

EDUCATION AND HEALTH STANDING COMMITTEE

INQUIRY INTO CHANGES TO THE POST-COMPULSORY CURRICULUM IN WESTERN AUSTRALIA

**TRANSCRIPT OF EVIDENCE TAKEN
AT PERTH
WEDNESDAY, 16 NOVEMBER 2005**

SESSION ONE

Members

Mr T.G. Stephens (Chairman)

Dr E. Constable

Mrs D.J. Guise

Dr K.D. Hames

Mr J.N. Hyde

Mr T.K. Waldron

Mr M.P. Whitely

Hearing commenced at 9.28 am**MARSHALL, MRS BARBARA ANNE****Teacher, examined:**

The CHAIRMAN: Welcome to the committee, Mrs Marshall. I appreciate your availability. The committee hearing is a proceeding of Parliament and warrants the same respect that proceedings of the house itself demand. You are not required to give evidence on oath, but any deliberate misleading of the committee may be regarded as a contempt of Parliament. Have you completed the "Details of Witness" form?

Mrs Marshall: Yes, I have.

The CHAIRMAN: Did you understand the notes attached to it?

Mrs Marshall: Yes, I did.

The CHAIRMAN: Did you receive and read the information for witnesses briefing sheet regarding giving evidence before parliamentary committees?

Mrs Marshall: Yes, I have.

The CHAIRMAN: Mrs Marshall, your submission came to us very early in the piece and you may wish to speak briefly to your submission as an opening statement. A lot may have perhaps changed since you made your submission so you may wish to amend it. Please feel free to make opening comments before committee members ask you questions.

Mrs Marshall: I would like to state formally that I appreciate the opportunity to appear today and answer any questions you might have. As you will be aware from the papers etc, there is a lot of anxiety in the community about the planned new courses of study. To a certain extent, the task force, which came on board earlier this year, has addressed many of the problems associated with them, but in other areas there is a greater blurring of the situation. Although some problems have been solved, others have been created. For instance, when the new courses of study were planned, English was not going to be compulsory. Later it was decided that English would be compulsory - this was long before the task force was implemented - and at the earlier English meetings, people were told that students could not repeat units. It was then discovered that a huge number of students would not be able to get the four units of English that they would require to complete their secondary graduation, so two units of English at the 1A-1B level were introduced and the old 1A-1B units were changed to 1C-1D, so that there would be four pairs of units for students to select from. At the earlier meetings, English teachers were not told that students could repeat units, but since the task force has been in place, it has been stated that students can repeat units, as long as the context is changed. A student could do English 2A-2B in year 11 and go on to English 2A-2B in year 12 and that would count as four units because the context has changed. This is a great blurring of the situation. We have been told that it can happen in other subjects, such as materials, design and technology. It could be done in a wood environment or in a metal environment, and that would count as two pairs of units. In some respects there has been greater clarity, but in other respects there is a lot of blurring. There is a lot of confusion in schools. I attended a meeting last Wednesday at the Association of Independent Schools of Western Australia, and of the 50 people who were at the meeting, I was astounded that I was the only person who knew of the change in codings of the subjects. This information is not getting through to schools. I have asked repeatedly over the past three months for details about the new maths courses that have been designed, because I am a maths teacher: "Could I have the latest designs?" I was told last week that they have been changed again. Yes, it is true that they have made the decision for three courses of study in

mathematics, but there are no pathways, and no prerequisites have been set by the universities. Despite my requests for documentation that have been sent to the universities, I have received no more information than that in the very earliest documents that came out about two to two and a half years ago. Although in some areas it is moving forward, in other areas there has been no real clarity in the situation. That is what I am really, really concerned about: this lack of clarity.

I was involved in unit curriculum timetabling. We used to work the unit curriculum by timetabling our senior students and year 8 students and then we sandwiched in our year 9 and 10 students. The driving of a high school and timetable is by year 11 and 12 students. If we do not have any structure in our year 11 and 12 program, and if, as the Curriculum Council is suggesting, students are able to change courses midyear, the whole burden on a high school will become extremely difficult, because it will not be able to timetable one timetable for the whole year; it will have to change midyear. Of the 50 people at the meeting last week, everyone agreed that they would be forcing students to choose a pair of units; in other words, they would be timetabling for a whole year, because they cannot physically cope with re-timetabling a high school that has students from years 8 to 12 with fixed staff and fixed resources. They cannot say, "This semester we will have three LOTE classes and next semester we will have only one." What would they do with their staff? They might need two metals classes this semester and only one next semester. Schools must be able to timetable for the whole year, otherwise schools will not be able to function.

Some of the questions I have asked about examinations have been answered. I have been told that there is one exam. I received a really comprehensive document in the mail during the past week, which I have read. It states that there will be one exam per subject. If a student does English 3A-3B, the student will sit the same exam as a student who does English 2A-2B. For equity, is that really fair? Particularly in the content-driven courses such as mathematics, the content of the 3A-3B courses is quite different from that of the 2A-2B courses. An exam will need to be set that does not disadvantage the 2A-2B students in relationship to the students who have done the 3A-3B courses. That has almost been decided. A 32-page document is available on that matter.

The CHAIRMAN: Are you offering that document to the committee for tabling?

Mrs Marshall: Am I allowed to?

The CHAIRMAN: I would like you to table that document and make it available to the committee.

Mrs Marshall: Yes. It is only a copy, but I can easily get another copy.

The CHAIRMAN: Thank you.

Mrs Marshall: Another area that I feel the committee needs to address is the 13 overarching outcomes. This is a very serious flaw in the new system; that is, the belief that somehow students completing all 13 overarching outcomes will in fact gain breadth of study. I have done a lot of mapping of the typical courses done by the students at our school who can achieve secondary graduation. I mapped these similar courses into the new courses of study and found to my horror that some students who currently would meet secondary graduation requirements and gain entrance to university would not in the future, and that other students who currently would not get entrance into university, because all their subjects are what we call list one subjects, would in future be able to get entrance into university. For instance, a student who does English, a language, visual arts, music and drama and who does no maths and no sciences would in fact get entrance into university because they have all 13 overarching outcomes, whereas a student who does English, LOTE, economics, maths and history will not get entrance into university. Clearly, that student would have both list one and list two subjects, but would not get into university.

Dr E. CONSTABLE: Can you explain that to me?

Mrs Marshall: Currently, students going to university must meet list one and list two requirements; that is, the humanity type subjects, which are English, the languages, history, geography and those sorts of subjects, and the quantitative. A student must count one of those two

subjects in his or her score to count to go to university. The future requirement is that students will have to meet all 13 overarching outcomes. There are 13 overarching outcomes ranging from maths right the way through. It has been deemed that a student has a partial. In each overarching outcome there are three points normally, and I have them here. A student in visual arts might get a partial in one of the mathematical concepts. If a student has a partial of a particular outcome, that student is deemed to have met the whole outcome, when in fact he or she may meet only one-third of it. What has then been translated is: to get secondary graduation, students must meet all 13 overarching outcomes. A student who does English, French, visual arts and music - very important and wide-ranging subjects - would gain entrance into university on subjects that we currently call list one subjects, but that student would have no science and no maths; that is, no quantitative subjects. In the future, that is what would happen.

[9.40 am]

Dr E. CONSTABLE: I understand that, but I thought you went on to say that a student -

Mrs Marshall: A student who does English, LOTE, economics, accounting and a maths, which, currently, the accounting and the maths are list two subjects - all the other subjects are list one subjects - that student would currently get into university, but, in the future, because they have no science outcome they would not qualify.

Mr M.P. WHITELEY: The first student you described would only get in above the other student if they outperform the student in assessments that are moderated and are adjusted for scaling, so what is the problem?

Mrs Marshall: The other student would not even get in. It does not matter how well that student did, as a course counsellor you could not allow them to take that -

Mr M.P. WHITELEY: Sorry, the student who does maths, science and a bit of the humanities -

Mrs Marshall: He does not do science, let us say, he does maths and accounting.

Mr M.P. WHITELEY: Yes, go on.

Mrs Marshall: English and all those subjects. He would not even qualify for WACE and, hence, university.

Mr M.P. WHITELEY: Why?

Mrs Marshall: Because he does not graduate. He does not have outcome seven.

Mr M.P. WHITELEY: What is outcome seven?

Mrs Marshall: Outcome seven is a science outcome.

Mr M.P. WHITELEY: Some of the other ones you said you could meet partially from doing other subjects that do not seem to relate closely. Is this your opinion about outcome seven?

Dr E. CONSTABLE: There is another question here that needs to be clarified. If you do all list one, how do you satisfy the science outcome?

Mrs Marshall: Because if you are doing music you meet a partial on the science outcome. You get 7.3, which is one of the three outcomes - with a visual arts you get 7.3. You get a partial outcome for seven.

Dr E. CONSTABLE: So there are some subject combinations, you say, that do not allow you to satisfy all those outcomes?

Mrs Marshall: That is right, some current subject combinations that we have in our school.

Mr M.P. WHITELEY: How did you form that opinion? I am not as familiar as Dr Constable -

Dr E. CONSTABLE: There are 13 outcomes that have been set down by the Curriculum Council and what Ms Marshall is saying is there are some subject combinations where you cannot just openly choose so you cannot graduate.

Mr M.P. WHITELEY: I understand what you are saying.

The CHAIRMAN: I think what Mr Whitely is just asking you, Ms Marshall, is how did you arrive at that conclusion? Is that from the reading of the document?

Mrs Marshall: It has been confirmed in an e-mail to Mr Mark Brown at the Curriculum Council. I have sent him all my mappings of subjects and he has agreed that that particular student will not graduate.

The CHAIRMAN: Was that your question?

Mr M.P. WHITELEY: Yes. Can we see those -

The CHAIRMAN: Do you have a copy of those e-mails?

Mrs Marshall: I do not have a copy of that e-mail with me, but I do have a copy of the e-mail I actually sent to him with my mappings, and I actually have a copy of an e-mail about a number of things. I have asked for sanity on this particular situation and the reply from Mr Mark Brown says -

The sanity you call for is that students will not have to lock themselves into pathways in Year 10. However, in order to keep their options open to students -

I have all that.

Dr E. CONSTABLE: Can you give us a copy of that e-mail that confirms what you have analysed?

Mr M.P. WHITELEY: I would like to see it so I can read it and form my own opinion.

The CHAIRMAN: So, Ms Marshall, if, after you have finished at today's hearings, you would not mind e-mailing back to the committee the analysis of the proposed situation upon which you have based your current understanding, that would be great.

Ms Marshall, thank you for that. There will be a series of other questions, I suspect. It is a convenient time to break in with questions for you?

Mrs Marshall: Yes, of course it is.

The CHAIRMAN: I would be interested if you could please describe to me what preparatory work is being done at St Stephen's in terms of preparation of yourself and your colleagues for outcomes-based education in Years 11 and 12. What is the preparatory work you have been doing?

Mrs Marshall: By the end of this year all staff will have completed their day one of training and our current lower school curriculum is based on an outcomes-based approach where we report, assess and teach an outcome, so that is the lower school approach.

The CHAIRMAN: So what have you done so far?

Mrs Marshall: That is basically our current teaching practice in lower school. Our English staff and media staff have attended, and by the end of this year will have attended, the five days of training.

The CHAIRMAN: How many would they have attended now?

Mrs Marshall: Most of them have attended the five. There are probably a couple more who still have to do day five.

The CHAIRMAN: In your own case?

Mrs Marshall: In my own case I am a mathematics teacher and I have attended day one and because I am also an administrator I have also attended a number of administration-type meetings

and meetings to communicate the changes with parents of the wider school body. I have attended a lot of meetings as ASWA, which are small group meetings looking at it, but basically my understanding has come through administration, the administration-type meetings, the implementation as far as an administrator is concerned.

The CHAIRMAN: So in terms of your own area of teaching, all that professional development yet awaits you?

Mrs Marshall: That is right.

The CHAIRMAN: So the issues in reference to your own particular discipline are down the track for you?

Mrs Marshall: They are.

The CHAIRMAN: However, in terms of the administration of the whole system that is where you have an increasing knowledge base of an exchange between yourself and the Curriculum Council?

Mrs Marshall: That is correct, yes.

The CHAIRMAN: Thank you for that. We have had a submission and verbal presentation from St Stephen's that dealt with the issues of concerns about the future for the less capable, less able students under the new outcomes-based education for Years 11 and 12. I wonder if you can tell me, under the current circumstances in which the students are embarking upon their Years 11 and 12, what particular features of your current program cater for the less capable, less able students in your experience at St Stephen's.

Mrs Marshall: We have an excellent, what we call, structured workplace learning program or a VET program and students in the senior school - it starts actually in Year 10 - are involved in a subject called structured work place learning, which is one of their six subjects. We timetable them so that one day a week they can attend a training provider, either at TAFE or at one of the business colleges or at an automotive-type school; so next year we will have something like 35 students in Year 11 and 48 students in Year 12 involved in that particular program. They do five subjects, which commonly at our school we call the TAFE directed subjects, but they are the non-TEE type subjects - the senior English, the vocational maths and the senior science, the furniture and those sorts of subjects - the students select from. At the end of Year 12 they come out with a Certificate of Secondary Graduation, which has a number of subject equivalents on it because they complete diplomas at TAFE or a training provider and they have a fair amount of work experience because they go out in blocks to do work experience. Those students, I believe, are well catered for under the existing system, and the whole point of the new system was to cater better for them. In the initial planning those students were, in fact, worse catered for because they said they could only have four units of Curriculum Council-endorsed subjects. They have now increased it to eight, so it is now better than it was, but the weaker students, the third group of students, are in fact well catered for by the system that we have in place at the present time.

The CHAIRMAN: So now under the current adjustments to the program are they as well catered for as currently catered for?

Mrs Marshall: I believe they will actually be disadvantaged. If we would like to look at three groups of students, the top group of students are the students who intend going to university, and I believe the new system neither advantages or disadvantages them; it really does not matter to that group of students apart from the ones who are not going to graduate and so, therefore, would be forced to choose different courses. That particular group of students will neither be disadvantaged nor advantaged by the new system.

[9.50 am]

With regards to the group of students in the middle - the ones who are hoping to go to university and who really do not know what they are doing - we would encourage them to do four TEE

subjects and two TAFE-directed subjects so that they have a foot in both camps. The new system will remove the opportunity of reducing their workload in one or two subjects. Virtually all their subjects, because they will be driven by external exams, will become WACE examination subjects. If six students in a class of 15 want to sit the exam in physical education studies, those six students will drive the class. It is that middle group of students who will be disadvantaged. I certainly believe that the new system will disadvantage the current VET or structured workplace learning students.

The CHAIRMAN: With reference to the rest of the rollout, is it possible that there is sufficient fluidity in your dialogue with the Curriculum Council to produce ongoing change and refinement to alleviate your concerns adequately?

Mrs Marshall: What really concerns me - this is a decision that we will have to make in about six months - is that next year we will have English 1A and 1B in year 11. Those students would normally go on to 1C and 1D in year 12. Do we allow group classes in year 11 and 1C and 1D, and those kids who will basically be our structured workplace learning kids to be in the same class as those students who are trying to get to university? They are talking about having group classes across years 11 and 12. However, clearly students in 1C and 1D who are in year 12 have quite different expectations from the year 11 students who will be in those courses. In fact, although they are making a big thing about the fact that there will be combined classes in year 11 and 12, they will be a different cohort of students with different tertiary intentions. We need to think very carefully about how we are going to manage it within our school, because parents will have different expectations for the year 11 and 12 students who are doing the same course of study.

The CHAIRMAN: Is your biggest objection to the changes the fact that a lot of the detail has not been bedded down and that the problems have not been ironed out? Is it a case that when the dialogue is completed and the decisions have been made, it could well be that you are well provided for through the adjustments and refinements of the system?

Mrs Marshall: No, because the more I find out and the more I become aware of the situation, the more I realise that they are not aware of how it will impact schools and timetables. Although I have had my hand up for about a year now to go onto a timetabling implementation committee, I have not been called. They seem to be concentrating on educators from the senior colleges for whom the system will work well, rather than educators from K-12 schools who are timetabling from years 8 to 12. The more I find out, the more alarmed I become that the implementation is ignoring what is going on in schools. Decisions are being made by people who do not know what is going on.

Mrs D.J. GUISE: Can I just ask you to clarify that statement? Given that St Stephen's School already has student-centred learning for years 8 to 10, clearly you would be timetabling for that now. I do not quite see -

Mrs Marshall: We have student-centred learning from years 8 to 12. I do not believe that the new system will be any different as far as student-centred learning is concerned.

Mrs D.J. GUISE: That is what this is about. Can you clarify what the differences are?

Mrs Marshall: It may well be. However, a system that is driven by 50 courses of study - all of which will potentially have an external examination - does not do anything different from the current system.

Mr M.P. WHITELEY: The external examinations are likely to be at the higher level - the 3A and 3B levels?

Mrs Marshall: No.

Mr M.P. WHITELEY: Most of the kids who want to go to university will complete those courses of study. You are actually saying to those students streaming - to use an old-fashioned word, there

is still streaming and kids are actually in middle streams or lower streams - through 1A, 1B, 2A and 2B and who finish at 2B, "If you want to have a crack at the final exam, you can do it".

Mrs Marshall: It has been stated that the English 3A and 3B syllabus - this was stated to me last week at a meeting - that many students will not be able to complete the requirements of the 3B unit. In fact, it has been stated that many staff members will have difficulty coping with it. It is actually beyond the level of what a high school student -

Mr M.P. WHITELEY: Yes, but exams are structured in such a way that there are bits that few students can do - that is what differentiates the very top level. Surely an exam is structured in such a way that it provides for the easy bits and the graduated harder bits.

Mrs Marshall: Are we setting exams to find out what students do not know or what they do know?

Mr M.P. WHITELEY: In plain English, yes, we are setting exams to find out what they do know and what they do not know.

Mrs Marshall: Is that necessarily the best way of selecting students to go to university?

The CHAIRMAN: Mrs Marshall, what would be the distinguishing feature between what we currently have and -

Mrs Marshall: What we currently have is a system of 33 TEE subjects.

The CHAIRMAN: No, back to the point. It is my understanding that the precise point you were just making is that the TEE exams are structured in the way you described during your exchange with Mr Whitely. In fact, the newspaper coverage about the current TEEs reflects the debate about exam questions being on the high end of difficulty and presumably testing students on what they do and do not know. What would be the distinguishing feature between what we currently have and what we -

Mrs Marshall: The new exams are supposed to be able to level students. It is not so much a percentage, but exams will be set to enable students to demonstrate work at levels 5, 6, 7 and 8. If exams are not correctly structured, students may not be able to demonstrate at level 5. We have to be careful that the exams are structured correctly. Only exams in English and media are available.

Mr M.P. WHITELEY: That would be true of any exam, though. Just because it has not been teased out in the current system to levels 5, 6, 7 and 8, that does not mean that, implicit in the exam, there are not questions that are easy, harder, medium-harder or really difficult. It is there - that is the way exams are structured. I cannot see that there is a difference if there is an attempt to tease it out with a levelling. Exams will still be marked out of 100 or whatever the final number is. Kids will be compared on the basis of their score. I cannot see that there will be a great difference.

Mrs Marshall: To me, that is a contradiction in terms. The current system is definitely a system in which we give kids percentages. The new system will not be the same system. We have been told that quite clearly. Why put what we currently do onto the new system? Why are we changing it? What are we doing? What are we achieving? That is my really big fear - that we are not achieving anything.

Dr E. CONSTABLE: I would like to go back to our earlier discussion about the combinations of subjects. How many students at St Stephen's who are tertiary bound would fall into that category with their subject choices and will not graduate?

Mrs Marshall: In the future?

Dr E. CONSTABLE: In the future.

Mrs Marshall: Probably half a dozen.

Dr E. CONSTABLE: So there are six students who would be affected by it?

Mrs Marshall: That is right.

Dr E. CONSTABLE: In thinking about it, it seems to me it may well affect your timetabling.

Mrs Marshall: It certainly will, because the thing with timetables is that a number of our subjects will be what we call singleton subjects. We have six gridlines, and they will only appear on one gridline once. If we are not very careful when we are structuring our timetable, we may, in fact, find that kids have a problem. At the moment we have to worry about list 1 and list 2. In the future we will have to worry about, effectively, 11 overarching outcomes, because two are met automatically by every subject. It will be 11 outcomes rather than two lists. That will make life a little more complicated. We will have to check students; we will have to make sure that they meet those outcomes in year 11. We do not know whether we have to then ensure that they meet the same set of outcomes in year 12 or whether meeting those outcomes in year 11 is sufficient for years 11 and 12.

Dr E. CONSTABLE: I understood that one of the aims of the new system was to allow students to choose any subjects at school. That is what I assumed that getting rid of list 1 and list 2 meant. However, students will not be able to choose any combination of subjects.

Mrs Marshall: No, because some combinations will not meet WACE requirements.

Mr T.K. WALDRON: At the moment, students have to choose certain subjects if they want to go on to university.

Mrs Marshall: That is right, but it is only with university students. This requirement will be made of every student. Currently, we counsel kids in year 11. We look at whether those doing the TAFE-directed subjects want to go to TAFE. We are not worried about whether they are list 1 or list 2. The only students whom we are concerned about with list 1 and list 2 are those with university destinations.

[9.59 am]

Mr T.K. WALDRON: However, under this new system if someone wants to go on to university can they still make choices that will enable them to do that?

Mrs Marshall: They can, but they would not be able to do that particular group of subjects. They would have to fit in either a computing subject or a science subject.

Mr T.K. WALDRON: Can they make that choice?

Mrs Marshall: They can make that choice, but if they chose to go into the business area, why should they be forced to do a science subject?

Mr T.K. WALDRON: Do we force students to do that sort of thing now? I think we do, do we not?

Mrs Marshall: To a certain extent we would force a humanities students to do a biology subject now.

Mr M.P. WHITELEY: Biology is a hard science.

Mrs Marshall: I was just saying that we would force them to do that. Currently there is some compulsion.

Dr E. CONSTABLE: The system was meant to open it up, so that students could choose the subjects that are most suited to what they want to do.

Mr M.P. WHITELEY: You are the first person I have heard raise this concern. I am really interested to see the detail and the source of this because it really needs to be clarified. I would really appreciate it.

The CHAIRMAN: During the committee's deliberations, I will suggest that the witness' evidence be referred to the Curriculum Council for comment. You have made some points quite strongly,

and they are new points. We need to know directly from the Curriculum Council whether your fears are substantiated.

Mrs D.J. GUISE: Ms Marshall, I appreciate that in your own subject area you have some personal development to come. Given the snapshot you have had already outlined and through the other meetings you have attended via administration, if there was one change you would make to improve this area in which you have some concerns, what would it be?

Mrs Marshall: I think we need to look at whether meeting all 13 overarching outcomes gives breadth to study that the universities want. It seems to be driven by the universities. I believe that the old system of list 1 and list 2 ensured a far greater breadth of study than meeting 13 overarching outcomes. I would prefer that the whole area were looked at and some thought were given to whether providing that a student meets all 13 overarching outcomes has breadth of study. For instance, a student must do English. He does not have to count English in his score. He can sit the exam and get his level 6 to go to university. He could do three maths courses and a physics and a chemistry course. How many people would agree that completing physics, chemistry and three maths courses demonstrates breadth of study? I certainly would not, and I am a mathematician. I would consider that the student was lacking in the humanities area. As a subject counsellor, I would encourage the student to do a history, geography or language subject. However, under the new system, as a subject counsellor I would advise a student to do English and to get a level 6 qualification, but it does not have to count. Why would a strong maths or science student be pushed into doing a particular subject? It makes a nonsense of the breadth of study requirement because I would not regard a student who had done three maths courses and a physics and a chemistry course to have achieved an appropriate breadth of study.

Mr T.K. WALDRON: Do you think in reality that will happen?

Mrs Marshall: It definitely will happen. Every year as a counsellor I have to talk to kids because they currently have to counter their course by doing one humanities subject. Every year I counsel six or seven students to do it. They would much prefer to do two maths, two sciences and an accounting course. In the future, those students are not going to have breadth of study, but according to the curriculum framework they do. They graduate, they can go to university and they do not have to study a humanities subject to count towards their qualification.

Mr M.P. WHITELEY: Even with the inclusion of English as a compulsory subject?

Mrs Marshall: English is compulsory. They have to have it.

Dr E. CONSTABLE: They do not have to do the exam, though.

Mrs Marshall: They have to sit the exam but they do not have to count it towards their qualification. Currently they must sit the exam and a list 1 subject must count.

Mr M.P. WHITELEY: Who should be making the choice about inclusion? Should the universities be the gateway? Should they want students to have achieved breadth of study and require that a humanities subject must count for entry into a university? Therefore, Curtin University, UWA, Murdoch or whatever would count the English results of students if they wanted to attend those universities. Can the universities not be the gateway?

Mrs Marshall: They need to be but currently they are not. Currently they are saying exactly what I have said. They do not have to take into account a student's English results. They are going to have to have a huge turnaround very quickly and let that be known because we are putting out documentation for students going to university in 2009. That is out there.

Mr M.P. WHITELEY: Is not part of this a result of market pressure on the universities because the pool of students from which they select is shrinking and they just want to get whoever they can?

Mrs Marshall: It may well be, but are they necessarily the best students to go to university?

Mr M.P. WHITELY: No.

Dr K.D. HAMES: I do not know why people are being so prescriptive about it. If I could have done that, I would have done it and I do not think that would have detracted from my education. Whether I chose to do a humanities subject would have been my choice. We had to do geography, history and language and so on up until junior high school in my day. However, the subjects I was best at in my senior years were physics, chemistry, biology and maths. I would have been quite happy doing those subjects and I do not think that has made me a different person. I forget what the other subject was that I had to do.

Mrs Marshall: That is a decision you can make as an adult. I do not think a 16 or 17-year-old student necessarily sees far enough into the future.

Dr K.D. HAMES: No. That is the point. Now that I am an adult looking back, I am disagreeing with your point that it is necessary to study a humanities subject.

Dr E. CONSTABLE: Given that maths has been introduced in the maths courses in 2006, I want to get an idea from of what you think -

Mrs Marshall: 2008.

Dr E. CONSTABLE: 2008, sorry. How long before the course is introduced will the necessary information need to be provided and the PD completed to be ready to teach those courses in 2008? I am talking about time lines, professional development, sample programs, assessments, course outlines, any syllabus type materials.

Mrs Marshall: By the end of the first term in 2007. That is what happened when the new courses of study came into the maths course in 1991-92.

Dr E. CONSTABLE: Must all of that be completed by the end of first term 2007? That means there are three terms to be prepared.

Mrs Marshall: We must prepare materials etc. We need to know what the exams will be and what will be their structure by the end of the first term in 2007.

Mr M.P. WHITELY: Banks of TEE papers for the past 30 years have been stored. Would it be helpful to have banks of sample papers in order to see what the end point looks like? Would it help also to have some off-the-shelf prepared assessments that could be used or modified?

Mrs Marshall: All of that would help but it does not answer my question about the three courses of study of mathematics being the correct decision when we have no pathways from the universities. The universities have not said what are the prerequisites for entry into the courses of study. What courses of study will we suggest engineering, biological sciences and computer sciences students take? At this time we do not have one pathway through the three courses of study in mathematics to university.

Mr M.P. WHITELY: Is it not enough that the Curriculum Council gives guidance? Must the universities give guidance as well?

Mrs Marshall: Yes, the universities have to come on board and tell us. Engineering students may have no knowledge of chance and data when they go to university because they will choose to study algebra, number and change or space and movement. In that case, the students who are doing two maths courses will have holes in their mathematics education before they get to university.

The CHAIRMAN: Thank you very much, Ms Marshall. We look forward to receiving at your earliest convenience the e-mail correspondence that you have had with the Curriculum Council.

Mrs Marshall: Thank you.

Hearing concluded at 10.08 am
