

APPENDIX 3.1A

Fictitious names have been used throughout the descriptions

Group A Lesson 1 - July 27, 2007

LESSON A1

The final year class (BDS 5) was scheduled to meet in the Dental Graduates Auditorium (DGA) at 1400 hours and most of the students and staff members (facilitators – three in total – Profs Tamlin. Andressen and Lizzard; excluding myself) were assembled in the DGA by 1403Hrs. At 1404Hrs, the chair of the session, Prof. Tamlin called for the attention of the students. He started speaking without introduction during a lull in the conversations of all those assembled.

There is no formal / structured introduction of the lesson as one would expect at the start of one.

He explained to the class how the sessions were going to run, drawing attention to the fact that the report back session scheduled for August 24, 2007 had been moved forward to August 17th due to the scheduling of the Practice Management module on that particular day.

Gives the students an overview of the process and how it is to run / pan out, essentially outlining the PBL process and reinforcing that which they know from their previous experience with the PBL format and ascertain that all participants are on the same page and understand the process that is to unfold.

He highlighted the importance of the report – back session,

focuses on the value of the report back session

explaining that it is at that session where the group is able to decide on how it should frame its presentations for the plenary session,

reminds the class to remember to start thinking about how they are going to frame their presentations

after formulating realistic learning objectives. He informed the class that the group he will be facilitating will have to have a different facilitator as he will be away at that time, travelling overseas

I will be away in London, having travelled from Rome

may not auger well for the 'group dynamic' having different facilitators driving one DLP

There was (a) very informal interaction with the students and a lot of laughter from the rest of the class and the other facilitators during this time. Prof. Tamblin then asked the class how they want to group themselves into the tutorial groups

gives the students the responsibility of grouping themselves: student driven decision making that underpins the hybrid / PBL curriculum: PROCESS

wherein the students suggested that they can group in their clinical groups comprising two groups of eleven students and one of ten students

group participant numbers not optimal for PBL process, indicative of the resource constraints experienced and highlights the resource intensive nature of the innovation: TENSION (Moust et al., 2005).

Following agreement to this suggestion, one of the facilitators – Prof Andressen – told the students that

You all (*researcher's emphasis*) can come to my group

demonstrative of lack of understanding of the process re optimal group participant numbers as anything above 12 becomes too cumbersome (Moust et al., 2005); could also be indicative of the convivial relationship faculty has with the students,

although the last group should go to the other staff members. He expanded on why he suggested this, explaining that it would be advantageous to the group as he could assist them on Wednesday afternoons as well, because he was in the clinics supervising students and would therefore be available to them. In the end Clinical Group 3 opted to be facilitated by Prof. Andressen

example students' taking ownership of the process and making final decision as to how the groups will be decided.

Beforehand, Prof. Tamblin had asked the students to sort out their PBL groupings before all could move out to the tutorials rooms, which are housed in the Medical School's Centre for Health Science Education (CHSE) and was a short distance away. As the groups were leaving for the CHSE, the third facilitator – Prof Lizzard asked:

How many are in Group 3?

to lots of laughter, but no answer, from the students as they left at around 1409Hrs.

This section of the process – assigning to groups - takes 5minutes: time effectively utilised with minimal wastage

The small group that I was to observe (Prof Tamblin's) were all seated in the tutorial room by 1417Hrs

		IM	FB	FB	FB	w
	WF				CM	i
	IF				WM	n
	AF					d
	BM					o
		MOI		FAC		w
Door						s
		white board				

Takes the group about 8 minutes to transfer to the small classrooms

The DLP case to be discussed was titled:

How do we help Mark (Treatment alternatives) highlights the general nature of the expected management / dental intervention wherein the title does not make it explicit which

discipline is to be considered as the preferred primary treatment choice. Dental Learning
Package IV.6 (*see attached appendix*)

The scheduled meeting times appearing on the DLP were as follows

Session 1 27.07.07 2pm DGA/CHSE

Session 2 24.08.14 (*a typo as the year was 2007*) 2pm CHSE **change**
highlighted at the beginning of the session whilst class was all assembled in the big
auditorium; now moved forward to August 17

Session 3 31.08.07 DGA

(Plenary)

Test 21.09.07 DGA

Without further ado at 1418Hrs

(9 minutes after leaving the DGA and a minute following attainment of calm once seated in
the PBL rooms of the CHSE),

the facilitator started reading through the DLP introduction

This DLP has been designed to allow students to consider treatment
alternatives using an actual patient being treated in our clinics.

He asks the students if anyone knew about ‘clearing’. When he got no answer he started the
‘clearing’ process **(he does not explain what it is, instead he delves directly into the process**
and starts the clearing process – e.g., of the ‘doing’ in [tell; show; do] manner of teaching)
and declared that

I think I'm getting flu

He explained that he had been doing a lot of overseas air travel recently where he had attended a workshop organised by one dental company – VITA - and a university in Germany (University of Leipsich) who had developed a new system for mapping colour / recording shades for colour matching in dentistry. He explained the colour matching process and the chemistry of colour – explaining the concepts of 'value', 'chroma' and 'hue' in that sequence and further expanded on how the new system was to operate and how it is designed to check for colour - blind individuals and its (colour-blindness) gender relevance. This was light - hearted banter, interjected with laughter from the assembled students, with one student joking about how giving birth relegates one to colour – blindness. Prof Tamblin told the students that the SOHS was to get this 'box'.

At the conclusion of his own clearing process, 3 minutes later Prof. Tambblin asks Stravros* to 'clear'. Stravros declares that

I'm under a lot of stress and feeling the pressure and lack of time

Prof. Tamblin reassured Stravros and implored him to 'hang in there' and made jokes about Stravros having TMD and tightening of the facial muscles, lack of sleep, down time etc **another example of bringing in different dental topics that may relate to the case under discussion: keeping the 'non-case-related' discussion relevant / contextualised without making it explicit – creating a seamless transition between the 'non active and active' learning phases.** Stavros then told the group that he was also preparing to give a presentation at the SADA Congress in Cape Town, therefore was busy preparing for that on top of his school work, to which Prof. T urged him to

Have fun (*at the* Congress) whilst you are learning

reinforcing the ‘continual’ learning action even during periods where it may seem as if learning is not relevant (these type of congresses are usually pitched at the graduate student and practitioner level, therefore an undergraduate student may feel out of place.

The next student who was asked to ‘clear’ by Pro Tamblin was Graham* (seated next to Stavros, and to Prof Tamblin’s right hand side)

How are you doing?

Graham* replies that

I’m drained from the week but happy for the weekend as I can rest!

(surprising, as it is only Wednesday. Most of the students in the group report being tired and it is also half way (July) through the year. Could be indicative of the loaded programme and students feeling overwhelmed with the volume of work they have to cover and learn for the assessments and final exams)

Stavros joked that

I’m looking forward to the coming weeks to study as we’re writing every
week

(confirms above deduction re assessment loaded course – later reiterated in the student interviews as ‘assessment fatigue’).

The facilitator reassured the students and made a comment

Study, study and more study

Following this, the other students volunteered to clear and were not asked individually by the facilitator (students’ have taken the cue from the facilitator and taking ownership of the process, making it student centered). Mmapula* told the group that she was ‘fine’

to which Prof Tamblin said

well done

(compared to facilitator's engagement with Stavros's clearing, this is scant)

Nandi* reported that

I'm fine from the MFOS block and recovering

Hemant* offered that

I'm happy for the weekend, but stressing as I'm starting MFOS block next week

Prof Tamblin then asked the group how the block was going (takes cue from the students as all of them seem to report being stressed by the block) and Janice*, Nandi and Stavros replied that it was 'hectic' but exciting (an eg of positive / enjoyable stress and finding the MFOS experience stimulating, even though they also report it to be hectic. The students are also exposed to the specialist surgical aspect of dental management which forms a small part of their overall training programme) as they were seeing interesting surgical cases and getting to assist in theatre.

Stacy's* contribution to the 'clearing' process was a curt

I'm OK

which was reiterated by Kajil*. Janice then told the group that it was her birthday and her mind was not 'there' as she was looking forward to the evening when she would celebrate it. She got well wishes from Prof Tamblin (more engagement by facilitator re student's social schedule relative to Mapula's curt 'well done'). She also offered that time management was important after the SADA Congress in order to manage, as she was also attending and presenting.

Prof Tamblin proffered that

good point, as one has to have good study techniques

He went further to explain that it was silly for one to read up on what they know, instead one needs to identify what one does not know. He gave them an example of mind mapping as a study tool as it helps one identify what is not known. He gave an example of jaw cysts giving them pointers regarding good study techniques and tools. One of the issues that is continually

raised at the departmental meetings when student progress is discussed following summative assessments when the marks do not reflect positively; or show that the students do not demonstrate good skills relating to answering test questions.

This process took about 8 minutes, after which Prof Tamlin explained my presence in the group, to laughter from the students. Mmapula asked whether I was going to give them a test on what I was doing.

As all students had not 'cleared' Patrice* offered that

I'm fine and taking each day and each week as it comes and trying
to work consistently, but I am anxious about the situation back
home

He told the group that he does not want to go back. Prof Tamlin added that

Your country is falling apart, and it's tough

The 'clearing' eventually ends at 1430Hrs, still no one notes that Dimakatso has not cleared.

Prof Tamlin then tells the group that

'let's start'

and asks them how they were going to allocate the various roles to run the tutorial process.

He tells the students that there is no need for establishing ground rules and then instructs them to read through the case in order to decide how to carry on with the process.

For the next two minutes, the students (individually) read through the case with several of them highlighting certain aspects and underlining sections. Prof Tamlin also appears to be reading through the case and at some point asks Stavros about the length of the document. When it appears that the group has finished reading through Prof Tamlin asks how the group is going to run the process

Are you going to break into buzz groups or discuss the case entirely as a group?

He asks the students for their preference. Several of the students suggest that they will do that phase as a group. Prof Tamblin then makes them aware that they will need someone to take on the role of the 'scribe' **though alerts them to having a scribe who will record all the discussions**. Hemant volunteers **no need to elect** to be the scribe. He gets up from his seated position and walks towards the whiteboard. He reads out what is written on the whiteboard (left by a previous group, probably from the Medical School GEMP PBL session, as the rooms are shared with medical school). At this point there is a lot of talking between Stavros and Nandi which is out of earshot for me). Prof Tamblin hands out extra material - radiographs and study models pertaining to the case and explains that

This is an interesting case, which was treated by Dr Patel*. Do you all remember her – she was a registrar in the department?

Makes them aware that, even though it is a paper-case, these are records of an actual patient who was treated by staff whom they may have interacted with during her time at the school – making the experience real and maybe more relevant – some element of experiential learning and encoding for specificity demonstrated

He passes the Lateral Cephalograph (an Xray) to Mmapula, whilst Stavros and Graham examine the study models. He reiterates to the students how they should tackle the problem and tells them that they have to consider the different scenarios when they come up with the treatment plan; that they should consider the viable treatment options for the following scenarios, as if they:

1. are in community service
2. are starting up their own private practice in a rural setting and
3. are running a well established rich suburban practice.

Prof Tamlin explains the need for the students to consider the different treatment options with respect to consideration regarding the degree of difficulty associated with each option.

Five minutes from the time Prof Tamblin asked the group on how they preferred to run the process, he alerts them to the fact that they still do not have a chair to run the process **he had**

not given them the chance to do so, as he had started by telling them that they did not have to set ground rules – may have confused the students on the administrative process. At this point, Stavros volunteers to chair the process. The students then assert that they will not need a time keeper as each one of them will be aware of keeping on time.

Twenty minutes from when the group met, the process of engaging with the paper case begins at 1437 when Stavros, as chair of the process, points out the important issues from the case that they need to engage with before they can plan the treatment for Mark. Prof Tamblin then introduces the photographs **another set of extra material / resources introduced** taken of Mark. Stavros suggests that they should tackle the case as they would normally do in the clinics **offers a method of how to conduct the case planning**, i.e. follow a similar pattern:

- i) Initially record the patient's main complaint and unpack the history of the complaint;
- ii) followed by the dental history (with an analysis of the provided records)
- iii) then the social history
- iv) finally tying in all this to formulate a problem list in order to assist with the derivation of treatment options.

Stacy points that that Mark's concern seems to be with regard to his appearance **picking up pt's main concern: AESTHETICS** and other members of the group nod in agreement. Nandi volunteers that function **associated issues pointed out** may also be an issue, however, she does not expand on whether this would be an issue for Mark, his mother or the treating practitioner **and how this information can be obtained**. At this point Prof Tamblin makes a suggestion to Hemant that he should be more cryptic in order to get the keywords as the discussion amongst the group ensues **scribe had been attempting to be comprehensive with recording the notes and therefore not noting key points – demonstrates that Fac aware of what the key participant are doing**. He explains why, as Hemant is attempting to write every word that is being said, and missing out on the discussion.

Stavros brings the discussion back **there has been slight deviation during the discussion without focused discussion relating to the issue at hand – chair follows through on leadership role to bring the discussion back** to the key problem regarding the history of the main

complaint. Prof Tamblin then adds extra information relating to the background about the patient, informing the group of students that Mark was originally managed / treated by Dr Patel and makes a jokes about Dr Patel's repeated absences due to her taking time off to go on maternity leave **how relevant this last bit of information is escapes me, apart from driving the point home that the case under discussion was indeed a 'real' case that as treated by a staff member in the School.**

Kajil goes on to explain the relevance and importance of the presented dental history, however she uses 'lay' terms to offer explanation **student does not demonstrate engagement with professional terminology as required of them**, to which Prof Tamblin asks for more technical / professional terminology and offers an example of 'partial anodontia' to explain 'congenitally missing teeth' as opposed to missing teeth due to trauma or extractions. Stavros offers that the group should look at the dental history by unpacking it into the different disciplines **example of compartmentalisation of the learning process though may be giving students a way of managing the discussion and offering some degree of horizontal integration engagement with the case** available, whilst Stacy suggests that they look at the dental history chronologically **example of focused, integrative approach to the problem**. Before any discussion around these suggestions can ensue, Stavros starts talking about the treatment plan and offers a definitive option **demonstrating nil attempt to engage in the diagnostic reasoning process to arrive at the treatment options!** Janice questions the need for extractions at an early age and Stacy offers that they discuss all these points that are being raised around the actual case / scenario **drawing the discussion to the desired process and sequence of discussion – e.g. of aware student re diagnostic process reasoning and contextualisation of the learning issues.**

This discussion has been going on for about five minutes without any clear direction and at this point Prof Tamblin asks:

What happens to retained primary molars?

Prompts the discussion to a particular route to follow re the hypothetico – deductive process to assist in the diagnostic process; requires activation of prior knowledge from another discipline – ORTHO; ORAL BIO; PAEDS

Stavros answers that they become ankylosed and Prof Tamblin agrees with that answer as he nods in the affirmative. Further options are given by Stavros which I cannot hear. Graham explains why things were done at which age and the implications thereof, and points out that treatment procedure time and age of the patient need to be considered. **Demonstrates knowledge integration in the points raised, offering rationale for the points raised**

Prof Tamblin asks a question about why a chrome partial denture should not be considered as a treatment option, to which Graham explains why the metal based denture may not have been done, however he questions why a metal partial denture was not provided for Mark **student not clear on why things were done the way they were? Facilitator has taken the students several steps along the process quickly and making them see the issues ‘backward’ ie questioning reasons things were not done.** The ensuing discussion then centres around public service vs. Private practice options and the financial constraints imposed by public service dental services **discussion moved to FINANCIAL (too quickly), though they bring the service aspect in and alert one to the different emphasis on service delivery dependent on the service being utilised.** To which Nandi adds how students as well influence treatment provisioning for patient because of the ‘quota’ **a very topical issue in Dental training!** process where students have to do certain procedures in any particular year in order to promote to the following year of study. There is general laughter from the group with some comment that when one get allocated a patient who needs a piece of work that you have already done, you dump the patient and look through the waiting list book for a case that needs work that you haven’t done **offering insights on why students do what they do in terms of service provisioning – little element of comprehensive patient care, instead service driven by clinical procedure requirements**

Stavros then wraps up the discussion on the dental history **10 minutes since start of c/o discussion: note some discussion re tx option has already happened!** and suggests that the group discuss the relevance of Mark’s medical history. There then follows animated discussion amongst the students and Kajil suggests that

appearance seems to be an important issue here

still takes it back to unpacking the main complaint and trying to reason the diagnosis

and offers a further suggestion that they need to consider appearance and relate it to 'size, at which point Stavros cracks a joke relating to Kajil's diminutive size. However, Stacy notes that they need to look at the point as an intellectual issue **power relations?? Both female students are vertically challenged.**

At this point Stavros asks Patrice **who has not contributed much to the discussion so far**

What do you think?

Who laughs and says that

Pretty much what everyone else is thinking

He (Patrice) brings up the issue of Mark's age and points to the relevance of age to the whole discussion, specifically relating it to Mark and his mother **takes up issue under discussion seamlessly, showing that had been cognisant of the discussion, even though was not an active participant.** Nandi questions the length of time and its influence re the duration of treatment. Graham comments about the importance of aesthetics at certain ages and queries that maybe there are outside factors that may be influencing Mark and his mother to seek dental intervention – and he offers the suggestion that maybe the Matric dance may have an element of peer pressure on Mark, hence the dental consult. Stavros asks the group to reflect on their own personal experiences at that age **personalising the intended service provision; demonstrates the multi-factorial aspect of the presenting c/o and what issues need to be highlighted and understood in order to offer reasonable options that will work for the patient.**

Nandi then offers that maybe Mark sees partial dentures as a treatment option for old people and not suited for someone as young as him. Stavros then directly asks Mmapula for her thoughts on the case as she had been quiet. Mmapula counters him and tells him that she did contribute (looking at the pictures). Patrice interrupts Mmapula and comments on social strata using 'Sandton kugels' as an example and how they (the kugels) may be exerting pressure on Mark about his appearance and how this may impact on Mark's expectations of the dental treatment / management. At this point Mmapula says that she made a contribution about patient expectation regarding the dental treatment. Stacy then comments on Mark's mother 's influence at different stages and how this may impact on the management of Mark's dental needs. She further goes to explain the relevance of function and how this can draw attention to the mouth and therefore make Mark more self conscious as he becomes more aware of his appearance. Mmapula and Nandi are making comments and adding to

Stacy's contribution. Stavros stops their conversation and calls on Janice to speak out and Janice goes on to speak for more than a minute. When she gets to the end of her contribution, Stavros then asks the rest of the group if they want to add anything further to what Janice has said. He asks the group how they can ascertain what teeth are present, **as difficult to tell from just the models** to which Janice brings in the Lateral cephalograph radiograph as a tool to determine the growth and therefore date how old a patient is and hence be able to tell which teeth should be there. **prosthodontic options and diagnostic reasoning evident and how factors come to play. A lot of content discussion with reasons given**

Nandi does not wait for further discussion around growth when she contributes the importance of finances and the relevance of medical aid to the whole case. Prof Tamblin takes up that point and asks the group what the age limit for dependant support is and offers 25 as the cut off age **details that they are not taught , however fall under practice management**. I made a comment and pointed out the proposed Child Act **making them aware of proposed legislative changes**, which was a topical issue at this time having been reported recently on radio and TV media. Stavros says that maybe someone in the group will need to do some research on the bill **students not aware, chair recognising need for further enquiry into this issue**. He explains that they would need to look at issues of concern around the proposed Child Act and the legal implications pertaining to Mark's case **point them to the need for contextualising follow-up issues to the case and hence making the discussions relevant** . He then brings in the models and notes that they will be useful for charting what teeth are present and what dental restorations have been done **still no take re which teeth are actually present and minimal note made of previous comment on using available radiographic tools to assist the process**. Dimakatso*, Mmapula and Nandi then comment on the need for analysis of the radiographs. Prof Tamblin then directs the group on what they can get from the models and radiographs and notes that they need to look at what is there thereby giving guidance on the way forward **Fac may have picked on this and thus reinforcing need to use all available tools to consolidate information to assist in the diagnostic reasoning process**. Stavros asks for the records to be passed around the rest of the group so that all can have a look at them. Stacy has the models and makes comments on what teeth are present on the models, both on the upper jaw as well as the lower jaw. In the meantime, Dimakatso, Nandi and Mmapula are looking at the radiographs and discussing them amongst themselves. Hemant shouts that

I am present

May be feeling left out as has not been part of the discussion and mainly concentrated on taking notes

Lack of discussion control as several groups of students talking at the same time amongst themselves

Nandi joins in the discussion among Kajil, Stacy and Janice and they talk about which teeth are present. Prof Tamblin seems to be reading what is written on the whiteboard, upon which he asks for clarity re some abbreviations used by Hemant. He asks which department did the 'Sp' abbreviation originate from, following Hemant explaining that Sp (supernumerary) meant 'tooth annotation'. Prof Tamblin, and several of the students are trying to sort out the confusion re exactly which teeth are present. The point of confusion being whether it is the deciduous or permanent canines that are present. The facilitator then offers suggestions for making it easier, giving different pointers re tooth identification. Stacy, Kajil and Janice offer that it is the third quadrant, however, Prof Tamblin questions why the tooth on that side has hardly erupted. There is no forthcoming answer from any of the students, instead Stacy asks about the anterior crown form re morphological features which should be expected in this particular case. Prof Tamblin then asks the group

What syndromes are associated with hypodontia?

Instead of offering an answer, Kajil draws the group's attention to what has already been stated in the dental learning package (DLP) that

Mark has congenitally missing teeth

At this point (more than an hour to the conclusion of the lesson) Prof Tamblin suggests that the students should draw up learning objectives and gives examples

Development of hypodontia; diagnosis; further tests that may still be required

At this point, there are several discussion going on between

1. Janice – discussing the importance of removable partial denture and space issues
2. Stacy – questioning the impact of sinus size
3. Graham – asking “what is it?”

Stavros offers that there are different conditions that cause hypodontia and gives some examples, to which Janice points out that they need to formulate a diagnosis for this particular case. The Chair (Stavros) draws the groups' attention to why they need to treatment plan and Nandi states that they need to come up with a differential diagnosis and Mmapula asks about the effect of the hypodontia on any proposed treatment and asks

What other syndromes can affect treatment?

Graham does not wait for any answer before commenting on the relevance of the implant course that the students have recently attended and how implants may impact on proposed treatment. Patrice focuses the group to the fact that there is certain information missing especially pertaining to diagnostic tools. Stacy takes up on this comment and explains how the normal treatment process should follow. Patrice then asks about a Stefan Curve and questions the lack of provision of such for this particular case as it would have contributed to aiding in the diagnosis regarding the caries susceptibility for Mark. Graham reiterates the importance of a proper diagnosis to aid in treatment planning. Stavros then points out that they need to establish why teeth are missing and therefore ascertain the type of syndrome that Mark presents with. Graham, and Stacy add further points that need to be considered and add that there is missing information pertaining to the medical history which may aid them to come up with a relevant diagnosis. Kajil expands on this. Prof Tamblin then adds that they need to consider which special investigations are required and how this would impact on potential treatment. This is about 8 minutes since he asked the group to consider drawing up learning objectives for further investigation.

Stacy comments on implants and their impact on bone and how they help preserve alveolar crest levels, however Graham stresses the importance of relating all this to the presenting condition. Kajil asks if anyone present has a Pathology textbook with them and Patrice tells the group that they also need to consider the importance of family history for the presenting condition. Prof Tamblin however reassures the group and asserts that there are no other associated problems and explains the need to find out more around the central issue of the case.

Graham then talks about what the ‘ideal treatment’ would be and how it would look once modifying factors are considered and that they will have to consider all 3 scenarios as stipulated in the instructions to the students. Prof Tamblin reminds them as well and confirms that they need to come up with 9 treatment plans. To which the rest of the group asks

Why 9 treatment plans?

Stavros explains the combinations (re the scenarios) to the group – explaining that there are supposed to be 3 treatment plans for each scenario and that there are 3 scenarios, therefore making it 9 treatment plans. Graham also tries to explain this in a way reinforcing what Stavros has just explained. A short discussion ensues around how the SOHS does dental treatment planning.

Prof Tamblin interjects and explains the relevance of ‘informed consent’. At this point Graham jokingly invites Prof Tamblin to the next session (even though knows that Prof will not be there). To which the facilitator retorts that the discussion will need to be carried out in the plane as he will be travelling.

Janice draws the discussion to focus on how they should conduct the self directed investigations and offers that they should look at it systematically:

Consider the upper and lower arches

What investigations are needed

Therefore what would be the treatment options available following derivation
of the appropriate diagnosis

Stacy offers that they should tackle it in the manner that the clinical records used at the SOHS are laid out. Stavros takes it back to the presenting picture by clarifying what they are tackling during which Nandi, Mmapula and DImakatso are engaged in a separate discussion on how to tackle the case. Stacy brings Hemant into the picture by correcting some of the notes that are on the whiteboard especially pertaining to chronology of the presenting condition. Stavros brings the discussion to include the importance of dentures and Janice asks about extractions. Graham wants to find out where the previous dental work was carried out.

The rest of the group laugh out at this. Nandi asks about the metal based partial denture. The facilitator becomes more directive and asks

Is there more information needed, for example evidence for longevity of
deciduous teeth

and the relevance of this wrt different treatment modalities eg - implants supported prostheses, root canal treatments etc and the evidence to support the different options is explained. Further, treatment options and how their choice is affected in private practice is explained?

He directs the students to the use of relevant journals, textbooks and the internet as resource tools to assist with their research. Stavros asks the rest of the group

What do you need to research?

To which he elaborates with some examples such as – retained primary teeth; how long they can last.

Stacy comments on the available radiological evidence and queries the ankylosis.

Prof Tamblin raises a question pertaining to implant supported prostheses and asks if there is enough data presented to support this treatment modality

What is needed?

Patrice asks if they will need additional radiographs.

Prof Tamblin comments on the complexity of the case regarding the lack of all relevant information and suggests need for treatment options and explains:

how to; why and what

and tells them that it is a fun process when working the options out.

Stavros says something inaudible.

Prof Tamblin continues urging them on to have fun during the ‘finding out phase’

Stacy throws a question to the group about the financial implications especially regarding the maintenance phase.

To this Prof Tamblin explains that each scenario needs to have alternatives within the treatment options and explains the complexity vs. Simplistic approach to the treatment planning, including envisaged medical aid (third party funder) issues / implications vs. when one has to pay ‘out of pocket’ and not having a third party to pay the health bills.

Graham discusses issues around:

- Appearance

- Parental expectations

- Operator limitations and its implication wrt meeting parental expectations

- What is feasible before treatment is started

Stavros brings in two members of the group into the discussion, who have not been vocal during the discussions – the scribe (Hemant) and Dimakatso, and the latter says something that is inaudible to me.

He goes further to offer an option re a learning objective centred around studies on longevity of retained deciduous teeth. At which point Patrice asks what the parental expectations and their implications would be. This question has already been asked by Graham earlier at around 1531 and Patrice asks it again two minutes later.

Stacy however clarifies the process of the treatment planning discussion and its relevance wrt to parental involvement

Graham interjects this explanation with the question:

- What if the patient does not actually want what his mother wants?

Kajil then reiterates the importance of including Mark in the decision making process and hence getting ‘informed consent’ from him.

Stavros draws the groups attention to Graham’s comment about parental vs. patient expectations and takes them back to the written case asking

- What is the role of the DLP?

He starts to link the presenting condition and asks relevant questions around

Hypodontia, possible associated syndromes, issue of the retained primary teeth and their expected longevity, the treatment options re implant supported prostheses and related factors around bone quality and amount (*this is about 10 minutes since he asked the group what they were going to research – some degree of learning objectives derivation?*)

Both Janice and Graham offer different ISP types and the need for multidisciplinary treatment / management approach and the relevance of such an approach. They explain that this is needed as it makes for better management of the case.

At which point Stavros draws the group's attention to the occlusion as presented on the study casts (models).

Patrice queries the need for Orthodontic treatment, and Stavros points out the need for research on

Fixed things on retained canine teeth crowns

Janice asks how one would restore the occlusion

How would you restore the occlusion?

Prof Tamblin then points the group to the fact that no one has mentioned clinical crown lengthening and for the second time (following a comment made by Prof Tamblin), Mmapula says that

I was just thinking that

And Prof Tamblin implores her to

Think out loud

To which the group of students seated near Mmapula (Nandi, Dimakatso and Janice) laugh. Without tying in Prof Tamblin's comment re clinical crown height assessment, Janice draws the group's attention to 'long tooth', whilst Hemant offers that the concept of immediate loading (re implant therapy) can be used as a treatment option. Janice expands on the theme of occlusion by commenting on the available posterior occluding pairs (POPS) that are present. Graham queries the amount of space available for prostheses to be made – whichever type, ie be they removable or fixed. He does this whilst looking / examining the models to augment his argument.

Mmapula queries the need for aesthetic consideration, to which Prof Tamblin asks the group about whether they have considered the lip line and its impact on aesthetic and its importance to aesthetic analysis during treatment planning and he points out that none of the students has brought the issue of the lip line up during discussion. However Nandi mentions that she did bring it up earlier.

Stacy offers more detail on how to assess the aesthetic issue; such as assessing the smile line. She does this whilst looking at the provided photos and relates them to the models. Similarly she does the same for the issue of occlusion and uses the lateral ceph and points how it can be utilised to assist in assessing the occlusion. She reinforces that there may be a need for a proper occlusal analysis to be performed, however Prof Tamblin tells them that they can assume that the way the models are trimmed, it is the way Mark's teeth occlude.

At 1543, Stavros mentions the fact that they need to consider the evidence based principles during the discussions. Stacy continues the discussion on occlusion, to which Prof Tamblin suggests that the presenting

occlusion does not look bad

and makes the group aware that there is difficulty regarding the lack of clarity on issues relating to occlusion.

Stacy queries the positioning of implant restorations especially given the above points including the ones re space availability raised by Graham.

When there does not seem to be any clarification from any of the students on these questions, Prof Tamblin urges the group to stop

We need to stop now

This is 15 minutes before the scheduled end of the lesson.

Stavros asks the group if they need to add anything and when there is no response he reiterates what has been decided regarding the learning areas that need further research

Janice points the group's attention to Mark's school schedule and Nandi draws them to fact that they should not be blind to what the case requires of them, ie assessment of the risk / benefit for each treatment option proposed.

The allocation of areas needing further research takes a good 5 minutes, and in the end Stavros suggests that they pair up in their clinical pairs for undertaking of the student directed aspect of the case / exercise.

The discussion is concluded at 1550.