Middle Years Pedagogy: Engaging Middle Years' Learners

Professor Donna Pendergast
School of Education and Professional Studies

So thank you for coming along this afternoon. TEIAG is a really important part of Griffith University's' community partnerships and the School of Education and Professional Studies really values that partnership enormously so it's a delight to be here at the first event for this year.

When I was asked to talk about the middle years reform agenda around junior secondary which is not only about year seven into secondary but it's around developing an approach to teaching and learning across year 7 8 and 9. I couldn't be happier because I think that the timing is absolutely brilliant and I also think that the potential to improve the quality of student learning outcomes associated with this initiative are really something that will make a difference in our schooling system over the decades to come. So this is the moment of major change for us.

SO, I am going to do two things I will talk about the junior secondary learner first. I speak fairly quickly. And I've discovered that our PowerPoint slides as you see them for some reason is not showing up red. So if there are gaps on the slides I'll try and fill them in for you. We live and learn, don't we, as educators so thank you for being here.

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As I'm chatting the rubix cube is actually turning into a solved puzzle so the notion, this afternoon, is that some of the things that are happening around the middle years agenda will help solve some of the challenges we've had in place over a couple of decades around middle years education in Australia.

So to start with the notion of what is an adolescent and I've intentionally used here an image that brings together many colours and to represent young adolescent people. And I want to highlight that fact that no two young adolescents are the same. They travel through early adolescence at different paces, at different times. And so we have a classroom full of individuals who collectively make up an early years setting. So when we talk about this, we are very cognisant that that is at the forefront. That these are individuals and that they have shared experiences but they're experiences differ from each other.

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There are some really significant differences in the way we could view adolescents and some of them are represented there for you. Probably one of the most important social ones is this notion that an adolescent and particularly early adolescence the person is not a child any longer but they're not yet an adult. So how do you actually frame that up in terms of teaching and learning? Our schooling system has traditionally prepared teachers teach in a primary school setting and in a secondary school setting. Our primary school teachers have traditionally learned how to teach students and our secondary school teachers have traditionally learned how to teach subjects. Over recent years we've changed that quite profoundly and the refining that is happening around the early years and around the middle years are the next steps, if you like, in getting that refinement to a higher level of finesse.

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An image that captures, I hope, for some of you, what you're seeing out there in the classroom every day, and certainly those of you who are aspiring to be teachers who I know are joining us this afternoon, your experience as you go to your professional experience and practicum experiences. That's what you'd be seeing and experiencing. A big picture around the changes that are occurring; There is a lot of work around the brain and our logo, if everyone wants to grab their brain (promotional squeeze toy). It's really nice to be able to say, grab hold of your brain. This is Grifffith university's logo for the School of Education and Professional Studies. We intentionally chose this as we thought, gone are the days of gimmickry, we're not into that. Our's is actually very symbolic of the fact that we focus on learning and we recognise that during schooling the human brain is undergoing significant and profound change and we're interacting at a time that is so critical to the learning outcomes and to the life and the lifelong learning quality indicators for that person, those individuals and those collectives throughout their entire lifetime. A lot of the work we do hinges upon our understanding of how the human brain works. So I'm encouraging you to open your mind and open someone else's mind in understanding all about human brains.

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So this critical reasoning and application of abstract thought is a really key factor around the early years of adolescents and linked with that, is the development of cognition, or metacognition. So the ability to know how to learn and so young people are starting to engage with that learning process and starting to say 'I learn best when I do these things' etc. Although this group are highly peer orientated they still remain very closely linked to the family and in fact Hatty's work tells us that the link to peers is not quite as profound as we would be told and I'll show you that more closely in a moment. Young people in this age group tend to be very egocentric, and that egocentricity means focused on me, which can be both positive and negative. So it can be around, really trying to be invisible or it can be around being the centre of attention and everything that happens in between. But certainly that notion of egocentricity is profound. And perhaps this is the most interesting part of what we need to think about with respect to our young adolescents and that is a notion that generationally as we're moving through our schooling system now, the young people who are sitting in our middle years classrooms, are going to be 'Z generation'. The last group coming through right now in our middle years classrooms are 'Y generation'. You've heard all about Y generations in the media and some teachers out there now are Y generations, but we have the cusp of those Y generations coming through and the next generation of Z's. Z's are really fascinating individuals, they've been given the name of ferals, just as a little hint of what's to come. And so some of the characteristics that are attached to this particular generation, which is always unique and always special, give us some insight in that particular title; let me tell you.

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So these people were born, people who are heading into our middle years classrooms at the moment, so anything from year 6/7 upwards, in around about 1997 to 2002. So many of the young people who are in our middle years classrooms, our junior secondary classrooms, were born in a different century to the teachers. When you say it like that, you start thinking 'Oh, that's actually a big difference, a big differentiation. And the reason why it's different is because of the ways in which our society is moving and accelerating so quickly. Our global mega trends tell us acceleration is one of those very important things about society in general and attached to that is the fact that aspects of technology also are accelerating in terms of their capacities, the way we're interacting with them in ways that are quite profound.

In schooling systems, years 6 to 9 are often the most difficult to teach. I can remember in my first year of teaching, I was put in the classroom and I was told 'you have five year 9 classes. There you

go. We'll see you at the end of the year'. And that was pretty much my induction moment, when I arrived at my school. Things have changed a little bit now but that was regarded as being a pretty tough call in those days when I first started teaching. We now have a better understanding of why those year 9 classes were, for me, pretty challenging and pretty interesting and why as the novice teacher I managed to get all of them. But that's a reason that we'll talk about as we go through.

The needs and challenges for the group are significantly different to any other group, any other stage in our lifetime and we know that students are making the least progress. I'll share some data on the evidence later in this session. Sadly, for this age group, sometimes they enter into the middle years knowing more than when they leave. Their actual academic achievement is at a higher level in terms of reporting and evidence than at the end. So, their learning actually goes backwards.

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There's also enormous diversity of cultures that young people are exposed to and a very uncertain kind of world with access to those cultures less inhibited and less bounded than ever before. And we know that that's possible through technology. Young people can be in their bedroom, but in any part of the world at any moment. That's something that certainly, those of us who have been around teaching for a while, have had to think about, how do we change the way we teach with young people whose experiences can be much wider than our own and that life experience counts for little when you have people how have wonderful technological skills that enable them to be able to access information in ways that perhaps others can't. There are significant gains in height and weight that are taking place here. So that is leading to all sorts of complex situations like, clumsiness, the idea that the body is not quite what it used to be but not quite certain where its headed.

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The height and weight gains, here's a little representation for you. Can you see what that product is without the red? If you can, it's fascinating. This is something that I thought everyone would recognise. A typical bottle of that product, 600ml, is about the height and weight gain that we can use for a measure, height gain in this particular case, for young people in their first year of life. That's the massive growth that takes place between birth and one year old. And then it drops down quite considerably in the second, third and subsequent years. But then it peaks up again, for girls at about age 11 and for boys at about age 12, and for a couple of years there, there's a massive growth again and that growth is indicated there, more so for boys than girls but later for boys than girls. So we're looking at 5,6 cm growth in a very short period of time and so that often leads to that notion of being uncomfortable with your body, unsure of how to use it and what to do with it.

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So, awkwardness and clumsiness often typifies young people in their movements and activities. There is continued brain development and that brain development is absolutely crucial to what we need to know as educators. There are changes to sleeping and eating habits and energy levels that occur as well. Young adolescents are often sleep deprived. A lot of that is do with the activities that they're engaged in. But importantly, quality rest is vital for effective brain development.

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If we go to Hatty's work, and you'll see that before I mentioned about the influences on students, and the peers represented a smaller influence that what we generally would take, or be lead to understand. So peers are around 6-7% of key influence on young people's ability to achieve. So

that's different to social interaction but their ability to affect their learning. The student, themselves, is about 50%. Now that incorporates things like: the students wellbeing, their resilience, their intellectual capacity, their capacity to be in part of a group and to reason. All of those social things that enable you to be a learner. Teachers have a fairly big stake as well with around about 25-30% and the home, and this is where agendas around things like, homework, about setting the culture of schooling and reinforcing that in a home environment becomes quite critical and is on the agenda at the moment. And principals stand out there, as having quite a significant influence as well. Probably up around 5 or 6%. So that's the work, or the evidence, that a professor in education, John Hatty has pulled together by analysing hundreds and hundreds and hundreds of studies on what influences learning in children. We know this to be a great foundation for our work.

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In terms of brain development, this slide captures for me and for you. On the left hand side, there is a lot of red that is appearing in the brain there and as we go to the right hand side it becomes basically a blue image. If you think of the brain, represented again in your Griffith University brain, what's happening around the brain is that there's massive change happening inside the brain from about age 5 to about age 20. And the change that's occurring is that the grey matter inside the brain is changing in its density and in fact it's becoming less dense. So there's an increased density for a few years up until about age 11 for girls and about age 12 for boys and then, what we call synaptic pruning takes place. Synaptic pruning directly aligns the onset of synaptic pruning which is basically a use it or lose it principle around brain structure. If you don't use certain synapses in your brain they basically get used for other purposes. Our bodies are very efficient and in this case, puberty is the key where the shift around brain development goes from really focusing on the brain to really focusing on developing things like our physical changes that are taking place. So that shift is quite a significant shift in time. You could reasonably say that an adult's brain, in blue, is less dense than a child's brain which is very dense in terms of grey matter and that shift is important to us because until recently we didn't really understand that. We didn't understand and know, and we thought that if you went to school the longer you went to school, the smarter you got and that you just kept learning things and learning things. But this work, which uses magnetic resonance imaging and allows alive people to have their brain studied over a period of time, shows us that there's this funny synaptic pruning that happens, you guessed it, right in the middle of those junior secondary years. And so as educators, we need to know, 'what does that mean?', what does that mean for me as an educator and what it means profoundly is that you need to ensure that the neural pathways that are ideal in terms of creating reasoning and the capacity to learn, and to keep your mind moving to abstract thought, is the focus of what young learners are having set in place and hard wired, not their television viewing and other things that are not going to lead them to having effective lifelong learning outcomes.

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I've got a tiny bit here on brain development that hopefully my images will come up enough for you to understand. But essentially, by age 6, 95% of the human brain has been formed and is in place and between the age 6 and 11, it just continues to get denser in there. The brain continues to focus up until that pubertal space and then we have the shift back there to imbalance at about age 11 for girls and 12 for boys where synaptic pruning takes place. So captured there in images for you, that I hope might stay in your mind as a reference point.

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Another important brain factor round this is that the brain actually develops from the bottom to the top and back to the front. So we know that that last part there, the pre-frontal cortex is the last part of the brain to develop and that's the part of the brain that's used for abstract reasoning and thinking and so this is part of the brain that starts to kick in in the early adolescent years but takes until about age 20 to fully mature. So that's the area for judgement, reasoning, for being able to put yourself in other people's shoes. All of those complex thinking processes that occur. The middle years is also a time when verbal abilities begin to be refined as well. So there's an opportunity there to do extra work around speaking but there's often a mismatch between poor judgement and what might actually be verbalised that we need to be very conscience of because there's a lot of impulsive reaction as its capacity to be comfortable and say things kicks in, so too does the possibility of making errors in judgement around that.

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And so, three other areas, if we focus on this, that need to be highlighted then, are these notions that our emotional centres are continuing to develop in the early years, our physiological centres are becoming hardwired and our cognitive centres around impulses and reasoning are really getting fine-tuned but continue to develop into the 20's.

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As a result of that, most of this I've already said, there's an increased inability to resist impulse in the early years. So children, who have been in classrooms and quite compliant up until year 4/5, suddenly might become a little difficult in the classroom. And part of that can be directly connected to the brain work that's going on. So impulsivity may be something that we haven't seen before, that suddenly becomes apparent. There might be an undeveloped ability to take and make moral judgements and that again is part of the thinking that is taking place where children are starting, and adolescents are starting to look at the pros and the cons of issues but not necessarily having the full story. It's about anticipating and the lack of being able to anticipate the consequences or to be an observer.

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One that I'll highlight in this list, is that we often see emerging in these early adolescent years, psychiatric and mental disorders because as that brain starts to prune and become refined and specialised so too we see the highlighting of any kind of mental disorders that might be in place there. Young adolescents are also very impacted upon addictions at this particular time. And if a young person becomes addicted to alcohol, to drugs, to social media, to texting, it's going to be a hard one to give up because addictions tend to be wired in at that time and so as young people are doing these things, they become part of their chemistry, if you like, and so addictions at this time, are the hardest addictions to kick. You often hear of people, in generations' time, the grandfatherly or the grandmotherly figure saying 'Oh I took up smoking when I was 13, behind the shed at the school and I could never give it up'. That's often a reason why, because those addictions are hard wired; they're tough addictions to fight. The last thing about the brain that I'm going to mention here, is the physical activity and things like smell and things like having a happy, positive stimulus that occurs at the time of learning will definitely increase the ability of the brain to retain that learning and to become hard wired so there's things we can do.

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That's an image that just captures that story again and highlights that prefrontal cortex.

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A little bit on social and emotional development. In this one, these are images that have been drawn by young adolescents and a lot of the words that appear in this image on your left capture some of the ways that we often think of young adolescents starting to go through identity crisis and the notion of 'Am I attractive, am I not attractive?'; all of these sorts of questions and ideas start to be contested, perhaps for the first time in the person's life. So the social and emotional journey that has taken place is also quite profound. The other image there is representing that external notion of being happy and funny but what's really happening inside.

Some other characteristics about this particular group of young adolescents:

- They tend not to be very big email users because it slows them down too much so they want to text instead, or they get on facebook and do a quite message or another type of social media site.
- They're seeing up to 22,000 ads per year. Now the importance of that is that this is a consumer orientated group of young people and so too are their elder, the older adolescents, who have been through this consumer society where this young group of people has been absolutely targeted as a consumption area in our society. Certainly, 20 years ago, that did not exist. So that profound change that has occurred in that time is being witnessed now in changes in the young adolescents in our classrooms. We take it as normal, as given, as that's just the way it is but it hasn't always been that way and in fact, that is a sign of our current times and our current nature around young adolescents.
- They're getting more screen time than fresh air.
- Their opinions are published; which means that when you actually publish anything online, that's regarded as being a publication. Not peer-reviewed and sighted by other people in profound ways but that is a publication. So young people are used to having their works published and shared and so they have a different take on what it is to share information with other people and they're quite willing to overshare. So not knowing the boundaries of sharing and why we shouldn't share everything that we know, every single thought we ever have; it's probably not a good idea to tell the world about that.
- Multiple identities – both virtual and real. You won't even know about the virtual identities that the young people in your classrooms have; because what often happens is that our young people have two lives. They have the school life, and they come to school and they are the school student and then when they go home they have a totally different life. And that very different life, in the way we've set up our schooling system, there's often very little association or connection between the two. And that's something we need to think about in terms of connection - one of the productive pedagogies that gives us real depth to our teaching and learning.

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Multi-tasking - a controversial one. The father of brain work, J. Gede, tells us really clearly that, we old folk (so anyone who's born in the 20th century), we don't multi-task very well at all. We're better if we divide our stuff up and do them separately. However, those young people who were born in the 21st century, who have known no other way, are having their brains hard-wired for multi-tasking. There is a strong view and strong evidence, and he is building this evidence and constantly investigating to see, and it's his view, at this point in time, that multi-tasking will be hard-wired and that the quality issue, will not be an issue for that particular generation. So that's brain work, that we're seeing evolve in front of us. There will still be certain features around multi-tasking that need to be controlled, you know we're not talking about doing 50 things at once, but maybe 2 or 3 things

at once is actually realistic when you've been born into the world where that is the norm and your brain has the capacity to deal with it.

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This is the average Australian secondary student does when they arrive home from school:

- They currently spend over 7 hours a day using entertainment media. Largely through multi-tasking. So that's 7 hours after their 5.5 hour school day.
- They spend over 2 hours a day using the internet. 41 minutes of that 2 hours is spent social networking and it could be blogging, or something like that.
- They spend over an hour and a half, either talking or texting on the phone each day.
- They play online games for about 39 minutes a day. More so boys than girls.

The most common activity after school, between 3pm and 6pm, is on the internet (72%), along with television watching (70%), (doesn't add up to 100% does it), along with playing video games (68%) because of course these young people are multi-tasking; so doing all of these things at once. And perhaps there's a bit of homework in there too!

60% of under 18's watch TV regularly during the week until 10pm and 12am on the weekend and 50% access the internet until 10pm on week nights. In the average teenage bedroom, more than 25% of young people have a computer and over 40% have a television.

Now if I think about my own experience as a young person, I had none of those. Not one. Their experience growing up, after school is completely different to the experience of many of the teachers that they'll be working with in the classrooms. So the whole notion of what we do in our classrooms and how we connect to that is something that has undergone and is undergoing radical transformation.

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A little bit more detail there on electronic media, that probably, the most important thing to point out is, that children as young as 3 and 4 are spending a lot of time with electronic media every day. So remember I said, by age six 95% of the brain is in place. So during the brain development phase there's a lot of media interaction, social media interaction, and television media interaction as well as games that's occurring, that's building even, the brain. So building, shaping and then during synaptic pruning, hard-wiring.

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This is a photo, some of you will have seen this on Facebook; it did the rounds last week, at St Peters square when the pope was about to be announced. The top slide shows in 2005 and the bottom in 2013. Nothing to do with early adolescents but it is everything to do with the change in society in 8 years. When we see these profound changes that can be represented so graphically as the way we engage. These people are not actually participating in the experience in the way that they were in 2005. It's a very different level of participation; it is slightly removed, but it's about capturing the moment and keeping it and ideally, if you get a good image, sending it around the world to everybody else. So that notion has changed about participation.

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These are some images that young people have provided around how they're feeling in the early years as they're travelling through their journey and the expressions and the emotions that are part of their experience of being an early adolescent.

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These are some of things that they're engaging with constantly…

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…and of course, the development of youth culture. And I talked about the ways in which we're facilitating that by developing a consumption group. So we've actually carved out, of something that wasn't there, a whole new area in terms of consumption.

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There are some differences around gender that I've mentioned already. Boys are particularly, and if you have a look at the 49% playing video games down the bottom there, boys stand out in terms of their difference compared to girls on this particular aspect, more readily. The other important point on this one is around reading. Girls continue to read – it can be different things that they're reading, it might be online reading, and it might be speed reading or power reading as it's called (that means you don't read every single word, you read the highlighted words, because they're not reading across left to right, they're just looking for the big words, the prominent words and the words that stand out but the girls are still doing much more reading. So there are some messages there for us as educators.

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And then we look at the spending habits of young adolescents. This comes as a little bit of surprise to me, this is the most recent data late last year, and it tells us that teenagers now, spend about…. Tell me how much you think they would spend a week on their stuff? Throw me a figure, what do you think? $100. Who says something else. More or less? Some less and some more. Alright, who said $100? I'm impressed, it's $100 on average. It is actually a $100 on average. So you're reading your literature aren't you? However, it's not equal. So it's $5000 on average across the year which is roughly $100. Boys spend more money than girls. That's surprising, isn't it? And it's mostly because they're spending it on gaming and things that cost a lot more on average and so they spend more than girls. And if you look at the age groups and split them a little bit, 12 to 13 year olds are of course spending less than our older children but they're still spending $70 a week. Where do they get this from? It's just an amazing statistic, I just find it profound. 18 to 19 year olds are spending $192 a week. When I was a university student, if I had $192 I would have thought I was a millionaire! And I was that age when I was at uni at 18 and 19. And it's just an amazing statistic. This is not on living expenses, this is on stuff for them. They're living expenses are already covered. In fact, it's spent on number 1, clothing. That's the top thing that the money is spent on. And number 2, you guessed it, any kind of mobile technology that allows teens to do what it is they want to do. Also developing unique identities; so something about their hair, or something about their look, that's the other part that the money is spent on. But they're fascinating and amazing statistics.

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So now I want to move to the classroom, and I want to have a look at some of the evidence we have around the effectiveness of our teaching and learning in there. I want to share, first of all, that it's

safe in our conversations today to talk about the middle years, it's safe to talk about middle schooling and it's safe to talk about junior secondary. And what I mean by that is that middle schooling has very much been rolled into the junior secondary agenda. So when the government made a decision, mandatory decision, to move year 7 into secondary it took on board a bigger strategy than just moving year 7 into secondary. And that bigger strategy was around young adolescent teaching and learning and it talks about year 7, 8 and 9 as being an approach to teaching and learning in the middle years. And so that's a really powerful moment that we're in. This agenda that we're talking about is not about moving year 7 into secondary at all. It's actually about making sure that the junior secondary teaching and learning experiences are comprehensive across a number of years and lead into a senior secondary experience and lead from a primary experience to give us a whole school approach. It's a powerful moment.

My background was very much in middle schooling and we looked then from years 4 up to years 9 as being the middle years. So it's a little bit cut off in that perspective as it starts from 7 to 9 and there is more similarity between years 6 and 5 and even year 4 students with years 7 to 9 than with their P-3 students; if I'm making any sense. So P to 3 is quite distinctive, in terms of all of the aspects of learning and development and so forth that take place. There is a dip that happens in year 4 around disengagement and that will have to be addressed in the future but at the moment it's not right now for that. If you've got a child in year 4 though, keep an eye on them because that's the year when disengagement is really happening and I'm getting some nods. Around the world, the evidence based around effective teaching and learning in the middle years has been, there's been a call for it, because there's been a lot of systems that have tried to do work in the middle years and want evidence that it's actually making a difference. So that call, is starting to be answered and we're starting to see an evidence based build and that's been over the last 20 or so years, with a peak in the last 10 years. That peak has led to the flying start initiative to move year 7 to secondary to enable junior secondary school or junior secondary initiatives. We're in a good space around building evidence and around building policy and the practices that sit with that.

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There are a number of signifying practices that are identified as being key practices for the middle years. These practices have curriculum pedagogy and assessment as the cornerstone. So it's not just about pedagogical reform, it's about assessment reform and it's also about having a curriculum that is an enabler for that particular type of reform. And those are, in fact, the practices that we say are ideally situated to optimise teaching and learning in those middle years. If you run through those and get a sense of them, you will think to yourself, 'Well, there's nothing special about any of those, we do those at other years levels' and that is absolutely the case. What we're saying is that, in these particular years, you need to have a real intensification around these particular approaches to teaching and learning and you need to do them at a sophisticated level. So it's not good enough to just do, the very base level of cooperative teaching, for example; you should be working very hard to develop cooperative teaching and learning and you should be working very hard to have higher order thinking strategies and already in what I've said this afternoon, you can see why this is a critical moment around brain development alone. So we run through those things, they're all available to you and listed on the MYSA (Middle Years Schooling Association) position paper, which very clearly highlights all of these signifying practices as being the practices. And you might say, 'Where's the evidence?' and that's where I'm going to try to move into that now.

Around Australia, we still don't have one story around middle years education and that's a bit of a challenge for us. So it's still quite fragmented. Having said that, when ACARA was established to develop our national foundation to our year 10 and then 11 and 12 teaching and learning curriculum documents, there was a middle years panel put together to oversight all of those learning areas and

that panel still operates. We're fortunate at Griffith University to have a person who represents us on that panel. Their mandate to make sure that everything happens across all of those learning areas at the middle years phase is appropriate for this particular learning group. So there is somebody watching.

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The MYSA position paper, which I just mentioned looks like that, with some great colours on it that aren't showing up for you at all there. But just keep in mind that that's a document to go to as kind of like the only current existing national position on this.

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Flying start Melbourne declaration provide us with a space to do this work. There are some views that in fact, our Australian curriculum is not a good vehicle for middle years education if we have a look at all those practises and I would strongly dispute that. What happens in the classroom and the way you go about teaching and learning is very much around the practices of the teachers involved and it's not governed by the curriculum document. There's an enormous amount of scope to do powerful work that's not controlled by that.

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So an insight into a couple of these key studies, I'm going to go back just on 10 years. I'm going to go back quickly to this reference point because the other major data hangs off this. Then I'm going to share with you a study in 2002 and another in 2005, then our most recent in 2008 which builds a story around middle years reform. Back in 1999/2000, there was a benchmark study undertaken called the Queensland's School Reform Longitudinal Study. It looked at 1100 classroom observations and what happened in there was that there was a group of research people went in and they examined what was happening in the classroom. So there was a close analysis of what teaching and learning was taking place and what opportunities the students were provided with. It was very rigorous, it was conducted by a team at UQ of whom I was a member at the time, and it was based around what are called the productive pedagogies, that was the pedagogical framework that was used for the analysis

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Productive pedagogies is great to use for analysis because it has a way of looking. So for each individual item it will tell you that for higher order thinking there's a range. 1 is very low and 5 is very high and this is what it looks like at a 1, a 2, a 3, a 4 and a 5. So you can look in a classroom and make an assessment about what's happening in terms of intellectual quality and all of those pedagogies within that.

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And so, this big analysis revealed this. That in Queensland classrooms, just over a decade ago, there was a dip happening in our classrooms in year 8 and that dip was quite significant. If you look at our vertical axis, it's a bit non-representative, it doesn't go from 0 to 5, which is what the scale goes, and in fact it's all crammed in the centre. But in order for my graph to look any good at all, I've just used those centre points. So what you can tell me from looking at that of course is, it's pretty average isn't it? What was happening and what we were observing in those classrooms, did not provide high intellectual quality at year 6 it was kind of middle stream on average and the same in year 11 but

look at year 8 was where it really dropped down. So this pattern that was occurring was reported at the time and there was great consternation about this because it was predicted. We thought that was occurring but now we finally had the data to show that. We had been seeing over time, as least a decade before, that these young people were beginning to disengage at this time. So what was happening? Is this all about puberty? Is this all about disengagement associated with identity formation etc etc. Those were the questions that were being asked

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So the next study came along and you'll see one of the students who was involved in this, there with me back in 2003. And we looked at, what happens when you finish these middle years, which are represented as you can see as not having particularly fabulous pedagogical practises in place. What happens with the literacy and numeracy around young people? And we actually looked inside QLD schools here and then went outside to the rest of Australia, because the rest of Australia was saying, if it's happening in QLD, well then is it happening everywhere else too? And so we went out to have a look more widely. And what we found was that there was distinct differences in the student learning opportunities where those signifying practices (remember those practices I had in place before), if a school had a lot of those things in place then the pedagogical experiences that the students were involved with, were rated at a much higher level than if those practices weren't in place. And similarly we used the same kind of assessment on assessment scales and hey presto, it similarly then related to the achievement outcomes of those young people. So we had some evidence starting to build and this is a decade ago.

We looked around also, to see what else was happening in Australia and in Victoria the Myriad project was also trying to build clusters and what was being seen as the initiatives around middle years work was building a cluster with the secondary school and a cluster of the primary school that are attached to that and trying to get transitions right. So a very strong focus on transitions and again what these particular researchers found in that setting was that the higher order, there was a real deficient in the ability of the schools to carry through the higher order teaching and learning agenda and so we knew this to be a concern in those settings.

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The next study was in 2005, another national study here. What we did in this one, funded by MCEETYA, to investigate, and this was a very clear investigation, what happens to students in terms of their resilience and their lifelong learning outcomes if they're in a school where there are middle years practices in place versus a school where there are not. Is there any difference? And we found that absolutely, the lifelong learning attributes of those where all of these signature practices are in place were much higher than where they weren't in place.

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But we found something else in here and I think this is probably one of the most significant findings out of that study and that is there seems to be also a predictable reform that was taking place. Today I spoke to the principals in the state school system here in this South East region and we focused on this. So when you're reforming a whole system, how do you go about it? One day at a time. And how do you go about it in your classrooms? And so we use this. We won't focus too much on that today, here and now.

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OK, I want to skip through that bit and I want to get through to the next exciting study. The Mysar position paper I've already mentioned. And this is the last one, oh look I mentioned here that the Melbourne declaration where for the first time in 2008, middle years education was very specifically put on the agenda and so there are lots of fabulous things being said about the need to reform these particular year levels. So 2008 became a time of great initiative and movement around the middle years and subsequently the junior secondary agenda.

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2008 was also profound for the introduction of NAPLAN testing. Seems amazing that we've had that in place for so long, doesn't it? It didn't start that year but we were told that that's when it would be fully implemented and years 3, 5, 7 and 9 and the question has always been, I think I've asked this, does that actually inhibit the middle years reform processes that we're talking about, does it provide a benchmark that we can use as a measurement instrument to look at the quality of teaching and learning, what does it do and certainly I think the actual tests themselves are a useful indicator. It's just the way we use that information that becomes the issue and the way we unfortunately make it available publicly for inappropriate scrutiny, but there goes my social comment for the day.

So the final study I'll share with you is the longitudinal study of Queensland teaching and learning in 2008 and this was again conducted by a team at UQ of which I was a part of this particular one. And this was actually a really big study, was massive and we were basically asked to go back to do the QLD school reform longitudinal study again but focusing on the middle years. So has there been any difference?

And during that time, what actually happened out in the world in terms of policy was negligible so there was a middle phase policy that was released with no support and no implementation and so anything that has happened essentially in this period of time that we're looking at would have happened by osmosis more than anything else.

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And so, we looked quite extensively, you'll see there, lots of students involved in this one. And what we did differently in this, and parents as well, we actually went into classrooms, we observed those classrooms in four areas: Maths, Science, English and SOSE. That was what Queensland asked us to do and then we actually asked the students what learning for them took place. We also asked the teachers, what teaching they thought they had done in that classroom. And we tried to align those things. And naturally there was very little alignment. So teachers thought they were doing certain things and students experienced something quite different, and that's what was reported to us.

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I would like to share with you the findings, because I think the comparison is what's important to have our conversation now. There was very little change. So in the ten years, there was slightly improved change around those four dimensions or four domains but as I said, it was mostly osmosis that made that happen.

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But there were some other insights that were really powerful and one of them was around year levels, so if you have a little look at this, I'll ask some questions. When we looked at the different years levels, went into the classrooms and observed them, we were able to demonstrate that there

was different quality of pedagogy taking place in the different year levels. We found, light blue is the year 4 classrooms; black is year 6; grey is year 8 and white is year 9. So if I was to ask you the quality of the pedagogies taking place in year levels, which year level would you think would be giving children the best opportunity for learning? Year 6. Which would be giving the least opportunity for effective learning to take place? Years 8 and 9 are pretty much of a muchness, aren't they? And so, what we were able to say in this study, which was again, quite extensive, very rigorous, high levels of validity and reliability, that in our classrooms, (and this included not only state schools, we had independent schools here as well and we had catholic schools as well, so it really did try to do the whole job) that there was something happening that caused a dip again in the pedagogies.

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But then we thought 'does that happen in all subject areas?' because that's what we'd been asked to look at. And we found this. Which subject area provided the least opportunity for high quality productive pedagogies? Probably mathematics? Which provided the best opportunity? Integrated. Now integrated was, when we went into the schools, not always were we able to get discrete Maths, Science, English and SOSE. There was a subject in there called integrated and so we actually investigated those classrooms and they had lots of middle years attributes associated with them. And that's what we were interested to explore.

PROFESSOR DONNA PENDERGAST TAKES QUESTIONS FROM THE FLOOR

Is there tension between providing challenges to middle years' students, because at the same time when you push them too hard they might want to step back?

I think our experience would tell us, that's absolutely the case. However, what we also know is that we tend to teach in the way that we were taught and so students come to expect what's going to happen in the classroom and so I think that there is a space there for us to reinvent teaching. Just because a student might respond in a way that is typical doesn't mean that that's not a problem. We should be inspiring and aspiring to something different to what might have been there in the first place.

The graph showed a dip in the year 8 data – did this occur across all states?

Certainly did. I'll talk a little bit more about that now that I've got a new release on life with my voice. What we actually found was when we transferred this and looked at data from other states, the same sort of pattern was there but not surprisingly, there are some differences in the actual year level, so when the transition occurs, tended to be the notion. And that's why junior secondary is important because it shouldn't be about the first year level in secondary school, it should be about having an appropriate curriculum and assessment and pedagogical approach for the junior secondary. So you're right that's what happened. This is way we characterise what we found in this study, we said that year 6 is typically used as a really full on year to try and get students ready to finish primary school, that was what was happening in Queensland, with the anticipation that year 7 is actually a stocktake year. So there was very little new learning taking place in year 7, it was a check year, and let's just make sure everything's done, so not a lot of new stuff. So there was a lot of stuff happening in year 6. And you'll see here, that year 6 tended to be where we got the strong

pedagogical opportunities for learning taking place. What then happened, so year 6 is a full on loaded up year, year 7 is a stocktake year, and then year 8 was typically a smorgasbord. So a smorgasbord gives you, often, lower quality and more choice, but you're better off going for the main course, aren't' you, because you're getting a little smattering of everything but not at a deep level of learning. And so year 8 became the smorgasbord and then recovery in year 9 took at least year 9 to get back on track for year 10. Year 9 often suffered from poor subject selection, trying to understand the pedagogies associated with those subjects etc. So what we found in the Queensland study, was that we were actually giving up three years of learning; years 7 and 8 and to a certain degree, a bit of year 6 and a bit of year 9. So it's a pretty strong story about the way we've been structuring our system over a period of time and it's not a neglectful situation, what it is, is understanding now the importance of some of the alignment of those factors around learning and some of what we're trying to do as educators, we really did intentionally try to do a stocktake in year 7, make sure they're ready for secondary. When you go to secondary schools, you hear comments like 'don't worry about what they did in primary, we're starting again' and so year 8 becomes this brand new thing and 'oh we're going to start a whole different approach'. So the notion that we don't talk to each other is a long existing and continues to be in place kind of approach to teaching and learning that unfortunately characterises what I'm showing you here.

Did the same things occur in your P-10 and P-12 schools or was there more continuity?

Look we decided that we couldn't say anything about that, because they're only small samples. But when we wrote our qualitative analysis we found some really different things happening in those P-12 schools but they varied on individual schools and our larger study which had lots of P-12, we could say a few more things about it but my personal experience, tells me that it depends on the school, and some schools do have a strong philosophy around the middle years and they do treat it as part of the big picture and something that is continuous and special and intentional. Usually across years 7, 8 and 9 but in some cases it's 6, 7 and 8 but there's an intentional approach to that. Where that occurs, if you think back to the other data sets, that's where we saw the improvements in pedagogy so we know from other studies that if you do that work you're going to get more effective pedagogical experiences taking place which lead to higher quality learning outcomes.

Are there any current international studies?

I didn't know that we'd get this far, but we have, so that's fantastic. The most recent international work was produced in 2011 and there's some more recent that I'll come to that in a moment, but this one is pivotal, if you like, and very very extensive and based in America. What these McEwan and Green did was, they looked at all of the, in the US there are middle schools, they're defined middle schools, and do there are structures in place and there have been for some period of time. *The study was conducted in 2009 and what they wanted to know was; There's these named highly successful middle schools and they're named that way because their students are achieving at a higher level; so what is it about those schools and they're called lighthouse and they have all sorts of really interesting names. But it is it about those schools that when you compare them to other middle schools (and all of these are public schools), makes their children more successful. Is it going back to Hatty and saying there's something unique about the students; it is saying there's something unique about what the teachers do, is it the principals? What's the affect, where's this coming from?* And what they actually found was that where you had highly successful middle schools, which meant the students were achieving at a higher level, they tended to put in place the characteristic features, those signifying practices that I shared with you at the beginning, the cornerstones around assessment pedagogy and assessment and they had an intentional philosophical approach to dealing

with learning and teaching that incorporated those elements. In particular, there are a few things there that I've named. They built teaching teams. So they had teams of teachers across those year levels. The teams differed, they weren't all the same from school to school, but they had teams. And teams were core and fundamental to the way they approached their teaching and learning. They had advisory programs. So they had something that was beyond pastoral care. It was very much focused on the individual student needs and targeted around individual learning. They had common planning time for their teachers, which means that they gave teachers time in school when they could meet as a group and they could use that planning time to work out how they team teach effectively. And often it would be when the students went off to specialist teachers to do certain things etc but there was a priority given around common planning time.

One of the other big ones was that there was flexible block scheduling. It wasn't a traditional 8 period or 6 period day but allowed flexibility in the way the classrooms were structured and often allowed lots of integration of curriculum and so forth. It showed that the students were well above in a whole lot of areas and those were standardised external tests that they used to demonstrate this and the researchers indicated at the end of their very comprehensive work that this middle schooling philosophy really does, when you implement it in cohesive ways, lead to improvements across the years. Hence the junior secondary agenda and where we are as a state around promoting that as something we need to do which is well beyond as I said at the very beginning today, years 7 into secondary. That's the mind-set I think, that if we walk out the door thinking then we've been empowered in this area.

Back in Victoria in the 1980's, there was a big push for international studies, where you had a range of subjects under one teacher. What do you think about the push for that in QLD?

There are various ways of doing that and I think that the experience tells us and the evidence base that we can work from that it's context specific. So it depends on the school, depends on the nature of the staffing, it depends on the philosophy that you're working under. So I wouldn't say that there's strong evidence that it's the best way but there is very strong evidence that if the teams work effectively and collaboratively and there is this notion of a core teacher and a number of others that work, then it can be very powerful indeed. But it requires all of those elements to be aligned and to work effectively. And that's about reform and what's important, what priorities. What we do know though is that in our year 7, 8 and 9 classrooms our students do benefit from having less contact with a large number of adults or more contact with a smaller number of adults by inverse. So we would ideally not want our year 7 students running around to 8 different teachers in a day. Similarly, we wouldn't want that for our year 9's either. So it's across that whole span.

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