

# How sensitive do you need to be: The role of the teacher in a 21<sup>st</sup> century FE Business classroom.

**Abstract:** This paper reports the findings of a small-scale practitioner-research study funded by the Education and Training Foundation (ETF) as part of its Research Development Fellowship programme. The aim of the project was to explore if/how traditional theories of learning and teaching inform practice in business education courses in a further education (FE) college in England.

The research population consisted of 4 teachers and a total of 80 students who were observed and interviewed over a period of 60 days to identify the role that the teacher plays in enabling learning within an FE business classroom. A key focus of the research was to establish the importance business education teachers placed on theories of teaching and learning.

A major consideration at the outset was to explore the role of technology in business education contexts. However, as the research progressed this became a secondary focus of the study. Whilst this research project does not seek to diminish or dismiss the role of technology in business education contexts in FE its impact upon teaching and learning in business education will be discussed where relevant.

## Introduction and Literature Review:

The idea that collaboration is more effective than individual problem solving and vice versa is something that has been hotly debated for many years when looking at how children learn. Vygotsky (1978) and many others before (e.g. Mead, 1934) and after (e.g. Matthew Lipman's (2003) concept of critical thinking) argued that cognitive and social development is most effective during interactions with others in scenarios that are relevant. On the other hand, Piaget (1963) argued that solitary work is more productive and more efficient. Obviously these studies focused solely on pre-school development. In the context of this study, the question then becomes to what extent might the basis of the above ideas be relevant in other sectors of education?

Vygotsky (1986) saw learning as a socio-communicative process where language is central to learning. He made the link between thinking (an intrapersonal process) and talking (an interpersonal process) and drew attention to the effect of these upon learning. Through talking, students are able to *formulate* ideas, turning inner thoughts into actions. They can then *reformulate* the idea to give clarity and understanding to their thoughts and modify them based on the task at hand and the interim success or failure (Howe, 1992). Students can then *communicate* their ideas with others through talk and interactions obtaining feedback and reflecting on their initial idea with this last, interpersonal, social stage, being arguably the most crucial in the process. Vygotsky argued that "all the higher functions (thought and

language) originate as actual relationships between individuals” (Vygotsky, 1931/1978. p. 57).

Vygotsky stated that “social relations genetically underlie all higher functions and their relationships” (1981, p.163) therefore it needs to be understood how, as Wertsch et al (1980) put it these adult/child (or adult/student) problem-solving systems exist. We cannot discuss Vygotsky without looking at what he calls the Zone of Proximal Development (ZPD) as this is something that this study seeks to investigate within the FE classroom. The ZPD shows the huge importance that the adult, teacher and or facilitator play in development, teaching and learning. The zone is defined as the “distance between a child’s actual developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p.86 in Wertsch and Tulviste, 1992, p.551). However, in a FE classroom environment, we need to ask how do teachers know when and when not to intervene?

Wood and Middleton (1975) talked about cognitive socialisation, the moment when the adult enters the ZPD in order to facilitate some sort of joint development. In their 1975 study they highlighted an extremely important factor which will be discussed at length later in this paper. They argued that development depends on the adult/teachers ability to recognise the child/student’s “region of sensitivity.” If the adult/teacher can successfully recognise what they called the “recognition-production gap” (p.182), then the student has an increased chance of development. They took this idea a little further stating that the effective teacher “continually modifies their approach to the teaching tasks on the basis of the tutees response” (p.190). More recently, Black and William (2009) discuss formative feedback in terms of “the creation of and capitalisation upon moments of contingency” where instruction seeks to regulate the learning process and how instruction is used, and where necessary the lack of instruction, is down to the ability of the teacher (2009, p. 6).

If the teacher is able to, over time, gradually shift responsibility over to the child, then more complex tasks would be able to be completed. Vygotsky described this process as “internalisation” (1978). In our view this is something that can and should be seen in teaching and learning regardless of the age of the child/student.

Another prevalent concept that is often quoted in the literature in the field of learning theory is the notion of scaffolding which is based on Vygotsky’s (1978) claim that adults support children’s growing skills and therefore act as “scaffolds” that structure their learning (Bruner, 1990). This theory is similar to that of Wood and Middleton. The key idea here is that more help is given at the start of a task but, as the child increases in confidence and ability the scaffold is withdrawn leaving just the more advanced child (Vandermaas-Peeler et al, 2003).

Similar to Wood and Middleton’s concept, scaffolding itself is only successful if the adult/teacher possesses enough skill to understand the child’s ZPD (or region of sensitivity) and provides the correct level of support at the right time. If the scaffold is withdrawn too

soon or, conversely, the contingent shift rule is not applied whereby the teacher does not withdraw their help to allow ownership to be taken by the student then it will not be a successful teaching and learning strategy. These studies were again conducted with young children, so once again the question becomes to what extent could the notion of scaffolding be used in a FE setting?

A major critic of Wood and Middleton and others (e.g. De La Ossa and Gaudain, 2001 and Reynolds and Reeve, 2002.) is Barbara Rogoff. Whilst demonstrating the role of the adult in the development of those less able she criticised the fact that they were lab based experiments and argued that studies should be completed in a much more naturalistic setting where there is a “clear sense of the meaning and goal to the participants” (Rogoff, 1990. in Vandermaas-Peeler et al, 2003. p.77). She developed her idea of guided participation in natural settings where tasks, such as cooking, were used to demonstrate the role the adult can play in teaching and learning. Other authors challenged the idea that the concept of the ZPD and region of sensitivity can be transferred to the classroom. This study seeks to explore whether there is an understanding, appreciation and application of these ideas in an FE setting.

A final consideration is the role that technology plays not only in FE but in teaching and learning in general. Technology has been seen as the solution to many issues and the wide range of different platforms, software packages and programmes is astounding (see Wild et al, 2008; Attwell, 2007; Dillenbourg et al, 2007). In addition, authors such as Prensky (2001) who termed the phrase “digital natives” and more recently the growth of *self-organised learning environments* as designed by Sugata Mitra (2013) have been prevalent in the development of teaching and learning strategies within FE. However, is technology the answer? Many authors refute this view, in particular, Helsper and Enyon (2010) who argue that there is no real empirical evidence to support this view. In addition, Collins and Higgins (2013) ask the very pertinent question “If technology is the answer, what is the question?” and in their Times Educational Supplement (TES) article they make the valid point that whilst technology can be a great motivator for young people without the foundations of sound pedagogy it cannot be relied upon to produce favourable student outcomes.

In Dianna Laurillard’s inaugural professorial address to the IOE she strongly cautioned against the blind acceptance and application of technology in education. She argued that technology in education should be regarded and used as a tool to support good pedagogical practice. However Laurillard’s view that technology should be grounded in education theory rather than technology for technology’s sake is a comment incorporated into the research design of this study.

Many studies have been completed looking at infant, pre-school and primary child development and linking theoretical underpinnings to them (as demonstrated above) however, very few have been conducted in FE contexts which is arguably to the detriment of

traditional teaching and learning in FE. This study seeks to see if theories of teaching and learning with sound underpinnings in robust educational research are influencing educational practice in business education contexts in FE.

## **Research Methodology**

### **FE College Context**

At the time of data collection the FE College involved in the research study has over 7,000 students being taught across 14 subject areas ranging from Entry Level/Level 1 to Foundation Degree. There are 360 members of teaching staff and a total of over 700 staff employed throughout the college. There is a clear and strong commitment among all of the staff in the college to improve and develop educational practice and student attainment. To that end there is a central *teaching and learning group* as well as several sub groups throughout the college. Each group focuses on specific areas for development, for example coaching and mentoring.

### **Research Participants**

Accessibility was the main factor when determining the sites of the research and the research population. Preliminary knowledge of the teachers' backgrounds, development stage and skill set helped to identify which sites and which teaching staff would be most suitable for this study. Four teachers were selected, interviewed and observed who had specific desirable characteristics with two teachers being "experienced" and the other two "inexperienced". The concept of experience versus inexperience did not take into account age – the determinant was how long the individual had spent in the teaching profession. All four have degrees in business and hold either a Post Graduate Certificate in Education (PGCE), a Certificate of Education (Cert Ed) or are completing a PGCE.

### **Ethics**

This study has been conducted in line with the BERA ethical guidelines (2011) for educational research which means that all 4 teachers understood the purpose and agreed to participation without any duress prior to research getting underway thus giving voluntary informed consent. The four teachers have not been named in order to preserve anonymity and maintain confidentiality.

In addition, interviews were also completed with students as follow ups to some of the observed behaviours during the study. This was not originally part of the research design but was felt to be important and completed on an ad-hoc basis. The students were also made aware of their right to withdraw from the study and parents of under -18 students were also informed. Permission was sought from the college for completion of this study and was obtained.

The dual role of researcher/teacher, and the impact this could have on teaching and learning, the short duration and design of the study and the careful selection of classes needed to be taken into account in relation to interpreting the findings of this research.

All participant data will be treated in a confidential and anonymous (when appropriate) manner thus ensuring the right to privacy and making sure there can be no detriment arising from participation in the research.

### **Data Collection**

Classroom observations were completed with each of the participant teachers being observed at least once. It was key that the observations were in the students' normal classrooms, with their usual teacher so that it was possible for researchers to have a clear sense of the meaning and goal of the task (Rogoff, 1990).

Follow up interviews with each teacher and, on occasion, students were then conducted. The goal of this study was to observe and document teachers' experiences when enabling students to learn and draw inferences about what shapes their attitudes and behaviours (Denscombe, 2007). Semi-structured interviews were used in order to give some sort of standardisation to the interviews allowing comparisons to be made but also ensuring that each participant could add their own additional comments and opinions.

The interviews themselves consisted of predominantly open ended questions focusing on the observed actions within the classroom and the role that traditional, theoretical, teaching strategy can/should/does play in a modern day FE setting. Each participant was interviewed once and the interviews lasted between 20 and 40 minutes.

### **Data Analysis**

It was decided not to video record classroom observations to minimise the impact on the students and also of the impact on students of being distracted by the recording equipment. Therefore, classroom observations were audio recorded and supplemented by field notes written during observations and then clarified after. The comments made by the teachers in class were combined with the field notes used in the interviews which allowed comparisons to be made. The interviews were also audio-recorded and additional notes taken, as and when required.

Data analysis was an iterative process with a focus being based on the features observed during the lessons. This interview process allowed a subtle shift starting with a description of an activity/comment to then focusing on an explanation of reasoning as emergent themes started to occur.

It also allowed comparisons and questioning to focus more on the theoretical underpinnings (and therefore the research objectives) rather than the specific actions demonstrated within

the classroom environment.

The research attempts to identify themes throughout and to identify the extent to which learning theory is informing classroom practice in the college. This study seeks to provide reliable data and therefore has used several data collection methods and participants with different levels of experience from a varied demographic (Cohen, Manion and Morrison, 2007). However it is important to reiterate the small-scale nature of this study and therefore the need for caution in making any generalisations as the findings here may not be true in other institutions. In contrast, there may be instances in which we can draw some “fuzzy generalisations” (Bassey, 2000) where some of the findings and conclusions made “may” also be seen in other settings

## Findings

### The Role of the Teacher in FE

Throughout the interviews the teachers varied in the specifics but their overall comments focused around one theme – ensuring that they “added value” to the individual student.

*Each student comes to us with different aspirations, with a different ability and from so many different backgrounds. Some of them have amazing GCSE results so we aim to get them into the top Uni's; others have had a tough time at schools need more support with team working and communication. (L1)*

Although the term “added value” was not explicitly mentioned, the quantifiable nature of giving something more/going the extra mile for students was a recurring factor in the data. It brought to light the importance of the notion of the teacher as someone who enables a student to pass an exam or someone who enables an individual to “progress.” The idea of value added (i.e. the teacher’s ability to enhance student’s current test scores to a level above which they achieved the previous year in school) and the validity of added value is a hot topic for discussion where “Value-added inferences about student learning will often be an unavoidable consequence” (Briggs and Weeks, 2011). It can be argued that value added analysis is a fair and objective way to make a judgement about a teacher's effectiveness in a classroom where student achievement needs to be measured on a large scale (Gordon, et al. 2006; Harris, et al. 2009), however, as is alluded to in the quote taken from a teacher interview above; is getting that “C” in maths the main job of the teacher? Continuing this position; is value added even the best way to judge the success/role of the teacher? (Baker et al, 2010)

The discussion around how teachers are judged during the interviews moved onto the debate about why the “system” (direct quote) feels the need to track everything that teachers do and ask them to use more and more “systems and procedures”. All of the interviewees commented on the external pressures placed upon teachers and the effect this has had on them in the classroom. The increase in administrative duties, the plethora of additional systems that need

to be updated (e.g. pro monitor, pro achieve) and the increase in general workload were discussed at length.

*There have been occasions where, because a deadline has needed to be met for a particular system, I have been concentrating on that rather than preparing engaging and interesting lessons. A few times I have been completing paperwork IN CLASS (stress put on this by interviewee) whilst students have been just getting on with their work. (L2)*

Stephen Ball discusses this battle and in his 2010 paper *The Terrors of Performativity and the Struggle for the Soul of the Teacher* highlights the fact that many teachers are governed by targets, indicators and other methods of evaluation and must often put aside their own personal beliefs, morals and values and “live an existence of calculation” (p. 215)

The additional requirements of teaching in general, and specifically in FE, are well documented and the impact that this has had on the role of the teacher has been mentioned most recently in the Trade Union Congress’s (TUC) report *New Challenges, New Changes* (2014) submitted to the Government the pressure group set out the concerns that the fiscal tightening is having a major effect, not just in cuts, but in teacher’s workload increasing via FE colleges striving for greater efficiency.

All of this being said, a constant theme throughout which is very important to make clear in this study, is the obvious passion, enjoyment and sense of fulfilment felt by all 4 teachers who took part. The participants went out of their way to make it clear that they were not moaning about the profession and “*couldn’t imagine doing anything else.*” This is echoed in Coffield’s 2008 pamphlet *Just Suppose Teaching and Learning Became the First Priority* where he identifies how teachers do have hope in the word “education” and that teaching is a “noble” profession. He argues that, sadly, this is being forgotten in some instances due to the pressures that teachers are being put under (as identified by Ball (2010) and the teachers in this study)

*My main role is to teach and make sure students learn. To do that I need to make sure my lessons are suitable, engaging and hopefully fun for the entire class, not just the most/least able. Sometimes we forget the ones in the middle in my opinion! I want to make sure that, without sounding too cliché, I make a difference and, at the end of the year, each and every student has progressed in the way that they need to and, actually, in many ways, not just in their subject but in their ability to be a human being – if you know what I mean! (L3)*

This resonates with the work of Biesta where he argued that education has many purposes and what is being highlighted in this case is the *Socialisation* (Biesta, 2001) element. He, amongst others, argued that school or college is not just about passing the course but about making the student a well-rounded individual that can operate as part of society. Coffield

(2008) whilst observing young electricians studying Goethe's *Faust* asked one of the students what the relevance of this was. The student replied "Electricians have souls too!" (p43) demonstrating that personal growth is important to the student just as obtaining the skills to become a competent electrician is. *Socialisation* makes up a third of what Biesta identifies as the purpose of education; the other two thirds being Subjectification (becoming autonomous and independent) and the Qualification (gaining knowledge and skills). The model proposed by Biesta states that all three elements need to work in harmony if students are to gain a "good education" and it is clear that, for the students to progress, they need to gain a qualification, work independently and also collaborate with others.

It was clear from interviewing and observing the 4 teachers that they really wanted their students to succeed – not just for success rates, retention rates and a "pat on the back" but because they have a sense of responsibility to them and take pleasure in their development and success as rounded and fulfilled human beings.

This section, and its comments, was taken from a particularly unstructured, participant led part of the interview, as the objective was to let the teachers talk about what they wanted to talk about rather than the questions/topic be set. The next section seeks to address the specific role of the teacher in this economic and social climate and the particular role, if any, that learning theory can play in informing teaching and learning in practice.

### **The Understanding, Application and Importance of Theory**

All of the teachers interviewed and observed had a sound grounding in traditional educational theory. They had all heard of Vygotsky and Piaget and some were able to give details; for example an understanding and explanation of the ZPD but for more obscure studies that could potentially have great relevance to a teachers' actions in the classroom (e.g. Doherty-Sneddon and Phelps, 2007 investigation into the role of the teacher and how teacher interruptions were based on children's gaze behaviour.) there was no knowledge.

*It's not that it's not important, it's just I don't really see the relevance or really have any time to think about how to use these theories in the classroom. I just teach. (L2)*

This comment itself really encapsulated what, in effect, this study was seeking to ascertain. The students all had individual tasks that they were completing and as they were working the teacher was calling up each student, one by one, to give them feedback on a previous task and check progress on their current essay. From an observational point of view it is essential to mention that the authors of this paper also teach these students. The following is an account from the teacher on the thought processes he went through during the hour when giving feedback to the students and checking progress.



## **Teacher Account**

*When I'm talking to students I'm always trying to get them to work as hard as possible. This applies to both getting them to think as well as them actually doing things.*

*Thus when I ask them questions I try to ask them questions that need them to stretch themselves in order to get the answer. Every so often they'll say "I don't know" and I'll try to get them to work a bit to get the answer. I'm trying to get them used to the notion that it's achievable if they put a bit of effort into it.*

*Likewise, when I give them written work to do I always try to give feedback that focuses on how hard they've worked, or not worked.*

*As for dealing differently with different students I find that whereas some willingly work hard, others haven't grasped that hard work gets results. For those who can't see the point of hard work it is invariably because they lack confidence. So with those learners I feel it's my role to build their esteem, maybe by making it easy before trying to stretch them.*

*I'm fortunate to teach adult learners as well as 16-18 year olds and it's my view that the older learners are far more attuned to the notion that hard work pays off.*

*It's all based on the philosophy that it's part of my role to help my learners to learn and to be self-directed. (L1)*

In the first paragraph, and in fact throughout the account, the connection between talking and thinking can clearly be seen with the teacher “talking to students” and therefore “getting them to think”. The method of questioning demonstrated is deeply rooted in dialogue as, according to Vygotsky (1978), the process of verbalising gives substance to thinking and as Corden (2000, p.7) puts it; “Thought is not merely expressed in words – it comes into existence through words.” Biesta’s (2001) *Subjectification* element can also be seen with the teacher working with the students to make them more autonomous and take ownership of their own work.

In addition, we can see a direct application of scaffolding and an understanding of Wood and Middleton’s recognition production gap. By “making it easy before trying to stretch them” (L1) the teacher is showing an appreciation of the student, their specific needs and their perceived lack of confidence. If the teacher did not make it easier at the start, i.e. keep the scaffold there, the student would not have the confidence to proceed. The teacher realised that, if the assistance was removed, the recognition-production gap would be too large and the student would not have the confidence and/or ability to meet the requirements of the task.

The idea of working together to achieve a task where the student needs to contribute with the support of the teacher is also addressed. The idea that “it’s achievable if they put a bit of effort in” (L1) alludes to the concept and application of the Zone of Proximal Development and that progress is only made when the less able attempts a task with the support and

guidance of a more able or more experienced partner (in this case, the teacher).

The theme throughout the above short case study is effort and that progress cannot be made without effort. Therefore the answer, according to this account, to a lack of effort is an attempt to build confidence. The achievement of internalisation, where responsibility for completion of a task is shifted from the teacher to the student (Vygotsky, 1981) can, therefore, only occur when the student thinks themselves that they are able to complete the task.

*If the student doesn't think they can do it then more often than not they won't try. Therefore we need to build their self-esteem to give them this confidence. (L1)*

Again here we can see an appreciation of the gap between success and failure of a particular task and how understanding how to bridge this gap, or at least bring the sides closer together, is a key part of teaching as is the ability and propensity of the teacher to talk, question and communicate with the students. Mercer sums this up nicely:

*"In societies across the world, some people – notably parents, teachers and trainers – are vested with a particular responsibility for the process of helping others develop knowledge and understanding. They are expected to provide a new generation with access to existing knowledge and equip them with the tools for advancing it. They act out this responsibility in many ways, but the most obvious way is by talking with learners" (Mercer, 1995. p2).*

In the final part of the interview the teacher was made aware of some of the theories of learning cited in this paper and after a discussion about some of the theories the teacher then could see the links between his classroom actions and the theoretical ideas much more clearly.

*Although it seems I use some of these approaches I didn't know that I actually was, and really having a better understanding of them might be quite beneficial. (L2)*

Another teacher (L4) was observed and then interviewed. It was assumed that a teacher currently training to be a teacher/teacher would have potentially a better understanding of traditional concepts underlying teaching and learning.

*The focus of the PGCE has been on distance travelled, outcomes, progress and how best to achieve that using different questioning methods. That's what I have found the hardest actually... the silence. So when you ask a question I find it really hard not to go to someone else or answer for them. (L4)*

This idea of "wait time" is something that most if not all teachers are aware of, with a minimum three second wait being the widely accepted amount of wait time used. However, having the knowledge of this and being able to apply it in the classroom is something that many teachers actually fail to do (Williams, 2011)

When asked about traditional or classical theories of helping students/children to progress the PGCE student struggled to see the place they played.

*I don't think that it would really help. We have talked about some things like Vygotsky but I'm not sure how it would really help me be a better teacher. It's just practice I think. The more I do it the closer I get to what I think is right. Observing teachers has also helped as the more experienced seem to get it right naturally. (L4)*

The idea of it being intuition or experience that enables the teacher to facilitate and encourage learning is something upon which most would agree. However, would knowledge and understanding of traditional theories help? The PGCE student was given some reading material including the many ideas cited in this paper and was asked to read them and return with comments.

*They are actually quite interesting. I mean the idea of it being the role of the teacher to pass over responsibility gradually is something that I guess I try and do but the issue is how? How do I know when to do this? The papers don't say much about that really do they.....? (L4)*

The other teachers were interviewed although the focus of the questions had changed slightly. The role of the teacher was still discussed but additional questions were asked focusing not only around an understanding of the theories of learning but also how the teacher understands when the recognition/production gap is too large and then what they do about that.

*It's about knowing each student really isn't it. How they act normally when working and then, if they change for some reason, then maybe they don't get the task and we need to ask leading questions to get them started. Or I suppose the task is too easy and they think it is beneath them. It's about knowing your students and looking for those signs I guess. (L2)*

The process here can be identified as assessment *for* learning; the process by which questioning and feedback is used as a strategy to increase teaching ability rather than formative assessment/assessment *of* learning where a grade or result is given to the student (Williams, 2011).

It can be argued that combining an understanding/appreciation of theories of learning with experience of how to gauge the gap between confusion, understanding, progress and then success would be beneficial on two fronts; from the position of experienced teachers having a theoretical underpinning that justifies their teaching strategies and also for less experienced teachers who need guidance in the application of the theory itself.

### **The Double Edged Sword That Is IT**

When looking at teaching and learning in FE and the role of the teacher it would be impossible not to discuss the use and impact of IT on learning. Prensky (2001) identified that students are all native speakers of the digital language and argued that they are no longer the people our education system was designed to teach. During interview one teacher (L2) commented on how quickly the students turn to technology when first entering a classroom.

*Students come into the classroom and the first thing they do is turn the PC on and go online. If there aren't any PC's then they will sit down and go straight on their phone. It's just a natural thing for them. (L2)*

Prensky argued that literally the brains of students have been altered as a result of how they have grown up where “different kinds of experiences lead to different brain patterns” (2001, p1) and their *thinking patterns* have adapted. However, this view is something that many authors challenge for example Collins and Higgins (2013) who question whether the so called “net generation” do actually learn differently from older people and if so where the evidence for this is.

That being said the growth of massive open online courses (MOOC's), virtual learning environments and Google Docs etc. have given students such a choice when working online (Wild et al, 2008; Attwell, 2007; Dillenbourg et al, 2007) and they use these tools on a day to day basis. Attwell (2007) calls the use of technology in the classroom “ubiquitous” and makes the point that technology *nearly always* enhances the learning experience. All the teachers involved commented that their role has changed greatly and that they are now “inexperienced, unqualified web designers” (L3) expected to maintain a virtual learning environment for all their units with 24/7 access for the students.

*It is an expectation now for most students that they can upload their work, that they can work from home using the same tools as they have in college and that they can access electronic resources to help them (L3)*

However, is technology the answer? As stated previously many authors challenge this view. For example, Helsper and Enyon (2009) argued that, although IT may be beneficial to learning there is no real robust empirical evidence to strongly suggest that this is the case. This is supported by others (e.g. Collins and Higgins, 2013) who make the point that our capacity to learn appears to be the same as it was before digital technology appeared in the classroom.

Wild et al (2008) identified three assumptions when designing opportunities for students to collaborate and learn online and they seem to echo Diana Laurillard's point that understanding how students learn, their behaviours and their experiences must be the driver behind platform design and functionality rather than design for design's sake. Many of the teachers interviewed mentioned the pressure to use technology in the classroom and, on occasion, how it had let them down when a more traditional approach would have been more effective

*Technology is definitely worthwhile; it engages the students, it can be really interactive and fun and can have a huge impact on teaching and learning. But don't use it all the time. It can be slow and pointless and the students know it. The thing that does slightly annoy me is the massive push towards IT – that everything needs to be based in technology. (L3)*

There is currently a Government led drive towards the incorporation of technology into the FE classroom with the British Government stating that “New technology will play an

indispensable role in transforming vocational training. Technology is both directly improving the user experience and raising standards.” (BIS and DFE 2013, p7.) This is in addition to the Further Education and Learning Technology Advisory Group (FELTAG) comment’s that recommend that every publicly funded learning course should, by 2015/16, have 10% completely online and potentially increase this to 50% by 2017/2018 (BIS 2014). However, we must again ask the same question as Helsper and Enyon and Collins and Higgins – Where is the evidence to support this government led policy to further incorporate technology in the classroom? And is there a danger that outstanding teachers are put off the profession due to these demands placed upon them?

*I love technology – I think it’s great. It’s interactive and exciting. The thing I don’t like as much is that a high percentage of sessions on ASDD’s (all-staff development days) are focused solely on a new piece of kit, a new app or a new hardware tool. Having some sessions is fine but having such a high percentage turns people off - particularly the older teachers. (L2)*

So are the Government taking education in the right direction? These recommendations by BIS/FLETAG undoubtedly have an effect on the sessions run at FE colleges as part of Continuing Professional Development (CPD) sessions and ASDD’s which, as highlighted above, is turning even the advocates of technology in the classroom off. Evidence from our small scale study suggests that technology, when purposeful, is fun, engaging and assists teaching and learning but, when it is “technology for technology’s sake” it can demotivate teachers and divert their attention and energies away from the learning process.

## **Discussion and Conclusion: The Theory Is There – But It Could Be Better.**

It is quite clear that all of the teachers in this study regardless of experience and background understand the importance of creating students that are self-directed, problem-solvers who develop through an increase in difficulty of task and an increase in responsibility. It is also quite clear from the data that improvements can be made via a greater understanding of theories of learning and educational research to enable less experienced teachers to be able to observe the physical manifestations of these gaps in student understanding.

For example, Doherty-Sneddon and Phelps (2007) investigated the importance of *thinking time* and the ability of teachers to give children enough time to answer the question. Their study was based on the premise that the cognitive difficulty of a task relates to the likelihood that people will avert their gaze from other people’s faces. More recently, this concept has been explored further via the investigation of *wait time* (Williams, 2011). Not only looking at the amount of time teachers give students to answer but, arguably more importantly, whether they do actually apply this knowledge regularly in the classroom. It was found that, although teachers knew about wait time and its importance they regularly did not follow their own guidance when teaching a class (Williams, 2011). This concurs with the conclusions made by Doherty-Sneddon and Phelps (2007) where their results show that teachers, whilst aware of gaze aversion (GA) and its importance/application to thinking time, do not necessarily apply this in the classroom. This led Doherty-Sneddon and Phelps to recommend that teachers are “encouraged to develop their teaching strategies to ensure that they make full use of their intuitions...” (p107). Data from this study lends support to the work of Coffield (2008) and

Gregson et al (2015) where they argued that giving more teachers access to research and recommendations such as this has the potential to create a sense of justifiability and confidence behind their actions and potentially improve teaching and learning.

From the limited amount of observations and interviews completed as part of this study it seems that, whilst there is a definite application of theories of learning such as scaffolding and knowledge of the region of sensitivity, for example, these applications are based on as Doherty and Sneddon (2007) put it “intuition”. This intuition however was notably something that each teacher would use, and would use effectively, but would not necessarily share with others. This concept of, as Shulman (1993) calls it; “Pedagogic solitude” is something that, via inclusive and effective collaborative CPD, could be broken. Fielding et al (2005) developed the concept of joint practice development (JPD) where rather than CPD being developed and enforced centrally teachers are able to take ownership of their own development via the creation and fostering of links between practising professionals. Training that is realistic, skills-based and constructive was shown to be more valuable and received more positively by teachers where collaboration, both internally within an institution and externally with other institutions is a “return to the key values of education” (p10)

If, as part of teachers’ collaborative CPD, a greater importance is placed on an appreciation and understanding of more theories of teaching and learning based upon robust empirical evidence and peer reviewed credible educational research then this could significantly enhance teachers “professional capital” through collaboration (Hargreaves and Fullan, 2012). If teachers, both experienced and inexperienced, have greater access to courses, advice and training looking at aspects such as an understanding and ability to interpret/gauge the ZPD for example, rather than only ever focusing on the latest technological advance, they then may have the opportunity to become more able, more confident educators.

There seems to be great potential here for experienced teachers, inexperienced teachers and academics to work together on looking at how FE colleges can make more use of traditional theories of teaching and learning as part of collaborative JPD-CPD sessions and ASDD’s. Evidence from this small scale study suggests that there is a need and a demand from this amongst teachers and it is clearly something that FE colleges should take into consideration.

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