy of the website hosted elsewhere in case of technical difficulties and the stroppy behaviour of another team member. Molly asked for all the website and database files and got them. When it was transferred to the new hosting site the website did not work properly – images were not showing etc. Molly then spent several days trying to solve the issues and got the site working with literally minutes to spare. I made sure that she was appreciated for her sterling efforts in producing a site that was working and the clients had no idea that there was nearly nothing to show them but an awful looking non-functioning site.

Consultancy

What is consultancy really about?

Consultancy is about finding what a client really wants as an end product from the project, following on with work based on goals then rechecking with clients to see if work done is to their requirements.

Are we following the consultancy cycle with our client?

The consultancy cycle has 7 phases. (removed picture)
Have I got the skills required to be a good consultant?
I am developing the skills to be a good consultant. I am generally a good listener but I could improve on the following points:

• Take better notes and audio record meetings to refer back to in case any points are missed.
• Be more assertive in time management of meetings by not allowing items to overrun.
• Be better at asking questions, especially if I am unsure of something.

What can we improve during our meetings with the client?
I could improve client meetings by setting time limits for things such as introductions, showing User Manuals etc so we do not run out of time to let the clients give their feedback and ideas to us. I could also have use the minutes of previous meetings to ensure we were at the correct stage in the project regarding where we should be at in terms of completion.

Are we using the right tools to understand our client’s requirements?
By using the correct consultancy skills of listening, questioning, collecting data etc we are using the right tools to understand and hopefully fulfil our client’s requirements.

What type(s) of prototype will we build for the demo and why?
We will build a prototype website using Drupal because it is a universal website builder with many modules that can be used as required, depending on the type of website you are building. In our case we were building an ecommerce website with a blog and social media integration so we used the modules related to ecommerce so there was items such as a shopping cart and products pages etc.
Working in Teams

"Teamwork allows me to be involved and participate in equal ways, sharing equal ideas. This helps to broaden my thinking to achieve the best outcomes." Griffith Graduate (2003)

Working in teams can be well-defined as when a group of people are brought together for the aim of a mutual objective. Each member in the group contributed their abilities to accomplish their goals. Within the group, every member participated in a position to accomplish the group’s intentions. Bruce Tuckman’s team development theory provides a way to challenge the duties of assembling a squad through the achievement of an assignment. On the whole, each group associate played a vital responsibility to complete the project at the end of Client-Focused Business Solutions.

"Our planning (or worrying about) what’s happening next gives us little opportunity or inclination to examine what has just passed." Wallace (2005)

Scripting from the perspective of a student, it was suitable to take note of the above quote. Members within the team hesitated to take their next plan of action during the duration of the assignment.

Belbin (1981) created a model on group positions which was developed in Belbin’s (1993) publication. On the foundation of Belbin’s model the group presentation can be experiential when a successful or losing duty is established for the group; he also asserts that each associate with an appointed position steadies the group position. Belbin differentiates between two conditions; team role and functional role. Individuals operating in a functional role have a specific role within a group or part of a company. It is essential for a group to keep the ideal balance both in functional roles and team roles. Alternatively, Tuckman’s theory describes the four phases of small group expansion as forming, storming, norming and performing. However, a fifth phase of adjourning was added which involves the conclusion of duties, termination of positions and closure of groups.

Belbin’s model explains that during the group developments, conflicts and social problems are established there and team development is reliant on the quality communication and connection maturity with advance performance. In conventional surroundings this model is helpful for many students and group leaders. According to this model all participants work at the same position and are involved in predefined employment. The model works at the personal level of groups when new briefs are initiated and students involved have worked together for a short period of time.

In this project, team members requested to reflect on the circumstances taken place during the past three years to progress and make use of their personal skills needed to preserve the associations with lecturers and clients. Gibbs (1988) reflective model is used to reflect in a positive way. This cycle is a familiar structure for the reflective essay. Gibbs (1988) contains six phases to fulfill the model which improves the team’s individual services continuously and knowledge for the finest product together, following period reviews the mood of participants about the project and third phase involves the study of the spirits of group colleagues. The fourth phase is the assessment to mark the sense of practice; fifth phase includes the result of cooperation and the final phase involves the test plan for the position.
This kind of reflection produced practice knowledge which supported the client’s to work with group associates and adapt the new project during the assignment. Working in teams created a sense of pleasure and established professional practices. The team work encouraged each member to learn from their mistakes and manners, and look at the prospects of other members in the group. It was important to build the group member connection with other team colleagues. Students established a mutual understanding and trust with other group members.

Boud (1996) has declared that reflection is caused by its positive states. Boud provides examples of a conclusion of duty which was thought difficult previously. The team showed this sort of reflection during the project. Group work faces many difficulties. Watson (1995) asserts that working in teams is not a smooth path as independent conduct, personality inequities and cultural, philosophical, sexual characteristics are all possibilities. Within the group there existed certain communication problems, partly bought about by the differing nationalities of group members. On reflection by group members, it was determined that to help improve communication skills many exercises were organised, both as a team and on an individual basis. This helped improve the confidence of group members to participate in discussions and decision making. Upon reflection, these exercises to enhance communication skills might have been practised at an earlier stage. Certain individuals still lacked confidence in their linguistic skills, but overall group communication did improve greatly.

Despite issues, the positive features of team work are huge as being a Business Analyst you may share the resources and ideas of group members. The team have had discussions on various subjects relevant to the assignment during the past year. The clients have respected the group participants, their ideas and feelings. At the beginning of the assignment, group colleagues settled upon the main objectives and enabled them to make an agreement on the goals, and dismissed interruption from other problems. An outline of the task was completed before every session and circulated to every colleague of the team during the meeting.

Project Management

“At its most fundamental, project management is about people getting things done.” Dr Martin Barnes, APM President 2003-2012

Project management is the presentation of procedures, approaches, acquaintance, services and practice to accomplish the project objectives. A project is an exclusive, transient endeavour, undertaken to complete scheduled objectives, which could be clear in terms of outputs, consequences, or benefits. An assignment is usually deemed to be a success if it achieves the objectives according to their agreement standards, within a settled period and budget.

In relation to project management, a business proposal can support a company to promote itself to possible clientele. There are many benefits to writing a business proposal, which can highlight the benefits of a specific invention or service for a consumer and present a persuasive disagreement to why the customer should purchase an item. It may be practical in helping the team recognise any difficulties that may exist with the business and ways that these issues can be overcome. A business proposal is a professional way of establishing what the cost for the project is and can be developed as the assignment advances to ensure that the budget is being stuck to.
PRINCE2 (an acronym for PRojects IN Controlled Environments) is a de facto process-based method for effective project management. PRINCE2 (2014)

On the basis of project management tools, it was appropriate to take note of the above quote. In this project, the team implemented two of the PRINCE2 methods for effective business administration; Product Breakdown Structure (PBS) and Product Flow Diagram (PFD). A PBS is a tool used to measure, organise and show the results of an assignment. The structure is part of a development method, and tries to break down all ingredients of a project. On the other hand, a PFD is a valuable planning diagram in learn and absorb assignments. The Product Flow Diagram is helpful to show in what order the sub-section products or structure can be designed to give expansions in competence. One of the main values in this project management method is to provide a working result as early and often as possible. By implementing these tools successfully, the team was able to organise the client’s goods within the website effectively. These methods have also influenced the team on what to design in order to manage the project.

Upon reflection, it was important that the team ensured and made it clear from the start that any project could face problems that threaten the objective. In fact, the group agreed that the project would experience some level of complexity that could delay the project’s procedure or result. It was recognised, sooner or later, the project would need a specific source that is unobtainable to overcome unexpected cost limits, and plan increasing project expenses appropriately, or have the assignment scope taken away from what was initially proposed. However, the fact this project faced such problems is not the main worry. What does matter is how the team leader and group responded to project problems that might have endangered the development, and successful outcome of the assignment.

To conclude, the team meetings are an important communication tool for project management, however unsuccessful meetings can harm a team leader’s credibility as well as condense group confidence and efficiency. The first step to any positive team meeting is to agree on the intention of the meeting. If the team disagree, then command will likely disintegrate and the meeting will be a disaster. The team should have allowed all group members just a minute or so to report on their development in their particular subject of responsibility. This may have reduced time, as it allows for bullet points of information per student. Secondly, the team meetings shouldn’t go on for hours. In future, the team should have improved on their time skills and not allow anyone in the meetings to go even just one minute longer than necessary. Finally, the team meetings are a perfect time and place for the group to develop their communication skills. The group leader should have prompted each member to rehearse their communication skills by introducing group knowledge activities that either improve or educate skills to the various group colleagues, such as, the team could have practiced Microsoft PowerPoint presentations in preparation for client meetings.

Consultancy

The meaning of management consultancy is no minor problem. The Management Consultancies Association (MCA) in the United Kingdom defines the title as:

“...the creation of value for organisations, through the application of knowledge, techniques and assets, to improve business performance. This is achieved through the rendering of objective advice and/or the implementation of business solutions.” Consulting Ideas (2010)
Most management consultants work through global consultancy companies or strategy segments of commercial organisations such as accountants. They are contracted by organisations seeking assistance and guidance about consultancy difficulties. Standard employers contain international organisation consultancy businesses; smaller consultancies; key economic organisations and enormous accountants and banks, but a group of people could be called upon to work anywhere and that includes the clients’ workspace for extended periods, possibly overseas.

Administration consultants need to be flexible, optimistic, and industrious and be able to get on with other people in a team. They also need practical intelligence, energy to work long hours, project management and vital skills to suit the background in which they are working. Management consultants work on behalf of clients; making sure the targets are met, promoting the business, writing documentation, and developing new formalities or guidance.

Whenever a team works with a client or a company, to help them work on a project, the team must begin a procedure which is similar to starting a journey together. The journey began with an initial client meeting and ended with the effective operation of a new product. To allow the client’s to keep track of where they are throughout the project, the team have been following the Consultancy Cycle. The solution itself is managed as a consulting assignment, so the team had an opportunity to practice every stage of the Consultancy Cycle as it took place during each session. The Consultancy Cycle consists of the following phases: Phase 1: Building a relationship; Phase 2: Contracting; Phase 3: Collecting Data; Phase 4: Making sense of the data and diagnosing the problem; Phase 5: Making decisions and planning; Phase 6: Implementing and Phase 7: Disengaging.

In relation to the Consultancy Cycle, there are many skills required to be a good consultant such as professionalism, time management, good communication, expert knowledge and the ability to work in a team. These skills were addressed by the team through the use of practical tools to understand the client’s requirements. The team carried out a formal interview in each client meeting and the group leader regularly emailed the client’s an online questionnaire in relation to the progress of the project. By implementing these procedures, the consultants were able to imagine conclusions that lead to suggestions.

Upon reflection, the client meetings were successful. The team arrived on time at the correct location, and were prepared to present the project work. This suggested that the team had focused on time management and communicated effectively with one another to undergo the meeting in a professional manner. The clients appeared to be absorbed and direct when it came to the design stage of this assignment. The team endured huge stress to develop the product as accessible as possible. In relation to improving client meetings, the team should have spoken in less technical jargon and communicated in a language which the consultants may have understood more clearly. This was identified by the client asking questions, which were explained by the group in easier terms which helped them understand.

To accomplish consultancy techniques, the group continuously presented to the consultants more than one prototype when it came to project variations. This enabled the client’s to have choice and decide which product design would be more favourable. As a cohesive team, all members equally contributed to the project which was successfully completed on time due to effective teamwork and communication.
Conclusion

The reflection of the knowledge areas reveals the significance of communication development and teamwork in this assignment. The project would have not been effective if one of the two vital knowledge areas did not coincide with each other. Belbin’s philosophy was used to appoint the positions to the colleagues by which the teamwork was made successful. The communication procedure played a main role in the accomplishment of the consultancy scheme; it needs coherent communication among the group participants and also with the client's and lecturer.

The communication position is a significant role in this project since it is essential to correctly clarify the message from the consultants. Therefore, the consultation and the teamwork worked closely together in the completion of the In Course Assessment (ICA).

Commented [MM483]: Synthesising
Project Management

As somewhat defined previously, project management sets out how the project was going to be completed; the general time needed to complete the project as well as what the end result of the project would be. Project Management is a necessary skill in order for a project to be completed in a timely fashion, but it is doubly important within a group as it helps make sure everyone within the group is working towards the same goal and has the same mind-set for the task at hand.

Management within the group was mostly performed by the Project Manager but most documents relating to the section were in fact created with input from all group members which led to several advantages but also some disadvantages. Obviously everyone felt better connected when we worked as a team, and so by starting out with the baseline for the project being created as a group it helped set out a team mentality that would last the entire project life-cycle which was important to keep the group connected.

It was also advantageous that everyone had some input at the beginning because not only did it allow us to get a larger range of ideas for the project to start with, it made sure everyone within the group was on the same page and knew what was being requested out of the project and how long it was likely to take.

However, some minor problems could have potentially been encountered; the most applicable would be the lack of group role cohesion this may have caused. Certain members within the team had group roles in name only, as the entire team would often have feedback on all fronts of the project something that was likely set off by the management.

As for the deliverable side of the management, the most important documents produced during this section of the project would be the Business Proposal as well as the Gantt chart, in both its original form and its updated versions. These documents were very useful towards the creation of the project, as well as towards what would have to be completed. This lead to a better understanding of what the end result of the project was likely to be as well as how the group would reach it. This helped set out the group member’s strengths and weaknesses; as we knew a large amount of work was going to be required it became important to make sure that tasks were being completed by the appropriate group member so as to avoid possible difficulties that may have arisen.

Another advantage these documents brought to the group was the ability to plan better within the group by use of the Product Flow Diagram; knowing what task needed to be completed in order to start on another task was helpful towards allowing the group to focus on key tasks as a whole and which tasks could be left to be completed as an individual.

The Business Proposal was not just necessarily used as a guideline for the project, it also helped plan for the group as a whole, not only in what had to be completed but also who would be doing what tasks and in a theoretical situation, what they would be expected to be paid had the project actually been for a real business situation. Whilst the actual figures were somewhat irrelevant it did help give a general understanding of what tasks were going to be the most difficult and time consuming, which allowed the group to better prepare and plan for them.

During the Project Management stage, before the group had initially began work on the project in a deliverable sense, the team hadn’t yet met with the clients in a...
professional meeting and so some time was spent on planning not just for the projects but for the consultancy meetings as well. Individually, few of us had been in a professional meeting of this sort, let alone as a group and so there was some degree of worry as to what had to be done in order to get as much information out of the client’s whilst not appearing to out of sync with what they wanted. With no previous experience to rely on, it became important to make sure the group was going into the meeting with strong focus points so as not to drift off topic. Further information regarding the meetings will be discussed within the consultancy section; the important thing to be considered here is that the project management did not just revolve around the product, but also the client’s themselves.

Teamwork

In regards to this document, the teamwork section is not just necessarily setting out how the team worked together or who had what role within the team; the idea of the document is to showcase how different areas of the project were handled either as individuals within the team or as a whole group.

Starting with defining how the team performed together, it was apparent from the beginning that the team understood each other and worked well as both individuals and as a group; not necessarily on each individual task but as a whole group perspective, during the life-cycle of the project there were almost no arguments within the team, and whilst there were sometimes conflicting opinions on certain parts of the project, these were presented in an understandable and calm way and were intended to aid the project. Overall the atmosphere within the group was informal but professional in regards to the work, better than past experiences had with group projects.

With that in mind it is important to consider that just because a group works together well as a team that they are going to be effective at all tasks within the team, and whilst lack of experience wasn’t a huge problem within the project, it did cause some issues towards the beginning as the team was unsure how to go about performing some of the tasks required. Thankfully, certain members of the group rose to the challenge and were able to develop the necessary skills that allowed the project to be completed as a whole.

As a general statement, the group’s effectiveness seemed to be on an active level and there were almost no tasks that couldn’t be completed with the aid of the team.

Early on in the project’s lifecycle, we were given the task of assigning individuals with a score rating in a variety of different areas, as defined by Belbin in his team role management. While it was not necessary to follow the roles completely, it did give a good guideline as towards what roles would be useful for what team member. Now that the project has finished, it could be interesting to reflect on what team members were assigned what roles and whether they were based on the Belbin criteria or something different.

Due to the larger number of roles given to different members of the team it is not necessary to list every team member and say whether or not the roles they were given were obvious from their skills but from an overall point of view it is clear that the roles given to the team members, while maybe not all based off of Belbin’s rating, at least made sense and were handled appropriately and professionally.

Suggestions and improvements were taken within the team in a serious matter, though it was rare for there to be a need to improve as a team over improving as an individual. Members of the team would be open to hearing suggestions but it was...
also important that they had their own ideas and would not immediately change their mind simply because someone suggested something.

Tuckman’s team development stages were another professional analysis tool we used within the group and project, allowing the team to see what stage they were currently performing at and what was to be expected of that stage. There were five in total, Forming, Storming, Norming, Performing, and Adjourning and each stage’s criteria was quite apparent with-in the group; during the Forming stage groups were just meeting and so no one knew each other or what to expect whilst once we had reached the Norming stage, everyone understood each other and was concentrating on their work. The only remaining stage is the Adjourning stage, where everyone in the group gets closure on the project and work they’ve accomplished.

Consultancy

Reflection on the consultancy is based heavily around the meetings that took place with the client’s as part of the project, but it can also extend to other forms of communication taken by the team towards them, such as through e-mail.

The aim of consultancy as a whole can depend on what the purpose of the project is, though in most examples, this one included, the main purpose is working between two parties towards a common goal through means of communication. Whilst it varies from situation to situation, the client’s would usually start the project with a goal or aim and enlist the other party towards helping achieve that aim. Even though our project was based around a schooling environment it was only slightly different to how it would be handled in a business situation.

The skills required with consultancy are mostly focused around communication and people skills though it does dip into some knowledge areas too; it helps to understand what is possible with a task when discussing with client’s who may not be as knowledgeable. As previously mentioned, the team had no prior experience with working as a team in a consultancy meeting and so the first meeting was quite an undertaking with certain members shining more than others. However, even from the start everyone in the group made sure that they said what they wanted to say as individuals and the group made sure that the questions asked and answered were the correct ones necessary for the project’s completion.

Looking back at previous client meetings, it becomes apparent that there was some room for improvement; even though we came out of every meeting with some new ideas or client feedback, if there was any one area of the project that could use some enhancements it would be the client meetings. There were only a finite amount of meetings throughout the project’s lifecycle and it seems the team may have taken them for granted; had we used more tools to better the showcasing of the website and its features, it would have likely resulted in more useful feedback from the client’s; it mostly seemed the group would show their work rather than ask for suggestions which is a reasonable way to get an end product but perhaps it would have made more sense for the client’s to be just a little more involved with the creation process.

Carrying on from the previous point, there were only three meetings to memory where an actual website prototype was shown to the clients. Whilst there was only a few meetings throughout the project’s lifecycle, and some taking place before it was feasible to have a working prototype available, it would seem beneficial to have allowed access to the website not just through meetings; in order to have gained a better understanding of what the client’s wanted out of the project.
Conclusion

As a quick conclusion to the previous reflections, the team seemed to tackle each area of the project with a professional and understanding mind-set. While there were obviously some hurdles within the project’s life-cycle, such problems are inevitable and it was how we handled these problems as both a group and as individuals that allow us to walk away from the project with more understanding.

As an overall statement, the group worked well together and handled themselves professionally with both the client’s and each other.
Teamwork

With the growth and development of current organizations, teams are no longer working in isolation. In today’s world, teams may find themselves having to work with other teams to achieve a goal. This makes effective teamwork all the more important, but what makes teamwork effective? In Effective Teamwork: Practical Lessons from Organizations Research, by Michael A. West (2012, pp. 1-12) there is a chapter on “Team Effectiveness”. This chapter defines team effectiveness with five main components; the components listed highlight task-related objectives, team member well-being, team viability, team innovation and inter-team co-operation.

The last component that was listed hasn’t been relevant for Dream Design during the project. Dream Design has had no work to do with other teams – they have worked alone as a team and with the clients only. The other four components have been relevant to the team and, in general, these components seem good among the Dream Design team members. From these components, the team seems to be rather effective, but there is still plenty of work and development that each member can do to really make the team effective.

In order for a team to become effective, there are tools which can be utilised. In the Client-Focused Business Solutions module, the class completed two exercises that are tools which a team or company can use to develop and improve upon effective team work. These tools are Belbin’s Self-Perception Inventory questionnaire and Stevens and Campion’s KSA assessment.

Belbin’s Self-Perception Inventory questionnaire is designed to help a person determine their best team role is. These roles identify someone’s behavioural strengths and weaknesses when in a place of work. By using the information from Belbin’s team roles, one can build a more productive working relationship with mutual trust and understanding. Additionally, a more high-performing team can be developed and personal effectiveness and self-awareness can be raised. Furthermore, Belbin’s team roles can help with the recruitment process.

When the Client-Focused Business Solutions module began back in October 2013, the class participated in Belbin’s Self-Perception Inventory questionnaire, before any team was formed. The questionnaire, in total, has seven questions, each with eight options; a participant filling out the questionnaire has to distribute ten points among the options that best describes them. It forces a person to think carefully about themselves, in order to allocate the points. As these questions are connected to working with others as part of a team, it can become difficult to complete. If someone is unsure about them self or hasn’t had enough teamwork experience to determine which best applies to them, then they can struggle to allocate the points and find the team role that best describes them.

Like the rest of the class, Dream Design team members all completed this questionnaire. However, the team roles that were identified from it weren’t a concern when the team was formed. Dream Design just came together with none of the members really knowing each other before hand. When working with unfamiliar people, there will be concerns with how the team will work and there can be conflicts between team members. In regards to conflicts, Dream Design has been fortunate, with team member being capable of working well together from the start.
The second teamwork exercise that was completed during this module is the KSA assessment. KSA is the abbreviation for Knowledge, Skills and Abilities and it is a teamwork test that was developed by Stevens and Campion. It is a conceptual model that, according to The Oxford Handbook of Personnel Assessment and Selection (2012, pp. 840) describes a set of key interpersonal and self-management KSA. When working as part of a team, the frequency and amount of required interactions and interpersonal exchanges is higher; this creates the need for the interpersonal KSA. In addition, as team members will perform managerial or supervisory functions for themselves, it has created the need for the self-management KSA. When the self-management and interpersonal KSA are combined, it will show distinctive individual level capabilities or competencies; these in turn will help to satisfy many of the team’s functions.

About half way through the project, the class was provided with Stevens and Campion’s KSA assessment. This assessment has a number of statements; each statement has the same two options to choose from, which are “a great deal” or “very little”. Each team member of Dream Design competed one assessment for themselves and another for a team member. By doing this assessment, the team could see what areas they think they need to improve upon and what a team member thinks they need to improve upon. Having both assessments and comparing them shows which of the areas a team member most needs to work upon.
Project Management

The term, "project management" refers to the process of planning, organising, directing and controlling (etc.) a production; it is an application of the process, method, knowledge and skill needed to achieve project goals. Project management is about managing distinct packages of work in order to achieve goals. Temporarily, it may require people to gather and focus on specific goals; this centralises effective teamwork for a project's success.

Effective project management can involve a number of tasks, which can be split into several areas. One area of project management is planning; this area involves tasks such as creating a PBS, PFD and Gantt Charts. In the Client-Focused Business Solutions module, these documents were required aspects of the project.

The PBS and PFD are connected documents that are tools used in Prince2 and are a part of the PBP, which is the abbreviation for "Product Based Planning". The Prince2 PBP indicates four steps, but for this project, only two of the steps where looked at and concentrated on. These are step two (PBS) and step 4 (PFD). The PBS, which is an abbreviation for "Product Breakdown Structure", is a hierarchical diagram; figure 1 displays an example from the prince2primer.com website. The purpose of this diagram is to display every product that needs creating within the project scope. Alternatively, instead of being a hierarchical diagram, it can be displayed as a mind-map or as an indented list.

Figure 1: Product Breakdown Structure Diagram

- Barbeque Party
  - Entertainment Group
  - Refreshment Group
  - Pre-cooked Group
  - Marquee Group
  - Table Light
      - An open source
      - Drink Group
      - Food Group
      - Chicken
      - Rice
      - Marquee
  - Sauce
  - Table Setting
      - Juice
      - Jus d'orange
      - Jus de pamplemousse
      - Salad
      - Sandwhiches
      - Pasta
      - Spaghetti
      - Fried Chicken
      - Fried Rice
      - Fish
      - Cheese
      - Ham
      - Vegetables
      - Salad
During the project, two Gantt charts were produced by Dream Design's Project Manager. They were later reviewed by the team. The first was the initial Gantt chart for the project that was created at the beginning; the second was produced about half through the project and is a revision of the first. The Gantt chart allows the whole team to know when a task needs to be completed by and how long they have to spend on it. This chart should continually be accessed throughout the project, in order to check deadlines, milestones and makes sure that the project is on track. Additionally, it would also be beneficial to check the PRS and PFD diagram to make sure that all the products are being produced and in the necessary order. However, it can be easy to forget about these documents, as the Dream Design team found. By doing this and just working on the project will result in missing tasks and over looking products, as well as going over task deadlines, especially for a large project. This can result in missing the project deadline and having to push it to a later date.
Consultancy

One of the dictionary definitions of “consultancy” is “the state of being a consultant”. A consultant can follow two basic career paths. One of these paths is as a “generalist”; these people will have many skills, such as IT and business management and they’ll use them in order to help companies improve. The other consultancy path is as a “specialist”; they have a focused area, such as writing or design, and will gain a lot of knowledge in that area, which they can then share with clients. Both types of consultants are experienced people and their job is to consult with their clients.

During the Client-Focused Business Solutions module, teams were provided with several opportunities to experience being a consultant and build some consultancy skills with live clients. These opportunities showed that there is a difference between being a consultant and being a good consultant. Consultants need to be knowledgeable in their subject area, as they must provide expert and professional advice to their clients. It is the consultant’s job to help guide the client into making the best possible choice for themselves, their company or product. However, these opportunities to meet with the clients showed that there is more to being a consultant than just being knowledgeable.

To be a good and successful consultant, there are certain skills and qualities that need to be developed. An important quality a consultant must have is people skills – they work with clients and, in all likelihood, as part of a team. Due to this, a consultant needs to be capable of working well with others and have good communication skills, as they need to speak and listen to people. In addition, having a service-oriented personality is equally important for a consultant and would be beneficial, as they need to be motivated to meet all the client’s needs and wants. Another important skill is problem solving; a consultant, one needs to determine what the client wants and needs – what their problem is and then come up with a solution. There are other skills and qualities that a consultant may need at times, such as leadership skills, idea generation and logical reasoning, writing skills, presentation skills and basic computer skills (depending on the field of expertise).

The DSC Dream Design team members all demonstrated some basic skills with several of the necessary consultancy skills. Each member of the team demonstrated that they can work well and co-operate with other people to a high standard. They also showed a basic level of communication skills, which improved over the various client meetings, though there is still a lot of room for this skill to be developed upon. In addition, each team members displayed some skills in generating ideas, solving problems, presentation skills and computer skills, during the project. However, if a team member were to pursue the path of a consultant, they’d still have a lot of work and development to do, in order to become a good consultant.
Recollection of Experiences

The experiences gathered in the process of carrying out the Client focused business solutions project can be easily compared to the ‘sturm and drang’ with the belief, the mood as well as keen interest invariably unsteady.

At the early stage of the project, the process of finding a group to work with was not an easy one as I just finished my placement year to face a new set of students that I have never relate with. I was very lucky that the experience I had from working in a real office environment during my placement year helped me a great deal with adjusting quickly to team members of my group, PAGE 8. The sharing of job roles and duties among the group members resulted to friction and awkward gestures as some members of the group were running away from the challenging roles such as Project Leader and team management roles, again I had to use my experience gained from real working environment to bring a soothing and calm effect at that moment.

After a successful distribution of roles and duties, came the inevitable tasks which are competitive analysis and business proposal that will kick-start the project and as usual the experience did not leave me indifferent. This was preceded with the expectation and the concern that the direction being taken by my group is quite encouraging and captivating as everyone was working so hard, and without any doubt the feeling I had was that the project is going to be easy and very interesting never minding the fact that it might be a difficult one. The expectation was to get a unique name for the project website and an eye-catching logo to go with it. The name my group came up with was ‘Hearts and Crafts’ and the logo was very relevant as it portrayed the originality of the clients business we are helping to build, which is the essence of the group project. Basically, my initial thoughts about the project name choice and the logo in particular were not as positive as I would have imagined they would be and that was highlight of my first group meeting.

However, the next team meeting began with the group going through the job roles and description that I presented which was followed by brainstorming on the business proposal and business requirements that were collectively done by team members. This gave me more insight on the knowledge of what our project was about as I started to comprehend more about the requirements of the group project. Essentially, I was able to ascertain the potential aims and objectives that would be accomplished to achieve an excellent project in Client focused business solutions.

Furthermore, in order to keep accurate records of the events and for better comprehensive reflection, keeping notes of all event such as lectures, tutorial classes and particularly the meeting sessions with the client enabled me to keep tab on the progression of the project at a much required pace. This act of keeping notes allowed me to critically assess the idea and facts that are being brought into perspective either by the tutor or the client or even any of the team members, thus gathering more experience. Due to the immensity of this group project that has building a full functioning website as the focal point, it was essential to have proper ‘minutes’ of the team meeting sessions and client meeting sessions. This was poorly handled by the secretary as he was mostly absent in the team meetings and sometimes in the client meetings as well.

Each time I have hindsight about my group project rollercoaster, I always regard the attitude of the secretary to be the beginning of the unpleasant experiences I encountered during the course of carrying out of the group project work. The nonchalant attitude shown by the secretary really slowed down the pace of the team project. Now, when I look back I wished the project manager would have acted swiftly by delegating the team secretary work to
other team members, although that was done at a later stage but the damage was already done. The same experience was encountered when the Gantt Chart, which is a very important management tool that is very vital for the cause of the group project, was supposed to be presented by the secretary to the team members, the secretary did not turn up at the very meeting and I personally had to take up the responsibility of doing the minutes and chasing him up to comply with the roles given to him. Although we hit some minor bumps here and there at early stages, with regards to few members being absent at some team meetings, it was nothing major compared to the unpleasant experience with the secretary.

Another primary part of group project that required particular planning was creation and design of the website which involves meticulous planning and efficient execution. This started with cost estimation plan also known as costing where all cost that will be incurred while running the project are taken into consideration so as to determine whether the project is attainable or not. The costing was carefully carried out by me with the help of other team member who estimates the cost that will be incurred in running their own tasks of the project. The early stages of the web designing part was fast on track, and was successfully carried out as the group knew the web design phase accounts for almost 80% of the project load; hence it is taken very seriously by the clients and the tutors as well.

The visiting of the client’s residence together with my team members was a very thrilling and captivating experience, where the clients got to showcase their products at first hand and I seized the opportunity to witness locally crafted goods at its best. This encounter proved to be futile as it equipped my team members with different images of products which will be used for the website design features. Photos of these locally made products were taken and the surrounding landscape of the area was also captured and used on the website that was been designed for the clients. Having agreed on the images of the product that will feature on the clients website, the designing phase of the website then went into the final phase which was successfully carried out as all the needed tools and data has been collected. Having examined the important stages involved in the early phase of the project development the next part of the essay will account for lessons learnt in the course of this group project work.

Personal Feelings and Learning from the Experience

Team effectiveness: This is an important quality to possess which guarantee a successful working carrier for individual. The ability to work very well within a team has been of a great value to me and equipped me with the remedy to several issues and is highly appreciated by employers of labour. This has also made me to realise how vital the knowledge sharing ability is within a group of people or organisation. Furthermore I have built a working charisma that enables me to work efficiently within a group under a time constrained condition.

Problem solving: Having faced with numerous difficulties in the course of carrying out the group project, the time management skill and team motivation skills has helped me to adjust swiftly to any less pragmatic situation and find the possible solution to the condition in a working environment as quickly as possible. For instance, the minutes, and some part of the gantt chart and documentations that the secretary failed to provide was done mostly by me and that is something I have come to learn that team work is a successful way to thrive in any business.

Planning and organization/Project management skills: I have improved so much on my skill in the area of project management skills as a result of the group project I embarked upon. Prior to this group project, I have hardly been able to multi-task but that has tremendously improved a great deal now, as I was able to engage in so many tasks at the same time during...
the course of the group project task. Having seen myself as a very organized person during group project I learnt the ways to improve these skills through note taking and time management.

Group Dynamics and Learning from the Experience
This group project experience evolved into great learning practice as distribution of ideas and knowledge among the members which has proven to equip one with the ability to analyse the events and occurrences from different perspectives. Initially, you can have a deep thought on what your initial perspectives were about a certain area of the project and how it has changed after the group meetings, and analyse how this knowledge has been transformed. I have always had the notion that individual project is the best form of project as there would be so much distraction with group work which involves different opinions but that notion has changed. Projects conducted on individual basis means you tend to consider your own thoughts and perspective which may be so shallow in most cases. Thus, the early stage of group project has been invaluable to me as I have realised the benefits of sharing the ideas among group members. And also taken into consideration that most of the team members come from different cultures and backgrounds it subjected me to acquire variety of knowledge that enables objective ideas from so many different perspectives to be shared and reflected.

However, there was some unpleasant experience from the group dynamics area as due to the significance of the project; resulting into inevitable odd behaviours from team members. At some point, there were issue of lack of motivation, and in other case it was as a result of nonchalant attitude by some members who failed to turn up at team meetings or failed to carry out the tasks assigned to them. Therefore, these indifferences gave rise to arguments and tension rising but it was dealt with wisdom and matters were resolved amicably. Although at some point some group members decided to be assessed separately and no longer as a group, but in the end we let peace to prevail.

Lessons for Future Projects
Although I have learnt several lessons in the course of doing this group project, there are still a significant number of areas that I need to improve on and put them to use in future group projects. They are as follows:

- Being objective to the idea being subjected by the other team members;
- Be willing to subject myself to positive criticism and be wise to see reasons;
- Better time management;
- Enhanced ideology of reflection on events;
- Pay serious attention to the feedbacks provided by the tutor.

Conclusions
This essay presents an insight on the reflection regarding the experience and learning process gathered from the group project, Client focused business solutions as well as how well to improve on the certain areas. Overall, this essay strongly suggests that undertaking the group project was a very intriguing experience which has rewarded me with tremendous teamwork skills.
When it comes to writing a you never know what to say, you do not want to be hyper critical for the sake of it, as that would not be fare to your team colleges. Objectiveness is the name of the game, trying to establish what the team did really well, and what the team did not do so well. The steps we took as a team, plus the decisions that we made as a team. A reflection document is not an easy document to write, its so easy to get wrong. A document can be sometimes seen as too descriptive, that is not a piece of reflective writing. So in writing this report, objectiveness and stating the facts, what when and where will be given total priority in order to achieve my objective?

So here goes, came together by accident rather than design. When we were asked to form teams by, none of us really had readymade teams to go into, was on her own and basically the whole team was a collection of individuals on their own. So really that is how came together. We were a collection of individual people who came together at the right time, as a team we seemed to jell really well together, we also got on well together as people, through meeting these people we have become personal friends now, which would probably have never happened, if it hadn't have been for the module of client focus business solutions, so that has to be a positive thing.

Team roles

Until we met the clients, we did not know what kind of project the team would have to undertake. But before we knew that there were a number of positions within the team that would have to be taken up. Did not know whether members of the team would naturally volunteer or whether they would have to be cajoled into taking up the positions, that includes myself in that. Here are some of the team roles that had to be decided up on. We needed a team leader, project manager, secretary, five hand with the clients, Designer, researcher, quality control, etc. Some of the roles would be more high profile, than other roles within the team. Before deciding on the issues of specific team roles, we decided to do some research about team roles; we looked at the theory of a man called a man called professor (Belbin, 2011) of Henley College in the early 70s. To look at team roles as it might have helped to see where the differences would come about. We noticed that the team roles theory the Meredith Belbin is widely used by thousands of companies all around the world. So we choose our team roles freely and no one had to be cajoled into it. Balance of the team was the key when it came to choosing our
Client meetings

So we met our clients and from , a small craft business situated in the Yorkshire dales. Our task for this project was to design a new website for our clients. Before each client meeting our client liaison officer John would get in touch with the clients to find out what if any issues they had, or if they had any questions they needed answering. Our project manager always had good facilitating skills so that we could talk to the clients clearly and concisely. So before each client meeting would liaise with me the secretary, so that we knew exactly what we would be discussing with the clients. As secretary my duty was to liaise with the rest of the team letting them know what was going on. We had a little weakness in this area; the problem was that due to other subject commitments we could not meet any more than once a week. To try and resolve this problem we opted to have an extra meeting on a Friday morning and we all agreed that it was a valuable exercise. Our project manager explained the purpose and outcomes of meetings very well, and all supporting documents were handed to the clients before the meetings started. Our team knew ahead of the start time what we need to bring to the meetings in advance. By on large the meetings always started on time. We would always introduce the team at the beginning of the meeting. As secretary my duty would be to take notes at the meetings to remind the team what had been done and said at the meetings, so we could have an agenda for our next meeting.

Dream designs were tasked to build a website for the clients, and to provide the consultancy that goes with building the website. The first thing our project manager did was to come up with a business proposal in agreement with the whole team. The business proposal was very efficiently done by the project manager Chris, but there was a slight problem we were over optimistic about the cost of building the website, we charged £32,000, and I believe we put in the cheapest tenure of all the teams taking part, so we had to take another look at our business proposal and look at the man hours charged to the clients etc. We had to bring our prices down to more realistic prices. The project manager then created a simple Gantt chart for schedules to the project and to help track the project in an organised fashion.


Our project manager all the way through the project did a really competent job; here is a PBS chart, a product breakdown structure, and hierarchical structure of all products, that makes up a project deliverable.
When it comes to project management in our team we have implemented a few technologies to help us keep the project together and have the ability to share files between the team members, the main group tool we use is a simple Facebook group to keep in touch, while this is just a small social media area it has given us great benefits of being able to get instant feedback from team members or sharing ideas with each other as the group is linked to everyone’s mobile device it is possible for the team to communicate while on the go so that we can always get in touch with each other. Another technology we use to our advantage is cloud based storage, currently we have two storage systems in place for our team the first of which being Microsoft Skydrive which we use to store our documents and then share with each other, we have an account set up where we can all add our documents into that account and then all of us can edit them inside the web browser this tool is extremely helpful to us and provides an invaluable way of sharing documents and opening them on any computer or mobile device.

The other storage system we use in our team is Google Drive, we mainly use this for images and PSD's that we share between each other, like the Skydrive account we have a shared area that we can share between us, we store the images that the client provided us with and keep them in a password protected area that only team members can access, this means that the clients work is safe and will not appear to the public. We also use Google Drive to take notes that we can all edit while in class so that all of us can reach the notes of that specific team meeting or class with ease, this has proved extremely useful when creating ideas based on the clients information. These storage technologies have helped us a lot so far in the project and kept us extremely organised.

The business proposal that we have created is also a huge tool for keeping our team organised and helping us move forward with planning the rest of the project, with the deliverables page and the Gantt chart we are able to have a detailed plan of what we should be creating and by which date these elements should be completed by, this has been incredibly helpful with keeping us all in check with what parts of the project need to be completed at certain times, in our team meetings we could be a bit more organised with what we have to show each other but it could be argued that we already show what each of the team members have done by using the online tools, however there is always room to improve the efficiency or our project management.

Teamwork

My team contains people that I have had the benefit of working with before, whether it has been the past 2 years or in college I have met and worked with all my team members, having already worked with each other we were already used to performing well together and were able to skip the introduction and 'awkward' phase at the beginning of the project and get straight to work. In the team we have people of different backgrounds like web development, web design and graphic design so we have a good base for our team and creating excellent solutions for the clients needs, to this date all the team is working well together and performing to their best abilities, we have a Facebook group to keep up to date with where each of us is at, this also lets us help each other in the case of a problem arising, already we have had 1 or 2 problems that we have been able to rectify quickly with helping each other, as well as the area on Facebook we also have a team skydrive area for uploading documents and a google drive area for images, the google drive area is where we keep all the images that the client has provided to us so it is accessible to all of us with ease but still protected by a password so that the clients work is not available for public view.
Using all these technologies together we have built an effective working environment for our team that is extremely effective for us to share work and collaborate as a team. From the beginning we have defined the team roles that each team member has using the abilities that each team member possesses. We decided which team member would be best suited for the roles they had opted for, and there were some roles where the team member had no choice and had to receive that the work for the project was spread equally so that each member has a critical contribution to the team’s overall performance. My roles consist of Web Designer and Administrator. The web designer role was given to me because I have a good web designing knowledge and a strong experience using tools like Photoshop, but not a big experience of the developing and coding side of the process so I was chosen for the design role. With the admin role, I was chosen for that role because after the first meeting I was the one to happen to get all the documents together and note the meetings so it was decided that I would be given that role so that I can keep going with the things I had already started.

With my team's performance there are some disadvantages of being well acquainted with each other, the main problem is that we can have a too relaxed attitude with each other when it comes to getting work done; a few times we have had to chase some members of the group for work. I feel that we will have to become harsh the consulting side of this project is the part we have to most careful with because this area of the project is where we could win or lose the client. Being technical with the client could make her worried or confused about what we have done but on the other hand, treating the client like a child is insulting and the client could be offended so keeping in mind we have to give better explanations about certain topics when talking to the client. I feel that so far we have been as good as we could be when explaining to the client about elements of the design. The most notable explanation I can think of where we best explained something to the client I thought was very technical was in our first meeting when the client was worried about using Twitter, however, we managed to explain that Twitter could be an amazing marketing tool that could be utilised by her business and used as a free tool to expand the business identity with minimal work, though explaining the element using an example of Yorkshire Tea the client warmed to the idea and agreed that we could integrate it into the website.

Consultancy

With our client, we needed to be careful when consulting as she was not aware of some of the 'web speak' that we are all used to; this means when talking to our client we should refrain from getting too technical with her as this could be confusing. The consulting side of this project is the part we have to be most careful with because this area of the project is where we could win or lose the client. Being technical with the client could make her worried or confused about what we have done but on the other hand, treating the client like a child is insulting and the client could be offended so keeping in mind we have to give better explanations about certain topics when talking to the client. I feel that so far we have been as good as we could be when explaining to the client about elements of the design. The most notable explanation I can think of where we best explained something to the client I thought was very technical was in our first meeting when the client was worried about using Twitter, however, we managed to explain that Twitter could be an amazing marketing tool that could be utilised by her business and used as a free tool to expand the business identity with minimal work, though explaining the element using an example of Yorkshire Tea the client warmed to the idea and agreed that we could integrate it into the website.

When it came to my turn to be assessed I chose the meeting where we would be going through the designs I had created and getting feedback from the client. I felt that this was the best time because I had been in charge of the designs and I felt that explaining the different design elements would be my strongest opportunity to get higher marks when being assessed. I feel that I should get good marks when consulting as I think I am good at explaining designs. I have created in layman terms that people can understand, staying away from technical terms, I chose to print my designs onto A3 paper rather than using the projector so that the client could see something physical that she could look at closely and use a marker to circle her favourite parts and draw on the paper parts that she would like to add to the design. I felt that this choice was the best that I could make because it was a more personal discussion where the client could get hands on with the design and we could get the best feedback possible straight from the client. I feel if we had used the projector we wouldn’t have got as good
feedback because we would have to explain each site to the client for her to try and explain what she would change instead of just drawing on the paper herself.

In the first meeting we had came a bit unprepared with our dress code and what we wanted from the client, with the dress code some of our team mates came dressed smart casual and we got feedback about our dress code and drastically improved it in the 2nd meetings and with the way we prepare, for the 2nd meeting we met up half an hour earlier and had a check that we had all the materials that we needed and had a quick run through of what we wanted to talk to the client about, there will always be room for improvement but at the moment I feel that we are doing a great job with our consulting as we all the members of the team are great at working with people and are very lively and outgoing when talking to the client about ideas and the only improvements to be made are minimal.

Reflection - Team work

An effective team needs members that are willing to get things done correctly no matter how hard things may look, teams need dedicated members which our team did, no matter what came up our team handled them well. When we came to creating our documentation we did become slightly confused with some of the documents or methods we had to implement, however after perseverance and dedication we managed to pull through and become a well organised machine that completed all the task that we had been given, to what we think is a high quality.

Our teams performance can be measured by the great relationship that we had with our client, we always went into a meeting well prepared and ready to get feedback from the client no matter whether this was positive or sometimes negative, we feel that we always had a friendly working relationship that at times could become witty and a comedic environment but in a positive way, we would always have a laugh with our client instead of being childish or seem like we weren’t taking it seriously. We always kept the attitude that we were willing to go above and beyond for the client and kept a fair workload between us.

The roles were split between us depending on what skills we had, we looked into the belbin team roles but got kind of confused by their methods of creating teams so we decided to make our own roles for what seem right and tried to play on each members strengths and not put them in a role where they would be over challenged or out of their depth, through this way of splitting up the roles there was a good working environment that everyone was comfortable with, having a team where people are not comfortable can lead to mistakes or people not giving it their best.

For our first evaluation we did not really take it seriously mainly because we were all sat next to each other and didn’t want write anything bad about each other because we were in a good working environment that we were all happy with, however for the second evaluation we completed them online at home and had more experience working with each other in more difficult situations and there was definitely a different level of evaluation, we were able to speak more about the groups strengths and weaknesses instead of trying to think that we were a faultless team.
Overall our team had a great relationship, always there to lend a hand to one and other but we also found the weakness of the group and tried to fix them throughout this project. While we always had a playful attitude to everyone and to the client, behind the scenes we were more down to earth and sometime stressed with getting things done, but overall the team has done a very good job and have learnt some vital skills that will help us in the future.
Within the Project Management section I am going to talk about how can we improve our team meetings. I think that the team meeting needs to improve by the member of the team turning up on time to the set meetings and to the extra meetings that are put up. Some of the members of the team think it is ok to say that they are wanting a meeting but don’t actually turn up to the extra meetings that are set up.

The tool that we have used to try and help us to sort this problem out is the Risk Register. We made sure that we had things in place that helped the work go along smoothly and to make sure that everyone knows what happens. The Risk Register helps us to determine what the big risk of not happening is and what isn’t. The risk register we are doing as a group within the group meeting, and find out that most of the risk is from team members not turning up.

So over all the management need to use these tools to make sure that the team meetings are turning up on time and getting the information needed. I also think that when meeting are arranged that the team members need to attend unless can’t and have told others. I believe that the team members need to make sure that the turn to the meeting with the information that they need and on time. Otherwise the solution isn’t going to be done to the standard to what the client needs.

Within the Teamwork section I am going to talk about how is my team performing? I think that as a team everyone works well together and we all get the work done when it is needed to do. The main problem with the team is one member not turning up or doing the work on time. If they do the work it isn’t to the standard that it needs to be done. Due to this person not turning up and not getting the work it is giving the other member more stress on having to do their work.

The tools in which we use within this section are the belbin team roles and the Tuckman team development. These help to make sure that we cover the team roles and how the process of the teams’ development is going. It also helps us to see what needs to be improved within the team. The team’s development is in the Norming stage of its development. If you are using the Tuckman team developments stages. Norming is the early adulthood stage; I believe that we are at this stage because we are still learning how to work as a team and how we can work together.

The Belbin tool has helped us to find the best roles for each of the team members within the team. All of the team members seem to enjoy the roles and feel like they have done something within the team. There is a member that didn’t follow the role through due to being busy in making notes and being interested in other things at the start which is why I took that role over. If the team didn’t decide that was a good idea then I am not sure where the team will be now.

So over all I think that we work great as a team, apart from one member not doing the one time or leaving themselves enough time to do the work.

Within the Consultancy Section I am going to talk about are we following the consultancy cycle with our client? We have made sure that we have used the consultancy cycle has helped us to create the solution to the standard that the client needs. The cycle is split into 7 different phases that help the process of the development move along smoothly. We as a team haven’t had many problems with using this cycle to implement the solution for the client.

The different phases are Phase 1 – Starting consultation, Phase 2 – contracting, Phase 3 – Collecting Data, Phase 4 – making sense of the data and diagnosing the problem, Phase 5 – gathering ideas, Phase 6 – Implementation and Phase 7 – Disengaging.
We as a team at the moment are at the phase 5 and 6 we are gathering the ideas from the client via client meeting in which we are questioning him to be able to implement them.

The tools that we have used within this section are the questioning tools and the consultancy cycle phases. The different types of questioning are:

1. Closed questions
2. Open-ended questions
3. Supplementary questions
4. Clarifying questions

All of these different types of questioning help me communicating to the client to find out what he wants for the solution. I tried to use all of these types of questioning methods to try and gather as much information as I could from the client to help implement the solution.

So overall the team is getting on pretty good and are getting the work done and with some improvements I believe the team will get the job done.

Within the section of Project Management I am going to talk about how the benefits of using the Gantt chart are when scheduling the time management of project. We created a Gantt chart that shows us what we have needed to create for the Project. The Gantt also helps to keep to schedule so that the project finishes on time. This tool in my opinion has helped us to develop the project within the timeframe and I feel like that we have managed to the project to the best of ability.

We have had a few key components that have come out at the top, like the calendar, and a few components, like the sign up page, that needed bit more work on them. This may be down to the judgement of given more time, to what we as a team, thought was more important than actually what the client needed.

Out of this situation I can make sense that giving something more time to create as a create is going to more different then as a client or end user. Thinking about how this experience has given me insight to how I should develop how to see what the client wants and not I think the client wants.

So in conclusion I believe that I have a lot more to learn when it comes to time managing and making sure that the tasks all get done to the correct standard. On top of that to make sure that nothing gets

I think in the future I will be able to use this experience to help me manage the project time and how the flow of work is done within the project. I think it will also help me to understand how the team members are under pressure.

Within the section of teamwork I am going to talk about how my team performing.

Over all when we sit down in meeting we are all pitching in some good ideas and thinking of what we need to do.

My reactions to the overall performance of how the team is performing are really average. This is mainly to the team not completely working as a team, where are more like working as individuals doing part for the group work; which makes me feel like we may not be able to get the project finished within the set time frame. It gives me the sense that work will be put across differently because of this, due to the different individual minds that that are within the team.

We have used tools like Belbin’s team roles and Tuckman’s team development to see which team members were good at. From this we were about to get a clearer picture of how the team’s performance would go.

But looking back on the information now I feel that there were certain members of the team that didn’t fit certain roles within these tools. They had a few problems that they didn’t understand how to do and weren’t able to control.

So overall the team member managed to pull it together to get the work done but it was a strain on a few other members that had to take bigger roles on. So these
experiences will allow me to see more clearly what each of the teams member are like in future teams. These experiences will also allow me to grow and see where my faults are and see where I can improve.

Within the Consultancy section I have chosen to talk about the way the Prototype that we will build for the demo and why?

We created the demo by putting the website on a computer screen and allowing the client to use a user manual and play around with the product. This allows the client to actually see what we have done and what they do and don’t like.

This way of doing the demo allows us to show of the good parts of the website and get feedback from the client by asking questions. These questions then allow us improve the solution further if needed. The good side of doing this was that it allowed us to actually hear from the client himself what we needed to improve in. On the other hand it did make us feel like we had a bit more to improve on than we thought that we had.

All I can make of this is make sure that we need to make more use of using questions and questionnaires; these might help us to understand what the client is wanting out of the project.

So all in all this experience has helped me to be able to gain knowledge on how to talk to clients and gather information. It has also helped me to gain confidence within myself and helped to improve my skills within communicating and presenting. So maybe next time I can be more assertive within meetings and gather more information that might help the project flow better.
Project Management

How will your business proposal help you and your group to implement the project?

The business proposal will help the group and me, by identifying who will be doing what. Each member will have 2 different roles, “Belbin roles” and will also have the project role, such as “legal lead” etc. The roles that myself have been assigned to are the following. “Belbin roles” my highest score is “Resource Investigator” and also “Completer and Finisher”.

The main role that myself will be doing is the “Legal Lead”, which means myself will be having 3 roles to complete for this project. There is an issue with the “Belbin” “Completer and Finisher” role, this is because another member of the group has also achieved to become a “Completer and Finisher”.

What benefits will the project management tools bring to the project and how will the project management tools help the project planning?

There are different types of project management tools and one of them is creating a diagram, such as “PBS (Product Breakdown Structure)”, this will have all of the steps that we as a group need to take and receive a deadline for each task, and this can be done by the team leader.

The benefits that the project management tools will bring to the project, are meeting client deadlines and also completing tasks easily, meeting client requirements etc. The tools will also help the project by using the future planning for the project which will give the members to complete their role tasks easily and understanding what to do after the first task has been completed. We as a group would need to meet the client requirements to make sure that the client is happy with their service(s) or product(s) that will be provided by our group.

Who planned for the project costs and was the cost reasonable?

We as a group have considered the costs of the project and how we can implement a project that does not cost the client a lot of money and to receive a successful project from our group. My personal aim is to deliver the best possible information for my role, this is because my role is “Legal Lead”, therefore my aim will be providing the best ways to make sure that the client is happy with the project that we will be delivering for the client over the internet to be able to promote the clients products online.

We as a group have considered all of the different ways that could provide us with the estimated cost for the full project, and also including the time that we will spending on this project to make sure that everything that we complete meets the clients requirements, to meet the client high standard to allow the project to become successful project. The project cost was reasonable and we needed to provide the members with the correct wage to be able to complete tasks to high standards.

How can the group meetings improve?

The group meetings can be improved in one way and that is spending more time on the work and showing the team leader what each member has done so far and to discuss how to improve the current work to be able to achieve highest standards towards the client’s requirements.

Team Work

How is the team performance?

The team performance is good and it is currently meeting the client standards, we have no major issues in the meetings and the members completing their tasks that are given by the team leader. From my point of view, the group is meeting the standards that we expect, we have been meeting the clients and making sure that we are still up to date with their requirements.

How effective is the team?
The team is effective at this moment of time and we have not had any major issues with the tasks, no member has delayed any tasks that the team leader has given. Some team members could not attend for few meetings, and this is because due to their health issues, but none of the set tasks have been affected, because myself and the group communicate with each other on our “Facebook” group page and we do not have any major issues that could delay the project or not to meet the client requirements. Each member is up to date with their tasks and knowing what to do, because of the communication link that we have as a group.

Does the “Belbin roles” work with the team members and why do you think the roles are suitable for your group members?

The “Belbin roles” are working with the team members, because each member has been assessed based on their skills and knowledge. The “Belbin roles” provides us with the members understanding and being able to complete the tasks without thinking that the task will be delayed. From my previous experience in group work, myself think that the “Belbin roles” does work with the members, because it provides us with the skills that each member has to complete given tasks.

What will you do to improve the group performance?

The only way that myself could improve the group performance is to provide help for the members that does not understand a specific area or task that the team leader has given. The group performance can be improved by completing the tasks at the high standards to make sure that we do not overlap with the deadlines. Myself could improve the group performance by completing my tasks to the standard that they expect and within the given time and helping other team members when they require help.

How does “Tuckman’s development” blend in the group?

“Tuckman’s development” blends in the group, because it mentions that you must concentrate on the given goals and following them to be able to achieve the highest standards for the work, it also mentions that you must make sure that every task is clear to you and being able to complete them easily. This blends with the group because we as a group knowing what to do and understanding our tasks and meeting our set goals and the clients requirements.

Consultancy

What is consultancy?

Consultancy is a process that the project creators must follow, this is because they have different stages within it, and it includes getting enough information and “Advice” to be able to start the project, and then going ahead with the analysing the data what the group has managed to get, and then we would need to go and “Design” the project to be able to meet the requirements, once the “Design” is completed, we will need to do the “Implementation” for the project and then “Functional Management” to make sure that everything is working perfectly and meeting the requirements.

How is the group following the “consultancy cycle” with the client?

The group members are following the “consultancy cycle”, this is because we need to make sure that we are getting all of the important information from the client to make sure that we are meeting their requirements.

Why do you think you have the correct skills to become a good consultant?

From the experience that myself have towards project, the skills that myself currently have will be enough to be a good consultant, especially for this project, because the clients requirements are clear and understandable and so far myself have not find any major issues in this project.

What can be improved in the client meetings?

We can improve the questioning and collecting enough information from the client will help us and myself to meet the client requirements. This can be done, by
communicating with the client and finding out if she would need to have more features on the project and then that way we could follow her latest project updates.

Is the group using the correct tools to understand the client’s requirements?

Yes we are using the correct tools to make sure that we understand and meet the client requirements, and as myself have mentioned above in the document that we will be planning ahead for the project to make sure that we are up to date with the client requirements. Our main goal is to provide the client a project that meets her requirements to high standards.

What prototypes will be used for the client demo and why?

We will be using a prototype for the project and meeting up with the client to provide her with the latest website design and implementation and giving her the chance to be able to feel and look at the website, this is because we need to make sure that the client is happy with her website for her products. The reason why is because when we implement the website, we need to make sure that we do not need to spend a lot of time and delaying the website for the client and making sure that we meet the given deadline requirements.

Project Management

How was the planning of your project and project management?

As a “Project Planning” is concerned, a group member has created the project management tools and they are, “Product Breakdown Structure”, “Product Flow Diagram” and the “Gantt Chart”. At the beginning of the module the team member has created draft versions of the project management tools, this is because the team member who created the tools for the client project required to show the other group members the process of the project and to also discuss what needs to be added and to show the tutor to be able to ask for advice.

Overall myself think the start of the project planning was really good, because it provided everyone with specific tasks and duration of each task to be completed by.

We had no major issues in the “Project Planning”, because as stated it was planned very well and it was easy and clear to understand what to do for the project.

In terms of the whole project management, myself would like to say it went ok, this is because we had few issues with some group members by not sharing what they have done without asking them, but other than that, the members did not miss out the deadlines for the client.

The project management tools have been completed and the final versions of the project management tools are available and this will provide you with all the allocated tasks and the dates they should be completed by.

Myself have found out from the project management tools the “Gantt Chart” is very useful tool, because it provides me with a time to complete the given task(s) and to allow me to complete the given task(s) as soon as possible to make sure that the group members are not going over the deadlines.

As we can see the above image is available to show you the process that we as a group have gone through with this project. First stage was to receive the requirements from the client, which was to build the client a website, the second stage was to design the website for the client and to provide the client with the website designs and if anything require any changes, third stage was to implement the website and preview the client with the website to show what the website will look like when it is released.

Fourth stage was the testing part, which is testing the website and the project to make sure that the project is meeting the client requirements and finally the end of this project we will be providing the client the website and all the suitable documents to allow the client to understand the functions of the website easily.

How did the group meetings interact and how was the team secretary role interact?

Commented [MM663]: Problem solving

Commented [MM664]: Questioning

Commented [MM665]: Observing

Commented [MM666]: Questioning

Commented [MM667]: Justifying

Commented [MM668]: Questioning

Commented [MM669]: Describing

Commented [MM670]: Justifying

Commented [MM671]: Analysing

Commented [MM672]: Describing

Commented [MM673]: Critically aware

Commented [MM674]: Applying

Commented [MM675]: Questioning
In terms of the group meetings, we had issues with them, but not huge issues, such as missing a big part of the project and which can lead the project to fail. We had issues with some group members not attending the meetings, some members stated why they cannot attend the set meeting, some group members did not attend without giving a reason to the group. The team sectary role went well, because the team sectary was attending all meetings and keeping a record of who attended the meetings and who did not attend. The sectary also kept record of the points that have been discussed in the meetings and also providing the group members with the points that have been discussed in the meetings. I myself think that this was a really good idea, because the people who did not attend the meeting had the chance to read what has been discussed and agreed in the group meeting.

Can your group meetings improve?

Team meetings can be improved more, and this is by trying to get all team members to attend the meetings to make sure that no one is missing out on the discussed points and to try and get more ideas from the members and this way the meetings can be improved a lot more.

In my opinion myself think that the only possible way that the group meetings can be improved, by not communicating on the group page on Facebook, because it is leading people to misunderstand each other and people do not attend the set meetings, because they think the group members will start an argument as soon as they attend the meeting.
### APPENDIX L

**DEVELOPMENT PATTERNS’ DEFINITIONS.**

**(ACTION RESEARCH CYCLE 3)**

<table>
<thead>
<tr>
<th>Concept A</th>
<th>Definition</th>
</tr>
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</table>
| **Describing Awareness** | **Oxford & Penguin Dictionary definitions:**  
*Describe*: Give a detailed account of something in words. An account intended to convey a mental image of something experienced.  
*Awareness*: Knowledge of a situation or fact. Having kept oneself informed.  
**Concept definition:**  
These development patterns demonstrate that the learner can recall information, usually in a logical order, for instance to provide the context of the reflection or to complement information already provided. This is often illustrated by straightforward recall of actions, recollection of the usage of tools and theories as well as acceptance of decisions taken. |

**Example of quotes used to define this development pattern**

- **Describing**  
  "At the beginning of the project, the team was introduced to the client and learnt about what the company was about, how the company started and a brief outline of what they wanted to achieve from the project". Straight forward description that conveys a mental image to the reader with regards to learning that took place at the beginning of the project.  
  "The timescale came in the form of a Gantt chart and was made available for all members of the team to view". Straight forward description that conveys a mental image to the reader with regards to how the timescale was represented and its availability to the team.  

- **Awareness**  
  "By using the information from Belbin’s team roles, one can build a more productive working relationship with mutual trust and understanding. Additionally, a more high-performing team can be developed and personal effectiveness and self-awareness can be raised. Furthermore, Belbin’s team roles can help with the recruitment process". Demonstrate awareness of how the Belbin’s tool is used for effective team formation.  
  "When the self-management and interpersonal KSA are combined, it will show distinctive individual level capabilities or competencies; these in turn will help to satisfy many of the team’s functions.” Demonstrate awareness of the usage of the KSA tool.  
  "The term, “project management” refers to the process of planning, organising, directing and controlling (etc.) a production; it is an application of the process, method, knowledge and skill needed to achieve project goals." Demonstrate awareness of what project management is about.  
  "The Consultancy Cycle consists of the following phases: Phase 1: Building a relationship; Phase 2: Contracting; Phase 3: Collecting Data; Phase 4: Making sense of the data and diagnosing the problem; Phase 5: Making decisions and planning; Phase 6: Implementing and
### Phase 7: Disengaging

Demonstrate awareness of the different stages of the consultancy cycle.

<table>
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<tr>
<th>Concept B</th>
<th>Definition</th>
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| **Observing, Discerning, Questioning,** | **Oxford & Penguin Dictionary definitions:**  
  **Observe:** Notice or perceive something by concentrated attention and register it as being significant.  
  **Discern:** to distinguish or discriminate between different aspects. To know, recognise or understand something, especially if not obvious.  
  **Questioning:** Expressing a sentence so as to elicit information. Expressing a doubt about the truth or validity of something.  
  **Concept definition:** This pattern demonstrates that the learner has paid some attention to the work environment and can identify and therefore differentiate if necessary - the importance of certain aspects of the project compare to others. The learner can point out aspects and constituents that made a positive or negative impact on the project. The discernment of important aspects of the project can trigger questions.  
  **Example of quotes used to define this development pattern**  
  **Discerning**  
  “The client is obviously central to any project, and the CRM must develop good lines of communication and respond to issues the client may raise as their main point of contact.” Recognition of the central role that the client plays within a project.  
  “Consultancy was the knowledge area that the team believe to be most important. [ ] without having effective consultancy then the team wouldn’t be able to understand the client’s requirements and therefore the solution to their problem would not be achieved” Discriminate Consultancy as the main knowledge area compared to Project Management and Teamwork.  
  **Observing**  
  “An additional issue which came out clearly in this project is that, as consultants, coming across people who have little knowledge of IT is inevitable.” The learner noticed the significance of working with non-IT literate clients.  
  “[Our team] suffered periods of low motivation which required the Team Leader and Project Manager to work in partnership to encourage the team”. The learner noticed the low motivation of the team.  
  **Questioning**  
  “Am I a better consultant following this project? This seemed like a very important question to ask myself, as the reason I chose this module in the first place, was because I’ve always had a problem communicating with other people due to social anxiety. During the first client meeting in this project, I barely spoke a word [ ] this is definitely not good consulting skills as the client expects the consultant to be confident that they know what they’re doing”. Emission of a question is the demonstration that the learner can discern the importance of own evaluation.  
  “Did we follow the consultancy cycle? [ ] In my opinion, we never entered stage 4, as we never discussed the data we collected with the clients. We just took the data that we got, and used it to generate ideas to present to the client for their approval, which is
Emission of a question is the demonstration that the learner can discern the importance of consultancy cycle.

<table>
<thead>
<tr>
<th>Concept C</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Implementing, Interacting, Problem solving</td>
<td><strong>Oxford Dictionary definitions:</strong> Implementing: to put plans, decisions, agreement into effect. Interacting: 'inter' means 'between'. To act upon each other. Solve: means of effectively dealing with a problem. An explanation for a mystery. <strong>Concept definition:</strong> These development patterns evoke actions taken through application of concepts, theories and tools to practice in relation to the progression or improvement of the subject matter, it can also relate to the usage of a process in context of the project for instance to analyse it or the mapping out of experiences to theories. Although ‘Doing’ might read in a similar way to ‘Describing’ it relates to the implementation of something key to the project and it usually includes some kind of explanations that support the reason for the implementation or interaction.</td>
</tr>
<tr>
<td>Example of quotes used to define this development pattern</td>
<td>Implementing “The group members completed team effectiveness and team diagnostic forms to reflect how well they were working at different stages of the project.” Provides a description of a specific aspect of the project that was implemented as well as an explanation with regards to why it was implemented. “The team developed prototypes in the form of live websites or screenshots from design stages and they were presented to the clients in the various meetings during the project. This allowed the clients to deliver feedback on what had been achieved to date”. Provides a description of a specific aspect of the project that was implemented as well as an explanation with regards to why it was implemented.</td>
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<td></td>
<td>Interacting “During various stages, my role was changed due to the nature of the team. Using persuasion and motivation techniques, I dedicated tasks to assist the team leaders when deadlines were enforced.” Provides a description of how inter-members communication helped the project to progress. “The main communication with the client was conducted via email and face to face meetings. Communication through email was mainly managed by [the CRM], face to face meetings in which all team members had to be present in order to consult with the client and extract the information needed to determine in which direction the project should be heading at”. Provides a description of how inter-members communication helped the project to progress.</td>
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</table>
| | Problem solving “The team could have achieved the performing stage easier if the following was accomplished earlier throughout the project. The team should have had more activities and more social events which would have helped, although once the project was complete we did have a social meeting for the Adjourning stage but more activities throughout the project would have helped improve the team bonding as all other meetings were project related.” Identification of issue and possible solution. “Meeting minutes should have been made available to all team members on a more regular basis following meetings. Especially
for people like me, it’s difficult to maintain concentration in meetings, and tend to day dream a lot completely sub-consciously”. Identification of issue and possible solution.

<table>
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<tr>
<th>Concept D</th>
<th>Definition</th>
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</table>
| Analysing, Evaluating, Comparing, Applying theories | **Oxford Dictionary definitions:**  
**Analyze:** Examine something methodically and in detail, typically in order to explain and interpret it. Discover or reveal something through close examination. The examination and identification of the constituents of a complex whole and their relationship to one another.  
**Evaluate:** to determine the amount, value or significance of something by careful appraisal and study.  
**Comparing:** Estimating, measuring or noting the similarity or dissimilarity between things / people.  
**Applying:** put something into operation or practical use.  
**Concept definition:**  
It is the creation of new meaning grounded into data or experience. The learner demonstrates that he/she can break down parts of materials and identify how they fit in the bigger picture with the aim of understanding or clarifying outcomes or behaviours. |

**Example of quotes used to define this development pattern**

| Analysing |  
“The main problem was that the team felt they were being overshadowed and not trusted. Other issues which arose had to do with a lack of honesty and openness in order to resolve issues. Members felt they could not voice their concerns successfully so most of the time they withdrew and left those who could continue to carry on.”  
“Formed of new meaning with the aim of understanding behaviours.  
“In organisations, conflict arises and it needs to be resolved. Our team was no exception as there were conflicts which manifested during the course of the project. The main cause of the conflict experienced was the need for recognition by team members and differences of opinion”.  
“Formed of new meaning with the aim of clarifying reasons for team conflict.” |

| Evaluating |  
“As a team we used tools such as team effectiveness surveys and team diagnostics to evaluate how we were performing. The results of the first team effectiveness surveys showed a low score of 22 for the action “The group does an effective job of sharing responsibility among its members”. This low score highlighted the team’s belief that the work load and work tasks were being shared out unevenly and thus some team members were completing a lot more work than others”.  
“Evaluation of performance derived from data collected, not from one’s opinion.  
“A heavy university workload resulted in the CRM failing to email the client for a week. This could have damaged the ‘Trust Building’ component of a CRM and was a lesson on juggling important tasks and ensuring that keeping in touch with clients was given the appropriate level of priority. However, the client’s End Solutions Feedback specified “Fantastic communications and feedback” this lapse did not affect the overall level of satisfaction”.  
“Evaluation of clients’ communication derived from action not taken - in this case - and feedback.” |
Comparing

“We kept a traditional method of using a Gantt chart to give us a specific time frame, we didn’t always get things completed by the times that we thought were possible but we edited our Gantt chart accordingly, we ended up with multiple charts, with our final one being very different from our first, this shows that we had underestimated our time keeping and we learnt a lot about judging time scales for work through the use of the Gantt chart.”

Comparison of work duration at different points in time using the same tool.

“We did not initially learn from [our actions] and the same mistakes were repeated during the creation of the logo which was worked on by three team members. However, we then eventually adapted and [our colleague] was given the freedom to design the business cards and website single handily; both of which turned out to be extremely creative and innovative.”

Comparison of outcomes between two different methods of work production.

Applying theories

“For my part, communicating with the conflicting team members individually proved an effective resolve to team conflict. During the implementation and client meeting stages, this proved effective as the conflict was less confrontational and more self-critical and innovative. This allowed the team to progress according to ‘zone 2’ of the ‘conflict vs performance’ model allowing a high productivity outcome.”

Putting the conflict model into practice based on project context.

“According to Tuckman, in the forming stage members are comfortable with each other as they are ‘warming up’ to each other. Not much gets done at this stage as there is no conflict between members (University of Washington, 2014). This theory can be applied to [our team] as in the early stages the members had not fully implemented themselves within the project”.

Putting Tuckman’s team development stages into practice based on project context.

Concept E

<table>
<thead>
<tr>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Synthesising, Theorising, Drawing conclusions.</strong></td>
</tr>
<tr>
<td><strong>Oxford Dictionary definitions:</strong></td>
</tr>
<tr>
<td><strong>Synthesise:</strong> the combination of components or elements to form a connected whole.</td>
</tr>
<tr>
<td><strong>Conclude:</strong> arrive at a judgment or opinion by reasoning.</td>
</tr>
<tr>
<td><strong>Theorise:</strong> development of an abstract idea or set of ideas about something in order to explain it.</td>
</tr>
<tr>
<td><strong>Concept definition:</strong></td>
</tr>
<tr>
<td>This development pattern is the generalisation of a concept defined from a known data set and with the aim of widening its application to future applications. It can be forming an opinion or judgment based on facts but the outcome of this development pattern is the creation of new ideas, rules, processes and concepts that could be applied to future endeavours or could have improved / have enhanced the project under scrutiny.</td>
</tr>
<tr>
<td>This development pattern tends to evidence the creation of knowledge anchored in the project experiences. It could relate to how problems have been or could have been solved but it could also take the form of extraction of main project conclusions or combining different ideas into lessons learnt. This development</td>
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pattern is usually a strong demonstration of learning from experience.

<table>
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<tr>
<th>Concept F</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Judging, Interpreting.</td>
<td><strong>Oxford Dictionary definitions:</strong>  &lt;br&gt; <strong>Judging:</strong> to form an opinion about something through careful weighting of evidence. To form an estimate or evaluation of something.  &lt;br&gt; <strong>Interpret:</strong> explain the meaning of information or actions often in the light of one’s beliefs, judgments or circumstances.  &lt;br&gt; <strong>Concept definition:</strong> This relates to opinion forming with regards to the quality of something taken into careful consideration against a set of criteria or literature, and it can also demonstrate personal judgment of actions or decisions. This attempt is often made from a learner’s belief or opinion or from data collected.</td>
</tr>
<tr>
<td>Interpreting</td>
<td>&quot;The actions of our project manager and the actions of the team to help [our developer] with his workload demonstrated leadership and backup behaviour which are two core components of effective teamwork discussed by Michael A. West in Effective Teamwork. This also demonstrated how well we were working as a team and…&quot;</td>
</tr>
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how effective we had now become.” One’s interpretation of practice with the aim to ground it in the literature. Used to justify good practice.

Judging

“Sometimes an assumption was made by myself that [my team mates] wouldn’t reply so I didn’t bother getting in contact at all. This was wrong of me and is a poor way of working.” Opinion drawn from personal experience.

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<tr>
<th>Concept G</th>
<th>Definition</th>
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</table>
| Anticipating, Linking to prior experience, Assuming, Planning, Extrapolating. | **Anticipate**: To foresee and deal with something in advance. Something regarded as probable; something expected or predicted. **Assumption**: The supposition that something is true without proof. **Plan**: To arrange something in advance. To intend to do something. **Linking to prior experience**: (no dictionary def.) referring to something that has been experienced in the past (personally or not). **Extrapolate**: extend the application of a method or conclusion to an unknown situation by assuming that similar methods will be applicable or similar trends will continue. Predict something by extrapolation of known data. **Concept definition**: This development pattern evokes the reasonable likelihood of something happening based on pre-experienced knowledge. It can also be the expression that something will happen although there is absolutely no proof. It is the forward projection of potentially organised opinions or ideas. A way to predict and plan for the future.

**Example of quotes used to define this development pattern**

**Anticipating**

“The roles were clearly defined for each member; this was a great move by the team as potential changes to the roles later down the line could result in catastrophe in terms of completing the work as there would be too much confusion over who is in charge of which piece of work.” *Anticipation of what could have happened.*

**Linking to prior experience**

“Meetings for the most part take a lot of pre-planning. For instance, meetings have to have an agenda and minutes should always be taken during the meeting.” *Statement formulated based on prior experience or understanding.*

**Assumption**

“The 'Coordinator' role mentioned by Belbin has the characteristics of a good leader who is mature and confident, this helped [our team] in its choice of picking the project manager and team leader (reference included here). It could be argued that all team members shared this characteristic as all members wished to take a leadership role.” *Learner's assumption based on what happened.*

**Extrapolating**

“All team members were familiar with this methodology. We followed each stage to ensure a professional standard was created this helped us by setting each stage and not moving on until the current stage was completed as many people tend to get ahead of themselves and if developers do not use methodologies it possibly can increase the failure rate.” *Learner's prediction based on experience.*

**Planning**

“The team was also able to produce PFD, PERT and PBS documents that would underline what exactly the project is planning
to deliver in form of diagrams and tables and what the cost for services is going to be”. Evidence of planning for future implementation.

“In future projects it would be wise to ask the clients if they are going away or out of reach for any set period of time hence the group could accommodate that fact”. Evidence of planning for future project.

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<tr>
<th>Concept H</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Feeling</td>
<td>Oxford Dictionary definitions:</td>
</tr>
<tr>
<td>Sensing</td>
<td>Sensing: to be aware of something without being able to define exactly how one knows. The faculty of perceiving the external world or internal bodily conditions by means of feeling, hearing, sight etc</td>
</tr>
<tr>
<td>Feeling</td>
<td>Feeling: experience an emotion or sensation. Have a belief or impression, especially without an identifiable reason.</td>
</tr>
<tr>
<td>Concept definition:</td>
<td>This development pattern recognises that experiences trigger personal senses and feelings which might not always be based on evidences or rational thoughts but they can still be acknowledged as their recognition can greatly help the learning process.</td>
</tr>
<tr>
<td>Example of quotes used to define this development pattern</td>
<td>Sensing: “This was a topic that kept popping up in my mind throughout the project due to the seemingly dysfunctional nature that my team sometimes worked.” Recognition of inner senses.</td>
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<td></td>
<td>“This was beginning to cause a slight conflict and it was negatively impacting the team chemistry”. Recognition of inner senses.</td>
</tr>
<tr>
<td>Feeling</td>
<td>“This was at times frustrating as during meetings that team member would not be up to date with what had been said over the chat and sometimes did not know what the team was discussing”. Recognition of feeling of frustration and justification offered.</td>
</tr>
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<td>“In the forming stage of development the team started to get excited about the job ahead and be proud to have joined the team. Now these are common feelings within a newly formed team. These feelings are good however they were accompanied by a lack of trust within the group as no one really knows each other and isn’t sure what the others are capable of”. Recognition of feeling of excitement and proudness and justification offered.</td>
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<tr>
<th>Concept I</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Evidencing, Illustrating, Justifying</td>
<td>Oxford Dictionary definitions:</td>
</tr>
<tr>
<td>Evidencing</td>
<td>Evidence: The available body of facts or information indicating whether a belief or proposition is true or valid. Signs or indications of something.</td>
</tr>
<tr>
<td>Justify:</td>
<td>show or prove that something is right, just or reasonable.</td>
</tr>
<tr>
<td>Illustrate:</td>
<td>Explain or make something clear by using examples, analogy, pictures etc.</td>
</tr>
<tr>
<td>Concept definition:</td>
<td>Proving that meaning, analysis and actions are grounded in reliable sources and experiences. Demonstrate evidence-based knowledge that relates to specific examples. Giving more weight to what is being said in an attempt to convince and / or explain actions.</td>
</tr>
<tr>
<td>Evidencing</td>
<td>“The McGregor theory identified reasoning for these issues known as the Theory X and Theory Y management. Theory X managers</td>
</tr>
<tr>
<td>Illustrating</td>
<td>“[Verbal style of data gathering] affected the decision making after client meetings, for example we initially failed to understand the basic requirements such as addressing the clients USP’s on the website”. Provide example to illustrate a point.</td>
</tr>
<tr>
<td>Justifying</td>
<td>“In regards to writing up minutes, Bruce Lewis advises to “Start immediately after the meeting to understand what you wrote” (Lewis, 1997). In response to this, the notes took during each of our team meetings were written up immediately. As a result, nothing was lost in translation and all of the notes made during the meeting made complete sense when writing them up.” Find reasons and justifications for action.</td>
</tr>
</tbody>
</table>
APPENDIX M

‘REFLECTIVE DEVELOPMENT IN COMPUTING - GUIDELINES’.

(ACTION RESEARCH CYCLE 4)

Hand out provided to learners in order to evaluate version 3 of the reflective development model.
Reflective Development in Computing – Guidelines

- Choose a topic and question for your reflective post (a future activity, something you are working on now, or a past activities)
- Each one of your reflective posts should include several development patterns from the list below (does not have to include all of them!).
- Avoid using the two development patterns ‘Describing’ and ‘Awareness’ too much as your reflection will not be in-depth enough.
- Best reflective posts are made of intertwined development patterns (instead of big chunks of text relating to same development patterns).
- ‘A’ grades reflective posts must include the development pattern ‘Evidencing’ with references to the literature.

<table>
<thead>
<tr>
<th>Definition of the concept</th>
<th>Development Patterns</th>
<th>Development patterns definitions</th>
<th>Development patterns examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concept A: Acceptance</strong></td>
<td>✓ Describing</td>
<td>Sets the context or provide a detailed account of what was done during the project. No evaluation or personal opinion provided. It is a straightforward description that provides a mental image to the reader with regards to what is discussed.</td>
<td>“At the beginning of the project, the team was introduced to the client and learnt about what the company was about, how the company started and a brief outline of what they wanted to achieve from the project.”</td>
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<td>Face value acceptance, no evaluation or personal opinions.  This concept demonstrates that the learner can recall information, usually in a logical order, for instance, to provide the context of the reflection or to complement information already provided. This is often illustrated by straightforward recall of actions, recollection of the usage of tools and theories as well as acceptance of decisions taken.</td>
<td>✓ Being aware</td>
<td>Refers more to tools or theories covered in the course and it demonstrates that the learner has knowledge of them. On their own, these quotes usually do not relate to the project as illustrated by the example on the right-hand side.</td>
<td>“The term, project management refers to the process of planning, organising, directing and controlling (etc.) a production; it is an application of the process, method, knowledge and skill needed to achieve project goals.”</td>
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<tr>
<td><strong>Concept B: Differentiation</strong></td>
<td>✓ Discerning</td>
<td>The learner can distinguish or discriminate between different key aspects of the project especially if those are not obvious.</td>
<td>“Consultancy and its success hinge mainly on being able to listen effectively to what clients need and being able to generate ideas in order to solve the client’s problem.”</td>
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<tr>
<td>Differentiation of constituents.  This concept demonstrates that the learner has paid some attention to the work environment and can identify - and therefore differentiate if necessary - the importance of certain aspects of the project compare to others. The learner</td>
<td>✓ Observing</td>
<td>This is very similar to Discerning, but this time, it demonstrates that</td>
<td>“Another problem I noticed was that we almost never had a full team in</td>
</tr>
<tr>
<td>Concept C: Action</td>
<td>Action taken with the aim to improve or progress a project. The concept evokes actions or communication during the project. This could be in relation to the progression or improvement of the subject matter or relates to the usage of a process in context of the project, for instance, to analyse it or mapping out experiences to theories. It refers to the implementation with regards to something key to the project and it includes explanations that support the reason for the implementation.</td>
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<tr>
<td>✓ Questioning</td>
<td>Although the data in this development pattern could easily fit in other categories as well, it always triggered by an explicit question leading to some kind of analysis. The learner demonstrates that he/she can ask pertinent queries driving to the creation of new meaning which can be used for different purposes such as opinion forming, problem-solving or application of theories.</td>
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<tr>
<td>✓ Implementing</td>
<td>Provides a description of a specific aspect of the project that was implemented as well as an explanation with regards to why it was implemented. This demonstrates project’s progress and learner’s understanding of action.</td>
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<tr>
<td>✓ Problem solving</td>
<td>This is initiated by the recognition of an issue and it either explains how the issue has been dealt with during the project or it demonstrates that the learner has thought of a mean of effectively dealing with the problem in the future.</td>
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</table>

- Can point out aspects and constituents that made a positive or negative impact on the project and ask targeted questions.
- The learner has noticed aspects of the project that deviate from the norm e.g. low attendance to meetings, which is likely to be less significant than aspects identified in the 'Discerning' pattern.
- “Could the Belbin’s team roles be recognised within the team? The team would have greatly benefited if it included a Shaper which is an individual who questions others and challenges the team consistently as at times it felt that ideas were thought upon but not questioned and just put straight into practise and having that Shaper on the team would have looked at ideas from all angles and perspectives.”
- “The team developed prototypes in the form of live websites or screenshots from design stages and they were presented to the clients in the various meetings during the project. This allowed the clients to deliver feedback on what had been achieved to date.”
- “Meeting minutes should have been made available to all team members on a more regular basis following meetings. Especially for people like me, it’s difficult to maintain concentration in meetings, and tend to daydream a lot completely subconsciously.”
<p>| Concept D: Comprehension | Creation of new meaning grounded into data or experience. In this concept, the learner demonstrates that he/she can break down parts of materials and identify how they fit in the bigger picture with the aim of understanding or clarifying outcomes or behaviours. | ✓ Interacting | This refers to inter-persons communication in relation to project’s progress. | “We had face to face meetings in which all team members had to be present in order to consult with the client and extract the information needed to determine in which direction the project should be heading at”. |
| ✓ Analysing | This refers to the creation of new meaning with the aim of understanding or clarifying matters under discussion. | “Everyone felt better connected when we worked as a team, and so by starting out with the baseline for the project being created as a group it helped set out a team mentality that would last the entire project life-cycle which was important to keep the group connected”. |
| ✓ Comparing | This illustrates evidence of creation of new meaning based on comparison made, for instance between methods used, tools found, experiences etc | “We kept a traditional method of using a Gantt chart to give us a specific time frame, we didn’t always get things completed by the times that we thought were possible but we edited our Gantt chart accordingly, we ended up with multiple charts, with our final one being very different from our first, this shows that we had underestimated our time keeping and we learnt a lot about judging timescales for work through the use of the Gantt chart.” |
| ✓ Evaluating | This provides evidence of creation of new meaning based on evaluation of data or practice | “As a team, we used tools such as team effectiveness surveys and team diagnostics to evaluate how we were” |</p>
<table>
<thead>
<tr>
<th>Concept E: Generalisation</th>
<th>Generalisation of a concept with the aim to potentially expand its application or learning to other projects. This concept can take the form of extraction of project conclusions or combining different ideas into lessons learnt. This development pattern is usually a strong demonstration of learning from experience.</th>
<th>✓ Applying</th>
<th>This development pattern demonstrates that the learner has more or less understood a process / theory and is able to use it or refer to it in the context of the project. Although this pattern might not evidence as much ‘creation of new meaning’ than other patterns belonging to this category, it greatly demonstrates the comprehension of key tools and theories relevant to the project. “Belbin’s nine roles were put to use when selecting the project manager and team leader. The ‘Coordinator’ role mentioned by Belbin has the characteristics of a good leader who is mature and confident, this helped [our team] in its choice of picking the project manager and team leader”.</th>
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<tr>
<td></td>
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<td>✓ Synthesising</td>
<td>The ‘Synthesising’ development pattern shows that the learner can extract key lessons learnt from the practice and possibly apply them to future projects or stages of this project. Those lessons learnt are usually extracted from the whole project meaning that they are more generic than for the development pattern ‘Drawing conclusions’. “Although the team still functioned and produced an extremely good product, the general progress of the project could have been improved if the plan was more closely followed / reviewed. This was a good lesson in the importance of team planning”.</td>
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<tr>
<td>Concept F: Opinion</td>
<td>Expression of own judgment. This concept relates to opinion forming with regards to the quality of something taken into careful consideration against a set of criteria or the literature. This concept can also demonstrate personal judgment of actions or decisions. These are formulated from the learner’s belief or opinion or from data collected.</td>
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<tr>
<td>✓ Drawing conclusions</td>
<td>The 'Drawing conclusions' pattern is the extraction of lessons learnt from the practice but extracted from specific aspects of the project. “Although some tasks did take longer and others less [ ] PERT provided a good realistic cost evaluation. Next time we will be more experienced so some of the times will change slightly but for a first attempt a good estimation was made.”</td>
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<tr>
<td>✓ Theorising</td>
<td>Theorising shows that the learner is able to extract rules and formulate suggestions from project experience. “In future the roles need to be spelt out and ground rules set beforehand so that everyone is clear on expectations and courses of action which could be taken in the event that there were deviations.”</td>
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<tr>
<td>✓ Judging</td>
<td>This pattern confirms that the learner can draw personal opinions from his / her own experiences and therefore learn from them. “Sometimes an assumption was made by myself that [my team mates] wouldn’t reply so I didn’t bother getting in contact at all. This was wrong of me and is a poor way of working.”</td>
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<tr>
<td>✓ Interpreting</td>
<td>The 'Interpreting' pattern demonstrates that the learner can either interpret data from the literature in order to put it into practice in the project (**”), or interpret the practice with the aim to ground it in the literature often to justify good practice (*”). “The actions of our project manager and the actions of the team to help [our developer] with his workload demonstrated leadership and backup behaviour which are two core components of effective teamwork discussed by Michael A. West in Effective Teamwork. This also demonstrated how well we were working as a team and how effective we had now become.” “…Forbes, (2013) [ ] states great advice and rules to follow to aid in becoming a good consultant. Number one states “A consultant is a safe pair of hands” which means do what you say you will.”</td>
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<tr>
<td>Concept G: Projection</td>
<td>Future prediction.</td>
<td>✓ Anticipating</td>
<td>This development pattern shows that the learner is able to foresee what could have happened during the project or he/she can predict outcomes of actions or decisions.</td>
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<tr>
<td>✓ Extrapolating</td>
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<td>The learner shows that he/she can extend the application of a known method or conclusions to an unknown situation by assuming that its application will deliver the same trends or benefits. He/she can predict something by extrapolation of known data.</td>
</tr>
<tr>
<td>✓ Linking to prior experience</td>
<td></td>
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<td>This pattern enables learners to draw from their past experiences to predict or plan for the future. It demonstrates that the learner is assimilating past lessons learnt to avoid future mistakes or make a process more efficient.</td>
</tr>
<tr>
<td>✓ Assuming</td>
<td></td>
<td></td>
<td>The ‘Assuming’ development pattern demonstrates that the learner can make a supposition that something is true without any proof. The learner can also admit that he/she wrongly assumed something.</td>
</tr>
<tr>
<td>Concept I: Proving</td>
<td>Validation of subject matter</td>
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<tr>
<td>✓ Evidencing</td>
<td>This gives the learner the opportunity to use a body of facts or information, usually from the literature, to indicate whether a his/her belief or proposition is true or valid.</td>
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<tr>
<td>✓ Illustrating</td>
<td>&quot;Illustrating&quot; enables the learner to provide explain and make something clear - and more</td>
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<table>
<thead>
<tr>
<th>Concept H: Sensing</th>
<th>Recognition of inner senses triggered by experience.</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Planning</td>
<td>This pattern illustrates that the learner can arrange key aspects of a project in advance, and understands the value of doing so.</td>
</tr>
<tr>
<td>✓ Feeling</td>
<td>The ‘Feeling’ pattern shows that the learner can recognise inner emotions experienced during the practice and he /she is usually able to offer an explanation for its cause.</td>
</tr>
<tr>
<td>✓ Sensing</td>
<td>The development pattern 'Sensing' is a way for the learner to express awareness of something without being able to define exactly the causes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concept H: Sensing</th>
<th>Recognition of inner senses triggered by experience.</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Planning</td>
<td>&quot;The team was also able to produce PFD, PERT and PBS documents that would underline what exactly the project is planning to deliver in form of diagrams and tables and what the cost for services is going to be&quot;.</td>
</tr>
<tr>
<td>✓ Feeling</td>
<td>&quot;This was at times frustrating as during meetings that team member would not be up to date with what had been said over the chat and sometimes did not know what the team was discussing&quot;.</td>
</tr>
<tr>
<td>✓ Sensing</td>
<td>&quot;This was beginning to cause a slight conflict and it was negatively impacting the team chemistry&quot;.</td>
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</tr>
<tr>
<td>✓</td>
<td>Justifying</td>
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